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UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA**

Faculty of Health Sciences
School of Health Care Sciences
Department of Nursing

**DEVELOPMENT OF ACCREDITATION CRITERIA FOR FREESTANDING MIDWIFE-
LED BIRTH CENTRES IN SOUTH AFRICA**

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Student name: Christél Jordaan-Schlebusch

Student number: 21057479

Supervisors: Prof Mariatha Yazbek & Prof Carin Maree

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“Birth is not only about making babies. Birth is about making mothers – strong, competent, capable mothers who trust themselves and know their inner strength.”

~ Barbara Katz Rothman

DECLARATION OF ORIGINALITY: UNIVERSITY OF PRETORIA

Full names and surname of student: **Christél Jordaan-Schlebusch**

Student number: **21057479**

Topic of work: **Development of accreditation criteria for freestanding midwife-led birth centres in South Africa**

Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
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Signature

April 1, 2024

Date

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ABSTRACT

In recent years, privately owned, freestanding midwife-led birth centres have been established in South Africa, in addition to the existing hospital and obstetrician-led facilities. Midwife-led birth centres aim at individualised care and natural birth in a home-like setting. Still, in South Africa, there were no standardised criteria for the accreditation of privately owned, freestanding midwife-led birth centres by an independent midwife network at the time of this research. Accreditation of such centres has the potential to set a benchmark for high-quality, safe care that could lead to the expansion of birth-centre care and more equitable access to those centres for South African families.

The aim of this study was to develop accreditation criteria through a three-phase multimethod study. Ménage's model for evidence-based decision-making in midwifery served as a guidepost. The first phase consisted of a scoping review of research articles, guidelines, legislation and the scope of practice of midwives to explore factors that contribute to good outcomes and positive experiences for women and newborns at midwife-led birth centres. The results were collated, summarised, and used to contribute to the formulation and verification of accreditation criteria in Phase 3.

Phase 2 began with input from couples or individuals who had experienced care at privately owned midwife-led birth centres. Through semi-structured focus groups and postpartum written narratives, clients from three distinct birth centres discussed their experiences and perceptions of safety and support at those facilities. Following this, a stakeholder analysis was conducted to identify experts in midwife-led birth centres and maternity care in South Africa and abroad. Fourteen stakeholders took part in a nominal group technique session to reach consensus on quality measures that should be incorporated into the accreditation criteria.

In Phase 3, accreditation criteria were drafted based on the insights gathered from the preceding phases. Subsequently, consensus on the formulated accreditation criteria was obtained from the stakeholders involved in Phase 2 through the e-Delphi technique. Criteria deemed 'very important' or 'essential' by a minimum of 70% of participants were included in the final version.

The final accreditation criteria include governance-, staff-, facility-, clinical care-, and quality control- aspects that prioritise the safety of women and newborns. Adopting these criteria on a national or provincial level might lead to more research on safety, client experiences and the economic viability of these birth centres.

Key concepts: accreditation criteria; birth centres; independent midwife-led care; independent midwives; private midwives

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation/ acronym	Meaning
CDC	Centres for Disease Control (USA)
COHSASA	The Council for Health Service Accreditation of Southern Africa
ICM	International Confederation of Midwives
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews – Scoping review
SANC	South African Nursing Council
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

1. EMBARKING ON EXCELLENCE

Overview of the development of accreditation criteria for independent, midwife-led birth centres in South Africa

1.1. INTRODUCTION AND BACKGROUND

Birth centres are midwife-led facilities where the focus is on natural birth for low-risk, pregnant women (Boesveld, Bruijnzeels, Hitzert, Hermus, van der Pal-de Bruin, van den Akker-van Marle et al., 2017a). Together with midwife-led care, birth centres are becoming increasingly popular in reaction to the high intervention rate, even in low-risk pregnancies and births, in many countries (Hodnett, Downe & Walsh, 2012). Although hospital births are the norm in many industrialised countries, a review of the literature suggests a gradual expansion and reported safety of birth-centre care (Baczek, Tataj-Puzyna, Sys & Baranowska, 2020).

As a former independent midwife and a member of the Gauteng-based Private Practicing Midwives' Alliance in South Africa, I became aware of birth centres being opened by independent or private midwives across the country. During a previous study in which we explored the outcomes of 1 274 births in Gauteng attended to by 14 independent midwives during 2012 and 2013, I identified only one freestanding birth centre (with an operating theatre), and one 'birth house', or midwife-owned birth centre (without an operating theatre) (Jordaan-Schlebusch & Minnie, 2023). Subsequently, in an informal census conducted on WhatsApp and Facebook in 2021, I found that this number had grown to at least ten freestanding homelike, midwife-owned birth centres operating in the Gauteng Province and at least six in other provinces, specifically the Free State, the Western Cape and KwaZulu-Natal.

Based on discussions between Private Practicing Midwives' Alliance members, the motivation for opening a birth centre usually seems to be the need to create an alternative to the expensive, intervention-driven private sector, on the one hand, and an overburdened public maternity care sector, on the other hand. As it stands, South African midwives must abide by legislation pertaining to the profession of midwifery, as well as the general scope of practice at whichever venue they conduct care for clients during pregnancy, birth, and the postnatal period (South African Nursing Council, 2022). However, no standardised accreditation criteria specifically aimed at freestanding midwife-owned and -led birth centres existed in 2022, when the discussions took place. Furthermore, there was a lack of formal statistics on how many women gave birth at such facilities and how many of them existed.

The accreditation of a healthcare facility refers to the process of evaluating the extent to which the facility measures up to a set of accreditation standards or criteria (Council for Health Service Accreditation of Southern Africa (COHSASA), 2023). Accreditation criteria must be congruent with the context or country in which the facility is situated. The development of such criteria typically involves a collaborative effort that includes various stakeholders such as health professionals, regulatory bodies, policymakers, and patient or

client representatives. According to the Australian Health Practitioner Regulation Agency and National Boards (2020) and the Standards Council of Canada (2023), the following steps are involved in the development of accreditation criteria:

- *Recognising the need for accreditation criteria by considering factors like changing needs in healthcare systems* (Australian Health Practitioner Regulation Agency & National Boards, 2020; Standards Council of Canada, 2023). In this regard, freestanding midwife-led birth centres in South Africa were expanding at the time of this study, and public demand was growing due to the unaffordability of private healthcare. Representatives from the National Department of Health and the South African government announced in 2023 that the trajectory of the health system was to lead to a national health insurance (South African Government, 2023). One could therefore argue that it would be imperative to develop accreditation criteria in order to ensure that freestanding birth centres would be more formalised and could be considered as credible facilities to be included in the national health insurance maternity care system of the country.
- *Getting input from important stakeholders* (Grymonpre, Bainbridge, Nasmith & Baker, 2021). Accrediting bodies tend to hold discussions and collect input from different stakeholders to identify areas that require attention when developing accreditation criteria. This may involve surveys, group discussions and interviews with healthcare providers, clients, and other relevant members of the community. In this study we followed a similar process, which will be described in more detail in subsequent chapters.
- *Reviewing existing standards if available* (Australian Health Practitioner Regulation Agency & National Boards, 2020). Accrediting bodies might assess existing standards and criteria from other countries or organisations to gather insights and discover best practices. International standards might need adjustments to fit the specific context of the country where they will be applied. Although there were no existing standards in South Africa for freestanding midwife-led birth centres, the existence of global standards and specific standards for the USA and Europe were confirmed.
- *Drafting preliminary standards*. Based on the input and review, accrediting bodies formulate preliminary standards and criteria (Standards Council of Canada, 2023). These drafts are then evaluated by stakeholders, including healthcare providers, regulatory bodies, and representatives of clients. In this study, stakeholders reviewed the preliminary drafts by means of the e-Delphi technique.
- *Finalising and putting the standards / accreditation criteria into action*. The final accreditation criteria are developed by taking into consideration the feedback obtained during the stakeholder evaluation (Standards Council of Canada, 2023). The accrediting body subsequently puts these criteria into

effect, and healthcare facilities can then initiate the process of seeking accreditation in accordance with the new criteria.

Overall, the development of accreditation criteria for health facilities is an ongoing process that involves review and revision to ensure that the criteria remain relevant and effective in improving the quality of care.

1.2. PROBLEM STATEMENT

Freestanding midwife-led birth centres have been opened in many countries as a reaction to costly intervention-driven and impersonal care in hospital settings. Individuals who give birth in freestanding midwife-led birth centres are more likely to give birth without interventions such as induction of labour or epidural anaesthesia (Stone, Thomson & Tegethoff, 2023). Under specific circumstances, the birth centre model has been proven to be safe, cost-effective, and more personalised than hospital settings. In the United States of America (USA), the American Association of Birth Centers (AABC) has established and oversees accreditation criteria for freestanding birth centres, thereby ensuring their quality and safety (American Association of Birth Centers, 2014). Accreditation is crucial to guaranteeing adherence to care standards and a safe, comfortable setting for women and newborns (American Association of Birth Centers, 2016).

Criteria or standards that freestanding birth centres must meet to achieve accreditation in the USA and other countries include aspects related to staffing, facility maintenance and safety, and the provision of quality care (Rayment, Rocca-Ihenacho, Newburn, Thael & Batinelli, 2020; Stevens & Alonso, 2021). Accreditation, in the broader context of maternal and child health, would benefit both the birth centres and the communities they serve (American Association of Birth Centers, 2014).

Home birth is legal in South Africa, and privately owned, freestanding midwife-led birth centres are currently being operated as a 'home birth away from home'. Private midwives have a scope of practice (South African Nursing Council, 2022) as well as referral criteria (National Maternity Guidelines Committee, 2016), but standardised accreditation criteria that suit the unique circumstances of private midwife-led care in South Africa do not exist. Freestanding birth centres in South Africa would be subject to different regulations than those in other countries, as the country has its own unique healthcare system and regulatory framework (Lovells, 2019). No accreditation process or licensure of privately owned midwife-led birth centres could be found after extensive inquiry and internet searches. Midwives at freestanding birth centres have enquired about licensure and accreditation at the National Department of Health, but were informed that there were no criteria for accreditation or licensure specifically for freestanding midwife-owned birth centres. This indicated that those facilities have been functioning under the radar, and there was no consensus on the

criteria that would ensure the safety of mothers and newborns being cared for at these facilities. This was highlighted in 2020, when the South African media reported on several cases of poor neonatal outcomes at a specific midwife-owned freestanding birth centre (Coetzee, 2020).

Failure to assess and accredit freestanding midwife-led birth centres using evidence-based national accreditation criteria could arguably affect the standard and safety of care, putting these otherwise viable and much needed maternity care facilities in jeopardy. Without formal accreditation criteria, birth centres would probably not be considered reputable enough for medical insurance companies to fund their clients' births at these facilities. The lack of a platform on which to be formally accredited might also cause birth centres to be less accessible for pregnant individuals without medical insurance who would otherwise have to make use of the public maternity care system. The lack of formal accreditation also means that there is no up-to-date empirical data available about the location, characteristics, number of births conducted, and care outcomes.

Midwife-led care is a less intervention-driven model of care and less prescriptive to pregnant individuals and their families when compared with obstetrician-led care (Sandall, Soltani, Gates, Shennan & Devane, 2016). Midwives might feel threatened by the prospect of having their birth centres accredited, fearing that this would impact the level of choice they can offer their clients. Therefore, independent midwives should be directly involved in the process of developing these criteria. Involving other important stakeholders (such as representatives from the Department of Health, professional organisations, and obstetricians who serve as back-up for complications) during the development of accreditation criteria would ensure better multidisciplinary communication and collaboration – an important factor in the safety of care given to women and their newborns (Danhausen, Diaz, McCain & McGinagle, 2022).

1.3. RESEARCH AIM AND OBJECTIVES

1.3.1. Overall aim and research questions

The overall aim of this study was to develop criteria for the accreditation of midwife-led birth centres by an independent midwifery network in South Africa.

The researcher aimed to answer the following questions during three study phases:

- Phase 1: What is known about freestanding midwife-led birth centres and the factors that affect outcomes at birth centres? What guidelines and legislation in South Africa, and existing accreditation

criteria and operational standards globally, could inform accreditation criteria for freestanding midwife-led birth centres?

- Phase 2: What input from focus groups with former birth-centre clients could inform accreditation criteria? Who are the important stakeholders that need to be included in the process of developing accreditation criteria? What knowledge of birth centres could be obtained by employing the nominal group technique with stakeholders to be included in accreditation criteria?
- Phase 3: What are the accreditation criteria that are suitable for the accreditation of birth centres in South Africa? What are the opinions of stakeholders about the content of the accreditation criteria?

1.3.2. Specific research objectives

- Phase 1: To conduct a scoping review of existing literature on freestanding midwife-led birth centres.
- Phase 2a: To describe the perceptions of individuals or couples who recently received care at three different birth centres.
- Phase 2b: To reach consensus on the quality measures and logistical prerequisites perceived as important by experts for inclusion in the accreditation criteria.
- Phase 3: Phase 3: To formulate accreditation criteria for freestanding birth centres in South Africa and have them verified by experts.

1.4. DEFINITION OF KEY TERMS / CONCEPTS

Accreditation criteria: Accreditation is the process of evaluating the extent to which an institution meets a set of established standards in terms of optimal facilities, policies, and procedures (Brubakk, Vist, Bukholm, Barach & Tjomsland, 2015). Accreditation criteria guide the organisational authority that conducts the accreditation, in this case, an independent midwifery organisation and the facility that must comply with the standards. This study led to the development of accreditation criteria for freestanding midwife-led birth centres.

Birth centre/freestanding birth centre: A birth centre is a non-hospital-like facility, usually midwife-run, where a low-risk pregnant woman can have a natural birth in a more family-centred environment than a hospital labour ward (Stevens & Alonso, 2020). In the context of this study, birth centres are independently owned, midwife-led facilities. The focus was on freestanding facilities, usually without an operating theatre on site. Referral or transfer to a private or public maternity care facility is done when risk factors or complications arise or when risk is predicted or anticipated.

Independent midwives (also known as midwives in private practice) and independent midwife-led care: In South Africa, an independent midwife is a midwife who runs a private practice, either alone or in a group (Jordaan, 2015). Independent midwives take on their caseload of pregnant clients for whom they conduct antenatal care, labour and birth care, and postnatal care. Legally, a private, practising midwife must hold current midwifery registration with the South African Nursing Council (SANC). It is preferable, but not compulsory, to have post-basic midwifery and neonatal nursing science registration. The regulation pertaining to this is currently under discussion (South African Nursing Council, 2021). In South Africa, private midwives must be registered with the Board of Health Care Funders (BHF) to be reimbursed by medical aid schemes. Independent midwives work in collaboration with private obstetricians or public hospitals to which they can refer complicated cases (Jordaan, 2015). Compensation is received from the client or the client's medical aid scheme. Some independent midwives practise at hospitals with pre-arranged access, while others work at designated 'active birth units', 'birth houses' or midwife clinics. Some independent midwives also conduct home births.

1.5. CONTEXT AND SETTING

This study was conducted in the context of independently owned, freestanding midwife-led birth centres in South Africa, also known as birth houses or birthing centres (Mother Instinct, 2023). Midwives who own or practise at these centres provide care to low-risk pregnant individuals and adhere to team or caseload (one-on-one) approaches, where one midwife or a team of midwives oversee the comprehensive care of a client throughout the entire pregnancy, birth, and postnatal period (Jordaan-Schlebusch & Minnie, 2023).

Situated across South Africa, these privately owned facilities, as showcased on a dedicated website featuring six birth centres, notably offer a homelike and non-clinical environment with amenities such as access to a bath for relaxation during labour (Mother Instinct, 2023). This aligns with the global definition of birth centres by Stevens and Alonso (2020) in the sense that they provide a homelike space and that care is rooted in the midwife-led model of care. Despite the evident presence of these birth centres, there is currently a lack of reliable national statistics on the percentage of low-risk pregnant women opting for midwife-led care or choosing to give birth at freestanding midwife-led birth centres in South Africa.

An informal inquiry was conducted in a Facebook group for independent midwives in South Africa, with 78 members in February 2021. From this inquiry, it was found that, nationally, 16 midwives reported owning or working at a midwife-led birth centre. The broader South African maternity care system within which these freestanding midwife-led birth centres operate consists of private and public sectors. The public sector does

offer access to ‘midwife-obstetric units’ (Oosthuizen, Bergh, Pattinson & Grimbeek, 2017), but we focused on birth centres that operate independently and are not integrated into the public or private health systems. In the event of clients developing risk factors or complications during pregnancy, labour, or the postnatal period, midwives at independently owned, freestanding birth centres should refer or transfer such cases to private or public hospitals (Jordaan, 2015). There is no published research on collaboration between midwife-owned birth centres and their referral networks in South Africa.

The absence of standardised accreditation criteria for birth centres poses risks like inconsistent care quality, safety concerns due to potential inadequacies in emergency preparedness and equipment, variations in midwives' training and experience, no monitoring of outcomes, legal and ethical challenges, and a potential lack of public trust without clear evidence of quality and safety. This was evidenced by recent cases of negligence in a birth centre (Coetzee, 2020; Krige, 2023).

1.6. ASSUMPTIONS

This study was undertaken within the pragmatist research paradigm. Shaw, Connelly and Zecevic (2010:510) describe pragmatism as “an emerging research paradigm where practical consequences and the effects of concepts and behaviours are vital components of meaning and truth”. Through pragmatism, the researcher seeks to find truth by practically addressing problems and finding solutions. The lack of accreditation criteria was a complex practice concern that could not be addressed using qualitative or quantitative methods in isolation. We found that the best way to address the research objectives in this study was by following a pragmatist approach and using multiple methods of data collection.

1.6.1. Ontological assumptions

Pragmatism is a movement away from realism, which believes that the nature of reality is an objective, measurable truth. It is also not completely seated in relativism, which is the belief that multiple realities exist, and that truth is shaped by context (Shaw et al., 2010). Pragmatism, on the other hand, works from the standpoint that truth lies in the solutions to problems or the consequences of specific actions (Shaw et al. 2010). In accordance with pragmatism, I aimed to find solutions for the research problem, namely the lack of accreditation criteria for independently owned freestanding midwife-led birth centres.

1.6.2. Epistemological assumptions

Epistemology refers to the relationship between the researcher and the knowledge to be gained (Houghton, Hunter & Meskell, 2012). By subscribing to the pragmatic approach, the researcher believes in using the tools best suited to the aims and objectives of the study (Pretorius, 2018). In pragmatism, the focus is on the desired outcome rather than the process (Houghton et al., 2012). The objective of this study was to develop context-specific accreditation criteria based on evidence, knowledge, and experience. Pragmatism allowed more epistemological and methodological flexibility in the process of developing these criteria, and accordingly, I had the freedom to use multiple methods of data collection.

1.6.3. Methodological assumptions

Using multiple methods aligns with pragmatism since the aim is to achieve objectives that cannot be achieved by using a single research method in isolation. Pragmatism is focused on outcomes and best practices while integrating various research methods (Shaw et al., 2010). It advocates for the generation of actionable knowledge to solve real-world problems and address practical concerns. Additionally, pragmatism recognises the need for multiple methods to approach complex research settings in a more holistic way, to ensure practical and contextual relevance in research (Kelly & Cordeiro, 2020). I aimed to develop accreditation criteria for freestanding midwife-led birth centres rooted in best practices, and it was clear that using multiple methods would lead to a more comprehensive final product suitable for the unique South African context.

A scoping review of the existing literature on freestanding midwife-led birth centres served as the starting point in developing accreditation criteria for freestanding birth centres in South Africa. At the onset of the study the assumption was made that there is a sufficient body of existing literature on freestanding midwife-led birth centres that can be reviewed and analysed. It was also assumed that the comprehensive search strategy using databases such as PubMed, CINAHL, and Google Scholar, along with the specified keywords, will yield relevant literature for the scoping review. A focus group, interviews and written narratives by recent birth-centre clients added the perspectives of the care recipients. We assumed that the perceptions gathered from individuals or couples who recently received care at birth centres would provide valid and insightful data reflecting clients' perspectives of the quality of midwife-led care at birth centres. When drafting the criteria we assumed that the findings from the scoping review and the qualitative data from care recipients would be applicable and informative for developing accreditation criteria for South African birth centres.

A nominal group technique session with important stakeholders added to the body of evidence and assisted in contextualising the existing evidence. Using the nominal group and e-Delphi techniques as consensus

methods ensured better buy-in and improved interprofessional collaboration and communication. The assumption was made that the experts selected for the nominal group technique and e-Delphi study possess the necessary knowledge and experience in midwifery, healthcare accreditation, and maternal health to provide reliable input on quality measures and logistical prerequisites.

A multi-method research design was adopted instead of a mixed-method design due to the nature of the research objectives and the specific methodologies employed. As previously described, qualitative methods and consensus methods with minor quantitative aspects were utilised. This approach facilitated exploration of multiple data sources that would inform the accreditation criteria for freestanding midwife-led birth centres within a predominantly qualitative framework. A mixed-method design, involving a more balanced integration of qualitative and quantitative methods (Shaw et al., 2010), was not deemed beneficial for the study objectives. The multi-method approach allowed for a more in-depth understanding of the research context, ensuring the findings and the accreditation criteria were robust, detailed, and directly relevant to the South African setting.

In summary, the adoption of multiple research methods in line with pragmatism enhances the richness and depth of research findings as well as their applicability to real-world settings. This aligns with the broader pragmatic philosophy of focusing on what works in practice rather than adhering only to strict theoretical principles. Combining various methods of inquiry while incorporating patient beliefs and values has become the standard for evidence-based practice (Shaw et al., 2010). For this reason, Ménage's model for evidence-based decision-making in midwifery, the theoretical framework within which this study was conducted, is compatible with the pragmatic approach (see 1.9.). According to this model, the decision-making process in midwife-led care should be based on a combination of evidence sources, including input from care recipients (Ménage, 2016).

1.7. DELINEATION

The study focused only on accreditation criteria for freestanding midwife-led birth centres in South Africa and did not include public sector or obstetric-led birth facilities.

1.8. SIGNIFICANCE AND CONTRIBUTION

Criteria for and the accreditation of, freestanding midwife-led birth centres by an independent midwifery organisation would contribute to the safety of birthing individuals and newborns cared for at these centres. Focus groups with birth-centre clients and their partners added new knowledge about their perceptions of

safety and the care they received at freestanding midwife-led birth centres. Collaboration with obstetricians and other members of the multidisciplinary team is imperative for the safety of clients at freestanding birth centres. Birthing individuals who choose midwife-led birth centres care and their newborn infants would benefit from the lines of communication being opened by involving medical experts in the development of accreditation criteria, should they develop risk factors or complications. Furthermore, the inclusion of the opinions of stakeholders such as midwives and obstetricians contributed to an understanding of the context in which care at birth centres in South Africa occurs.

Accreditation criteria that encompass quality clinical standards as well as legal compliance would have the benefit of safeguarding the professional practices of midwives and birth centre funders. Such accreditation criteria might motivate midwives and investors to open more freestanding midwife-led birth centres, making these facilities accessible to more South African families. Established accreditation criteria would thus benefit midwives, policymakers, and the populations that these facilities could serve. Accreditation criteria would serve the purpose of aligning freestanding midwife-led birth centres with broader healthcare standards while preserving their unique and client-centred approaches within evolving frameworks of maternity care in South Africa. Should birth centres be nationally accredited, it could create opportunities for advancing research on client safety, client and family satisfaction, professional growth of midwifery, collaborative practice, health system support and the economic viability of these facilities. It could also establish basis for policy dialogues and further stakeholder engagements on maternal or newborn referrals and create opportunities for midwifery student placements or rotation and clinical mentorship. The study findings also offer evidence for guiding health insurance financing, health economics studies and policy redirection on maternal health promotion and preventive health care. The data generated offer evidence to adopt rules and regulations needed for independent health care facilities within existing and evolving quality of health care frameworks.

1.9. THEORETICAL FRAMEWORK

The model for decision-making in midwifery care, as developed by Ménage (2016), proposes that the woman-midwife partnership is central to decision-making (see Figure 1-1). The model integrates several key elements: the best available research evidence, clinical expertise of midwives, and the preferences of the pregnant individuals receiving care. It emphasises the importance of the care context, including the standards and policies that govern the clinical and organisational setting, and the laws, cultures and values of the broader society. The model provides midwives with a tool to make decisions in partnership with their clients to provide evidence-based but also individualised midwife-led care.

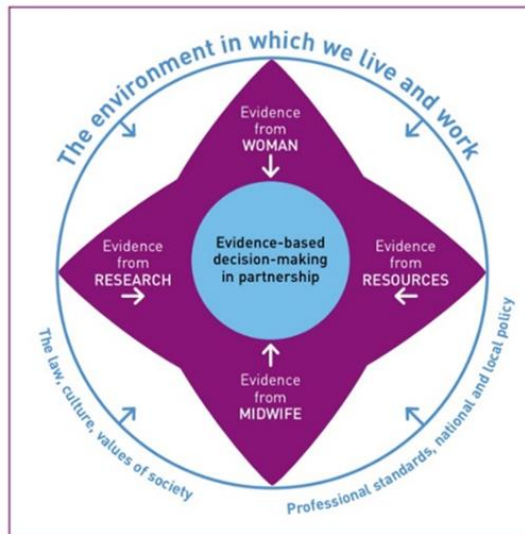


Figure 1-1 A schematic representation of the model for decision-making in midwifery (Ménage, 2016)

We chose Ménage's (2016) model as the theoretical framework through which we would develop accreditation criteria for birth centres because it would ensure that the criteria are evidence-based, person-centred, and contextually appropriate. Decisions about midwife-led care cannot be made on behalf of midwives, but can also not be made by midwives in isolation. Accreditation criteria will ultimately affect decision-making by midwives and the families under their care. I would not have been able to develop these criteria without the input of stakeholders who become involved when midwives need to refer or transfer their clients, and the criteria had to be in line with the applicable laws, professional standards, and national policies. Representatives from governing bodies and professional organisations thus had to be involved. Pregnant individuals and their families are the recipients of care at birth centres, and only they know what makes them feel safe and positive about their experience. As such, they were given a voice in the development of accreditation criteria, since they could identify factors that would motivate them to access or recommend birth-centre care in the future.

Evidence from research was obtained through a scoping review of the available literature on birth-centre care and the factors that affect safety, outcomes, and satisfaction with care. *Evidence from the woman* was gathered through focus groups, interviews and written narratives, including individuals (and one partner) who received care at midwife-led birth centres. Applying the nominal group technique with independent midwives and other stakeholders provided *evidence from the midwife*. Midwives and other members of the multidisciplinary team had the opportunity to give their input on aspects they believe should be added to the accreditation criteria. In Ménage's (2016:138) model "expertise of the multidisciplinary team and other professionals" is included under *evidence from the resources*. For this purpose of this study it is referred to as the multidisciplinary team.

The environment in which we live and work in this research project is midwife-led care within the broader context of maternity care in South Africa. South African professional standards, policies, regulations and legislation related to maternity care and midwifery practice were examined when developing the accreditation criteria to ensure that those criteria fit into the legal and ethical framework of the midwifery profession in South Africa. Input from stakeholders and birth-centre clients who were representative of diverse backgrounds and provinces contributed to the development of accreditation criteria that are not in conflict with the culture and values of the broader community.

1.10. CHAPTER OUTLINE OF THE THESIS

This thesis is divided into eight chapters. In the first three chapters, I provided an overview of the study, described the context and background, and explained the methodology employed during each phase. Chapters 4, 5 and 6 align with the chosen theoretical framework. These chapters mirror the factors *evidence from the research* in Chapter 4 and *evidence from the woman* in Chapter 5, whilst *evidence from the midwife* and the multidisciplinary team are described in Chapter 6. In Chapter 7, I explained how the accreditation criteria were compiled and evaluated by the stakeholders. Finally, Chapter 8 is the concluding chapter with a discussion of the strengths and limitations of this study. Recommendations were also made in this chapter.

Table 1-1 Outline and content of chapters

Chapter number	Chapter title	Contents
1	Introduction	Overview of the research problem, aims and objectives, theoretical framework, research assumptions, context and setting, and significance and contributions
2	Background	Review of relevant literature to describe the context of birth-centre care in South Africa and globally
3	Navigating the path	Description of research methodology
4	Gathering evidence for accreditation criteria 'Evidence from research'	Phase 1: Report on a scoping review that delves into the research foundation
5	Gathering evidence for accreditation criteria 'Evidence from woman'	Phase 2a: Perceptions and experiences of birth-centre clients explored through qualitative research methods
6	gathering evidence for accreditation criteria 'Evidence from resources' and 'Evidence from midwife'	Phase 2b: Report on the knowledge and perspectives of experienced midwives and other stakeholders in birth-centre care, collected through the nominal group technique (NGT)
7	Combining the evidence and refining the criteria	Phase 3: A description of how the accreditation criteria were compiled, using evidence gathered in Phase 1 and Phase 2; and report of results of the e-Delphi evaluation of the criteria
8	Concluding chapter	Conclusions, strengths and limitations, and recommendations

1.11. SUMMARY

In this chapter, the fundamental concepts surrounding freestanding midwife-led birth centres and accreditation criteria were introduced. The importance of accreditation criteria for ensuring the quality of care in such centres was outlined. The research methodology and underlying assumptions that guided the study were briefly introduced. Additionally, an overview of the theoretical framework that served as a guidepost for the development of accreditation criteria throughout the study was provided. In the subsequent chapter, Chapter 2, the context and background of the study will be elaborated on through an extensive literature review.

2. BACKGROUND

Review of relevant literature

2.1. INTRODUCTION

In Chapter 2, to set the scene for the rest of the study, an overview of existing global and South African literature pertaining to birth-centre care is provided. The term 'birth centre' (with no date restriction) was used as a search criterion in the EBSCOhost database, and led to the identification of relevant research articles. Supplementary sources cited in the initial articles were also collected. A total of 279 articles were relevant to the topic, and several themes were typically explored by researchers: birth-centre status across different countries, birth-centre admission criteria, access and choice in birth-centre care, care outcomes in these facilities, birth-centre clients' first-hand accounts of their experiences, equity in care, access, collaboration between birth centres and their referral networks, and characteristics of birth-centre care providers. The relevant literature will be discussed below, with the focus on these topics, and in-depth attention will be given to the South African context.

2.2. BIRTH CENTRES ACROSS THE WORLD

Countries that feature prominently in research on care at freestanding birth centres are the United Kingdom (UK), the Netherlands, France, Spain, Germany, Norway, Poland, Japan, Australia, New Zealand, Canada, the USA, and Brazil. It is evident that specific characteristics of birth centres vary. In fact, countries often use different terms to describe similar facilities, as the discussion below will show.

The German version of midwife units on hospital premises was developed in 2003 and is referred to as 'alongside' midwifery units. Some birth centres are freestanding or 'stand-alone', with or without operating theatres for emergency caesarean sections (Merz, Tascon-Padron, Puth, Heep, Tietjen et al., 2020). In Norway, birth centres are referred to as 'alternative birth clinics' (Helberget, Fylkesnes, Crawford & Svindseth, 2016). The French use the term 'birth houses' or '*maisons de naissance*' (Ingar, 2019). In the UK, these facilities are called 'freestanding midwife-led units' (Kirkham, 2020). Poland has also adopted the term 'freestanding midwife-led unit' for birth centres that are said to have developed as an alternative birth location for women who did not have appropriate circumstances for home birth but did not want to give birth at a hospital (Baczek et al., 2020).

While home birth has a longstanding tradition in the Netherlands, the inception of birth centres by midwives only occurred in the last 10 to 15 years. Low-risk pregnant individuals have the option to select from a variety of birthing units, ranging from independent facilities to those situated in hospitals. However, should the necessity for pharmacological pain relief arise or complications emerge during labour and childbirth, women are required to be transferred to a hospital setting. By 2013 there were 23 birth settings identified as 'birth

centres' in the Netherlands (Hermus et al., 2017a). Despite Japan having 'midwifery birth centres', it was reported in a 2016 study that only 1% of births occurred at these centres and that only 5% of midwives worked at these centres or as independent practitioners (Baba, Kataoka, Nakayama, Yaju, Horiuchi & Eto, 2016). Alliman, Jolles and Summers (2015) report that birth centres are also not widely utilised in the USA. There were fewer than 300 birth centres in 2015, and only 1% of pregnant individuals accessed those facilities for care during pregnancy and birth.

Birth-centre care is slightly more popular in Australia than in the USA and Japan but is still only accessed by 2% of pregnant individuals. In South Australia, 6% of births occurred in birth centres between 1998 and 2016, and 15.3% of pregnant individuals had midwife-led care in 2016. Most birth centres in Australia are situated on hospital premises (Adelson, Fleet, McKellar & Ecker, 2021), while birth centres in New Zealand tend to be freestanding. In New Zealand, a large proportion of women have a midwife as a primary care provider, and 9.1% of pregnant individuals give birth at birth centres, also known as 'primary maternity units' (Bailey, 2017). These birth centres or primary maternity units are recognised by the Ministry of Health as an option where to give birth in the country (New Zealand College of Midwives, 2023). In 2018, researchers identified seven freestanding midwife-led units in the greater Auckland region. Epidural analgesia and caesarean sections were not available at these centres, and women had to be referred to one of four large obstetric units if the need for these interventions occurred (Hunter, Smythe & Spence, 2018) .

In the Canadian state of Manitoba, midwifery has been a regulated healthcare profession since 2000, and midwives can conduct births at midwife-run, community-based birth centres. These birth centres are publicly funded by the regional health service, and midwives tend to work together in small groups. Criteria for admission at birth centres are similar to those of home births. For example, attempting a vaginal birth after a caesarean section is not allowed at these facilities (Sharpe, 2018).

I aimed to include literature on the topic of birth centres in Africa, but there are few studies from low- and middle-income countries. Anecdotal evidence from Nigeria alludes to some pregnant individuals' preference for a specific, one-bed, out-of-hospital birth setting where pregnant women are attended by community birth attendants, not by midwives (Adepoju, 2018). Yahya and Pumpaibool (2019) explored factors influencing pregnant women's decision to choose a birth centre in Gombe state, Nigeria. According to their study, pregnant individuals who chose home birth over care at the birth centre reported that they did so due to economic factors, religion, and distance from the facility. It should be noted, however, that the term 'birth centre' in this study refers to a public-owned maternity care facility rather than a freestanding midwife-led birth centre (as is the focus of this study).

2.3. ADMISSION CRITERIA FOR BIRTH-CENTRE CARE

The literature indicates that studies examining clinical outcomes at birth centres commonly refer to the target population as ‘low-risk’ pregnant women. In a prospective cohort study Stapleton, Osborne and Illuzzi (2013) only included low-risk pregnant individuals who had received care at 79 midwife-led birth centres in 33 American states between 2007 and 2010. Similarly, Hodnett, Downe and Walsh (2012) specified that they included “pregnant individuals at low risk of obstetric complication” in an intervention review of alternative birth settings. Similarly, in a descriptive, cross-sectional study, Santos, Vogt, Duarte, Pimenta, Madeira and Abreu (2019) concluded that birth-centre care is a safe and viable option for newborns if their pregnant parent has been screened according to a risk protocol. According to Sharpe (2018), criteria for acceptance are either stipulated in the admission criteria of birth centres or pregnant women are assessed on a case-by-case basis.

There is no clarity yet on whether pregnant individuals with certain medical conditions should be excluded from birth-centre care. Brown, Rajeswari and Bowles (2016) argued that the type of birth and outcomes for pregnant individuals who had been diagnosed with gestational diabetes but maintained their blood glucose within a normal range compared well with those of other pregnant individuals at a specific hospital. These authors concluded that some pregnant individuals may be unnecessarily labelled as ‘high risk’. Similarly, Albers (2005) pointed out that individuals who had had one previous caesarean section and were not overdue did not have worse outcomes when they attempted vaginal birth after a caesarean section.

More research is therefore needed to make evidence-based decisions on inclusion and exclusion criteria for birth-centre care, especially in the South African context.

2.4. CHOICE OF AND ACCESS TO BIRTH-CENTRE CARE

Less intervention-driven and more personalised care during labour and birth have been identified as some of the most prominent reasons why pregnant individuals choose birth-centre care. Since birth-centre care is generally synonymous with midwife-led care, it is operated from the viewpoint that birth is a normal, physiological process, and birthing individuals must be empowered rather than ‘managed’. Pregnant individuals, therefore, choose birth centres to have more control and choices during their pregnancy and while giving birth (Helberget et al., 2016). In birth centres, birth tends to be more of a family event, and continuity of care is prominent (Boesveld, Hermus, van der Velden-Bollemaat, Hitzert, de Graaf, Franx & Wiegers, 2018). Nevertheless, Rutherford and Gallo-Cruz (2008) remained sceptical about the reasons why

pregnant individuals choose birth-centre care. These authors argue that this might be an overly romantic idea, which they call ‘great expectations’.

As previously mentioned, birth centres are underutilised in many countries – even by low-risk pregnant individuals (Alliman, Jolles & Summers, 2015; Baba et al., 2016). Barriers to the development of and access to birth centres include regulation, inadequate financial compensation, and failure of medical aid schemes or national health plans to fund birth-centre care. According to Howell, Palmer, Benatar and Garrett (2014), Medicaid, the state-controlled medical funding system for low-income USA citizens, paid for approximately half of the births in the country. A cost analysis of birth-centre care versus other maternity care settings pointed towards birth centres and midwife-led care as cost-saving, viable alternatives for low-risk women. The above authors argued that policymakers should be encouraged to investigate the role these facilities could play for Medicaid-funded pregnant women.

2.5. OUTCOMES OF CARE AT BIRTH CENTRES

Quality of care is often considered synonymous with safety or outcomes of care (Sprague, Sidney, Darling, Van Wagner, Soderstrom, Rogers et al., 2018). One of the aspects that is often discussed in research about midwife-led care at birth centres is the concept of ‘preventative but not overly intervention-driven’ care. Integrated collaborative care is also highlighted as an important factor for the quality of care and good outcomes for mothers and newborns (Renfrew, McFadden, Bastos, Campbell, Channon, Cheung et al., 2014).

In a review of ten trials involving 11 795 women, Hodnett, Downe and Walsh (2012) compared conventional institutional birth settings to alternative birth settings. These researchers concluded that hospital birth centres offered safe, less-intervention-driven, and more satisfactory care. However, this review excluded *freestanding* birth centres because there were no trials comparing these facilities to hospital settings.

In a large-scale retrospective study, Grünebaum, McCullough, Bornstein, Lenchner, Katz, Spiryda, et al. (2022) did not conclude in favour of out-of-hospital births for neonatal outcomes in the USA. Using data from the Centers for Disease Control (CDC) from 2016 to 2019, they reported that neonates were more at risk of having poor neurological outcomes if they were born at home or birth centres. They reported that in-hospital midwife-led births had better neonatal outcomes than in-hospital births managed by physicians. This was a large-scale population-based study, and the researchers did not interrogate the varying characteristics of USA midwives or birth centres.

In an earlier USA study, data about the births of 3 136 Medicaid beneficiaries who were cared for, especially at American Association of Birth Centers-accredited facilities from 2012 to 2014, were evaluated by Jolles, Langford, Stapleton, Cesario, Koci and Alliman (2017). The recipients of care were diverse in terms of social and medical risk factors. The researchers reported high-quality outcomes at these birth centres. Individuals who chose hospital admission during labour had a four times higher risk of caesarean section. They concluded that expanding birth-centre care could play an important role in improving population health, patient experience of care, and value. Alliman, Stapleton, Wright, Bauer, Slider and Jolles (2019) used descriptive statistics to examine the birth outcomes of 6 424 birth-centre clients in 19 USA states (2013 - 2017). They reported good breastfeeding outcomes and better outcomes for 'socially at risk' individuals in birth centres than in hospital settings and emphasised the importance of an efficient referral network when risks or complications are noted.

Sprague et al. (2018) studied the outcomes for the first year of the Ontario Birth Center Demonstration Project using information from Ontario's prescribed perinatal, newborn and child registry, Better Outcome Registry and Network (BORN). Ontario birth centres must comply with the rules and regulations for independent health care facilities and an existing quality health care framework in the province. According to regulations, two midwives must be present at each birth and midwives must have admitting privileges at one or more hospitals to allow for swift transfer when necessary. Six healthcare criteria must be met: safety, effectiveness, people-centeredness, accessibility, integration, and equity. Sprague et al. (2018) concluded that low-risk pregnant individuals seeking a less intervention-driven approach to childbirth received good quality care at Ontario birth centres. Selection bias was acknowledged since pregnant individuals had the freedom to choose birth centres versus other care facilities.

Bailey (2017) investigated outcomes of freestanding birth centres in South Auckland, New Zealand, through a retrospective review of 47 381 births of low-risk individuals at all maternity care facilities. Individuals who gave birth at birth centres had significantly fewer instrument-assisted births, caesarean sections and blood transfusions compared with those at hospitals. Neonatal unit admission rates were also lower for newborns of first-time birthing parents. Infant mortality rates for birth centres did not differ significantly from hospital births. Transfer during labour or the postnatal period was necessary for 39% of primiparous and 9% of multiparous women. The researchers noted that transfer rates were similar to those in the Birthplace in England study and that nulliparity and advanced maternal age were identified as risk factors for transfer. Most cases in which transfer occurred still had favourable outcomes. The conclusions drawn by the researcher were that birth centres in the study setting provided a safe, less intervention-driven option for women with low-risk pregnancies.

Barbosa da Silva, Rego da Paixão, de Oliveira, Leite, Riesco and Osava (2013) explored intrapartum care at a freestanding birth centre in São Paulo, Brazil, through a descriptive study, using the World Health Organization (WHO) recommendations for care as a guidepost. They evaluated 1 079 births that had been assisted by nurse-midwives and midwives at the birth centre between 2006 and 2009. Compared with hospital births in Brazil, interventions such as oxytocin augmentation of labour and episiotomy were performed more judiciously. Maternal and newborn outcomes were found to be reassuring. The results indicated low rates of maternal and newborn hospital transfers.

Birth centres provide access to options such as water birth, which is not always available in hospital settings. Snapp, Stapleton, Wright, Niemczyk and Jolles (2020) found favourable outcomes for water births compared with births that did not occur in water in their study that included 26 684 birth-centre clients. The study was conducted through the American Association of Birth Centers (AABC). The AABC has specific criteria for birth centres that offer water births, which include risk screening and good clinical judgement.

2.6. WOMEN'S EXPERIENCES OF BIRTH-CENTRE CARE AND EQUITY OF CARE

Research studies that explore birth centre care do not only focus on safety and outcomes, but also on individuals' experiences of the care they received. Bączek, Rychlewicz, Duda, Kajdy, Sys and Baranowska (2019) explored the relationship between place of birth and experience of childbirth in Warsaw, Poland. Individuals who had given birth at birth centres reported feeling more satisfied with their care and less stressed during labour and birth. Similarly, a quantitative survey comparing satisfaction with birth experiences at different venues in the USA found that planned birth-centre and home births were associated with high levels of satisfaction (Fleming, Donovan-Baston, Burduli, Barbosa-Leiker, Hollins Martin & Martin, 2016).

Barros, Costa, Funghetto, Boeckmann, Dos Reis and Ponce de Leon (2010) wanted to know if 'humanising delivery' was a reality at a birth centre in the Federal District in Brazil. According to them, humanised care refers to a service centred around addressing the specific care needs of an individual, rather than conforming to preconceived ideas of how it should be designed. In other words, it referred to respectful, individualised, safe and supportive care. It also implied that medical technology does not unnecessarily replace natural processes. Ten individuals were approached during the postpartum period with the objective of exploring their perceptions of the care they had received during labour and birth at this facility. The narratives they shared clearly indicated that they had encountered humanised care that corresponded to WHO recommendations. In another Brazilian study, focus groups with individuals who gave birth at a birth centre

in Rio de Janeiro, Brazil, identified hosting as an important factor in satisfaction with the care they received. Hosting referred to good organisation, the competence of care providers, the birth-centre environment, and the sense of rapport they experienced with care providers. They wanted to feel safe, respected, welcomed, and unjudged (Caixeiro-Brandao & Projianti, 2011).

Several authors discussed the advantages of access to equal care at birth centres for marginalised individuals and those who live in rural areas. According to Wallace (2019), birthing individuals in informal settlements benefitted from birth centres in terms of safety and satisfaction with care. In an ethnographic study, Esposito (1999) explored the experiences of 14 clients of a birth centre in New York. Most of these individuals were immigrants to the USA and from socially and economically challenged backgrounds. They feared judgement based on race and economic circumstances, but their experiences were the opposite. Compared with the technocratic hospital system, they felt accepted and had a sense of control. This allowed them to be more uninhibited during labour and birth. More recently, Karbeah, Hardeman, Almanza and Kozhimannil (2019) identified the key elements of racially concordant care at freestanding birth centres. Clients of the birth centre reported greater satisfaction with care from care providers who communicated effectively, built relationships, and allowed them to feel respected and involved in their care.

A woman who gave birth at a birth centre in Minneapolis, Minnesota, shared in an interview that, as a single black mother, she had experienced a high level of support (Galvin, 2019). This birth centre served a predominantly black community and aimed to improve outcomes in a country where black women have a four times higher maternal mortality rate than white women. Hardeman, Karbeah, Almanza and Kozhimannil (2020) studied the same birth centre and found that, while black individuals in the USA are twice more likely to experience preterm birth, none of the families that had been cared for at this facility had had preterm babies. The birth centre gave them more affordable access to evidenced-based antenatal care and had a relationship with obstetric specialists whom they could consult when complications occurred.

2.7. COLLABORATION BETWEEN BIRTH CENTRES AND THEIR REFERRAL NETWORKS

Collaboration between midwives working at birth centres, hospital-based obstetricians, family physicians and hospital-based midwives or obstetric nurses has been identified as a prominent factor in the outcomes and experiences of birth-centre care. Two studies in which interprofessional and inter-organisational collaboration between birth centres and their referral networks were explored will be discussed below.

As part of a Dutch birth-centre study, Hitzert, Boesveld, Hermus, de Graaf, Wiegers, Steegers, et al. (2018) studied handover practices between birth centres and referral hospitals, since efficient handover practices

during referral have been known to affect the quality of care. According to the researchers, handover from birth centres often occurs during stressful circumstances that necessitate cooperation between different professions under extreme pressure. Joint training and electronic records were identified as factors that could reduce errors and improve efficiency. Birth-centre clients' experiences during and after handover were influenced by the fact that they went from care providers they knew (community midwife), to being cared for by unfamiliar care providers (secondary-level health care providers). The availability of continuity of care from some of the birth centres in the form of post-natal care or continuous accompaniment by a known midwife was identified as a possible solution to negative handover experiences.

Behruzi, Klam, Dehertog, Jimenez and Hatem (2017) conducted a case study on barriers and facilitators to collaboration between birth-centre midwives and their referral network in Quebec. Semi-structured interviews, direct observation and field notes were employed to explore the perceptions of midwives, multidisciplinary professionals and hospital administrators. Through thematic analysis, it became evident that conflict in the scope of practice, preconceived ideas about midwives, and poor communication between healthcare providers were prominent interactional barriers. Midwives had formal agreements with hospitals, but differences in philosophy, scope of practice and facility culture hindered integration on an organisational level. Systemically, despite a high demand for midwifery care, there were not enough midwives to cater for the demand. This study highlighted the need for a collaborative approach and clear professional boundaries. Better inter-professional collaboration between midwives and their medical counterparts is crucial and would allow for more access to different birth options.

2.8. CHARACTERISTICS OF BIRTH-CENTRE CARE PROVIDERS

The characteristics of care providers are equally important, if not more important, than the location or facility at which birth takes place. Birth-centre care differs from standard obstetric care, and, therefore, midwives require an additional set of skills. The focus is on maintaining a calm, less restrictive environment while ensuring safe outcomes (Stone et al., 2023). Hunter et al. (2018) explored the factors that enabled, safeguarded, and sustained midwives who were employed at freestanding midwife-led units in Auckland, New Zealand. Through a hermeneutic phenomenological study, midwives and obstetricians identified confidence as crucial in the process of providing intrapartum care at a freestanding birth centre. Participants highlighted the importance of experience and collegial support in building confidence.

2.9. THE SOUTH AFRICAN CONTEXT

The South African maternity care system is fragmented. Pregnant individuals who access the public health sector attend antenatal care at their local clinics and give birth at midwife obstetric units, community health centres and district hospitals if they have low-risk pregnancies and normal vaginal births. Individuals with complications or risk factors during pregnancy, birthing or the post-natal period are referred to tertiary-level provincial hospitals. The public sector is thus not associated with continuity of care (Hofmeyr, Mancotywa, Silwana-Kwadjo, Mgudlwa, Lawrie & Gülmezoglu, 2014).

The private maternity care sector is obstetrician-driven and costly, making it unaffordable to women without medical aid, especially those of lower socio-economic status. Wium, Vannevel and Bothma (2019) reported that less than 20% of South African births occurred in private hospitals. The caesarean ratio in the private sector is high. In 2015 it was estimated that 73% of the members of ten medical aid companies gave birth via caesarean section (Solanki, Cornell, Daviaud & Fawcus, 2020). Between 2020 and 2022 the percentage had reportedly risen to 75% (Soma-Pilay & van Niekerk, 2024). Anecdotal evidence suggests that the rate of other interventions, such as induction of labour, is also high, but no official statistics are available to confirm this (De Jager, Yazbek & Heyns, 2018).

A search for literature on midwife-led birth centres in South Africa revealed that two types of midwifery units function in the public maternity care system. Primary-care on-site midwife-led birth units can be compared to midwifery units and have been established in the Eastern Cape. These units are government-funded and on the premises of a public hospital, but they reflect the model of care of international midwife-led birth units. An audit of routinely collected data showed a reduction in maternal and neonatal mortality and suggested that midwife-led units may be a safe option in the South African context (Hofmeyr et al., 2014).

The second type of public midwifery unit in South Africa is the midwife-led obstetric unit. Midwife-led obstetric units also provide basic midwife-led care for low-risk pregnancies and are often located in community health centres or larger clinics in urban areas. These facilities are part of the free primary health care system in South Africa and aim to address the needs of low-risk pregnancies (Oosthuizen, Bergh, Grimbeek & Pattinson, 2019). Malatji and Madiba (2020) found that individuals who gave birth at midwife-led obstetric units experienced disrespectful and abusive behaviour, including verbal abuse, rude language, judgmental comments, neglect, abandonment, delays in care, denial of pain relief, refusal of services, lack of supportive care, nonconsensual care such as frequent vaginal examinations, denial of birth companions, and discrimination based on nationality and high parity. These experiences negatively impacted the women's perception of future facility utilisation for birth, with some expressing a strong reluctance to return due to

the mistreatment they had endured during labour and birth. Similarly, in an inquiry into why midwife-led obstetric units are underutilised in a specific municipal district, Oosthuizen et al. (2017) found specific demographic variables to be strongly associated with disrespectful care: age, language, educational level, and length of residence in the district.

Independent or private midwifery practice is expanding in South Africa. Organisations such as the Sensitive Midwifery Independent Midwife Network have been established in the country (Sensitive Midwifery, 2022). Midwives offer one-to-one or caseload models of care, and some work in small team practices (Jordaan, 2015). To overcome the high facility fees at private hospitals and to offer a more home-like environment, independent midwives are opening their own birth centres – especially in major cities. An example of such a birth centre can be seen on the webpage of Tender Loving Childbirth (2020). An informal internet search at the onset of this study pointed to the existence of 16 freestanding midwife-owned birth centres across the country in 2021. There is a lack of published research that focuses specifically on independently owned freestanding midwife-led birth centres in Africa, and South Africa in particular.

2.10. LITIGATION IN MATERNITY CARE IN SOUTH AFRICA

When delving into legal matters pertaining to freestanding birth centres in South Africa, I found that there have been two media reports linked to independently owned birth centres in the country. The care of clients of a birth centre was scrutinised by an investigative television programme, revealing that the midwife had acted outside of her scope of practice and caused harm to several newborns (Mokoena, 2021). There have also been complaints against a second midwife at a birth centre, claiming that she was ill-prepared and did not intervene adequately during emergencies (Krige, 2023).

In the broader South African context, serious adverse events in labour and birth units often result in legal action. In 2011, the Minister of Health reported that the total financial expenditure related to lawsuits settled by various provincial health departments amounted to 1.7 billion South African rand over the preceding seven years. These legal proceedings covered cases in gynaecology, midwifery, and surgical procedures, with 100 million South African rands designated for the Gauteng Department of Health (Mathibe-Neke & Mashego, 2022). Concerns of disrespect and abuse in maternity care have also been brought to light in research and the media (Oosthuizen et al., 2017; Malatji & Madiba, 2020; Mokoena, 2021).

Given these circumstances, the necessity for accreditation criteria for freestanding midwife-led birth centres in South Africa is apparent. Accreditation criteria are essential for cultivating a culture of safety, accountability, and quality in freestanding midwife-led birth centres, thereby ensuring the well-being of both

birth-centre clients and their newborn infants. Furthermore, accreditation criteria should not only address clinical aspects but also considerations of respectful and dignified maternity care, as well as concerns raised regarding disrespect and abuse in the context of childbirth.

2.11. ACCREDITATION OF HEALTH FACILITIES IN SOUTH AFRICA

In South Africa, midwife obstetric units, primary care onsite midwife-led birth units, and privately owned freestanding midwife-led birth centres represent distinct approaches to midwife-led care, each with its own set of characteristics. Midwife obstetric units and primary care onsite midwife-led birth units are publicly licensed facilities that operate within the parameters of the primary health care system across various provinces in South Africa (Hofmeyr et al., 2014; Oosthuizen et al., 2019). Despite these units being publicly licensed, there is a lack of information about their accreditation.

On the other hand, privately owned freestanding midwife-led birth centres, also known as birth homes, exist outside the public health system and are not subject to the same licensing processes. There is no formal licensing or accreditation procedure for these facilities, as confirmed by a representative from the health care facility licensing department of a provincial health department during this study. The lack of a standardised accreditation process for privately owned freestanding midwife-led birth centres has raised concerns about the consistency and quality of care provided in these private birthing facilities.

While licensing is a legal requirement carried out by government health departments or regulatory bodies, accreditation is a voluntary process undertaken by health facilities to showcase their commitment to quality and continuous improvement in healthcare services. The Council for Health Service Accreditation of Southern Africa is an independent non-profit organisation headquartered in South Africa. With a focus on enhancing healthcare quality, it specialises primarily in accrediting private healthcare facilities and services across Southern Africa. This involves the thorough assessment and accreditation of a range of healthcare institutions, including hospitals and clinics. The organisation actively collaborates with healthcare facilities to pinpoint areas for improvement in their operations and services, offering guidance on best practices to elevate the overall quality of care. Furthermore, it plays a role in developing and updating healthcare standards, ensuring that accredited facilities not only meet but exceed, established benchmarks for quality and safety (The Council for Health Service Accreditation of Southern Africa (COHSASA), 2023). At a meeting with a representative from the Council for Health Service Accreditation, it became apparent that this organisation was not aware of and did not have existing accreditation criteria for freestanding midwife-led birth centres in South Africa.

The Commission for the Accreditation of Birth Centers in the USA serves as an example of an accreditation model that could be adapted specifically for privately owned freestanding midwife-led birth centres in South Africa. This commission is a national accrediting body for birth centres only, which evaluates and accredits birth centres based on established standards, thereby ensuring the provision of high-quality and safe care. If the adoption of a similar accreditation process for privately owned, freestanding midwife-led birth centres in South Africa were to be considered, it would involve the development of comprehensive standards and criteria suitable to the local context (Commission for the Accreditation of Birth Centers (CABC), 2024).

2.12. SUMMARY

With this literature review, an overview of the terminology used to describe birth centres across various countries, as well as the prominent themes that have been investigated in birth-centre research was presented. Factors associated with quality and safety of care were highlighted. Themes of individualised and respectful care emerged in qualitative studies of women's experiences of care at birth centres.

As evidenced by the abundance of available literature, birth-centre care has been embraced internationally. However, despite their apparent expansion, privately owned, freestanding midwife-led birth centres have not yet been formally recognised or accredited in South Africa. In the next chapter the research process followed in this study to develop accreditation criteria for freestanding midwife-led birth centres in South Africa will be described.

3. NAVIGATING THE PATH

Methodology used in this study

3.1. INTRODUCTION

In the first two chapters an overview of the study was provided, and the background and context in which the study would be conducted was described. The research problem, which is the lack of accreditation criteria for freestanding midwife-led birth centres in South Africa, was motivated. In this chapter, I will describe the chosen methodological approach, data collection techniques, and strategies used for analysis to develop accreditation criteria, commencing with a description of the overarching research design.

3.2. RESEARCH DESIGN

A comprehensive three-phase multimethod study was undertaken to formulate accreditation criteria for freestanding midwife-led birth centres in South Africa. Multimethod research projects are distinguished from mixed methods through their predominant reliance on either qualitative or quantitative methodologies instead of a combination of both (Mik-Meyer, 2020). In this instance, we used predominantly qualitative methods and consensus methods. Quantitative elements offered additional insights rather than assuming a foundational methodological role. Data gathered during Phase 1 and Phase 2 of the study informed the development of accreditation criteria for freestanding midwife-led birth centres during the third and final phase.

During Phase 1, a scoping review of existing literature involved qualitative synthesis for systematic mapping and analysis. A limited quantitative aspect was included detailing the number of studies, countries, and years of publication. In the initial, purely qualitative part of Phase 2, insights were gathered from recent birth-centre clients through focus groups, interviews and written narratives, capturing their experiences and perspectives. In the second part of Phase 2, stakeholders participated in idea generation, discussion, and consensus building through the nominal group technique. This process includes silent generation, round-robin discussion, clarification, and voting (ranking) (McMillan, King & Tully, 2016). The nominal group technique is considered a consensus method, focused on the collection of participants' ideas more than on quantitative measurements. The small quantitative aspect involved voting on subthemes or headings for the accreditation criteria. Finally, the e-Delphi technique, another consensus method, employs qualitative and quantitative methods of data collection, analysis, and reporting (Boulkedid, Abdoul, Loustau, Sibony & Alberti, 2011). There is debate about whether the e-Delphi is considered qualitative or quantitative (Romero-Collado, 2021). Despite the incorporation of numerical ratings and feedback, the primary objective is to gather expert

opinions and insights. In our study, both qualitative comments and ratings were systematically analysed and used to refine the accreditation criteria.

The application of this multi-phase multimethod approach is summarised in the table below, showing the integration of multiple research methods to ensure the comprehensiveness and relevance of the study findings and accreditation criteria.

Table 3-1 Three-phase multimethod design application

Phase	Methods used	Data collection	Data analysis	Purpose/Outcome
Evidence synthesis Phase 1	Scoping review	Review of existing literature, guidelines, and relevant legislation.	Descriptive analysis of literature.	Identification of initial aspects and themes for accreditation criteria.
Qualitative and consensus method Phase 2	Focus groups Individual interviews Written narratives Nominal group technique	In-depth group discussion and interviews. Written submissions. Structured group discussions.	Thematic analysis of group discussions, interviews and written narratives. Grouping of ideas generated by experts.	Identification of aspects for accreditation criteria.
Consensus method Phase 3	e-Delphi (Likert scale and comments)	Structured survey with Likert scale responses and qualitative comments.	Analysis of Likert scale responses and qualitative comments.	Refinement and expansion of accreditation criteria. Validation and prioritisation of accreditation criteria.

3.3. METHODS

3.3.1. Phase 1: Scoping review

As the first phase of the study, a scoping review was conducted to explore the available literature focused on freestanding midwife-led birth centres. In line with the model for evidence-based decision-making by Ménage (2016) that served as the theoretical framework for this study, the purpose of the scoping review was to obtain *evidence from research*.

There are several advantages of conducting a scoping review as opposed to other review methods. This method of evidence synthesis was chosen because the topic is broader than a single intervention or outcome. Scoping reviews often include various study designs and types of literature, providing a more holistic understanding of the topic. This is beneficial when dealing with a complex and multifaceted subject (Sucharew & Macaluso, 2019). To develop accreditation criteria, a ‘map’ of the available evidence via a scoping review was more useful than a systematic review focused on a specific intervention or topic would have been (Peters, Godfrey, McInerney, Munn, Tricco & Khalil, 2020).

A scoping review can provide a broad overview of the regulatory landscape. This was crucial for the development of accreditation criteria for freestanding midwife-led birth centres. A summary of laws, professional standards, and local and international guidelines related to birth-centre care in South Africa is presented in chapter 7 (see: 7.2.4). Data collection and organisation was guided by the PRISMA-ScR checklist (Tricco et al., 2018). PRISMA-ScR (see Annexure H: Prisma-SCR Checklist) is a variation of the Preferred Reporting Items for Systematic Reviews that was adapted for scoping reviews (Peters, Marnie, Tricco, Pollock, Munn, Alexander, et al., 2020). By reviewing a wide range of literature, a scoping review helps the researcher to identify gaps in the existing knowledge base. This can be valuable for shaping future research questions and priorities (Munn, Peters, Stern, Tufanaru, McArthur & Aromataris, 2018).

Unlike systematic reviews, which involve a detailed synthesis of evidence, scoping reviews are limited in depth of analysis and the ability to draw firm conclusions. They often include studies with varying levels of quality. While this inclusivity is an advantage for scope, it can be a disadvantage when aiming for a high level of evidence synthesis (Munn et al., 2018). We supplemented information gathered through the scoping review with other data collection methods. Therefore, we did not rely solely on the scoping review for evidence.

Due to the comprehensive nature of scoping reviews, they can be time-consuming. If time is a constraint, this might pose a challenge (Munn et al., 2018). We overcame time-related challenges through consistency and time management. The process of mapping the literature can involve subjective decisions on what to include (Peters et al., 2020). A meticulous process was implemented to ensure the precision and relevance of study selection, centring around a discussion of relevant themes. Each article that was included underwent an evaluation to confirm its connection to one or more predefined themes, as well as its alignment with the overarching review questions, target participants, concepts, and context. This approach facilitated a comprehensive exploration of the themes and ensured that the selected studies contributed to the review objectives. We documented and reported the study selection process, including the number of studies identified, screened, and included/excluded at each stage (see Chapter 4). The steps we followed during the process of the scoping review will be discussed below:

3.3.1.1. The research questions

When embarking on a scoping review, it is important to define the scope of the subject area and specify the categories of literature to be included in relation to population, concept, context, and sources of evidence (Peters et al., 2020). As in the case of all scoping reviews, direct participant

engagement was not undertaken. However, we searched for existing studies that included pregnant individuals and their families who had received care at freestanding midwife-led birth centres or staff associated with these facilities as the study population. Most studies that explore birth-centre care specify the inclusion of only pregnant women deemed low risk, without existing medical conditions or complications.

Data collection for the scoping review was guided by the questions: ‘What is known about freestanding midwife-led birth centres and the factors that affect outcomes and client experiences at these facilities?’ and ‘Which laws, policies and guidelines govern midwife-led care and thus the implementation of birth-centre care in South Africa?’. We aimed to understand the landscape of freestanding midwife-led birth centres globally and in South Africa. We explored aspects that contributed to outcomes and client satisfaction at these facilities. We also aimed to include local legislation and local and international guidelines relevant to freestanding midwife-led birth centres.

3.3.1.2. Search strategy

Database searches were systematically performed on PubMed, the Cochrane Library, and EBSCOhost until a comprehensive collection of relevant online research articles was assembled. Additionally, relevant secondary sources mentioned in the identified articles were meticulously included to ensure an exhaustive literature review. The rationale behind searching these data sources was to find relevant literature on birth centres – including literature on all the synonyms and variations of the term ‘birth center’, as spelt in the USA, and ‘birth centre’ as spelt in the UK and South Africa. Upon initial browsing of the literature, it was found that the terms ‘birth centre’, ‘normal birth center’, ‘birthing centre’, ‘alongside midwifery unit’, ‘freestanding midwifery-led units’, ‘free-standing birth centers’, ‘family birth centers’ and ‘midwifery-led maternity health home’ are terms that are used interchangeably in different countries.

Additionally, we searched the websites of the South African National Department of Health and the South African Nursing Council (SANC) for information guiding midwife-led care in the South African context. The websites of relevant authorities in countries that feature prominently in the literature about birth centres were consulted to find information about their accreditation processes. We meticulously kept track of each step of the literature search, including the time frame, databases searched, and libraries accessed, as suggested by Peters et al. (2020).

3.3.1.3. Study selection

As stipulated by the PRISMA-ScR checklist, the eligibility criteria in a scoping review are described in terms of types of sources (language, publication status and year) and rationale for using these sources (Tricco et al., 2018). The concepts of interest included the characteristics of freestanding midwife-led birth centres, experiences, care aspects, outcomes and factors that affect outcomes at these facilities. Relevant legislation, national standards, policies, guidelines, and protocols formed part of the study concepts. The context was global and local freestanding midwife-led birth centres. The included studies included pregnant individuals and their families who had received care at freestanding midwife-led birth centres, or staff associated with these facilities. Most of the studies included a focus on pregnant individuals identified as low risk (without pre-existing medical conditions or complications).

The identified literature sources were screened based on their applicability to these study concepts, context, and participants. The types of evidence sources included relevant journal articles, books, grey literature, legislation, protocols, and guidelines from governing bodies of midwife-led care and maternity care globally and locally. Both qualitative and quantitative studies varying in methodology were obtained and included if relevant. The focus was on articles published in English between 2002 and 2023. Prompted by a webinar series by the International Confederation of Midwives (ICM) in October and November 2023, newly published articles cited during these webinars were added to the scoping review. Additional relevant laws, policies and guidelines were searched for and supplemented during drafting the criteria in Phase 3 of the study. All relevant articles and other literature sources were entered into a Rayyan database and a Mendeley reference manager folder. The selected studies will be presented in Chapter 4. Legislation and regulations will be presented in Chapter 7.

3.3.1.4. Charting the data

Information about the number and types of studies forms part of the relatively small quantitative aspect of the scoping review report. This process is called 'data charting' (Peters et al., 2020). Several steps were involved in the data charting process, starting with data extraction. The data extraction tool developed by researchers at the Joanna Briggs Institute (JBI) was used as a template (Tricco et al., 2018). Authors and types of literature were recorded. Information about the study design, sample size, participant characteristics, interventions, outcomes, and results were extracted and organised in a structured way. An Excel spreadsheet based on the JBI template was used to enter information (see Annexure I: Excel spreadsheet for scoping review). This included details about the study purpose, design, population, interventions, and outcomes or findings.

3.3.1.5. Collating, summarising and reporting results

The final phase of the scoping review entailed analysing and interpreting data collected and organised during the data-charting stage. Unlike in the case of a systematic review, the research studies included in this scoping review were not critically appraised. Data analysis involved interpreting, summarising and presenting data in alignment with the research questions. As proposed by Peters et al. (2020), themes were identified, and data were categorised according to these themes. Secondly, trends and relationships between different variables were evaluated.

An extensive literature search was conducted to compile the background and literature review in Chapter 2. Based on themes identified through the literature review, research articles and other literature were grouped under specific themes within the broader topic. These themes formed the subheadings in the literature review and subsequently guided the scoping review. More themes were noted and added during the process of the scoping review.

The conclusive phase of a scoping review involves collating and summarising findings (Davidson, 2019). To present data, summary tables were created, offering a visual representation. These tables provide a comprehensive overview, categorising and quantifying the studies identified within each theme. A narrative synthesis and description of the available evidence are reported in Chapter 4. Implications of the findings, gaps in the research, and possible areas for further research will also be discussed. The evidence gathered during the scoping review was combined with data collected during Phase 2 to formulate accreditation criteria sent to stakeholders in Phase 3.

3.3.1.6. Consultation

The scoping review was done in consultation with my study supervisors regarding themes and the selection of studies to enhance the relevance and applicability of the findings.

3.3.2. Phase 2a: Input by former birth-centre clients

As reflected in Ménage's (2016) model, evidence-based decisions in midwifery care cannot be made without obtaining 'evidence from the woman'. It was, therefore, essential to get input from individuals who had recently received care at freestanding midwife-led birth centres, as was done during Phase 2a. We decided to include partners as important role players in the birthing individual's environment. However, only one partner was available to participate in the study.

Various qualitative data collection methods were employed: a focus group session, an individual interview, an interview with a couple, and written narratives. The initial plan was to conduct three online semi-structured focus groups with clients from three birth centres. One focus group was conducted with three individuals who had given birth at a birth centre in the preceding six weeks. After the first focus group, the demanding schedules of parents of newborns made it challenging to conduct more online focus groups. Couples or individuals could not commit to the time and duration of focus groups. Several initially agreed but ended up being unable to attend. Additionally, frequent power cuts (load shedding) were a significant challenge in the research setting, making it difficult to ensure the uninterrupted continuation of online focus group sessions. One potential participant and her partner could not join the group but wished to give their input. They were allowed to answer the same questions in an online interview. A second individual interview was held when a participant from another birth centre was the only person who joined the scheduled session.

The participants were asked to discuss three central questions about their experiences at the birth centre. Some participants preferred answering the questions in writing due to time constraints or other personal reasons. Therefore, to accommodate these participants, we added the option for participants to answer the questions through written narratives. The research ethics committee approved the amendment.

Each data collection method has its own set of advantages and disadvantages. The focus group session allowed for dynamic participant interactions, fostering in-depth exploration of perspectives and experiences. However, as observed after the first session, scheduling and time commitments, particularly for parents of newborns, posed significant challenges, limiting the feasibility of conducting multiple online focus groups. This drawback emphasised the importance of considering participant availability and potential scheduling constraints when opting for focus group discussions.

The individual interviews provided an opportunity for in-depth exploration of each participant's unique experience, allowing for personalised insights. This method might lack the richness of group dynamics in focus group settings and might not capture shared themes as effectively. However, as mentioned previously, the shift from online focus groups to interviews was necessitated by the constraints faced by some participants, confirming the need for flexibility in data collection methods.

The inclusion of written narratives addressed some of the challenges posed by scheduling conflicts and power outages. The written narratives lacked the spontaneity and interactive aspects of verbal communication, potentially affecting the depth and richness of the data collected. However, they

allowed participants to provide thoughtful responses at their convenience, accommodating those who preferred a more flexible approach or could not participate in real-time discussions.

In conclusion, the challenges faced during this study phase study phase highlighted the importance of methodological flexibility and consideration of participant constraints. The combination of methods balanced individual insights with collective experiences, enhancing the overall comprehensiveness of the study findings.

3.3.2.1. Population and sampling

Inclusion criteria

Purposive sampling criteria guided the recruitment of participants for the focus groups, interviews, and written narratives. To ensure diverse perspectives, we aimed to include clients of at least three birth centres located in different geographical areas of South Africa. Midwives at these facilities recruited three to four couples or individuals each. The inclusion criteria specified that participants should have given birth at or have planned to give birth at the selected birth centres and spent a minimum of four hours there during labour if they had eventually required transfer. Notably, birth-centre clients who were transferred due to complications were not excluded, as the importance of examining referral and transfer systems in the context of birth-centre care was recognised. Participants had to have given birth during the previous six weeks. Proficiency in English was a prerequisite for participation in the focus group, as this would ensure effective communication. In recognition of language diversity, and as requested by one of the recruiting midwives, the questionnaire for written narratives and consent forms were translated into Afrikaans, and participants were encouraged to respond in either English or Afrikaans. I translated the questionnaire and the supervisors checked the translation. We offered to accommodate other languages if preferred, but no such requests were received.

Exclusion criteria

The study did not include birth-centre clients who had been transferred to a medical facility without spending at least four hours at the birth centre. Additionally, clients of birth centres with which both my supervisor (who owns a freestanding birth facility) and I had current or past affiliations were excluded to avoid bias.

Recruitment process

To engage varied participants, the initial recruiting efforts included six midwives across four provinces – Gauteng, KwaZulu-Natal, the Free State, and the Western Cape. Three midwives responded and recruited eight participants. The participants gave permission for their midwives to share their mobile phone numbers, and direct contact was made, sharing and receiving back consent forms. Their questions were answered, and they were given the opportunity to raise any concerns they may have had. Since we had only recruited eight participants, a broader recruitment strategy was employed by extending a request through a private midwives' association's WhatsApp group. While eight additional midwives volunteered to recruit clients, attempts to secure further participants through email communication and follow-up yielded no additional responses from birth-centre clients.

3.3.2.2. Data collection and organisation

The synchronous, semi-structured online focus group was conducted in November 2022, lasted 45 minutes, and was facilitated by an experienced research psychologist adept at moderating such sessions. The decision to have a research psychologist as the moderator was based on research psychologists' specialised training in guiding group discussions. The rationale behind this decision lies in the moderator's ability to uphold a degree of impartiality that may be challenging for the principal researcher (me). A skilled moderator is skilled in managing group dynamics, fostering active participation, steering discussions, providing clarification without introducing biased comments, and navigating conflicting viewpoints (Acocella & Cataldi, 2021). I attended the session to keep notes and observed equal engagement of participants and thoughtful clarification, which suggested effective moderation.

The moderator used a focus group discussion guide that I had developed in consultation with my supervisors and was approved by the research ethics committee (See Annexure V: Discussion guide for focus group discussion). Three central questions were asked: "What was important to you about the care you received at the birth centre when it comes to the facility, equipment, and the staff?"; "What made you feel safe and supported and what did not?"; and "Would you recommend birth-centre care to your friends and family, and why?". The participants granted permission to record the focus group, and detailed field notes were taken, capturing participant interactions and observations. Verbatim transcription of the data was conducted for subsequent analysis. Furthermore, the research psychologist and I conducted two online interviews – one with a couple and the other with an individual. Additionally, two birth-centre clients submitted written narratives to their midwife, which were subsequently forwarded to me via email.

3.3.2.3. Data analysis

The written narratives and the transcribed data from the focus group and interviews were put through thematic analysis. This involved identifying and analysing patterns in the data, as outlined by Caulfield (2023). First, I familiarised myself with the data, generating initial codes using ATLAS.ti 23 software (ATLAS.ti Scientific Software Development GmbH, 2023). Inductive coding was performed, meaning that codes were not predetermined. Similar codes were then grouped into categories and potential themes reflecting important aspects of the data. Relevant verbatim quotes were grouped under each theme. Data was analysed independently by a second researcher. During a subsequent online meeting, themes were discussed and finalised. The emerging themes and categories were summarised and used to supplement the data gathered during Phase 1 and Phase 2 in the formulation of accreditation criteria in the final phase of the study. The results of Phase 2a are presented in Chapter 5.

3.3.3. Phase 2b: Nominal group technique with stakeholders

The nominal group technique was chosen as the method of inquiry for Phase 2b to gather 'evidence from the midwife' and the multidisciplinary team in alignment with the theoretical framework guiding the study. The nominal group technique is a structured group discussion and consensus method that facilitates the systematic collection and prioritisation of ideas from participants, making it well-suited for achieving the specified objective, which was to draw on knowledge and experience of front-line midwifery clinicians and other complementary professions (Harvey & Holmes, 2012).

The nominal group technique has several advantages. Firstly, it provides a structured approach to information gathering by enabling participants to systematically generate and prioritise ideas, ensuring a comprehensive exploration of the topic. Secondly, it promotes equal participation by all group members by allowing each participant to voice their opinions and contribute to the discussion (McMillan et al., 2016). Moreover, the nominal group technique promotes efficient decision-making by narrowing down and prioritising ideas through a structured voting process. Lastly, this method is particularly applicable to studies involving participants from diverse professional backgrounds, as it facilitates the integration of knowledge and experiences from various sources.

Despite these advantages, the nominal group technique is not without its drawbacks. Conducting a nominal group technique session can be resource-intensive, requiring careful planning, facilitation, and time commitment from both participants and researchers. Since the participants were in diverse geographic locations, we held the session online, which ensured a more diverse panel without major

cost implications or inconvenience for participants. We limited the nominal group technique to two hours and concluded the session when the time had expired. The structured nature of the nominal group technique may have limited the depth of exploration for certain topics, as participants may not have had time to have complex discussion within a relatively short timeframe (Mullen, Kydd, Fleming & McMillan, 2021). However, the nominal group technique was supplemented with data gathered in other phases of the overall project, allowing stakeholders to provide more feedback if they wished to do so. Effective facilitation is crucial for the success of the nominal group technique. If the facilitator lacks the necessary skills or biases the process, it may affect the quality and reliability of the collected data. Our nominal group technique session was facilitated by a researcher with experience in promoting such sessions, and a wealth of ideas was generated during the session. These ideas will be presented in Chapter 6.

In summary, the nominal group technique was selected for its efficiency in gathering and prioritising evidence from diverse professionals in alignment with the study's theoretical framework. While it presented several advantages, we remained cognisant of possible disadvantages and did not rely solely on information gathered during the nominal group technique session.

3.3.3.1. Population and sampling

As potential participants in the nominal group technique session, stakeholders with expertise in birth-centre care in South Africa formed part of the study population. A purposive sample of stakeholders was obtained through a stakeholder analysis (see Annexure Y: Sample of stakeholder analysis). Stakeholders are individuals or organisations who have an interest in, are affected by, or influence the decision-making and implementation of the identified issue or process of concern. (Franco-Trigo, Hossain, Durks, Fam, Inglis, Benrimoj et al., 2017).

The stakeholder analysis process involved identifying critical individuals from various categories, each contributing a unique perspective to the nominal group technique session. To ensure a diverse and informed discussion, consent was obtained from representatives of the categories mentioned below. Firstly, midwives serving in birth centres were identified as crucial stakeholders, selected for their firsthand experience and insights into both clinical care and the operational aspects of birth-centre practices. These midwives were sourced through the Private Practicing Midwives' Alliance and an independent midwives' Facebook group. Secondly, obstetricians from backup or referral hospitals were included to bring their perspectives on supporting midwives and birth centres, particularly in cases requiring referral or backup. The identification of obstetricians was facilitated by midwives associated with birth centres. Thirdly, the founder of a national independent midwifery network was

engaged to provide expertise from a broader organisational standpoint. Additionally, involvement by representatives of the provincial and municipal health departments ensured alignment with regional healthcare policies and guidelines and enriched the discussion with a contextual perspective. These representatives were identified through a meeting specifically focused on of birth centres in a particular province. Lastly, licensing and accreditation experts with experience in healthcare locally and birth-centre care globally were included to offer insights into regulatory frameworks and international standards. An international expert was identified through her extensive research on birth centres in lower- and middle-income countries. These stakeholders contributed to a well-rounded and informed nominal group technique session, fostering a comprehensive exploration of the topic.

Ideally, a nominal group technique session involves six to twelve members (Harvey & Holmes, 2012). In this case, 28 participants were carefully selected based on their expertise and relevance to the topic, and we planned to conduct one to three sessions, depending on how many participants agreed to participate. Participants were invited via email (see Annexure AA: NGT invitation email), and those who consented by responding and electronically submitting their signed consent forms were given the opportunity to select a date and time that suited them. One nominal group technique session with 14 participants was conducted with a diverse group including members of midwifery organisations, midwives with experience in establishing or managing birth centres, an international midwife involved in global research projects and birth-centre standards development for low- and middle-income countries, and representatives from the Department of Health with expertise in healthcare service licensing. Furthermore, a family physician who is part of a multidisciplinary district specialist team that provides clinical support to midwives at midwife obstetric units enriched the multidisciplinary perspective. All participants were affiliated with credible institutions such as universities, healthcare facilities or organisations at which annual credentialing procedures ensure valid licensure with professional regulatory bodies.

In conclusion, the stakeholder analysis played a crucial role in ensuring the inclusion of a well-rounded and diverse group of participants for the nominal group technique session, enriching the discussion on birth centre care in South Africa through a multidisciplinary perspective.

3.3.3.2. Data collection, organisation and analysis

The nominal group technique was applied to prioritise quality measures and logistical prerequisites to be included in the accreditation criteria for freestanding midwife-led birth centres. The session was conducted online in July 2023 and was recorded for analysis. An experienced facilitator conducted the

nominal group technique. As the primary researcher, I took notes and made observations. Data collection, organisation and analysis is an integrated process during a nominal group technique. The nominal group technique was applied in the following steps, as previously described by Harvey and Holmes (2012):

Topic introduction and question initiation

The topic and purpose of the nominal group technique session were explained, providing a brief background on the significance of developing accreditation criteria for midwife-led birth centres in South Africa. The facilitator initiated the session by asking, "What are the important aspects that should be included in accreditation criteria for midwife-led birth centres in South Africa that will lead to good outcomes and positive experiences for women and newborns?"

Idea generation

Participants were given ten minutes to generate their ideas and input them as Sticky Notes on a Google Jamboard (Google, 2023a). This step encouraged individual creativity and ensured a diverse range of ideas.

Round robin (elaboration of ideas)

Participants elaborated on their ideas one by one, which allowed each participant to contribute and provide context to their suggestions. After each participant's explanation, others could ask questions, comment or write messages in the chat box. This facilitated a more in-depth discussion and understanding of each idea. The round robin lasted for approximately 75 minutes.

Discussion and clarification

The group collectively discussed and clarified all recorded ideas, addressing concerns and ensuring a shared understanding of the generated content. This step promoted open communication and collaboration between participants.

Voting on main topics

The group members voted on the five main topics that should be included in the accreditation criteria. This step involved a structured decision-making process to collectively identify the most crucial aspects.

Data analysis

Concerning data analysis, the participants were characterised according to their roles, professions, and years of experience, as outlined in Chapter 6. The ideas generated during the session were categorised under five primary headings, and duplicates were removed. This information informed the accreditation criteria drafted and reviewed during the final phase of the study. Additionally, the session's comments, concerns, and discussions underwent thematic analysis, of which the outcomes will be presented in Chapter 6.

3.3.4. Phase 3: integration of findings and the e-Delphi method

3.3.4.1. Integration of findings and drafting of accreditation criteria

Five overarching themes were identified during the scoping review and used as the main headings for the accreditation criteria. Suggestions for criteria gathered during the nominal group technique sessions were grouped under these themes and compiled into a tabular format. A practically applicable description for each criterion was written based on existing standards, guidelines, policies, regulations, and literature gathered during the scoping review. The citations of these documents were added to the table. The description of each criterion was compiled with consideration of the data gathered from the birth centre clients (e.g. keeping clients informed, allowing multiple support persons, being transparent about costs, and midwives being available to clients). There was an overlap between expert suggestions and the aspects birth centre clients reported as desirable or positive. The drafted document was reviewed by two supervisors and refined through an iterative process to prepare it for the e-Delphi phase.

3.3.4.2. Initiation and design

After the accreditation criteria for freestanding midwife-led birth centres had been drafted, the e-Delphi technique was applied to allow stakeholders (experts) to review and indicate their level of agreement with each item. The Delphi technique, or the Delphi method, is a consensus-building approach used in various fields, including education, research, and practice. It is an iterative process during which participants complete questionnaires over multiple rounds (Boulkedid et al., 2011). The prefix 'e-' in 'e-Delphi' means 'electronic.' The use of this term indicates that the Delphi technique is being conducted in a digital or online environment, utilising electronic communication tools and platforms.

The e-Delphi is advantageous due to its flexibility and its cost-effectiveness. It allows respondents in diverse geographic locations to participate at their convenience. As a structured method, the e-Delphi technique promotes inclusivity, preventing dominance by certain individuals and accommodating diverse opinions. Anonymity is a key feature which encourages candid feedback. However, criticisms include potential unreliability, lengthy completion times, and the absence of face-to-face interaction (Drumm, Bradley & Moriarty, 2022). Although we were aware of who we invited to participate in our study, the questionnaire responses were anonymous. We estimated that the questionnaire would take roughly 30 minutes to complete during each round and notified potential participants of this out of respect for their valuable time.

The Likert scale commonly employed in the e-Delphi is a quantitative approach to measuring opinions. It consists of items arranged ordinally, allowing respondents to indicate their level of agreement or disagreement. Scale choices, such as the number of points and labelling, impact respondent interpretations. While a five- or seven-point scale is recommended for opinion measurement, the optimal design depends on the context. Feedback in the Delphi, presented anonymously by facilitators, is crucial. Consensus is determined by predefined criteria, often based on percentages of agreement between respondents. The success of the Delphi lies in the fact that it is an iterative process that allows for reflection and controlled feedback. Despite criticisms, the Delphi remains widely used. This reflects its adaptability and effectiveness in achieving consensus in complex scenarios (Drumm et al., 2022).

3.3.4.3. Stakeholder engagement and inclusion criteria

The same stakeholders (experts) who had participated in the nominal group technique during Phase 2b were invited for the e-Delphi phase, with the inclusion criteria thus remaining consistent: a purposive sample of stakeholders with expertise in birth-centre care in South Africa and abroad, obtained through a stakeholder analysis (see Annexure Y: Sample of stakeholder analysis). At the end of the nominal group technique session, all participants indicated their willingness to also participate in the e-Delphi phase. Stakeholders who had been willing but unable to attend the nominal group technique were also invited. A separate consent form for the e-Delphi phase and a questionnaire link was distributed to 20 stakeholders via email. The heterogeneity of the panel was crucial for both the validity of the e-Delphi results and the accreditation criteria. This was achieved by including stakeholders from various specialities, governing bodies, professional organisations, and midwives across diverse geographical areas. Thirteen participants participated in Round 1, and nine participated in Round 2 of the e-Delphi.

3.3.4.4. Data collection and iterative refinement

Data collection through the e-Delphi method followed a structured process:

Round 1

The first draft of the accreditation criteria was transformed into a Google Forms (Google, 2023b) questionnaire and was sent to recruited experts electronically for comments and proposed changes (see: Annexure AC: Google Forms draft of accreditation criteria used during round 1 of e-Delphi). A Likert scale, alongside each accreditation criteria item, allowed stakeholders to express the perceived importance of each item. Participants used a scale from '0 = irrelevant' to '5 = must be included'. A comments section facilitated participant feedback on each section of the accreditation criteria. The questionnaire contained a section where participants could indicate their profession, experience, and expertise.

Round 2

The accreditation criteria were iteratively adapted, compiled in the same format as in Round 1, and sent again or in a second round. Round 1 scores were indicated on the questionnaire, and changes were highlighted. During both rounds, more than 70% of participants scored all items as 'very important' or 'must be included'.

Round 3

A final PDF draft was sent for a third round (no voting required) to allow for final comments.

In summary, the e-Delphi study was conducted in three rounds. In the initial two rounds, participants received a Google questionnaire where they could rate each item and provide comments. In Round 3, the final draft was sent as a PDF document, allowing for final comments or insights.

3.3.4.5. Feedback and consensus building

The Likert scale responses were automatically generated in the Google Forms results section. Items that received a score of 'very important' or 'essential' (levels 4 and 5) from over 70% of participants were incorporated into the accreditation criteria. Feedback from participants included qualitative comments along with a numerical summary. Consensus among stakeholders was successfully reached in both Round 1 and Round 2, leading to the finalisation of the accreditation criteria document. The

comprehensive results, including qualitative comments and quantitative measures, are presented in Chapter 7.

3.4. RIGOUR AND QUALITY CONTROL

High-quality, multimethod research is distinguished by richness and complexity, not by the precision often associated with quantitative research. Rigorous researchers go beyond convenience to apply diligence and thoroughness in the methodology they use (Tracy & Hinrichs, 2017). It depends on the uniqueness and significance of the information rather than on the quantity. Rigour increases the likelihood of producing a high-quality final product and helps the researcher develop methodological skills that contribute to the overall quality of research endeavours. Rigour is described according to steps taken to ensure the trustworthiness of the study findings (Roush, 2015). In this study, the degree to which rigour was employed also directly impacted the trustworthiness of the accreditation criteria for freestanding midwife-led birth centres, as developed through the research process.

Trustworthiness is determined by the credibility or ‘truth value’, dependability, confirmability, and transferability (Forero, Nahidi, De Costa, Mohsin, Fitzgerald, Gibson et al., 2018). Authenticity is an additional measure of rigour. Throughout the research process, we remained cognisant of the factors that contribute to rigorous sampling, data collection, data analysis, and data reporting. During each research phase, we employed specific strategies to ensure rigour, which will be discussed below.

3.4.1. Credibility or truth value

To convey credibility, a researcher should provide supporting evidence that assures the reader that the study content is represented accurately in the results. As the first step in ensuring credibility, I described the context in which the study took place. Notes were consistently kept, and my supervisors and I examined and discussed data several times, as proposed by Connelly (2016). Established guidelines were followed throughout the scoping review process, and the search strategy and processes were meticulously documented. Comprehensive screening and evaluation of available research focused on freestanding midwife-led birth centres contributed to the credibility of the scoping review findings. While the concept of prolonged engagement is typically associated with qualitative research, its principles were applied in conducting the scoping review. This involved undertaking a thorough and iterative literature search over an extended period to ensure a comprehensive understanding of the topic. It also included engaging extensively with the identified literature, conducting thematic analyses, and being open to adjusting the review scope as new insights

emerged. Reflection, documentation, and consultation with the supervisors were integral components that facilitated a more comprehensive and adaptable scoping review process.

Detailed notes were kept in the qualitative phase involving focus groups, interviews and written narratives to create an audit trail. Having an experienced research psychologist moderate the focus group and conduct one of the interviews enhanced the credibility of the findings by ensuring expert moderation, reduced bias, and effective clarification of responses. A rigorous examination of the qualitative data by myself and a qualitative research expert reinforced credibility.

Member checking, also known as respondent validation or participant validation, is a research technique used to enhance the credibility and validity of study findings. It involves the researcher sharing their preliminary results, interpretations, or themes with the study participants to obtain their feedback, comments, or corrections. This process helps researchers refine their analysis and address potential biases or misunderstandings and ultimately strengthens the validity and trustworthiness of the research findings (Amin et al., 2020). The inclusion of both the nominal group and the e-Delphi techniques involved stakeholders with diverse backgrounds in various geographical locations in Phase 2 and Phase 3 of the study. This allowed them to give input on the criteria and then review and comment on the drafted accreditation criteria. Based on their comments, the criteria were adjusted and sent again for review. This process reflected a commitment to participant-centred research and acknowledged the importance of including participants in interpreting and validating their own input.

To summarise, in each phase the priority was to ensure the credibility of the findings. Adherence to guidelines, attention to detail, and stakeholder engagement contributed to the overall credibility of the study findings. Triangulation, through involving multiple research methods, further enhanced credibility.

3.4.2. Dependability or consistency

Dependability, often used synonymously with consistency, is the extent to which research findings can be reliably replicated in the same context (Forero et al., 2018). To achieve this, a researcher must provide a comprehensive account of the study process, as emphasised by Johnson, Adkins and Chauvin (2020). In line with this guidance, meticulous documentation of an audit trail and a detailed description of the applied and adjusted research processes were provided in each phase of the study.

During the scoping review, the search strategy and process were meticulously documented, including details such as the rationale for excluding specific studies after full-text analysis. In the qualitative

phase (2a), modifications were made to the data collection approach. This decision was transparently acknowledged and justified. As previously mentioned, an external focus group moderator led the focus group and an interview to reduce bias, and thus enhance dependability.

The nominal group technique session involving stakeholders was facilitated by an experienced researcher well versed in leading these sessions. A detailed account of the nominal group technique process, electronic tools used and the availability of a recording of the session to refer to further enhanced the dependability of the findings. Acknowledging the context specificity of our study, Chapter 2 included the background of midwife-led birth centre care in South Africa. The application of the e-Delphi process and the step-by-step explanation of the process contributed to the transparency and dependability of the result during the final phase. Overall, a detailed audit trail of the entire study process ensures the consistency of the findings.

3.4.3. Confirmability

Confirmability in research refers to the degree to which the findings of a study are based on and accurately reflect the data collected from participants rather than being influenced by the researcher's interpretations or biases (Johnson et al., 2020). It is a key aspect of research quality and involves ensuring that the results are objectively grounded in the information provided by the study participants.

During each phase of the study, we took measures to minimise the impact of personal interpretations or biases. The Joanna Briggs Institute (JBI) methodology, and tools guided the scoping review process. Results and themes were discussed in online meetings with my supervisors, focusing on areas of uncertainty. Thematic analysis of data gathered through a focus group, interviews, and written narratives from birth-centre clients was done independently by two researchers (an experienced qualitative researcher and me). Discussion during a meeting solidified themes. Recordings of the focus group and interviews with participants' permission ensured that data could be re-examined and reviewed.

Using tools such as Google Jamboard (Google, 2023a) contributed to the confirmability of the ideas generated by stakeholders during the nominal group technique. During the session, a visual representation of their ideas that could be reviewed multiple times was created. After the ideas had been grouped under five overarching themes, they were reviewed independently by both supervisors. The five themes were unanimously agreed on by all participants during the nominal group technique session. The session was recording and transcribed, allowing review and clarification.

In summary, rigorous methodologies, transparent data collection and analysis procedures, and systematic reporting practices were employed throughout the study to achieve confirmability. We aimed to demonstrate that the results were a reliable reflection of the participants' perspectives, experiences, or responses rather than being influenced by our subjective viewpoints or preconceptions.

3.4.4. Transferability

To enhance transferability, a researcher must provide a rich description of contextual details so that readers can assess the applicability of the results to their own or similar situations (Johnson et al., 2020). To enhance the transferability of the scoping review, we clearly defined the inclusion criteria and included global evidence, ensuring relevance to a broad audience. A thorough search strategy was employed across multiple databases to capture diverse studies. Document search processes and criteria were clearly described. Multiple perspectives, populations and contexts in the included studies were considered, ensuring the applicability of findings to various settings. Contextual information, such as participant characteristics was described for each study, and we identified common themes in the available global research through thematic analysis. This facilitated applicability to diverse situations. I consulted with experts (my supervisors are experts in midwife-led and neonatal care) for recommendations.

Transferability in the qualitative phase (Phase 2a) involving birth-centre clients was enhanced through data saturation and by comparing the themes that emerged to themes in similar studies in the scoping review. To recruit participants for the nominal group technique session we conducted purposeful sampling through stakeholder analysis. We involved participants from various professions and geographical regions. An international participant with expertise in birth-centre care and the development of standards for birth centres provided a global perspective. The same stakeholders were also invited to participate in the e-Delphi phase. Engaging these stakeholders for valuable insights ensured real-world applicability.

3.4.5. Authenticity

Following the framework proposed by Amin et al. (2020), we prioritised ontological, educative, catalytic and tactical authenticity throughout the study process. Fairness requires unbiased representation and acknowledgement of values. Ontological authenticity pertains to evolving from the initial perspectives held by participants and researchers to a deeper and improved understanding of the subject matter. Educative authenticity is described as the degree to which individual

respondents (including the inquirer) gain an improved understanding of the viewpoints of those beyond their specific stakeholder group, as well as greater appreciation and tolerance for those viewpoints. Catalytic authenticity aims to stimulate action and problem-solving, recognising that knowledge alone may be insufficient. Tactical authenticity emphasises empowering participants to act on the implications of the inquiry. Practical steps involve negotiation, transparency, member checks, and continuous informed consent (Amin et al., 2020).

3.4.5.1. Ontological authenticity

Ontological authenticity was maintained by actively evolving perspectives throughout the research process. The scoping review in Phase 1 laid the foundation, summarising relevant research evidence. In Phase 2, qualitative data collection and the nominal group technique involved stakeholders, ensuring their perspectives were considered. The draft compilation in Phase 2b integrated findings from various sources, which led to a deeper understanding of the subject matter.

3.4.5.2. Educative authenticity

Educative authenticity was achieved by promoting an enhanced understanding, appreciation, and acceptance of diverse viewpoints. Qualitative studies included in the scoping review and data collected during Phase 2a included birth-centre clients, partners, and experts, thereby ensuring a broad range of perspectives. The nominal group technique session and e-Delphi study with maternity and birth-centre care experts provided a platform for discussion and sharing diverse opinions.

3.4.5.3. Catalytic authenticity

Catalytic authenticity was achieved by stimulating action and problem-solving. This was evident in the e-Delphi validation process, where stakeholders actively participated, contributing to developing and reviewing accreditation criteria. The study recognised that knowledge alone might be insufficient and that stakeholder involvement in decision-making processes is paramount.

3.4.5.4. Tactical authenticity

Tactical authenticity was emphasised through transparency, continuous informed consent and member checks in the study, ensuring participants were actively involved and had a say in the research process. The involvement of stakeholders in the development and review of accreditation criteria exemplified this approach.

In conclusion, using various strategies and methods across study phases contributed to the overall rigour and trustworthiness of the research findings and thus promoted comprehensive and credible results. This aligned with best practices in qualitative research designs (Johnson et al., 2020). The sub criterion of authenticity was considered to further contribute to the rigour and confidence in the study results. The rigorous process and measures to ensure authenticity also enhanced the credibility and applicability of the accreditation criteria developed for freestanding midwife-led birth centres in South Africa.

3.5. ETHICAL CONSIDERATIONS

The research proposal for this study, as well as later amendments, were granted ethical clearance by the Ethics Committee of the Faculty of Health Sciences of the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 and 012 356 3085. The Committee's written approval is contained in Annexure F: Approval to conduct this study by the University of Pretoria Faculty of Health Sciences Research Ethics Committee. In line with the international standards for research ethics, we abided by the principles underpinning the Declaration of Helsinki (World Medical Association, 2013). Ethical research means following the principles of respect for persons, beneficence and justice throughout the entire process (Bitter, Ngabirano, Simon & Taylor, 2020).

3.5.1. Respect for persons

Respect for persons mandates that participation must be voluntary with no coercion of any kind. Human beings have the right to autonomy and self-determination (Department of Health, Republic of South Africa, 2015). During phase phases 2 and 3 of the study, participants in the nominal group technique sessions, focus groups and e-Delphi phase were informed that they had the right to withdraw at any point during the study without obligation to offer an explanation. They were also informed of the costs and benefits of the study, and they signed informed consent forms (see Annexure A: Participant information and consent document for focus group discussion to Annexure E: Participant information and consent document for the e-Delphi technique).

The focus group and individual interviews with birth-centre clients were also held online, and participants were informed that all sessions would be recorded with their permission for further analysis. Stakeholders were requested to give their time to attend the nominal group technique sessions and evaluate the accreditation criteria. The initial plan was to conduct the nominal group technique session in person, but due to the varied geographic locations of participants, the decision

was made to conduct the session online. There were no interventions or suspected physical risks to the recent birth-centre clients and stakeholders. In all sessions, we made sure that the participants fully understood the consent forms and confirmed that we would be available for clarification (Bitter et al., 2020).

3.5.2. Beneficence

To adhere to the principle of beneficence, we aimed to collect valid and useful data. Scientifically sound methodology was used, and data will be reported honestly and accurately (Bitter et al., 2020). Respect for participants' privacy is also categorised under the principle of beneficence. During the nominal group technique session and focus groups, participants would inevitably be aware of each other's identities; therefore, anonymity in these contexts was not feasible, but the names of participants were kept confidential in all study reports. Group rules were set to mandate shared confidentiality. We requested that the participants treat the information and identity of other participants confidentially. During the e-Delphi phase, participants responded anonymously, but they were invited to provide some biographical information in the questionnaires, which they did. This would potentially make them identifiable to the researcher but anonymity would be maintained in all reports and discussions.

3.5.3. Justice

To abide by the principle of justice, the study's overarching aim was to promote the accessibility of safe birth-centre care to more pregnant individuals by developing accreditation criteria. Justice in research demands fair distribution of the benefits of research (Bitter et al., 2020). Independent midwives who practise at or own freestanding birth centres in South Africa had the opportunity to give their input during the research process. The rights of the participants and the pregnant individuals and newborns who will benefit from the research served as a guidepost. Throughout the research process, all sources used have been referenced, thereby avoiding plagiarism.

3.6. SUMMARY

In this chapter, I outlined the research methodology applied in this three-phase multiple-methods study to develop accreditation criteria for freestanding midwife-led birth centres in South Africa. I described sampling, data collection and sampling methods for each of the three phases of the study as well as the measures taken to ensure that a rigorous and ethical research process was undertaken.

In the following chapters, I will present the results of the data gathered during each phase of the study by applying the methodology as described.

4. GATHERING EVIDENCE FOR ACCREDITATION

CRITERIA PHASE 1 – EVIDENCE FROM RESEARCH

Scoping review of research on factors that affect outcomes and satisfaction with care at freestanding midwife-led birth centres

4.1. INTRODUCTION

This chapter summarises global evidence on freestanding midwife-led birth centres and the factors that affect outcomes and satisfaction with care at these facilities is reported. In combination with the other types of evidence gathered throughout the study, it informed the development of accreditation criteria for freestanding midwife-led birth centres in South Africa. Research evidence was gathered through a scoping review to explore literature on freestanding midwife-led birth centres. Our objectives were to identify the key factors related to outcomes of, and satisfaction with, care at these facilities, and to provide a comprehensive overview of the current state of knowledge globally and in South Africa. We also aimed to identify guidelines for care at freestanding midwife-led birth centres globally and the legislation under which these facilities should be governed in South Africa. Relevant practice guidelines and legislation are presented separately in chapter 7 (see 7.2.4).

4.2. REVIEW QUESTIONS

What is known about freestanding midwife-led birth centres and the factors that affect outcomes and satisfaction with care at these facilities?

4.3. INCLUSION CRITERIA

4.3.1. Unit of analysis

The populations of interest in the included articles were pregnant individuals who had received antenatal, intrapartum and postnatal care at freestanding midwife-led birth centres, their newborn infants, and midwives who worked at those facilities. Individuals or newborns who had needed to transfer to a higher level of care were not excluded since the referral network was an important aspect to consider in exploring quality of care. We also included research that focused on the support persons of those individuals.

4.3.2. Concept

The study concept centred around care at freestanding midwife-led birth centres and factors that affect outcomes and satisfaction with care at these facilities. During the initial literature review, we identified several themes that are prominent in international literature regarding birth centres, and we included literature that explored one or more of these themes: ‘characteristics of facilities’, ‘outcomes at birth centres/safety’, ‘clients’ experiences/satisfaction with care’, ‘collaboration

between birth centres and their referral networks’, characteristics/experiences of birth centre care providers’, ‘operational standards’, and ‘quality indicators’. During the scoping review, an additional category for ‘interventions during labour and birth’ was identified and added. The category ‘choice and access/eligibility criteria’ was divided into ‘choice and access (equity)’ and ‘eligibility criteria for admission’. Even though we found numerous studies on the cost-effectiveness of care at freestanding midwife-led birth centres, we excluded studies that focused only on this topic since they are not relevant to our specific research questions.

4.3.3. Context

The freestanding midwife-led centres referred to in this review are stand-alone facilities with no onsite theatre, where primary midwife-led care is practised and the focus is on natural birth in a home-like environment. In the case of referral, professional responsibility is handed over to a secondary care provider such as an obstetrician or paediatrician (Hermus, Hitzert, Boesveld, van den Akker-van Marle, Dommelen, Franx et al., 2017b). Literature on birth centres that are publicly funded but still homelike and fully governed by midwives was included. Countries where midwives are known to operate their birth centres include the USA, UK, New Zealand, Canada, Australia, the Netherlands, Japan and France.

When we commenced this review, limited research was available on the ownership and operation of freestanding midwife-led birth centres in Africa. The International Confederation of Midwives (ICM) commissioned a series of studies to explore the existence of midwife-led birth centres in low- and middle-income countries. South Africa was included in this study’s case study and scoping review phases. Still, the reviewers identified only publicly governed midwife obstetric units and onsite midwife-led units. These studies were published in 2023 (Bazirete et al., 2023; Nove et al., 2023; Turkmani et al., 2023). Google searches revealed the existence of privately owned freestanding birth centres or birth homes in South Africa (Mother Instinct, 2023), but no peer-reviewed research articles explored care specifically at these facilities.

Although a large proportion of the available research had been conducted in high-income countries, the USA, in particular, faces challenges when it comes to unequal access to high-quality maternal and newborn care, lack of individualised or culturally concordant care, and low levels of continuity, choice, and control in standard maternity care settings (Karbeah et al., 2019). South Africa, as a middle-income country, similarly grapples with unequal access to high-quality maternal and newborn care and deficiencies in continuity, choice and control in maternity care settings as barriers to progress in improving maternal health (Silal, Penn-Kekana, Harris, Birch & McIntyre, 2012). We have therefore explored evidence from high-, middle- and low-income countries to give an overview of the landscape

of freestanding midwife-led birth centres and to summarise the factors that affect outcomes, access and satisfaction with care at these facilities.

4.3.4. Types of studies

Several types of literature sources were screened for inclusion in this review. They included studies using various qualitative, quantitative, and mixed methods, reviews (scoping reviews, systematic reviews, and literature reviews), a quality improvement project, a guideline development project, and birth-centre standards or guidelines.

4.4. METHODOLOGY RECAP

Since the aim was to summarise global evidence on freestanding midwife-led birth centres, a scoping review was considered the most appropriate initial form of evidence analysis and synthesis. This method was chosen because the focus of the topic is broad and complex rather than focusing on a single intervention or outcome (Sucharew & Macaluso, 2019). A ‘map’ of the available evidence via a scoping review would be more useful to develop accreditation criteria than a systematic review of one intervention or topic. Scoping review methodology from the Joanna Briggs Institute was used to guide the process (Peters et al., 2020).

4.4.1. Search strategy

To answer the first question, the researcher undertook PubMed, Cochrane database and Ebscohost (including Cinahl and Medline) searches, using the terms ‘freestanding’ AND ‘birth center’ OR ‘birthing center’ OR ‘birth centre’ OR ‘birthing centre’. Search criteria were set to include articles from 2002 to 2023. Study titles and keywords do not always specify if a birth centre is ‘freestanding’ or ‘midwife-governed’; therefore, we opted to use broad search terms. Relevant sources cited in screened articles were added. The search identified 584 articles (after 16 duplicates had been removed). The literature searches are summarised in Table 4-1.

Table 4-1 Literature searches

Source	Search	Retrieved results
Cochrane database	'freestanding' AND 'Birth center' OR 'Birth centre' OR 'Birthing center' OR 'Birthing centre' 2002 - 2023	2 articles
PubMed	'freestanding' AND 'midwife-led' AND 'Birth center' OR 'Birth centre' OR 'Birthing center' OR 'Birthing centre" 2002 - 2023	519 articles
Ebscohost (including CINAHL & Medline)	'freestanding' AND 'midwife-led' AND 'Birth center' OR 'Birth centre' OR 'Birthing center' OR 'Birthing centre' 2002-2023	16 articles
Secondary sources	Referenced in other research articles	63 articles
		Total = 600 – 16 duplicates = 584

4.4.2. Study selection

All citations were entered on an Excel spreadsheet (see Annexure I: Excel spreadsheet for scoping review) and were imported to Rayyan, a web-based review tool (Ouzzani, Hammady, Fedorowicz & Elmagarmid, 2016), and Mendeley, a citation manager, to facilitate the screening and organisation of the articles. Duplicates were removed, and abstracts were read to screen for relevance. Articles that deviated from the topic were excluded. Potentially relevant articles were marked as 'yes' or 'maybe', and full-text versions were retrieved. All 'yes' and 'maybe' articles were read in full to decide which specifically focused on 'midwife-led' and 'freestanding' birth centres. Additional studies identified through the reference lists of relevant studies were added and read. Where there was uncertainty about including a literature source, it was discussed with other team members. The scoping review for data extraction and analysis included a final selection of articles.

4.4.3. Data extraction

The next step was to extract data from the included studies and organise and summarise it in a structured way to make it easier to analyse and interpret. I did this in consultation with my supervisors. A modified tool version developed in a scoping review by Cooper et al. (2021) was used for data extraction. The existing data extraction tool included title, author, year, journal, country of origin, aims/objectives, context, population, study sample, setting and study design. Additional elements

were incorporated for our scoping review to indicate if the birth centre was freestanding, if the birth centre was owned or governed by midwives, and which of the predetermined themes applied to each of the articles ('guidelines/operational standards'; 'quality indicators'; 'characteristics of facilities'; 'outcomes at birth centres/safety'; 'interventions used', 'clients' experiences/satisfaction with care'; 'collaboration between birth centres and their referral networks'; characteristics/experiences of birth-centre care providers'; 'choice and access (equity)' and 'eligibility criteria for admission'). The data extraction tool is presented in Table 4-2.

Table 4-2 Data extraction tool (adapted from Cooper et al., 2021)

Field	Instructions/Description
Title	Title of article
Author	All authors
Year	Year of publication
Journal	Journal or publication title
Country of origin	The country where the study was conducted
Aims/objective	Study objective or aims
Context	Brief description of context
Population	Brief description of population and inclusion criteria
Study sample	Study sample or unit of analysis
Setting	Brief description of the setting
Study design	Type of study
Freestanding?	Is the birth centre freestanding?
Midwife-led?	Is the birth centre owned or governed by midwives?
Which of these themes apply to the study?	Guidelines/operational standards Quality indicators Characteristics of facilities Choice and access (equity) Eligibility criteria for admission Outcomes at birth centres/safety Interventions used during labour and birth Clients 'experiences/satisfaction with care Collaboration between birth centres and their referral networks Characteristics/experiences of birth-centre care providers

4.4.4. Data analysis and presentation

Information required by the tool was entered on a Microsoft Excel spreadsheet. The spreadsheet was created in alignment with the predefined headings in the data extraction tool. I systematically documented the number of studies for each year, the distribution across countries, and the various types of studies. Additionally, relevant pre-identified themes were indicated for every study, quantifying how many studies fell under each thematic category. All this information will be presented in the results section.

Further data extraction evolved during the comprehensive full-text analysis of the included articles to include identifying reported outcomes, factors associated with these outcomes, variables studied or reported in conjunction with specific outcomes (for example, demographic variables), and interventions employed during labour and birth. Factors associated with satisfaction with care, as reported in studies that explored this topic, were systematically documented.

Summary tables were created for studies that explored characteristics of birth centres, explored aspects such as choice, equity, and access to these facilities, specified or studied eligibility criteria for admission to birth centres, and studies that explored the characteristics and experiences of birth-centre care providers. Relevant guidelines, operational standards and quality indicators were also summarised in tabular format (see Annexure J: Summary of studies that characterised birth centres to Annexure U: Summaries of included articles).

4.5. RESULTS

4.5.1. Study inclusion

The initial search identified 535 articles and 16 duplicates were removed. Sixty-three (n=65) additional sources were added. Two hundred and twelve (n=212) 'yes' or 'maybe' studies were identified for full-text evaluation. Following a thorough examination of the studies' full-text versions, 79 articles were excluded from consideration as they did not meet the predetermined inclusion criteria (see Annexure T: Studies ineligible following full-text review). The reasons for exclusion were categorised as follows: first, eight articles (n=8) were excluded due to a language barrier, as they were written in foreign languages (French, Portuguese, Norwegian). Second, 18 articles (n=18) were deemed unsuitable for inclusion due to being classified as the wrong publication type. These were critiques of other articles, summaries of already included articles, technical summaries of research methods, historical overviews, anecdotal accounts, or generalised viewpoints. Third, full-text access could not be obtained for four sources (n=4), which prevented comprehensive evaluation.

Furthermore, 11 articles (n=11) were excluded because they did not align with the specified outcomes. Some of these studies focused on the prevalence of a specific therapy. In contrast, others were orientated towards general maternity or midwifery care aspects rather than the intended focus on freestanding birth-centre care. For one study (n=1), a more recent update was included to avoid duplication, and one source (n=1) was a PhD thesis from which an article has been included. Lastly, 36 articles (n=36) were excluded due to their evaluation of an inappropriate population or setting. These studies had been conducted in hospital settings alongside birth centres, in-hospital birth centres, or other settings that did not qualify as freestanding or homelike birth centres. Some studies had been conducted in settings where midwives were not the primary care providers. In the scoping review, 133 articles were included (see Annexure U: Summaries of included articles). A process summary is provided in Figure 4-1 below.

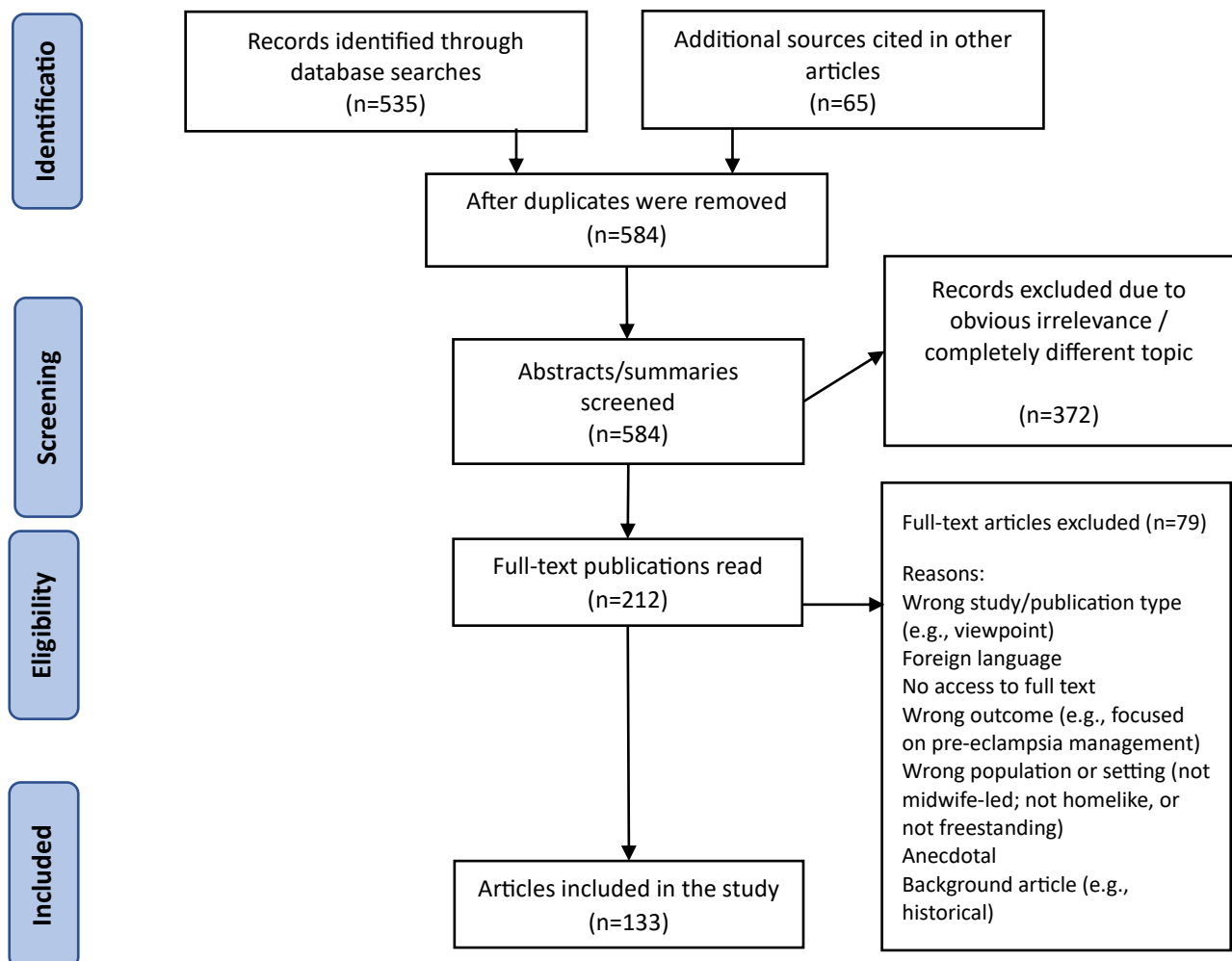


Figure 4-1 Search results and article selection and inclusion process

4.5.2. Characteristics of included articles

4.5.2.1. Year of publication

The first research articles about birth centres or birthing centres were published in the late 1970s and early 1980s, and many studies were conducted in the 1980s and 1990s. When I initially screened the literature, I found that most of these studies had been replicated or updated after 2002. Therefore, we decided to include only articles published from 2002 onwards. The earliest study in these 21 years had been published in 2004. The most recent articles included in the review had been published in 2023. Over the years, there was a general upward trend in the number of publications each year, indicating a growing interest in research on freestanding midwife-led birth centres. Notably, 2017 stands out as a peak, with 18 articles published, while 2019, 2020, and 2021 witnessed a moderate amount of research published, with 9, 11, and 8 articles, respectively. The most recent years, particularly 2022, showed a substantial rise, reaching 21 publications. A summary of the publication years of included articles is presented in Table 4-3.

Table 4-3 Summary of publication years of included articles (2002-2023)

Year of publication	Number of publications per year	Year of publication	Number of publications per year
2002	0	2013	4
2003	0	2014	6
2004	3	2015	6
2005	0	2016	7
2006	3	2017	18
2007	2	2018	11
2008	1	2019	9
2009	4	2020	11
2010	3	2021	8
2011	3	2022	21
2012	8	2023	5
		Total	133

4.5.2.2. Country of origin

Notably, most articles were published in the United States (USA), with 58 publications contributing to the review. Other high-income countries represented in the research were Australia (n=9), Canada (n=6), Germany (n=5), the Netherlands (n=11), the UK (n=8), Japan (n=4), and New Zealand (n=7). Additionally, the review incorporated publications from various low- and middle-income countries,

such as Bangladesh (n=1), Brazil (n=7), Iran (1 review), and the Philippines (n=2). Regarding African countries, South Africa is represented in recent multi-country reviews focused on low- and middle-income countries. Table 4-4 presents countries where research on freestanding midwife-led birth centres has been conducted, the number of publications from each country, and terms used for freestanding midwife-led birth centres in each country.

Table 4-4 Summary of countries of origin of included articles terms used and their total number

Country	Number of articles	Term(s) used in research articles
International (reviews) International (low- and middle-income countries) International (Europe)	11	Midwifery unit Midwife-led birthing centre or center Birthing center Birth centre or center Midwifery center
Australia	9	Birth centre; freestanding birth centre; freestanding midwifery unit
Bangladesh	1	Birth center
Brazil	7	Casa de parto; freestanding birth centre; free-standing birth centre
Canada	6	Birthing centre; birth center; stand-alone midwifery-led birth center; midwifery-led birth center
Denmark	1	Freestanding midwifery unit
France	0	Home-like birth centre or maison de naissance
Germany	5	Geburtshaus; birth centre; free-standing birth centre
Iran (review)	1	Freestanding midwife-led units
Italy	1	Birth center, maternity home
Japan	4	Jyosanjyo; midwife-led birth center
New Zealand	7	Birthing centre; freestanding birth center; freestanding midwifery-led units; freestanding primary level midwife-led maternity units
Northern Ireland	1	Freestanding midwife-led units
Switzerland	1	Birth centre (freestanding midwife-led)
The Phillipines	2	Freestanding birth center; birth center
The Netherlands	11	Birth centre; midwife-led birth center
United Kingdom (UK)	8	Freestanding midwifery unit; birth centre
United States of America (USA)	58	Birth center

4.5.2.3. Article type

We selected different study types, including various quantitative approaches (n=70) such as case control studies (n=2), matched pair and matched cohort analysis (n=2), cross sectional studies (n=3), surveys (n=7), longitudinal studies (n=2), before-after analysis (n=1), geospatial analysis (n=1), logistic regression analysis (n=1), observational studies (n=2), various cohort studies (n=33, population-based, comparative, retrospective and prospective), descriptive studies (n=10), and secondary analyses involving retrospective and prospective data (n=6). In qualitative studies (n=31) that explored

experiences or satisfaction with care, researchers conducted content analysis or narrative analysis, and followed critical realist (n=1), ethnographic (n=3), grounded theory (n=1), phenomenological (n=6), case study (n=8), descriptive (n=6), exploratory (n=1) and participant observation approaches (n=2). Studies conducted through the lens of reproductive justice (n=1) and critical race theory (n=1) perspectives were also included, as were mixed methods and multiple methods studies, which combined quantitative, qualitative and consensus elements (n=14). With regards to review studies (n=12), we included literature reviews (n=2), a critical review of international literature (n=1), integrative literature reviews (n=2), scoping reviews and surveys (n=2), structured integrative reviews (n=2), and systematic reviews (n=3). Our final selection of studies also encompassed other types of literature, such as commentary articles that included research discussions and recommendations (n=2), a report on a guideline development project (n=1), model development based on quantitative data (n=1), and quality improvement projects (n=3).

4.5.2.4. Participants and settings

The articles we included focused on diverse populations across various geographical locations. They were primarily focused on individuals with low-risk pregnancies seeking birth-centre care, with data from various sources, such as maternity unit records, national perinatal statistics, birth certificates, and perinatal data registries. While most articles focused on individuals with low-risk pregnancies, others included individuals with a history of caesarean delivery or other risk factors, which will be discussed under 'eligibility criteria'. The number of participants in the articles varied widely, from just 12 to over nine million, and the recruitment methods were personal and professional contacts, surveys, and birth centre registers. Qualitative studies usually focus on satisfaction or experiences with care and include small samples of individuals who have experienced birth-centre care, sometimes compared with other models of care. In some articles, the population of interest included partners of individuals who had experienced birth-centre care.

Articles focusing on logistics, development of guidelines, characteristics of birth-centre providers and collaboration between birth centres and their referral networks typically included different healthcare professionals, administrators, and experts in maternity care. The study participants ranged from midwives, nurses and physicians to obstetricians and gynaecologists. Some studies included representatives of freestanding midwife-led birth centres, while others involved paramedics or stakeholders in the healthcare system. Many researchers conducted purposive sampling to include participants with varying experience, training and practice experience. Overall, the participants

represented a diverse group of professionals with different perspectives and roles in delivering maternal and newborn care at freestanding birth centres.

4.5.3. Review findings

4.5.3.1. Characteristics of facilities

In 18 (n=18) articles, the authors aimed to define the concept of a 'freestanding midwife-led birth centre' and described the characteristics of such facilities. Summaries of these studies are provided in Annexure J: Summary of studies that characterised birth centres.

4.5.3.2. Eligibility criteria for admission

Twenty-seven (n=27) articles were identified as relevant to the 'eligibility criteria for admission' theme at freestanding midwife-led birth centres. Twenty of those articles investigated outcomes of care at freestanding midwife-led birth centres, and their authors either explicitly stated the inclusion of only low-risk pregnant individuals or highlighted specific variables associated with an increased risk of negative outcomes. Notably, researchers examining freestanding birth centres commonly indirectly identify 'low risk' by specifying the inclusion and exclusion criteria in their investigations. A summary of articles that specified or described the inclusion and exclusion criteria of birth centres is provided in Annexure K: Summary of studies that specified or described eligibility criteria.

4.5.3.3. Choice, equity and access

We identified 32 articles (n=32) in which choice, autonomy, access and equitable care in freestanding birth centres were explored or discussed. The authors highlighted pregnant individuals' options and autonomy in birth-centre care and equitable access to quality care through freestanding midwife-led birth centres (see Annexure L: Summary of studies that focused on choice, equity and access to birth centre care).

4.5.3.4. Outcomes at freestanding midwife-led birth centres

We found 66 (n=66) articles that reported various maternal and newborn outcomes at freestanding midwife-led birth centres using diverse quantitative methods. Research on outcomes at freestanding midwife-led birth centres has been conducted in countries such as the USA, UK, New Zealand, Denmark, Brazil, Germany, the Netherlands, Australia, and Japan, with a notable underrepresentation

of low- and middle-income countries. In articles on maternal outcomes, researchers reported the type of birth (normal/spontaneous vaginal/vertex delivery, caesarean section, assisted birth), focusing on the rate of spontaneous vaginal birth. The rate and outcomes of vaginal birth after caesarean section and water birth in the context of birth centres were also explored and compared to other settings.

Researchers have explored various outcomes and complications related to birth in birth centres, focusing on the onset and duration of labour, intrapartum events, birth-related complications, postpartum complications and neonatal outcomes. Intrapartum events included the need for intrapartum transfer from the birth centre to the hospital, complications during labour, such as non-reassuring foetal heart rate patterns, meconium-stained liquor, uterine rupture, placental abruption and perineal integrity, including the incidence of third or fourth-degree tears. Postpartum care and complications were assessed through factors such as postpartum hospitalisation, blood transfusion, maternal infection or sepsis, admission to high care, postpartum anxiety and depression, and maternal mortality. Neonatal outcomes explored included timing and conditions of birth, immediate post-birth indicators like low Apgar scores, respiratory distress, and neonatal complications such as intrapartum asphyxia, seizures, encephalopathy, stillbirth, neonatal death, meconium aspiration syndrome, infection and hyperbilirubinemia. Additionally, birth-related complications and injuries examined included shoulder dystocia, brachial plexus injury, fractured humerus, fractured clavicle, cord avulsion and nuchal cord.

Several factors related to maternal, newborn, and birth-centre characteristics were investigated in connection with care outcomes at freestanding midwife-led birth centres. Maternal age emerged as a consideration, with studies paying specific attention to age categories such as maternal age below 18 or 20 years and maternal age exceeding 35 and 40 years. Gestational age was also explored as a factor, including gestational age below 37 weeks and those exceeding 40, 41, and 42 weeks. Additional considerations included twin or multiple pregnancies, breech presentation or malpresentation, and the impact of a previous caesarean section. Outcomes were explored concerning nulliparity, multiparity and grand multiparity, and consideration was given to increased body mass index, including increased body mass index beyond 25, 30, and 35.

Socio-demographic factors such as ethnicity, level of education, socioeconomic status and employment level were assessed, including marital status or partner presence. Some studies explored the influence of planned or unplanned pregnancies, insurance status (private or public beneficiary), frequency of antenatal care, early antenatal booking, and lifestyle factors like smoking and maternal

drug use. Physiological parameters such as fundal height to gestation, infant weight at birth and neonatal gender were also explored concerning outcomes.

The location of the birth centre, whether in a rural or urban setting, and obstetric interventions, including oxytocin use during labour, prolonged rupture of membranes, failure to progress in labour, maternal wish for pain relief, maternal position at birth, prolonged second stage of labour, and the use of hydrotherapy or emersion in water during labour and/or birth were also considered. Some studies explored outcomes associated with the need for intrapartum transfer and the time taken for such transfers (see Annexure M: Summary of maternal and perinatal outcomes reported in the literature and authors that reported on one or more of these outcomes).

4.5.3.5. Interventions used during labour and birth

Twenty-nine of the articles (n=29) that reported outcomes also reported on the use of specific medical or obstetric interventions used during labour or birth at freestanding midwife-led birth centres, including episiotomy, analgesia or pharmacological pain relief, epidural anaesthesia, oxytocin use in labour or augmentation of labour, induction of labour, amniotomy in labour, foetal heart rate auscultation (per hour), continuous electronic foetal monitoring, delayed cord clamping, and active third-stage management (see Annexure N: Studies reporting on medical interventions used at freestanding midwife-led birth centres).

4.5.3.6. Birth centre clients' experiences or satisfaction with care

We included 28 articles (n=28) through which experiences of or satisfaction with care at freestanding midwife-led birth centres were explored. Study methods included quantitative surveys, qualitative interviews or focus groups, and mixed-methods studies in which satisfaction with care was only one component of a larger study. Our analysis involved extracting various aspects associated with experiences or satisfaction with care, and the specific studies exploring these aspects are presented in Annexure O: Summary of studies reporting on experiences/satisfaction with care.

4.5.3.7. Collaboration between birth centres and their referral networks

We identified 15 articles (n=15) that met our inclusion criteria and addressed collaboration between midwives at freestanding birth centres and their referral networks. This emphasises the significance of collaborative practices in the context of birth-centred care. Summaries of these studies can be

found in Annexure P: Summary of studies that explored collaboration between birth centres and referral networks.

4.5.3.8. Characteristics or experiences of birth-centre care providers

In 12 (n=12) eligible articles the authors discussed experiences of birth-centre care providers (midwives) and identified the specific characteristics of these midwives. A summary of these aspects is presented in Annexure Q: Summary of studies that explored characteristics of birth centre care providers.

4.5.3.9. Guidelines and operational standards

Our search identified six (n=6) articles that referred to operational standards for freestanding midwife-led birth centres. Several of the authors reported the process of developing standards or guidelines (Healy & Gillen, 2016; Rayment et al., 2020; Silva et al., 2015; Stevens & Alonso, 2021) and through these articles, we identified three existing sets of standards for freestanding midwife-led birth centres: American Association of Birth Centers Standards for Birth Centers (American Association of Birth Centers, 2017), Midwifery Unit Standards for Europe (Rocca-Ihenacho et al., 2020) and Operational Standards for Midwifery Centers, adapted for use in low- and middle-income countries by Stevens and Alonso (2021). Other contributions included the work of Healy and Gillen (2016), who developed evidence-based guidelines for planning births in midwife-led units in Northern Ireland. These guidelines aimed to assist pregnant individuals and maternity care professionals in decision-making and necessitated regular staffing level reviews. Silva et al. (2015) introduced the PROTRIP tool, a clinical model predicting the likelihood of intrapartum transfers from midwife-led birth centres. For a summary of each article, see Annexure R: Studies that identified guidelines/operational standards or regulations for birth centres.

4.5.3.10. Quality indicators

We identified three (n=3) articles focused on quality indicators for freestanding birth centres, two of which report on the different phases of the same mixed-methods study (Boesveld, Hermus, van der Velden-Bollemaat, Hitzert, de Graaf, Franx & Wieggers 2018; Boesveld, Hermus, de Graaf, Hitzert, van der Pal-de Bruin, de Vries et al., 2017b). The three articles and quality indicators are summarised in Annexure S: Summary of literature referencing quality indicators for birth centres.

4.6. DISCUSSION

Through this comprehensive scoping review, we explored and summarised existing research on factors that affect outcomes and satisfaction with care at freestanding midwife-led birth centres. We identified specific themes that featured prominently in the research, including characteristics of facilities, eligibility criteria for admission, outcomes at freestanding midwife-led birth centres (maternal and neonatal), interventions used during labour and birth, birth centre clients' experiences of or satisfaction with care, collaboration between birth centres and their referral networks, characteristics or experiences of birth-centre care providers, guidelines or operational standards, and quality indicators. We included 133 articles in the summary of available evidence to inform the development of evidence-based accreditation criteria for these facilities in South Africa and to identify gaps for future research.

4.6.1. Characteristics of birth centres

Freestanding midwife-led birth centres are stand-alone facilities that offer antenatal, labour, birth and post-natal care to low-risk pregnant individuals and their newborn infants (eligibility criteria that define a client as 'low-risk' will be discussed in the following section as an important aspect of birth-centre care). Care is provided by midwives, while obstetricians, paediatricians and other maternity care providers only become involved when referral due to complications is required (Hermus et al., 2017a).

We examined articles that further described or characterised freestanding midwife-led birth centres by researching clients' experiences or midwives' perceptions of birth-centre care. Alliman, Bauer and Williams (2022) described birth centres as a distinct alternative to hospital care, accommodating both the clinical needs and personal preferences of pregnant individuals and their families. In a narrative review, Baczek et al. (2020) described what they called 'freestanding midwifery units' as being woman-centred, offering lower medicalisation and supporting physiological labour. Phillippi, Myers and Schorn (2014) echoed this in a report on the positive characteristics of a rural Appalachian birth centre, noting that clients were offered a non-medical approach and personalised care. Similarly, Hermus et al. (2017a) noted that physiological birth was promoted in Dutch birth centres.

Hardeman et al. (2020) presented Roots Community Birth Center in the USA as an example of how birth centres can offer culturally-centred and inclusive care. This centre was reportedly committed to improving access and equity in care for racially and ethnically diverse pregnant individuals, particularly those from low-income backgrounds. Wallace (2019) also discussed the success of birth centres in

low-resource settings (the Philippines and Bangladesh), emphasising cultural appropriateness and community engagement. In a case study of four low- and middle-income countries, Bazirete et al. (2023) found that successful midwife-led birth centres had the potential to provide culturally sensitive care if characterised by interdisciplinary collaboration and leadership for quality outcomes. However, Nove et al. (2023) noted challenges and knowledge gaps in these settings.

In the Dutch Birth Centre Study, birth centres were categorised into three clusters: mono-disciplinary-orientated, mixed cluster, and multidisciplinary-orientated, based on their level of commitment to multidisciplinary collaboration and joint decision-making on care protocols and guidelines (Boesveld et al., 2017a). In the USA, a collaborative birth centre model, as described by Stevens, Witmer, Grant and Cammarano (2012), emphasised regular communication, mutual respect, and evidence-based care, resulting in positive outcomes, financial stability, and enhanced relationships with the backup hospital setting, along with educational opportunities. Findings from a study of 16 Australian birth centres revealed diverse characteristics, including variations in pain relief options, staffing models, and equipment availability. These centres also varied in their affiliation with hospitals, proximity to labour wards, intrapartum transfer rates, and induction methods and pain relief options. Despite the lack of a standardised definition, Laws, Lim, Tracy and Sullivan (2009) found that the Australian birth centres consistently prioritised philosophies such as commitment to normality of pregnancy and birth, as well as providing midwifery-led care. Changes observed in Australian birth centres between 1997 and 2007 included stricter admission criteria and increased use of natural therapies, induction of labour, and electronic foetal monitoring (Laws, Lim, Tracy, Dahlen & Sullivan, 2011).

A theme that emerged in several studies from various countries was the significance of the physical and psychosocial environment. Walsh (2006) underscored the importance of the birth environment and emotional support in pregnant individuals' reasons for choosing birth centres, while Hitzert et al. (2016) reported positive experiences in Dutch birth centres associated with participants' appreciation for a homelike environment. Neerland and Skalisky (2022) highlighted the importance of time, environment and midwifery care in shaping birth centres. Rocca-Ihenacho, Yuill and McCourt (2021) described the positive culture, autonomy, and collaborative care of a freestanding midwifery unit in East London, UK, while Setola, Iannuzzi, Santini, Cocina, Naldi, Branchini et al. (2018) highlighted spatial and organisational design factors in Italian birth centres.

Apart from characterising birth centres, Turkmani et al. (2023) also outlined key global domains for successful midwife-led birthing centre implementation. Firstly, the domain of 'agreement and enabling environment' emphasised the significance of policies, financing, affordability, and service

utilisation to create a supportive environment. Secondly, 'operational standards' delved into the importance of effective referral systems, monitoring and evaluation, supplies, infrastructure, and workforce competence to ensure effective operations. The third domain, 'quality, efficiency, and responsibility,' highlighted the necessity of coordinating care, benchmarking, and adhering to evidence-based clinical guidance for optimal outcomes. Lastly, the 'learning and adaptation' domain underscored client-centeredness, flexibility, extending reach, and innovative approaches as key elements for successful implementation.

4.6.2. Eligibility criteria for birth-centre care

The significance of eligibility criteria for care at freestanding birth centres was a prominent theme in the literature included in this review. In studies examining outcomes of care for birth-centre clients and their newborns, researchers consistently specified that the birth centres where they conducted their studies catered exclusively for low-risk pregnant individuals or confined their studies to this specific demographic (Homer et al., 2019; Sprague et al., 2018; Stephenson-Famy, Masarie, Lewis & Schiff, 2018). Birth centres typically adopted predetermined eligibility criteria established by the professional organisations or accrediting bodies that governed them. While the definition of 'low risk' varies, a broad consensus exists that freestanding birth centres admit only full-term (>37 weeks) individuals who are pregnant with a single foetus in a cephalic presentation at the onset of labour (Homer et al., 2019; Macfarlane, Rocca-Ihenacho, Turner & Roth, 2014; Stapleton et al., 2013; Thornton et al., 2017). Nethery et al. (2021) outlined the eligibility criteria set by a professional midwifery association in Washington State, which included term gestation, singleton vertex foetus, no prior caesarean, and absence of hypertensive disorders or pre-pregnancy diabetes. Studies from New South Wales (Scarf et al., 2019), the Netherlands (Schuit et al., 2016), Japan (Suto, Takehara, Misago & Matsui, 2015), and a broader sample in the USA (Wax, Pinette, Cartin & Blackstone, 2010) further noted specific criteria for birth-centre eligibility, including low-risk pregnancies, full term gestational age and foetal presentation at onset of labour, and excluding smokers, individuals with diabetes or hypertension, and those with a history of previous caesarean section.

Most sources specified the exclusion of individuals with pre-existing or pregnancy-induced medical conditions, although exceptions were noted, such as gestational diabetes, which served as a referral criterion for some birth centres (Bovbjerg, Cheyney, Brown, Cox & Leeman, 2017; Grünebaum et al., 2023) but not for others (Hardeman et al., 2020). Age (>40 years), nulliparity, and post-term pregnancy (>41 weeks) are variables that were not explicitly listed as exclusion criteria for birth-centre care but were identified in studies as factors associated with higher transfer rates from birth centres to referral

hospitals (Alliman & Phillippi, 2016; Bailey, 2017; Stephenson-Famy et al., 2018). A systematic review by Phillippi, Danhausen, Alliman and Phillippi (2018) covering studies from multiple countries found no trend towards higher neonatal mortality in birth centres. Still, it highlighted the increased risk associated with nulliparity, maternal age >35, and giving birth at >42 weeks gestation. Nguyen et al. (2009) identified nulliparity, previous caesarean section and hospital birth as strong predictors of hospital transfer. Pillai, Cheyney, Everson and Bovbjerg (2020) explored the relationship between foetal macrosomia and adverse outcomes in planned community births and concluded that there is a need for careful consideration and shared decision-making in such cases.

The inclusion or exclusion of individuals with a history of previous caesarean sections seeking a vaginal birth after caesarean is a contentious issue. While some studies reported positive outcomes for those attempting a vaginal birth after caesarean section at birth centres (David, Gross, Wiemer, Pachaly & Vetter, 2009; Deline, Varnes-Epstein, Dresang, Gideonsen, Lynch, & Frey, 2012), others indicated potentially adverse outcomes for both individuals and their newborn infants (Lieberman, Ernst, Rooks, Stapleton & Flamm 2004; Tilden, Cheyney, Guise, Emeis, Lapidus & Biel, 2017). Increased body mass index was a factor for which there is contradicting information in eligibility criteria and research evidence. Jevitt et al. (2021) concluded that birth-centre clients with obese body mass indexes do not experience worse outcomes than those with normal body mass indexes. Yet, these individuals are often excluded from birth-centre care. Exclusion criteria for community birth, as indicated by an Australian study spanning 1997 to 2007, showed shifts in acceptance for post-term pregnancies, vaginal birth after caesarean section, and obesity (body mass index >35) while consistently excluding individuals with drug and alcohol dependence and fertility treatment (Laws et al., 2011).

It was clear that midwives should screen potential clients meticulously, with birth-centre care ideally focusing on low-risk pregnant individuals. Scamell (2014) argued that midwives often base decisions on 'perceived risk' rather than concrete evidence. Further research is needed to explore eligibility criteria for birth-centre care; however, midwives must adhere to their scope of practice and national legislation and guidelines when screening potential clients.

4.6.3. Choice, equity and access

Our review included numerous articles in which authors highlighted key themes related to choice, equity, and access to birth-centre care. Alliman and Bauer (2020) emphasised positive outcomes associated with birth-centre and midwifery-led care, such as reduced preterm births and caesarean sections. However, they noted the lack of widespread policy implementation. Jolles et al. (2017) and Jolles, Hoehn-Velasco, et al. (2022) presented studies on Medicaid beneficiaries in the USA, indicating

that individuals received safe care in birth centres, regardless of socioeconomic status or insurance coverage, highlighting the potential for reduced disparities in maternal and infant health outcomes. Similarly, Alliman et al. (2019) explored the socio-demographic characteristics influencing birth outcomes, noting the importance of midwifery-led care and early access to prenatal services in narrowing maternity care disparities. Macfarlane, Rocca-Ihenacho and Turner (2014) highlighted variations in the quality of care and birth experiences between individuals in deprived areas who chose freestanding midwifery units and those opting for obstetric units, suggesting that the availability of freestanding midwifery units benefited pregnant individuals in deprived areas.

Various other articles also highlighted disparities in access to birth centres. MacDorman and Declercq (2016, 2019) revealed financial challenges faced by USA-based individuals seeking out-of-hospital births, emphasising the need for improved insurance coverage. Sanders, Niemczyk, Burke, McCarthy and Terry (2021) also noted racial and insurance disparities in the choice of birth setting and emphasised the influence of factors such as insurance restrictions and family preferences. Sperlich, Gabriel and Seng (2017) found that approximately 12.6% of individuals in their study sample in Michigan expressed feeling safest giving birth outside of a hospital. Still, they found disparities in planned out-of-hospital births because of socioeconomic factors. In their study in rural Appalachia, Phillippi et al. (2014) identified facilitators and barriers to accessing birth-centre care, including the lack of Medicaid state funding. Welch et al. (2022) highlighted the proactive community-driven approach of Birth Detroit in addressing disparities in perinatal health and maternity care access faced by Black families in Detroit, showcasing a successful model of community midwifery care that prioritised equity and culturally competent care, thereby reducing maternal and infant health disparities.

Scamell (2014) explored the ethical aspects of admission policies in freestanding birth centres in the UK, emphasising the need for a woman-centred approach to ensure a more inclusive decision-making process for accessing birth centre services. Jevitt et al. (2021) challenged generalised risk-based care for individuals with obese body mass indexes, suggesting that birth centres provide safe and equitable care options for these individuals. Moreover, George, Mitchell and Stacey (2022) advocated for shared decision-making to enhance equity in accessing birth settings, emphasising the importance of decision aids to assist pregnant individuals to make informed choices. In Switzerland, Rauch, Arnold, Stuermer, Rauh and Rost (2022) found differences in accessibility between hospitals that offered maternity care and birth centres, with individuals in specific geographical areas not realistically having access to birth centres.

Almanza et al. (2022) explored birth-centre care for a specific demographic, highlighting the significance of culturally-centred care in achieving higher autonomy and respect levels for all clients, irrespective of race. This study advocated increased investment in community birth centres staffed by Black, Indigenous, and People of Colour (BIPOC) providers to enhance health equity. Hansel et al. (2022) found that non-Hispanic pregnant Black individuals on Medicaid with certified nurse-midwives as attendants during birth had decreased odds of giving birth to a newborn born small for gestational age, which emphasised the potential impact of culturally competent and personalised care on birth outcomes. The Roots Community Birth Center case study by Hardeman, Karbeah, Almanza and Kozhimannil (2020) showcased the potential of equitable, community-based care to reduce racial disparities in childbirth. Despite financial challenges, their culturally-centred approach was proven effective, with no preterm births among 284 clients during the preceding four years. Karbeah et al. (2019) and Karbeah, Hardeman, Katz, Orionzi and Kozhimannil (2022) emphasised the need for healthcare providers to recognise and address the unique sociocultural realities and experiences of African American birthing individuals and underscored the significance of agency, culturally sensitive care, and trust-building in ensuring equitable birthing experiences at birth centres.

Numerous articles delved into the reasons why individuals choose birth-centre care. Dahlen, Jackson, Schmied, Tracy and Priddis (2011) explored Australian residents' interests, emphasising factors such as continuity of care and midwife-led care. In the USA, Medicaid participants in the Strong Start Birth Centers programme, as studied by Courtot, Hill, Cross-Barnet and Markell (2020), reported choosing birth-centre care for personalised, low-intervention experiences, highlighting the impact of negative encounters with hospitals or obstetric care on their choices. However, challenges such as inadequate reimbursement, payment disparities, and state licensure obstacles caused significant barriers to the successful operation of birth centres. Deery, Jones and Phillips (2007) evaluated the implementation of a freestanding birth centre, emphasising the positive outcomes associated with individuals choosing the birth centre for satisfaction with continuity of care, a relaxed environment, and non-hierarchical relationships with midwives. Challenges included the need for more support, awareness, and promotion of the birth centre. Grigg, Tracy, Schmied, Daellenbach and Kensington (2015) explored pregnant individuals' decision-making regarding birthplace in New Zealand, emphasising the key role of confidence in shaping these decisions. This study highlighted the complexity of birthplace decision-making and the significance of aligning various factors for pregnant individuals to confidently choose freestanding midwife-led birth centres. Jamas, Hoga and Tanaka (2011) revealed that pregnant individuals in Brazil sought birth-centre care due to positive recommendations, proximity, and easier access, with satisfaction stemming from a pleasant atmosphere, continuous professional presence, respect for choices, emotional support, and respect for physiological birth.

Lescure, Schepman, Batenburg, Wiegers and Verbakel (2017) conducted a study in the Netherlands that revealed a strong preference for comprehensive services in a proposed new birth centre, particularly from non-Dutch women. Walsh (2006) revealed that pregnant individuals' decisions regarding birthplace were guided more by social and psychological factors than clinical considerations and emphasised the importance of understanding these factors in improving maternity care. Winter, Junge-Hoffmeister, Bittner, Gerstner and Weidner (2022) explored the influence of psychopathological risk factors on the choice of birthplace, emphasising the importance of considering factors such as prenatal distress and childhood trauma in understanding pregnant individuals' preferences for hospital births, freestanding midwifery units, or home births.

Studies by Turkmani et al. (2023) and Wallace (2019) provided a global perspective on birth-centre challenges and enablers, noting the importance of a client-centred approach, community engagement, and equitable access for underserved populations. Furthermore, Batinelli et al. (2022) provided a systematic review of global studies on midwifery units and highlighted the influence of cultural, structural and professional factors on the readiness for implementing these facilities. The structural barriers, including gendered power dynamics, the prevalence of medicalised care, and decision-making factors such as norms and safety perceptions, played a significant role.

4.6.4. Maternal and perinatal outcomes at freestanding midwife-led birth centres and factors that affect outcomes

The body of research on freestanding midwife-led birth centres has provided insights into maternal and neonatal outcomes. These outcomes explored through varied quantitative methods, led to a comprehensive understanding of birth-centre care. Notably, research has been concentrated on high-income countries, with the USA, UK, New Zealand, Denmark, Germany, the Netherlands, Australia and Japan being primary contributors. There was an underrepresentation of lower- and middle-income countries in the available studies, with only Brazil and the Philippines represented in this category. The studies delved into various facets of intrapartum and postpartum care in birth-centre settings, including mode of birth, outcomes and complications.

The majority of the incorporated studies consistently indicated higher rates of spontaneous vaginal births among individuals who planned or initiated their care at birth centres compared with those who opted for hospital care. This pattern was emphasised by Alliman and Phillippi (2016) in an integrative review and Baczek et al. (2020) in a narrative review. In both these reviews, higher rates of spontaneous vaginal births for birth centre clients were consistently reported. Hollowell, Li, Bunch and Brocklehurst (2017) studied the outcomes of a cohort of low-risk individuals (n=27 938) planning births

in either a freestanding midwifery unit or an alongside midwifery unit in the UK, revealing significantly reduced odds of instrument-assisted delivery and increased odds of a straightforward vaginal birth among nulliparous individuals who planned freestanding midwifery unit births compared with those who planned alongside midwifery unit births.

Studies by Alliman et al. (2019), Bailey (2017), Brocklehurst et al. (2012), Christensen and Overgaard (2017), Grigg et al. (2017), Homer et al. (2019), Jolles et al. (2017), Leslie and Romano (2007), Lotshaw, Phillippi, Buxton, McNeill-Simaan, and Newton (2020) and Scarf et al. (2019) consistently reported lower rates of assisted births (forceps and vacuum deliveries), for birth-centre clients. In Japan, Kataoka, Eto and Iida (2013) and Kataoka, Masuzawa, Kato and Eto (2018) evaluated birth-centre outcomes, reporting no instances of caesarean sections or instrument-assisted births among birth-centre clients. However, their studies focused only on the actual place of birth, limiting the accurate interpretation of results by not considering the intended place of birth.

Moreover, the literature highlighted a connection between birth-centre care and reduced rates of caesarean births. Studies conducted in various countries, including the USA (Alliman et al., 2019; Bovbjerg et al., 2017; Jevitt et al., 2021; Jolles, Hoehn-Velasco, et al., 2022; Jolles, Montgomery, et al., 2022; Walsh & Downe, 2004) the UK (De Jonge et al., 2017; Hollowell et al., 2017; Macfarlane, Rocca-Ihenacho & Turner, 2014; Walsh & Downe, 2004), Australia (Laws, Tracy & Sullivan, 2010; Monk, Tracy, Foureur, Grigg & Tracy, 2014; Monk, Grigg, Foureur, Tracy & Tracy, 2017; Scarf et al., 2019) and Canada (Sprague et al., 2018), consistently revealed lower caesarean rates for birth-centre clients compared with those who opted for hospital care.

Thornton et al. (2017) aimed to isolate the birth setting from other risk factors to assess the effect of birth-centre care on the caesarean section rate. Following an analysis of 79 USA birth centres between 2006 and 2011, they found a 37% decrease in the odds of caesarean section in the birth-centre cohort, with an overall caesarean rate of less than 5%. Also, in the USA, Jolles, Montgomery, et al. (2022) and Stapleton et al. (2013) reported low primary caesarean rates in freestanding birth centres. Despite higher caesarean rates observed in Black individuals compared with Caucasian individuals in birth centres (Jolles, Hoehn-Velasco, et al. 2022), birth-centre care demonstrated reassuring outcomes, including reduced intervention rates and better adherence to safety guidelines (Sprague et al., 2018; Stapleton et al., 2013). Jolles et al. (2017) found no significant difference in caesarean rates between rural and urban birth centres in the USA. Additionally, initiatives like the adoption of consensus guidelines for preventing primary caesarean delivery in birth centres did not impact the overall rate

of caesareans but showed promise in decreasing specific complications (Niemczyk, Ren & Stapleton, 2022).

Baczek et al. (2020) indicated an increase in the incidence of vaginal birth after caesarean section in freestanding midwife-led units, suggesting that these settings may be particularly supportive of women attempting vaginal birth after caesarean section. Comparing birth-centre care to usual care in Washington DC, Benatar, Garrett, Howell and Palmer (2013) also found a substantially higher rate of vaginal birth after caesarean section in freestanding birth centres (26.7% vs. 9.4%). Research conducted by Benatar et al. (2013), David et al. (2009), Deline et al. (2012), Lieberman et al. (2004) and Tilden et al. (2017) contributed valuable insights into the outcomes of vaginal birth after caesarean section in various settings, including birth centres. David et al. (2009) specifically examined the safety and outcomes of out-of-hospital vaginal birth at German birth centres for individuals with a history of caesarean section. They found that 5.3% of the participants had had a previous caesarean section, and this group exhibited significantly higher rates of intrapartum transfers to hospitals, emergency transfers and surgical births (repeat caesarean). However, despite these challenges, there were no instances of uterine ruptures, laparotomies due to birth complications, or peripartum hysterectomies in the group with a prior caesarean.

Deline et al. (2012) conducted an evaluation of a birth centre for Amish women in Southwestern Wisconsin, revealing a low caesarean rate of 4%, coupled with high rates of trial of labour after caesarean and vaginal birth after caesarean. Importantly, no cases of uterine rupture or maternal deaths were reported in this setting. Lieberman et al. (2004) conducted a prospective study across 41 birth centres, suggesting the safety of attempting vaginal birth after caesarean section at birth centres, with 24% of clients requiring transfer to hospitals but low rates of uterine ruptures, hysterectomies, and adverse neonatal outcomes. In contrast, Tilden et al. (2017) conducted a retrospective cohort study, demonstrating that out-of-hospital vaginal birth after caesarean section, including those in birth centres, had higher neonatal morbidity, particularly among individuals with a previous caesarean and no prior vaginal birth. Although the risk of neonatal death was elevated, statistical significance was not established.

Christensen and Overgaard (2017) reported higher rates of water births in freestanding midwifery units, a finding echoed by Baczek et al. (2020), who reported higher rates of water birth in freestanding midwife-led units compared with obstetric units in various countries. Snapp et al. (2020) investigated water births in community settings in the USA, revealing several positive outcomes, including lower rates of pain medication use, episiotomies, perineal lacerations and neonatal complications.

Focusing on perineal integrity following vaginal birth, Christensen and Overgaard (2017) found a lower incidence of perineal tears in freestanding midwifery units in the North Denmark region. Scarf et al. (2018) reported in their systematic review that higher-quality studies indicated significantly lower odds of severe perineal trauma in planned birth-centre births. Factors influencing perineal integrity following birth at freestanding midwives-led birth centres were explored in Brazil by Lopes, Leister and Riesco (2019), with maternal age and prolonged second stage of labour correlating with an increased risk of obtaining perineal tears. Previous vaginal birth and the use of an upright maternal position during birth were associated with a reduced likelihood of tears. In another Brazilian study, da Silva, de Oliveira, Bick, Osava, Tuesta, et al. (2012) found oxytocin during labour, position at time of birth, and higher newborn weight to be associated with second-degree lacerations in primiparous individuals. In Tokyo, Suto et al. (2015) explored the prevalence of perineal tears in midwife-led birth centres, finding a higher risk in higher maternal age and identifying hands-and-knee position, birthing chair usage and water birth as additional risk factors. Newborn birth weight, labour duration and maternal body mass index were not associated with the prevalence of tears in this study.

Investigations into intrapartum concerns and complications have highlighted the factors influencing transfers from birth centres to hospitals. Using data from the Midwives Alliance of North America Statistics Project, Bovbjerg et al. (2017) revealed that 12.1% of individuals attended by midwives in community settings in the USA between 2004 and 2009 (n=47 394) experienced transfers from home or birth centres to hospitals during labour. Alliman and Phillippi (2016) observed variability in transfer rates, noting that nulliparous individuals exhibited higher rates. This finding was corroborated by Nethery et al. (2021), Scarf et al. (2019) and Bailey (2017), who also identified elevated transfer rates among nulliparous individuals in birth centres. Stephenson-Famy et al. (2018) explored risk factors associated with hospital transfers in planned out-of-hospital births, identifying nulliparity, and added additional variables such as advanced maternal age, inadequate antenatal care, high body mass index, government health insurance use, and hypertension. Da Silva, de Oliveira, Bick, Osava, Nobre, et al. (2012), De Oliveira, Pereira, Penna, Rafael and Pereira (2019) and Nguyen et al. (2009) also associated intrapartum transfers with nulliparity and advanced maternal age, additionally noting the absence of a partner as well as cervical dilation ≤ 3 cm on admission as significant factors. Protective factors against transfer were identified, including a low correlation between fundal height and pregnancy gestation. Schuit et al. (2016) revealed that 32% of Dutch individuals under the care of a community midwife were referred to gynaecologists during labour. They found that referral was influenced by maternal age, ethnicity, urbanisation, socioeconomic status, the newborns' gender and birth weight.

In a study conducted by David, Berg, Werth, Pachaly, Mansfeld and Kentenich (2006) in Berlin and Bavaria, the reasons, procedures and consequences of intrapartum transfers from birth centres to hospitals were investigated. Transfers were predominantly advised by midwives, for diverse reasons, with premature rupture of membranes being the most frequent. Notably, the study did not establish a significant link between abnormal cardiotocography results and worse neonatal outcomes. In terms of the effect of transfer on birth-centre clients, MacKinnon, Yang, Feeley, Gold, Hayton and Zolkowitz's (2017) prospective longitudinal cohort study on postpartum depression and post-traumatic stress disorder found a notable correlation between subjective experiences of pain and transfer from birth centres to referral facilities.

Several authors have explored the incidence of postpartum haemorrhage following birth at birth centres and the contributing factors. Homer et al. (2019) found that birth-centre births were linked to a lower risk of postpartum haemorrhage requiring blood transfusion. Bovbjerg et al. (2017) found that 3.8% of midwife-attended, planned community births experienced blood loss of more than 1 000 ml. Erickson, Bovbjerg and Cheyney (2020) explored postpartum haemorrhage incidence in USA community birth settings. They found that births attended by certified nurse-midwives or certified midwives and multiparous individuals without a history of postpartum haemorrhage or prior caesarean birth had a lower likelihood of experiencing postpartum haemorrhage. Moreover, the study revealed increased postpartum haemorrhage rates in states with impediments to midwifery practice. Saxton, Fahy, Rolfe, Skinner and Hastie (2015) investigated the influence of pronurturance on postpartum haemorrhage rates at birth centres and found a nearly twofold increase in risk for individuals who did not have the opportunity for immediate skin-to-skin contact with their newborns or for breastfeeding. Kataoka et al. (2018) compared birth outcomes in midwife-led birth centres and hospitals in Tokyo, Japan. While midwife-led birth centre clients experienced higher rates of blood loss of more than 1 000 ml, they experienced significantly fewer perineal lacerations compared with hospital clients.

Studies that explored neonatal outcomes showed varied outcomes across birth settings, with factors like maternal risk profiles, practices, and specific conditions influencing results. While some studies suggested that non-medical-led models were as safe as or safer than standard hospital care, others reported higher rates of adverse outcomes in certain settings. The impact of specific practices and variations in breastfeeding rates were also highlighted. McIntyre's (2012) international review revealed varied neonatal outcomes across different birth settings, emphasising the importance of considering maternal risk profiles and practices in birth centres. Scarf et al. (2018) conducted a meta-analysis of high-income countries. They found no significant differences in intrapartum stillbirth, early

neonatal death, or neonatal intensive care admission based on the planned place of birth. Phillippi et al. (2018) highlighted the inconsistency in birth-centre outcomes across developed countries, citing gestational age, parity, and maternal age as influencing factors. Baczek et al. (2020) reported comparable Apgar scores but noted a higher proportion of infants with a five-minute Apgar score of 10 out of 10 in freestanding midwife-led units.

In the USA analysed birth certificate data indicated fewer complications in home and birth-centre births compared with hospital births (Wax et al., 2010). Stapleton et al. (2013) examined USA birth centres and reported low rates of neonatal complications, with outcomes comparable to low-risk populations in other birth settings. Breastfeeding outcomes were explored by Alliman et al. (2019), who revealed higher rates in USA birth centres compared with hospitals. Jolles, Hoehn-Velasco, et al. (2022) found racial and ethnic variations in breastfeeding rates, with lower rates among Black and Hispanic birth-centre clients.

Bailey (2017) associated birth centres with lower neonatal unit admissions in New Zealand while Grigg et al. (2017) found similar rates of adverse neonatal outcomes in midwife-led maternity units and obstetric-led maternity hospitals in that country. Homer et al. (2019) found no significant differences in perinatal mortality between Australian hospital labour wards, birth centres, and home births. Brocklehurst et al. (2012) conducted a study comparing various birth settings in England, which revealed no significant differences in the primary outcome of perinatal mortality and specific neonatal morbidities. Similarly, in Denmark, Christensen and Overgaard (2017) found no statistically significant differences in perinatal outcomes between freestanding midwifery and obstetric units.

In Japan, Kataoka et al. (2018) reported that fewer infants in birth centres had lower Apgar scores compared with hospitals. Preterm births (0.6%) and post-term births (1.3%) were rare; the average birth weight was 3 126 g (Kataoka et al., 2013). Koiffman et al. (2010) conducted a case-control study in Brazil, identifying the maternal factors and labour complications associated with neonatal transfer from birth centres. The maternal factors included smoking during pregnancy and having fewer than four prenatal care appointments. Shinohara and Kataoka (2021) assessed newborn hyperbilirubinemia leading to jaundice in newborns at a specific birth centre in Japan (n=1 211). The results revealed that 4.7% of neonates had elevated bilirubin levels, with 1.8% requiring phototherapy. Risk factors included cephalohematoma, delayed meconium elimination, sibling phototherapy history, and primiparity.

Grünebaum, McCullough, Sapra, et al. (2013) found that home births with midwives in the USA had a significantly higher risk of five-minute Apgar scores of 0, especially for nulliparous individuals and those 35 years or older. Freestanding birth-centre midwife births had a lower risk than home births,

but the risk was still higher than for hospital births attended by physicians and midwives. In another retrospective cohort study, Grünebaum, McCullough, Bornstein, et al. (2022) suggested higher rates of neonatal deaths, seizures, and low Apgar scores in freestanding birth centres. Limitations were acknowledged. These were large USA population-based studies without exploration of variables such as birth-centre accreditation status or provider characteristics (e.g. certified or licensed midwife). A critical review by Caughey and Cheyney (2019) emphasised methodological limitations in USA studies and advocated for improved data collection tools.

Most studies on maternal and neonatal outcomes at freestanding midwife-led birth centres focused predominantly on low-risk populations. Numerous studies, some of which included large population-based samples, provided insight into the demographic and contextual factors that influenced the outcomes of birth-centre care. Client-related variables, as highlighted by Bovbjerg et al. (2017) included maternal age, obesity, primiparity, gestational diabetes, preeclampsia, post-term pregnancy, twins, breech presentation, history of caesarean and vaginal birth, and history of caesarean without vaginal birth. Their findings indicated that maternal age and obesity had modest effects, while breech presentation significantly increased the risk of adverse outcomes. In their study comparing the optimality index (maximum outcome with minimal intervention) of home, birth centre and hospital births in the Netherlands, Hermus et al. (2017b) found that differences in the optimality index were larger for multiparous than for nulliparous individuals.

Lotshaw, Phillippi, Buxton, McNeill-Simaan and Newton (2020) found that individuals with more than one prior caesarean delivery and gestational age ≥ 42 weeks had higher rates of adverse outcomes. They revealed that half of uterine ruptures and 57% of perinatal deaths in their study sample occurred in the 10% of women with these risk factors, emphasising their significance in adverse outcomes. Niemczyk, Ren and Stapleton (2022) emphasised the correlation between an extended second stage of labour at birth centres and an increased need for newborn transfers and postpartum transfers.

Hansel et al. (2022) explored factors influencing the incidence of infants born small for gestational age. Certified nurse-midwife-attended births demonstrated 34% lower odds of small for gestational age births than physician-attended births. Birth-centre births and planned home births were associated with decreased odds of infants born small for gestational age, while unplanned home births had twice the odds. Jevitt et al. (2021) conducted a study on primiparous individuals with body mass indexes over 30, comparing them to those with normal body mass indexes in a USA-based freestanding birth centre. Although individuals with obese body mass indexes experienced slightly lower vaginal birth rates, no significant differences were found in antenatal and intrapartum complications. Pillai et

al. (2020) analysed Midwives' Alliance of North America data on out-of-hospital births, establishing a dose-response relationship between increasing foetal macrosomia and adverse outcomes. Despite varied macrosomia levels, perinatal death rates did not significantly differ.

Penwell (2004) aimed to evaluate the safety and effectiveness of midwife-led care, specifically focusing on individuals with elevated risk factors for adverse pregnancy outcomes, such as poverty, malnutrition and crowded living conditions. In examining the outcomes of 7 565 births at two charitable birth centres in the Philippines established between 8 February 1996 and 31 December 2003, they revealed that 8% of newborns had an Apgar score below 7, and 85% did not require any resuscitation efforts. Additionally, most of the neonates (90%) had normal birth weights. The neonatal mortality ratio was relatively low at 4.1 per 1 000, with common complications being infections, birth defects, and prematurity. To provide context, the neonatal mortality ratio in the Philippines was estimated to be 16 deaths per 1 000 live births in 2003 (World Bank, 2024).

Logistic and birth-centre-related factors were explored in relation to outcomes. Differentiating between rural and non-rural birth centre outcomes, Nethery, Gordon, Bovbjerg and Cheyney (2018) initially found disparities in risk profiles but observed no significant differences in composite maternal or neonatal outcomes after adjustments. On the contrary, Way, Carwile, Ziller and Ahrens (2022) found the risk of newborn mortality to be higher for out-of-hospital births in rural areas, especially for planned home births and birth-centre births. Way et al. (2022) analysed over 25 million live births in the USA (2010 to 2017), while Nethery et al. (2018) analysed 10 609 low-risk planned home and birth-centre births attended by midwifery professionals who were members of and followed a state-wide association's guidelines for out-of-hospital birth (1 January 2015 to 30 June 2020).

The requirement for and effect of transfer from birth centres to hospitals, as well as distance from the birth centre, were explored in two studies. In Germany, David et al. (2006) found that transport times varied, with distances ranging from 1 km to 55 km in Bavaria and from 0.2 km to 30 km in Berlin. They noted that 78% of transfers were not done by ambulance but in private vehicles, and the median transfer distance was 4 km. The time taken for transport did not have a statistically significant effect on neonatal outcomes. Jolles et al. (2020) also challenged the assumption that proximity to a transfer facility guaranteed better results in exploring the role of freestanding birth centres in rural maternal health care across geographic regions. Their findings indicated favourable outcomes. Stevens et al. (2012) explored a collaborative care model at a birth centre between an obstetrician-gynaecologist, a midwife, and birth-centre clients. The collaborators capitalised on each other's strengths, emphasising

mutual respect, joint guideline development, understanding midwifery scope, and effective communication. This model of care had a favourable effect on maternal and newborn outcomes.

In conclusion, a comprehensive exploration of studies on birth outcomes across various settings revealed specific trends in birth-centre care. Numerous studies demonstrated higher rates of spontaneous vaginal births and lower rates of assisted births (forceps and vacuum deliveries) among individuals who had planned or initiated their care at birth centres. Furthermore, birth-centre care was found to be associated with reduced rates of caesarean sections. Birth centres were proven to have higher rates of water births and varying incidences of perineal tears. The incidence and outcomes in terms of postpartum haemorrhage also varied between settings. Studies in which researchers focused on intrapartum transfers from birth centres to hospitals highlighted the need for careful consideration of client-related variables and demographic factors such as maternal age, obesity, nulliparity or primiparity, gestational diabetes, preeclampsia, post-term pregnancy, twins, breech presentation, and history of caesarean without vaginal birth. The evidence suggested that birth centres, particularly in collaborative models, can provide safe and effective maternity care, especially for low-risk individuals. Despite methodological limitations in some studies, the overall body of evidence sheds light on the impact of birth-centre care on maternal and neonatal outcomes.

4.6.5. Interventions used during labour and birth

According to the narrative review by Baczek et al. (2020), giving birth in a freestanding midwife-led unit or birth centre is seen as a natural and spontaneous process. Care by midwives during low-risk labour offers numerous advantages, primarily including reduced medicalisation and fewer medical interventions, compared with hospital care. They concluded that labour interventions such as induction of labour, augmentation of labour, amniotomy (artificial rupture of membranes) in labour, episiotomies, continuous electronic foetal monitoring, and active management of the third stage of labour were all applied less frequently in freestanding midwife-led units compared with obstetric units. Additionally, the use of nonpharmacological pain relief measures in labour was increased in freestanding midwife-led units, highlighting the emphasis on natural and less invasive methods of pain management.

In the USA, Benatar, Garrett, Howell and Palmer (2013) found that midwifery care at a freestanding birth centre was associated with significantly fewer obstetric interventions than usual care. This was further explored by Alliman et al. (2019), Jolles, Hoehn-Velasco, et al. (2022), Jolles, Montgomery, et al. (2022) and Jolles et al. (2017), who reported lower rates of labour inductions in USA freestanding midwife-led birth centres than national benchmarks. Episiotomies were also found to be performed

less frequently in birth centres compared with other birth settings in the USA (Jolles, Montgomery et al., 2022; Jolles et al., 2017; Nethery et al., 2021; Snapp et al., 2020). The rate of episiotomy use was reportedly even lower in rural than urban birth centres (Jolles et al., 2020). Global reviews confirmed that episiotomy rates have been consistently lower for an extended period in birth centres compared with other settings (Alliman & Phillippi, 2016; Leslie & Romano, 2007; Walsh & Downe, 2004). Alliman and Phillippi (2016) further reported that although the rates of episiotomy were lower in birth-centre groups and the rates of perineal integrity were higher, there were no significant differences in the rate of third- and fourth-degree lacerations between groups in the studies reporting on this measure.

In Canada, Sprague et al. (2018) found that, in comparison with midwifery clients opting for hospital births, midwifery clients at birth centres had notably lower intervention rates (including epidurals and labour augmentation). In the UK, Brocklehurst et al. (2012), De Jonge et al. (2017) and Hollowell et al. (2017) found that interventions during labour were lower in non-obstetric unit settings (home, all freestanding midwifery units and alongside midwifery units) than in obstetric units. In the Danish context, Christensen and Overgaard (2017) found fewer instrument-assisted births, less labour augmentation, and lower use of epidural analgesia in freestanding midwifery units compared with obstetric settings. Hermus et al. (2017b) found the optimality index (maximum outcome with minimal intervention) similar for hospitals and birth centres in the Netherlands but higher for home births. In Australia, individuals who planned out-of-hospital births also had lower rates of medical interventions during labour and birth (Monk et al., 2014). Specifically, Australian birth centre clients reportedly had fewer episiotomies (Homer et al., 2019; Laws et al., 2010), fewer instances of oxytocin augmentation, epidural or spinal analgesia (Homer et al., 2019), and fewer inductions of labour (Laws et al., 2010). Grigg et al. (2017) found a similar trend in freestanding primary-level midwife-led maternity units, New Zealand's version of freestanding birth centres.

In their integrative review, Alliman and Phillippi (2016) concurred with the findings of the above authors by reporting that oxytocin induction or augmentation during labour was used less frequently in birth centres. However, it is important to note that the use of oxytocics is often contraindicated at freestanding birth centres, and these rates may have reflected individuals who required oxytocin after transfer to a hospital. For example, Kataoka et al. (2013) reported that only spontaneous labour and births occurred in Japanese birth centres due to midwifery practice restrictions. The requirement of interventions such as induction, augmentation or assisted birth would indicate hospital transfer. The motivation for advocating fewer interventions, such as augmentation of labour, is evidenced by its effect on outcomes. Augmentation of labour has been associated with higher rates of postpartum haemorrhage (Erickson et al., 2020), second-degree perineal tears (da Silva, de Oliveira, Bick, Osava,

Nobre, et al., 2012), and postpartum depression (MacKinnon et al., 2017). The use of oxytocin during labour has also been associated with higher odds of required hospital transfer of the newborn (Koiffman, Schneck, Riesco & Bonadio, 2010).

Macfarlane, Rocca-Ihenacho and Turner (2014) explored the maternity care experiences of UK-based participants before and following the establishment of the Barkantine Birth Centre, a new independent midwifery facility in an urban area. Significant differences were observed in induction rates, with a lower percentage of women initially booked at the birth centre undergoing induction. Their study also highlighted differences in care practices during labour, such as artificial rupture of membranes and continuous foetal heart rate monitoring, with lower rates at the birth centre. Pain relief methods varied, with non-pharmacological methods, including immersion in water, breathing techniques, and massage used more frequently at the birth centre. Clients of the birth centre reported greater freedom of movement during labour. Delayed cord clamping is a practice that is generally expected to be applied in birth centres. Shinohara and Kataoka (2021) found that this practice was not associated with a higher incidence of hyperbilirubinemia among newborns born in a birth centre in Japan.

Niemczyk, Ren, Jolles, et al. (2022) aimed to compare outcomes from before and after adopting new guidelines based on a 'Consensus Statement on Safe Prevention of Primary Cesarean Delivery' for freestanding birth centres in the USA. Out of 33 birth centres that responded with information on modifications to their clinical practice guidelines, 11 birth centres reported adjusting their relevant clinical practice guidelines in response to a specific research study and the 2014 Consensus Statement. The most common alterations included redefining active labour to commence at 6 cm of cervical dilatation instead of 4 cm and extending the time before requiring transfer to the hospital to four to six hours of unchanged cervical examination in the active stage of labour, as opposed to the previous two hours. Birth centres that retained their guidelines provided various reasons, such as the absence of specific transfer criteria for prolonged or arrested first stage of labour or already adhering to similar guidelines. Fewer clients were diagnosed with prolonged first and second stages of labour, and fewer received labour augmentation. No significant differences were observed in complications associated with prolonged labour, such as chorioamnionitis, abnormal foetal heart rate patterns, or neonatal intensive care unit admissions.

In summary, a wealth of research spanning various countries, including the USA, Canada, the UK, Denmark, Australia, New Zealand and Japan, consistently supports the idea that giving birth in freestanding midwife-led units or birth centres is associated with lower incidences of obstetric

interventions, such as induction of labour, augmentation, episiotomies, and continuous electronic foetal monitoring, in comparison with traditional hospital care. The emphasis on nonpharmacological pain relief measures and natural, less invasive methods was evident, indicating that midwives at freestanding birth centres tend to prioritise the physiological process of childbirth.

4.6.6. Birth centre clients' experiences of or satisfaction with care

Our analysis of 28 included studies of diverse methodologies (quantitative surveys, qualitative interviews or focus groups, and mixed methods) on experiences of and satisfaction with care at freestanding midwife-led birth centres. We identified various aspects that influenced birth-centre clients' experiences and satisfaction with care.

The location where the birth took place emerged as a significant factor influencing satisfaction, as evidenced by Borquez and Wieggers (2006), Grigg, Tracy, Schmied, Monk and Tracy (2015) and Macfarlane, Rocca-Ihenacho, Turner and Roth (2014). Similarly, the type of birth, whether vaginal or caesarean, and its' effect on the birth experience was explored by Fleming, Donovan-Batson, Burduli, Barbosa-Leiker, Hollins Martin and Martin (2016) and Hitzert et al. (2016). In both studies birth centre clients who had successful vaginal birth were more likely to report satisfaction with the care they received. Institutional structure and the overall system of care, explored by Alliman and Phillippi (2016) and Walsh (2006), played a crucial role in client satisfaction. Amenities available at the birth centre, as highlighted by Hitzert et al. (2016) and Reszel et al. (2021), were also identified as contributing factors.

The emphasis on a relaxing birth-centre environment, advocated by Deery et al. (2007) and Walsh (2006), aligned with studies exploring the social model of care, such as those by Hitzert et al. (2016) and Jamas et al. (2011) in which the importance of a supportive and calming atmosphere was emphasised. The provision of comprehensive, personalised care, highlighted by, among others, Baczek et al. (2020) and Combellick et al. (2022), and the aspect of one-to-one care (Macfarlane, Rocca-Ihenacho, Turner & Roth, 2014) emerged as key factors that positively influenced satisfaction with care.

Effective communication, identified by Hitzert et al. (2016) and Jamas et al. (2011), and a positive relationship between clients and midwifery care providers, as highlighted by Smythe, Payne, Wilson, Paddy and Heard (2014) and Borquez and Wieggers (2006), were consistently associated with enhanced satisfaction. Trust in midwives (Rocca-Ihenacho et al., 2021) and a sense of autonomy and control (Hitzert et al., 2016; Macfarlane, Rocca-Ihenacho, Turner & Roth, 2014) reportedly also contributed to

positive experiences with care, highlighting the importance of the interpersonal dynamics between midwives and their clients.

Researchers such as Almanza et al. (2022) and Karbeah et al. (2022) noted cultural considerations and the need for culturally and historically safe care. Additionally, family-centred care, explored by Deery et al. (2007) and Pewitt (2008), underscored the significance of a holistic approach at freestanding midwife-led birth centres. Quality of care provision (Fleming, Donovan-Batson, Burduli, Barbosa-Leiker, Hollins Martin & Martin, 2016; Karbeah et al., 2022) and support, empathy and care offered during the birth process (Combellick et al., 2022; Smythe et al., 2016) were consistently associated with higher satisfaction with care.

The findings of several studies highlighted the importance of fostering a sense of empowerment (Smythe et al., 2016) and security or safety (Pewitt, 2008; Rocca-Ihenacho et al., 2021) in the birth environment. Furthermore, respect, dignity and privacy emerged as prominent factors associated with positive birth centre experiences in studies by Fleuriet (2009), Hitzert et al. (2016) and Smythe et al. (2014). The prevention of unnecessary interventions (Combellick et al., 2022) and the management of complications during labour, birth, and the postpartum partum period (Grigg, Tracy, Schmied, Monk, et al., 2015; Reszel et al., 2021) reportedly also had an impact on birth experiences and satisfaction with care.

In summary, the factors identified in these studies highlighted the need for a holistic and individualised approach to care in freestanding midwife-led birth centres. The synthesis of these findings provided valuable insights for stakeholders aiming to enhance the birth experiences of individuals seeking care in these settings. We noted a lack of research on clients' experiences of independently owned birth centres in South Africa.

Due to our focus on homelike, more independent facilities, we did not include studies on publicly funded midwife obstetric units in South Africa; however, studies that reported on client experiences at these facilities found that individuals experienced disrespectful and abusive behaviour during labour and birth, which negatively impacted their willingness to use the facility in the future (Malatji & Madiba, 2020). Oosthuizen et al. (2017) linked demographic factors such as age, language, education, and length of residence to disrespectful care, which contributed to the underutilisation of midwife obstetric units in a specific district. In Phase 2a of our study, we explored the perceptions of clients who gave birth at independently owned freestanding midwife-led birth centres in South Africa, contributing new knowledge to this topic. These findings will be reported in Chapter 5.

4.6.7. Collaboration between freestanding midwife-led birth centres and their referral networks

A diverse range of studies provided insights into collaboration between midwives at birth centres and their referral networks. Bazirete et al. (2023) identified interdisciplinary collaboration as one of the success factors for midwife-led birth centres. The effective functioning of midwife-led birth centres is linked to effective coordination with obstetricians, nurses, and support staff, and well-functioning referral systems.

Exploratory studies, such as those conducted by Behruzi et al. (2017) and Boesveld et al. (2017a), identified factors that influenced collaboration, examining contexts such as the integration levels between birth centres and local maternity care systems. Strategies proposed by Danhausen et al. (2022), included shared electronic health records and improved communication, indicated that a proactive approach is needed to strengthen partnerships between birth centres and hospitals. The influence of midwives' relationships with referral hospitals on decision-making in cases of prolonged second stage of labour, as found by Faulk and Niemczyk (2021), highlighted the interpersonal dynamics crucial to effective collaboration.

Communication emerged as a recurrent theme in reports on the experiences of birth-centre clients during emergency transfers, as reported by Grigg, Tracy, Schmied, Monk, et al. (2015). Hitzert et al. (2018) identified key obstacles to quality handovers, emphasising the need for tailored approaches. Initiatives such as the Smooth Transitions Quality Improvement Program in Washington State (Hays et al., 2022) aimed to address the negative impacts of transfers by fostering improved cooperation between community midwives, emergency services and hospital staff. Another example of a project that was initiated to improve communication and collaboration was simulation training to enhance the transfer process between out-of-hospital birth settings and referral networks, arranged by the Utah Women and Newborns Quality Collaborative in partnership with a simulation design lab. This programme focused on postpartum haemorrhage transfers scenarios (Baayd et al., 2023).

Studies that reported collaborative models, such as Lotshaw, Phillippi, Buxton, McNeill-Simaan and Newton (2020) and Stevens et al. (2012), showcased the successful maintenance of a birth centre experience while ensuring access to specialised tertiary care when required. The emphasis on mutual respect, joint guideline development and effective communication underscored the importance of cohesive, collaborative practices for seamless handover of care between home, birth centre and hospital settings. Olvera, Smith, Prater and Hastings-Tolsma (2020) and Reszel et al. (2018) contributed to this theme by focusing on improving communication and collaboration during emergency transfers

in the USA and exploring the successful integration of midwifery care in Ontario, Canada, respectively. Collectively, these studies offered valuable insights into the importance of enhancing collaboration for improved birth-centre care and emergency transfers, and the associated challenges.

4.6.8. Characteristics and experiences of birth centre care providers

The characteristics and experiences of midwives and other birth-centre care providers were explored in various studies included in our review. Importantly, Erickson et al. (2020) concluded on the significance of midwifery credentials, reporting that postpartum haemorrhage rates varied based on midwifery credentials, with higher rates in births attended by certified professional midwives and states with regulatory barriers. Certified nurse-midwives demonstrated lower odds of postpartum haemorrhage in their clients.

Everly (2012) delved into the impact of hospital and birth-centre environments on midwives' decision-making, emphasising the role of trust in the birth process, the birthing individual, and the healthcare team. Faulk and Niemczyk (2021) explored decisions midwives had made during the prolonged second stage of labour, revealing that their hands-on assessment approach was influenced by their relationship with the referral hospital. Hunter et al. (2018) highlighted confidence as a vital enabling attribute of midwives at freestanding birth centres, which was nurtured through practical experience and strong relationships within the midwifery team.

Karbeah et al. (2019) concluded that midwives should practise with cultural sensitivity, emphasising the importance of culturally sensitive perinatal care and addressing racial justice. Smythe et al. (2014) introduced the concept of tact in post-natal care and suggested that there is a need for dynamic responsiveness to unique situations. Neerland, Delkoski, Skalisky and Avery (2022) identified other key themes related to birth-centre care providers, including creating a welcoming atmosphere, individualised care, allowing shared decision-making, and normalising physiologic birth. Stone (2012) also highlighted midwives' commitment to supporting physiological birth in Germany while Stone, Downe, Dykes and Rothman (2022) explored the impact of technology, particularly ultrasound scans, on the relationship between pregnant individuals and their midwives. Rocca-Ihenacho et al. (2021) outlined 'pillars of well-functioning midwifery units', noting that the midwives at such units were characterised by positive relationships, autonomy, continuous learning, support, team spirit, interdependency, and feeling valued.

In conclusion, the characteristics and experiences of midwives and birth-centre care providers revealed in the studies we reviewed highlighted the importance of midwifery credentials, trust, hands-

on assessment, confidence, cultural sensitivity, dynamic responsiveness, and commitment to physiological birth. The outlined 'pillars of well-functioning midwifery units' also emphasised that midwives aimed to foster positive relationships and that continuous learning is essential.

4.6.9. Guidelines, operational standards and quality indicators

Our scoping review identified literature sources that led us to existing guidelines, operational standards, and regulations for freestanding midwife-led birth centres. The American Association of Birth Centers (2017) standards were developed for the Commission for the Accreditation of Birth Centers (CABC) to accredit birth centres in the USA. Rayment et al. (2020) contributed to developing European Midwifery unit standards, organised into ten categories covering various aspects of care, leadership, and clinical governance. Stevens and Alonso (2021) expanded the scope to low- and middle-income countries and developed operational standards for 'midwifery centres,' emphasising dignity, provider quality and a community administrative focus. These comprehensive standards included aspects like respectful treatment, evidence-based care, emergency preparedness, and integration with the local healthcare system. Turkmani et al. (2023) highlighted challenges and facilitators for midwife-led birthing centres in lower- and middle-income countries, emphasising the importance of integrating these centres into established referral systems.

Through our examination of the research and existing standards for freestanding midwife-led birth centres, we identified five key themes pertaining to the functioning of these centres: governance and management, staffing and qualifications, physical environment and equipment, clinical care, and quality improvement. According to the above-mentioned standards, freestanding midwife-led birth centres should be governed and managed effectively, with adequate collaboration and integration with referral networks. Adequate staffing with qualified midwives who possess the necessary skills and qualifications should be prioritised. Clinical care must focus on safety, emergency preparedness, and compliance with local legislative frameworks and guidelines while upholding principles of dignity, equity, and client-centeredness in caring for clients. This includes screening clients with eligibility criteria that ensure the safe and fair selection of clients. The focus should be on achieving positive outcomes, minimising intervention rates, and maintaining a safe care environment with the necessary tools. The overarching objective is to uphold high-quality standards; continuous quality improvement is essential for achieving this goal.

Concerning quality indicators, Boesveld et al. (2017b) conducted a mixed-methods study in the Netherlands, identifying 30 determinants for structure and process quality indicators. These indicators encompassed aspects such as efficiency, safety, client-centeredness, equity, and effectiveness.

Factors like proximity between birth centres and hospitals, emergency facilities and continuous healthcare provider presence were considered crucial for ensuring quality care. Sprague et al. (2018) evaluated outcomes and quality of care at Ontario birth centres, emphasising adherence to national guidelines, low rates of morbidity and mortality, and lower intervention rates compared with planned hospital births as key quality indicators.

4.6.10. Limitations

Firstly, as with most scoping reviews, we did not conduct a comprehensive assessment of the quality of evidence or the effectiveness of interventions. Instead, we focused on identifying the available literature and the knowledge gaps. This could impact the reliability and validity of the results. The selection of studies included in the review could be subjective, leading to bias. We focused on a broad range of studies and did not conduct a detailed analysis of specific subgroups or populations, thereby limiting the generalisability of the results to specific contexts.

Most of the studies that evaluated outcomes were retrospective in design. Randomised controlled trials would have provided higher quality evidence on the topic of birth centres, but they might not always be ethical or feasible. Pregnant individuals who choose birth centres often do so to have a more natural birth with personalised care, while those who opt for standard in-hospital maternity care do so for the peace of mind of having access to interventions in the case of complications. Randomising individuals for the sake of research would undermine their autonomy to choose where and how to give birth.

For a few of the studies, full-text articles were not accessible, and although we did extensive database searches, some relevant studies might have been missed. We only included articles published in English and may have excluded valuable literature published in other languages.

4.7. SUMMARY

In summary, this scoping review provides a comprehensive overview of the research landscape of freestanding midwife-led birth centres and the literature that reports outcomes and experiences with care at these facilities. Despite the above-mentioned limitations, the results of this scoping review are valuable because they enhanced the understanding of the available literature on this topic. We systematically examined several aspects, including the characteristics of birth centres, eligibility criteria for care, issues related to choice, equity and access, outcomes and interventions, client experiences and satisfaction, collaboration between birth centres and referral networks,

characteristics of care providers, and operational standards and guidelines. The synthesis of evidence from 133 articles contributed valuable insights into developing evidence-based accreditation criteria for these facilities in South Africa. It sheds light on existing gaps for future research.

The characteristics of freestanding midwife-led birth centres included factors such as a homelike environment, cultural sensitivity, and community engagement. Eligibility criteria emphasise the importance of birth centres focusing on low-risk pregnancies, but challenges exist in consistently defining and applying these criteria. Issues of choice, equity and access revealed disparities, urging attention to community-specific needs. Maternal and neonatal outcomes were explored, indicating a trend towards reassuring outcomes and lower intervention rates in birth centres, depending on the context in each country and the level of integration of birth centres into the local health care system. Client experiences highlighted the significance of the birth-centre environment, institutional structure, midwife-client relationship and personalised care, emphasising the need for a holistic and individualised approach. Collaboration and effective communication between birth centres and their referral networks were identified as important factors in birth-centre care. The characteristics and experiences of birth-centre care providers revealed the significance of midwifery credentials, trust between midwives and their clients, cultural sensitivity, and commitment to physiological birth. Operational standards and quality indicators emphasised the importance of safety, emergency preparedness, and client-centred care. Five overarching themes were identified in existing birth centre standards: governance and management, staffing and qualifications, physical environment and equipment, clinical care, and quality improvement.

4.7.1. Implications for practice

Overall, this scoping review may provide a foundation for healthcare policymakers, practitioners and researchers to enhance the quality and accessibility of care in freestanding midwife-led birth centres, thereby ultimately improving the birth outcomes and experiences of individuals seeking care at these facilities.

4.7.2. Implications for research

As we conducted this review, we realised the importance of research in diverse settings and countries, including developing nations. We identified gaps in research in low- to middle-income countries. This lack of representation from developing countries is a limitation as well as a concern, and we identified the need for more research that addresses these gaps and delves into the unique context of independently owned, freestanding birth centres in South Africa and how to provide more access to

this model of care. As a first step in addressing the research gap and as part of developing accreditation criteria, Chapter 5 contains a report on the perceptions and experiences of individuals who received care at privately owned freestanding midwife-led birth centres in South Africa.

5. GATHERING EVIDENCE FOR ACCREDITATION

CRITERIA PHASE 2A — EVIDENCE FROM WOMEN

Online focus group, individual interview and written narrative from recent birth-centre clients

5.1. INTRODUCTION

In Chapter 4, evidence from existing research was presented as a scoping review of factors that influence outcomes and client satisfaction with care at freestanding midwife-led birth centres. Ménage (2016) emphasised the importance of supplementing research evidence with input from multiple sources when making decisions in midwife-led care. This chapter presents and describes the experiences and perceptions of recent birth-centre clients in South Africa. This was explored to add evidence from the women as part of the collaborative process of developing accreditation criteria for birth centres. Partners were included in the study population as part of the women's environment.

This phase of the study aimed to gather input from birth-centre clients and their partners regarding the care they had received, the extent to which they felt safe and supported, and the likelihood of their recommending birth-centre care to others. We used a multi-method approach, which included an online, synchronous, semi-structured focus group, two online interviews (one with a couple and one with an individual), and written answers to open-ended questionnaires by birth-centre clients. This chapter provides a detailed analysis of the qualitative data collected through these methods, presenting themes and insights that emerged from participants' responses.

5.2. METHODOLOGY RECAP

5.2.1. Participants

A total of eight individuals participated in this qualitative part of the study: seven of whom had recently given birth at various freestanding birth centres and one partner. The sample was diverse in terms of number of previous births, location (various birth centres in Gauteng and the Free State) and ethnic background, ensuring a varied range of perspectives. Further efforts were made to recruit participants from additional provinces through a midwives' association's WhatsApp group. However, attempts via email and follow-up yielded no additional responses. Individuals from birthing centres associated with any of the researchers were excluded to avoid potential bias. Table 5.1 depicts the demographic details of the participants. Initials will be used to refer to participants in the text.

Table 5-1 Demographic detail of the participants.

	Client/partner	Province	Age	First baby?
Focus group (Birth centre 1)				
Participant 1 (A)	Birth-centre client	Gauteng	27	Yes
Participant 2 (NH)	Birth-centre client	Gauteng	undisclosed	No (third)
Participant 3 (SE)	Birth-centre client	Gauteng	undisclosed	No (sixth)
Couple interview (Birth centre 1)				
Participant 4 (N)	Birth-centre client	Gauteng	36	No (second)
Participant 5 (J)	Partner	Gauteng	undisclosed	
Individual interview (Birth centre 2)				
Participant 6 (M)	Birth-centre client	Gauteng	33	Yes
Written narratives (Birth centre 3)				
Participant 7 (E)	Birth-centre client	Free State	undisclosed	Yes
Participant 8 (D)	Birth-centre client	Free State	undisclosed	Yes

5.2.2. Data collection

Data was collected through three methods (see 3.3.2):

1. **Online focus group discussions:** A single online focus group was conducted involving three recent clients from the same birth centre. The discussion was moderated by a research psychologist. Three participants took turns responding to and discussing three specific questions and provided additional comments at the end of the session.
2. **Individual interviews:** Two separate online interviews were carried out – one by the primary researcher and one by the research psychologist. The first interview involved a couple from the same birth centre mentioned above, while the second interview featured an individual from a different birth centre. In both interviews, participants were presented with the same set of three questions and were given the opportunity to respond and engage in discussions.
3. **Written narratives:** We received two written narratives from recent clients of birth centres recruited through their midwives. These clients were provided with a questionnaire containing the same questions used in the focus group and interviews. Participants returned their responses through their midwives or directly back to me via email.

5.2.3. Data analysis

Qualitative data analysis followed a systematic process, including transcription (for interviews and focus group discussions) and data organisation. All data were entered into ATLAS.ti software (ATLAS.ti

Scientific Software Development GmbH, 2023). Transcripts and answers to questionnaires were read and reread in the process of familiarisation. A coding framework was developed by labelling keywords or concepts that identified significant elements within the data. The themes and subthemes that emerged through subsequent analysis are presented below. The data was analysed independently by two researchers.

5.3. FINDINGS

Table 5.2 presents a comprehensive overview of the themes identified through thematic analysis of the data collected in this phase. A detailed discussion follows the table, delving into each theme and its corresponding subthemes.

Table 5-2 Summary of themes that emerged

THEMES	SUBTHEMES
1. Factors influencing the choice of midwife-led birth centres	1.1 Previous impersonal/unfavourable healthcare experiences 1.2 Availability of specialised care if required 1.3 Information from different sources
2. Experiences related to the midwife-led birth centre staff	2.1 Effective communication and information provision 2.2 Supportive and reassuring staff 2.3 Experienced and knowledgeable staff 2.4 Physical and emotional accessibility and availability
3. Experiences related to the midwife-led birth facilities	3.1 Reasonable costing structure 3.2 Medical and referral resources for a safe birthing experience 3.3 Family-, religious- and culturally sensitive care 3.4 Home-like and calm milieu
4. Experiences related to the midwife-led birth-centre care	4.1 Person-centred care 4.2 Passionate and professional care 4.3 Facilitation of a natural and special experience
5. Recommendation of midwife-led birth centres	

5.3.1. Theme 1: Factors influencing the choice of midwife-led birth centres

In discussions and narratives about what was important to the recent birth-centre clients, themes emerged regarding participants' reasons for choosing birth-centre care. This appeared to have been influenced by several key factors. Firstly, past healthcare experiences played a significant role, with a preference for birth centres arising from impersonal or unfavourable encounters during previous births or pregnancy. Secondly, the availability of specialised care in the event of complications emerged as a crucial consideration. Participants were mindful of the need for comprehensive and specialised

medical assistance if required during labour, birth or subsequently. Thirdly, the decision-making process was informed by diverse sources.

5.3.1.1. Subtheme 1.1 Previous impersonal/unfavourable healthcare experiences

In the focus group, participants SE and NH, who had had previous birth experiences at public and private hospitals, respectively, expressed their motivations for choosing birth-centre care this time. SE highlighted her fear and dissatisfaction with public hospital treatment, emphasising the desire for a positive and less stressful birthing experience. NH discussed her gynaecologist's exhaustion and rushed consultations in a hospital setting, prompting her shift towards birth centre care.

"Like my experience at the hospital ... I always felt afraid to go in. I would literally stand outside the hospital until I was maybe literally dying ... I said there's no way I'm still gonna [going to] go get a bad treatment ... you know, scared and under pressure and all of that in a public facility, I feel it's really unfair." (SE, focus group)

"... and what I realised is that my gynae [gynecologist], because she was working in a hospital, was extremely exhausted ... and just rushed through my process, like rushed through my consultation every single time. Not because she's a horrible person or anything, but ... her shifts are very long. Not that my midwife's aren't, but just the comparison." (NH, focus group)

Additionally, during an interview with N and her partner, N shared her experience of a previous hospital birth:

"So, the first time I went every I went through everything, basically the normal hospital route. I was young, so I didn't think of the other options that they were. And I think at that time around 2010, the midwife option wasn't really ... out there, as much as it is now ... So I went the normal route and what I found was it was very impersonal ... And not to bash and like the provincial the gyneas [gynaecologists] and the nurses and stuff... But it was very impersonal for me. A lot of things I went through. I didn't know what was happening, so ... I got to the hospital. I was already halfway through labour, so I didn't know because my water didn't break. So, I didn't know. I just got a few cramps. I called gynae, and the guy was like, no, go into the hospital, went to the hospital, and then I was told I'm already halfway through labour, so I can't get any pain medication ... So ... I was already 6 centimeters dilated so they couldn't give me anything ... I had to do everything like on my own and ... even though the birth was only for four hours, the labour was for four hours. It was still hectic ... and then there's a whole lot of processes that they do ...

which also wasn't explained to me ... that was very hectic, so ... even though it everything was fine and everything went normal and good and baby was healthy and everything.” (N, couple interview)

Her partner, J, added his perspective on the impersonal nature of gynaecologist appointments in the traditional healthcare setting:

“I mean, for me ... when we did the checkups ... when we went to the gynae it was ... like you just come there, you do your scan, you go.” (J, N’s partner, couple interview)

5.3.1.2. Subtheme 1.2 Availability of specialised care if required

Several participants shared their concerns about specialised care if required, emergency preparedness, access to medical facilities, and the overall safety of childbirth at the birth centre. They mentioned that their midwives had addressed these concerns by having plans in place, including discussions about potential complications and ensuring access to appropriate medical facilities when needed. During the focus group session, A shared her initial concerns regarding the birth centre and how her concerns were addressed:

“So, for me, because I gave birth twice at a [another birth centre] with midwives but they had an ICU unit in case of emergency. So, when I went to the birth centre this time, I was a bit sceptical because I felt like in case of an emergency ... what is the in case you know? And then my midwife reassured me and we made our plans and our arrangements that in case of an emergency, what would we do and how would we plan out things and ... knowing that she already had a plan like she has her backup doctors on call and all of that, so that at least gave me some comfort to know that.” (A, focus group)

“Then what happens in case of an emergency or something when we worked out the plan and all of that, I was, I felt fine.” (A, focus group)

During the couple’s interview, N expressed similar concerns and shared her experience of illness during pregnancy, which enhanced her concerns:

“Yes. So, with me, I went to look at ... the facility we went to the birth place because obviously with the antenatal was done there as well. So, I think for me mostly it was how safe it is for him when he does come. So do they have all the ... medical stuff that they do need, you know ...

Because that was also a thing for me, because if he needed extra care, was that available, was as if I need to move to another hospital. Was that available?" (N, couple interview)

"... with my daughter, I didn't really need extra care or I didn't need anything extra. But with this pregnancy ... around 26 weeks I ... got pneumonia yeah ... And that lasted for around 2 weeks ... So, my oxygen levels were very low. And obviously I had to stay and they had to monitor everything at a normal hospital. So, coming out from that, it was a bit, it was a bit concerning because I know the midwife facilities don't actually have all of the equipment that ... If you need oxygen or ... something happens to you and you know they can't facilitate all of that. You have to be moved, obviously from ... the birth centre to somewhere else to a ... hospital that can take you with all of that. So that was also for me ... concerning but ... I had to do a lot of tests to say that no, my lungs are fine. You know, prior to giving birth. And I think that's also important because everything is checked prior, so when you get there, there's no surprise ... I understand, but is unpredictable. Anything can happen. So, it was hectic, but everything was good." (N, couple interview)

M perceived the birth centre as a safe space and, when asked during her interview, she mentioned that her midwife had discussed a backup plan with her.

"Just especially being a first-time mom, knowing that I was in a safe space. And she understood things medically." (M, individual interview)

"Yes, we did have the discussion about if there were to be a complication or which hospital would I go to, which doctor would I be authorised for so that that dialogue didn't happen. But thank goodness that wasn't my reality. But yeah, that was that was discussed. If ... things came to that." (M, individual interview)

5.3.1.3. Subtheme 1.3 Information from different sources

Participants accessed various sources to help them choose the midwife-led birth centre route. N decided on birth centre care after considering alternative options, particularly influenced by social media posts, recommendations from a friend, and YouTube videos. Initially, the idea of midwife-led birth-centre care was intimidating, as it was perceived as less conventional. However, she became more open to it after hearing about positive experiences, especially from a friend who had had a positive water birth with a specific midwife, and by researching and reading reviews, which ultimately

led to choosing that particular birth centre for their pregnancy care. The decision was challenging for their partner, who was not accustomed to the idea of a more unconventional birthing experience:

“I think this time I wanted more of an option. Like, you, you always see these posts on social media or like friends saying, you know, maybe go to the midwife route. And at first it was a bit scary because something new at something new, it's something that's not something that ... Is not, I wouldn't say accepted, but the norm nowadays. So, but ... it's getting there a lot of people are going through that and going through the water births and stuff like that. And I heard a lot of stories. I watched a lot of YouTube videos. So and that way I made my decision at first I wanted to go to [a well known birth centre].” (N, individual interview)

“I read the reviews and I ... really went through and ... one of my friends also gave birth with [the midwife] ... So I had asked her and she was like, no, the water is amazing. And you know, she's gonna [going to] be great. And you must just give it a chance and stuff. So yeah, that's what made me make the decision. And it was very new for us as well as now because [my partner]'s not used to the whole normal.” (N, individual interview)

5.3.2. Theme 2: Experiences related to the midwife-led birth centre staff

Subthemes related to the staff at midwife-led birth centres were identified, with the first being the importance of effective communication and information provision. Participants valued being well-informed throughout pregnancy and highlighted clear communication during labour and the reassurance derived from understanding procedures. The positive impact of supportive staff, including midwives and doulas, was noted. The midwives' expertise was appreciated, emphasising the role of experienced caregivers in enhancing a sense of safety. Personal relationships with midwives, marked by emotional availability and accessibility for communication and support beyond regular hours, further contributed to participants' enhanced sense of safety.

5.3.2.1. Subtheme 2.1 Effective communication and information provision

Various participants mentioned communication throughout the pregnancy and information about what to expect as factors that made them feel safe as birth-centre clients. The topic of communication and information provision was discussed during the focus group:

“Having this experience in the hospital and at the birthing centre, communication is very important.” (SE, focus group)

“... the fact that the first appointment that I had with my midwife, she broke down the ... 30 weeks ahead.” (NH, focus group)

“This is what needs to happen then and this is how you need to be looking after yourself until delivery and then ... I'll inform you later as to what else needs to ... happen on your side, but I just felt very reassured.” (NH, focus group)

SE found communication and information reassuring during the labour process, and it enhanced her perception of safety.

“... they will explain everything, why they're doing it, why they're putting that, what's happening.” (SE, focus group)

“And makes you feel safe as well because people are informing you and you know, OK, I can be calm. I can. I know they got this.” (SE, focus group)

She further stressed this point by comparing it to a previous hospital experience where she did not feel safe. She appreciated that the midwife at the birth centre explained procedures, kept her informed and communicated with her, whereas previously, staff did not communicate in the hospital.

“You go into usually the hospital and they don't even talk to you, and if there's something, so everybody's just looking at you and nobody is really saying anything. And when you ask, also they just keep quiet.” (SE, focus group)

Even when there were concerns during her labour at the birth centre, she felt reassured by communication from the staff.

“... at one stage they actually wanted to transfer me and you don't feel like as if it's a train smash because you can see this communication that's going around and they're always communicating with you.” (SE, focus group)

A reported that “being heard” when she communicated concerns or feelings would contribute to her experience and sense of safety at the birth centre.

“... the fact that they are listening to you, if ... you know if there's something wrong or you're feeling a certain way you know that you are heard.” (A, focus group)

From a partner's perspective, J also felt reassured by communication from the midwife and other staff at the birth centre.

"... [the midwife] and the other lady was always effective letting us know ... It looks positive. Everything looks good." (J, couple interview)

"Many things. They are being communicated through to you." (J, couple interview)

5.3.2.2. Subtheme 2.2 Supportive and re-assuring staff

Participants felt encouraged by the support and reassurance they received from staff at the birth centres, as evidenced by this comment E wrote in her written narrative:

"It's such a privilege to give birth in a safe place and receive the necessary support." (E, written narrative)

The support she experienced motivated M to stick to her birth plan:

"I had my own moments during my labour where I was like questioning myself, you know, just cause as a first-time mom, you don't understand ... So it's, you know, you almost wanna [want to] question yourself. But it's so much more of a supportive environment that you just keep going with your original birth plan." (M, individual interview)

"It's just a supportive environment." (M, individual interview)

N shared a similar sentiment:

"... even though the pain was unbearable ... it was almost like I could bear it for that time because they were so ... in touch with you, they talked to you." (N, couple interview)

J, as her partner, also felt supported and reassured. He explained:

"... the interaction between us and [the midwife] made it feel a lot more like on a personal level like they literally there for us and ... I mean the support ..." (J, couple interview)

"They kept the calm, they talked it through. They told me. Listen, you just don't worry. Don't worry. Mommy's got this ... We can see she's strong enough." (J, couple interview)

In separate online sessions, two participants expressed appreciation for the presence of a doula as additional support:

“Well, this, I was actually quite amazed because uh, when I was when I first went in, OK, it was just my midwife. But once you hit seven centimetres, I was so surprised because it was not only the midwife that there was the doula, there was the nurse on hand.” (SE, focus group)

“As soon as [the doula] came, she knew what to do, what to massage, what oils to use.” (N, couple interview)

5.3.2.3. Subtheme 2.3 Experienced and knowledgeable staff

Participants conveyed appreciation for the experience and knowledge their midwives possessed. In the translation of her written narrative, E mentioned competence as a staff-related factor that enhanced her sense of safety and support:

“The fact that the staff was highly competent and made us feel comfortable, taking good care of all of us.” (E, written narrative)

During the focus group, NH shared her perception of her midwife’s knowledge and experience.

“But what I found was with my midwife and what differentiated her from other midwives that I had encountered was her specialised knowledge.” (NH, focus group)

“And what I realised is that ... also just background, she births like 4 kids per week or something crazy like that ... And so I really think that having a midwife who is specialised in giving birth to or birthing children birthing babies is very important. Not that the gynae is not. That affects the those that work within the ... organisation or within the facility. And having a midwife who is at a birthing centre, the mentality is completely different in my experience. So, I think just that comparison, when should I give birth with a gynae versus a midwife? I think the midwife route is the more ... experience route to go down.” (NH, focus group)

5.3.2.4. Subtheme 2.4 Physical and emotional accessibility and availability

The midwife's emotional accessibility and the opportunity to establish a personal connection emerged as significant elements in the context of birth-centre care. Comparing this to a past hospital

experience, one participant (NH) conveyed that the hospital route lacked the development of a personal relationship with the caregiver.

"It isn't personal. So you don't develop a relationship with your caregiver." (NH, focus group)

Another participant (N), reflecting on her previous birth, perceived it in a similar way.

"I went the normal route and what I found was it was very impersonal ... And not to bash and like the provincial the gyneas [gynaecologists] and the nurses and stuff ... But it was very impersonal for me." (N, couple interview)

Regarding their recent birth-centre experiences, participants in the focus group felt a personal connection with their caregivers (midwives), describing the relationship as 'familial'. They expressed appreciation for feeling 'known' and having a close bond with their midwives.

"... in the sense that they know who you are, they know your history. They know your partner."
(NH, focus group)

"Even though it was such an emotional time, it was such a beautiful experience because the team, they actually, like, you know, they become like your family, you know." (SE, focus group)

N and her partner, J, echoed these sentiments:

"And the relationship that you create with this person, it's not just one that's ... gonna [going to] deliver your baby and then she forgets you, you know." (N, couple interview)

"Yeah. So, it's very personal. It was, it was very good. It was a good experience." (N, couple interview)

"I mean, I think the interaction between us and [the midwife] made it feel a lot more like on a personal level like they literally there for us and ... It's the fact that they actually care that everything does go well." (J, couple interview)

Several statements indicated that participants' perceptions of safety and support were enhanced if they were able to contact their midwife whenever they had concerns and knew that their questions would be answered. This indicated that the availability and responsiveness of the midwife were important factors that enhanced their sense of safety.

"... it was very important to be able to just communicate with my midwife at any point." (NH, focus group)

"Being able to contact my midwife at any hour because I had a concern." (M, individual interview)

"She's ... always available." (J, couple interview)

5.3.3. Theme 3. Experiences related to midwife-led birth facilities

Four key subthemes related to participants' experiences at birth centres emerged: appreciation for a reasonable costing structure compared to private maternity care; considerations of medical resources for a safe birthing experience; the importance of family and of religious and culturally sensitive care; and the preference for a home-like and calm milieu over a clinical hospital environment.

5.3.3.1. Subtheme 3.1 Reasonable costing structure

The reasonable costing structure of birth centres compared to private maternity care was one aspect that participants appreciated and mentioned as one reason why they would recommend birth-centre care to their friends and family.

During the focus group all participants agreed that they found the birth centre more affordable than private hospital care.

"The price is a good ... is a is a good starter in terms of comparison to a private facility like a hospital." (NH, focus group)

"... the money factor is important. It definitely is much more affordable than private hospitals." (A, focus group)

"I think it's affordable. If you cannot afford complete private care or you're not on a medical aid and all of that." (SE, focus group)

N also mentioned during her interview that she found the birth centre affordable.

"It was also affordable. Uh, when it comes to costing and it with everything being the way it is right now. And you know ... we didn't have medical aid, we had medical insurance." (N, couple interview)

“So, with all of that, we didn't wanna [want to] pay anything extra from our pockets and and we didn't honestly. The only thing we paid extra was the antenatal consultations, which wasn't bad.”

(N, couple interview)

5.3.3.2. Subtheme 3.2 Medical and referral resources for a safe birthing experience

Participants had varying responses when asked what was important to them about the equipment at the birth centre. M mentioned during her individual interview that she had given thought to the availability of equipment:

“I went to look at the ... facility, we went to the birth place because obviously with the antenatal was done there as well. So, I think for me mostly it was how safe it is for him when he does come. So do they have all the ... medical stuff that they do need, you know.” (M, individual interview)

She was aware that there was a significant amount of equipment but that it was inconspicuous.

“I think it's quite surprising how much you know to use the term medical loosely, how much medical equipment they have there without you even knowing it without making it seem like it's a hospital, but it's only the vital things, you know, if you would really need it and push came to shove or, you know, like ... you need a drug for something, it's there. If you need, you know, any of any of those kinds of things, it's well hidden for. If you really need it. And ... you know, it's ... available as well without it seeming like it's ... forced upon you.” (M, individual interview)

When asked about equipment during the focus group, A was unsure but stated that she thought the birth centre had the necessary equipment for a straightforward birth.

“... for a general natural uncomplicated birth, yes, I think they had everything that was necessary.” (A, focus group)

NH said she was not focused on the presence of equipment because she wanted to avoid a clinical, hospital-like environment.

“So, anything that looked, smelled, sounded like a hospital. I didn't want it, so I wasn't very, which is very odd, but I wasn't very cognisant of the equipment ... So all I wanted was for me to birth healthily and normally. So ... to be honest, like I can't really ... give you a clear answer there because I ... wasn't really paying attention to that.” (NH, focus group)

In written narratives, D expressed her concern about safety and was reassured by the birth centre's proximity to the hospital, and E conveyed a sense of security and perceived the birth centre as well-equipped.

"It was very important that both my baby and I were safe." (D, written narrative)

"The centre is close to the hospital in case it was needed." (D, written narrative)

"... everything we needed was there, and we felt safe." (E, written narrative)

N reported that while in labour, the support from additional staff (in her case, a doula) was more important to her than equipment.

"So, for me, the stuff didn't make, it didn't make a difference, but to have the extra people there. But it ... made everything better." (N, couple interview)

5.3.3.3. Subtheme 3.3 Family, religious and culturally sensitive care

Some participants mentioned that their midwives respected the religious or cultural views of their clients and in some cases also shared them.

"It's wonderful that people still believe in natural processes as God created us." (E, written narrative)

"And just the fact that you can follow whatever your religious way is, whatever your feeling is, you know, all of that is so important." (SE, focus group)

One participant added that she preferred to take her placenta home for personal reasons, and her request was accommodated.

"And the one thing I also really loved is like the option of, you know, straight up being able to take my placenta home like, those are really important things to me." (M, individual interview)

Four participants independently mentioned the continuous, unrestricted presence of a partner as a factor in their perception of safety and support at the birth centres, demonstrating the importance of family-sensitive care.

“... my fiancé being included in everything, so you know him being there and also having to stay there or you know, that was also very nice because at the normal hospitals ... the father is there and then he has to leave at a certain time.” (N, couple interview)

“And one of the other really big things for me was my partner being, you know, welcomed into the space with me and being able to, like, assist me in my birth when I needed them as opposed to them being pushed more to the side.” (M, individual interview)

“It was important that my husband could be with me throughout.” (E, written narrative)

“My husband could be there the whole time.” (D, written narrative)

Two participants expressed their appreciation for the fact that additional family members were allowed to be with them.

“... your family ... still there and you know nobody is ... pushing them away ... All of this makes such a huge difference.” (SE, focus group)

“And even my mother was there, which is really nice, but they don't try and limit it at all.” (M, individual interview)

5.3.3.4. Subtheme 3.4 Home-like and calm milieu

Several birth-centre clients reported their desire to avoid giving birth in a hospital or a facility that felt ‘medical’ or ‘institutionalised’. They associated hospital settings with distinct visual aesthetics, smells and sounds that did not suit their preferences.

NH, who had recently given birth to her third child, reiterated this sentiment multiple times during the discussion, stating:

“So, anything that looked, smelled, sounded like a hospital, I didn't want it.” (NH, focus group)

“... you know, I'm not hearing strange things in the room next door.” (NH, focus group)

“I was just trying not to have the hospital experience.” (NH, focus group)

M, a first-time mother, shared similar sentiments about avoiding a clinical environment, saying,

"I mean I instantly knew that I didn't wanna [did not want to] go to like a full-on institutionalised medical facility." (M, individual interview)

In contrast to their perceptions of hospitals, they described the birth centre as calm and peaceful, referring to it as a 'home away from home.'

"... calm ... relaxed. You know very peaceful ... I even remember candles being burnt." (NH, focus group)

"Her space just felt like a home birth anyway, so it just felt right for me to be there." (M, individual interview)

A, another first-time mother, echoed these sentiments:

"... adding to environment like I felt at the birth centre it doesn't have that ... umm, like hospital vibe. You feel like you go in another home. It's like a home away from home." (A, focus group)

In her written narrative, D, a birth-centre client at a Free State birth centre, stated that the homelike environment made her feel safe.

"... the bath, room, and bed where we stayed comfortably and felt at home; everything we needed was there, and we felt safe." (D, written narrative)

5.3.4. Theme 4. Experiences related to the midwife-led birth centre care

5.3.4.1. Subtheme 4.1 Person-centred care

The subtheme of person-centred care in the birth-centre setting emerged through participants' expressions of their needs and experiences. The desire for individualised attention, meaningful communication and a caring environment emerged as key elements contributing to a person-centred, positive birth experience. NH expressed the need for one-on-one, 'specialised' care:

"I think for me, what was important was just getting that one-on-one care." (NH, focus group)

"I felt that at a birth centre with a midwife, I would get that specialised care." (NH, focus group)

She mentioned that it was important to her that her midwife was not looking after more than one client simultaneously, having to divide her time and care.

“My midwife isn't split between me and another person, you know, just that experience was very important.” (NH, focus group)

M appreciated substantial conversations over brief interactions during pregnancy. She stated:

“... it's conversations at any length that you need it to be as opposed to like a quick sonar of your belly and then off.” (M, individual interview)

A highlighted the need for someone willing to listen and to put her at ease, particularly during the challenging labour and birth process. She noted that she felt listened to and empowered to pay attention to her body's signals during labour and birth.

“I think just someone warm and caring and who's willing to listen to you. Yeah. To put you at ease because obviously you are not in a good state at that time.” (A, focus group)

“... with the midwife, I felt like they ... listen to what you want and ... you can listen to your body and what your body is telling you to do at that time.” (A, focus group)

The participants valued warmth, emotional support, and a personalised approach that extended beyond medical procedures to encompass the client's and their family's overall wellbeing.

“I'm obviously not trying to make this a anti-hospital conversation, but for me what was very, very important was kind of like what (another participant) was saying just to have warmth surrounding me, my partner and my child as I was delivering.” (NH, focus group)

“I mean she even asked how how's your daughter doing is she accepting the new baby coming and those kind of things and made us feel like, you know, like they actually care.” (J, couple interview)

5.3.4.2. Subtheme 4.2 Passionate and professional care

During the focus group, participants described several characteristics their midwives embodied that contributed to their sense of safety at the birth centre. They highlighted professionalism and a passion for the job as traits they perceived in their midwives that made them feel safe under their care. NH made several statements in this regard:

"I found was with my midwife and what differentiated her from other midwives that I had encountered was her specialised knowledge. But also she had a real passion for her job." (NH, focus group)

"... there's a certain quality that I find with midwives and maybe it's experience or I'm not sure passion." (NH, focus group)

"I think maybe professionalism. Paired with warmth and and passion is what I was looking for." (NH, focus group)

A agreed, stating:

"... professionalism just makes you feel so comfortable." (A, focus group)

SE added:

"I was with people that really and truly cared for me. And that made a huge difference." (SE, focus group)

NH commented in agreement with the other participants, stating:

"... is it enough to say that I agree with A and SE this point because they literally just took the words out of my mouth? It's, yeah, I had a similar experience and I agree with what they've both said, I think just their professionalism, their reassurance, their expertise ..." (NH, focus group)

5.3.4.3. Subtheme 4.3 Facilitation of a natural and special experience

Various participants stated that they didn't want to be directed on what to do while in labour or giving birth. Rather, they wished to have the freedom to follow their natural instincts. They desired a natural approach to their labour and birth. During the focus group, A expressed this need:

"... freedom to be able to do what my body is telling me to do at that time." (A, focus group)

She further elaborated on this by saying:

"... you go to the hospital, the doctor tells you what to do and you do it and that is it. Whereas with the midwife, I felt like they were ... listen to what you want and ... you can listen to your body and what your body is telling you to do at what time." (A, focus group)

M echoed this during her individual interview:

"... like back to the way birthing is supposed to be for me, as opposed to, like, having to push for things that you want for it to be as ... a natural and organic process as possible." (M, individual interview)

There were several positive comments regarding the overall experiences of their care at the birth centres:

"And I think it's one that you can almost ... I don't want to say, guarantee, but it's one that I think you can expect from a birthing centre, a beautiful experience, one that is catered to having you birth in a calm ... relaxed ..." (NH, focus group)

"... it was quite a beautiful experience for me." (NH, focus group)

"It's an experience and it's a great one." (N, couple interview)

SE described her initial scepticism of midwife-led care. Her perceptions changed after her own positive experience:

"Actually. My sister, my twin sister, have a twin sister. She is always with a midwife and I used to tell her. No, you're crazy. Until you have the experience yourself and then you can encourage others to do it." (SE, focus group)

During the focus group, while discussing her experience, A compared the birth centre with the hospital experience, with the latter being described as 'nothing special'.

"I've had so many close family members who've gone to private hospitals, and even though they have had like a decent experience, nothing bad. But there was nothing special about it either." (A, focus group)

5.3.5. Theme 5. Recommendation of midwife-led birth centres

All participants concluded they would recommend birth-centre care to their friends and family.

"No question." (A, focus group)

"Definitely recommended." (NH, focus group)

“I would advise it.” (SE, focus group)

“Definitely so, definitely so.” (N, couple interview)

“I would definitely, definitely.” (M, individual interview)

“Absolutely!!! It's such a privilege to give birth in a safe place and receive the necessary support.”
(E, written narrative)

“I would recommend it. I think it's the best place to go.” (D, written narrative)

J, N's partner, reported that he had already recommended birth-centre care:

“I already did that.” (J, couple interview)

Their motivations for recommending birth-centre care, already discussed as subthemes, included having had positive birth experiences, feeling that their cultural and religious values were respected, and the affordability of birth-centre care as opposed to private maternity care.

5.4. DISCUSSION

The input from individuals who had first-hand experiences at freestanding midwife-led birth centres in two South African provinces was invaluable in the process of developing accreditation criteria for these facilities. Thematic analysis was applied to the participants' answers to three open-ended questions. This provided insights into the variables that shaped their choices and experiences with freestanding midwife-led birth-centre care.

5.4.1. Factors influencing the choice of midwife-led birth centres

It became evident through narratives and discussions that the participants had been influenced by several factors to choose midwife-led birth-centre care for their most recent births. They reflected on how previous healthcare interactions – specifically impersonal or negative experiences – had motivated their decision to seek care at a birth centre. They expressed discontent with hurried private gynaecologist appointments and poor treatment at public hospitals. Their choice of birth-centre care was also motivated by their desire for a less stressful and more positive birth experience. In a study conducted in the USA by Courtot et al. (2020), participants similarly stated that their decision to seek

care in a birth centre had been influenced by previous negative experiences with hospitals or obstetric care.

Concerns about the availability of specialised care in the event of complications emerged as a key consideration when selecting birth-centre care. Participants mentioned having had discussions with their midwives regarding general safety concerns and having been assured of access to medical services and emergency preparedness. Several additional factors influenced their decision-making process. Their views were shaped by social media, suggestions by friends, and YouTube videos, which ultimately affected their decision to select midwife-led birth-centre care. Positive recommendations were also found to have an impact on participants' choice of birth-centre care in the study by Courtot et al. (2020).

5.4.2. Experiences related to the midwife-led birth-centre staff

Four subthemes within the main theme revealed elements related to birth-centre staff contributing to positive care experiences. Effective communication and information formed a subtheme emphasising the importance of thorough and consistent communication between midwives and their clients during pregnancy, labour, and birth. The participants reflected on the sense of safety from being informed about the ins and outs of procedures. This subtheme was further confirmed by comparing their prior experiences in hospitals, where they felt there was a lack of communication, and the birth centre, where staff continuously communicated and clarified procedures. Studies by Hitzert et al. (2016) and Jamas et al. (2011) also noted communication as an aspect that contributed to favourable experiences of birth-centre care.

The significance of midwives and doulas in creating a supportive environment was underscored by another subtheme, 'supportive and reassuring staff'. The support they received during labour encouraged and motivated the participants, and the birth partner appreciated the staff's level of interaction and reassurance. One additional form of support that was mentioned to have contributed to the overall positive birth experience was the presence of a doula. According to an integrative review by Baczek et al. (2020), individuals who had received care at freestanding midwifery units typically had favourable experiences, with support being identified as a key component.

Another subtheme that surfaced was 'experienced and knowledgeable staff'. Participants expressed appreciation for their midwives' expertise and specialised knowledge, enhancing their perceptions of safety. Numerous global studies have emphasised the significance of midwives' expertise and experience at independent birth centres. The impact of midwifery education that is compliant with

global standards on outcomes at USA-based birth centres was discussed by Grünebaum et al. (2023). Hunter et al. (2018) highlighted the importance of trusting relationships, practical experience, and confidence level of midwives when providing care at freestanding midwifery units in New Zealand. Rocca-Ihenacho et al. (2021) identified positive staff relationships, autonomy, and ongoing learning as the UK's cornerstones of well-functioning midwifery units.

Finally, reflecting on the emotional and physical availability and accessibility of their midwives, participants mentioned the personal bonds they had developed with them and the contrast between giving birth in a hospital and in a birth centre. Their experiences and sense of safety were enhanced by the opportunity to build a personal connection and by the midwives' ongoing availability to answer questions or concerns. Several other researchers also found an association between a more personal midwife-client relationship at birth centres and increased satisfaction with care (Alliman & Phillippi, 2016; Borquez & Wieggers, 2006; Fleming et al., 2016; Jamas et al., 2011; Karbeah et al., 2022).

5.4.3. Experiences related to the midwife-led birth facilities

Participants mentioned several key features that they perceived as important regarding the birth centre facilities where they received care. Their appreciation for the reasonable cost structure in contrast to private maternity care emerged as a key subtheme. In the focus group discussion and individual interviews, several participants brought up the perceived affordability of birth-centre care.

Participants' consideration of medical resources for a safe birth experience emerged as the second facility-related subtheme. They reported feeling reassured by the birth centre's proximity to a hospital and reported a sense of security through knowing that the required equipment was there. While some participants were aware of the medical equipment being available, others attached more importance to the general safety and assistance offered by their midwives and additional staff members such as doulas. This subtheme emphasised the fine line between providing a homelike atmosphere and having the required medical equipment for a safe birth. This balance was also highlighted by Baczek et al. (2020), who noted that although freestanding midwife-led birth centres have access to emergency equipment when needed, giving birth there is viewed as a spontaneous and natural experience.

The significance of family, religious, and culturally sensitive care emerged as a third subtheme. Participants expressed gratitude to their midwives for respecting and occasionally, sharing their cultural or religious convictions. This respectful approach was further demonstrated by the willingness of birth-centre staff to accommodate specific wishes, such as taking the placenta home. The need for culturally sensitive care was echoed by participants in a study by Almanza et al. (2022) in which

individuals who had received culturally-centred care at the Roots birth centre reported higher scores for autonomy and respect compared with another birth-centre sample. The continuous, unrestricted presence of partners and additional family members during the birth process was also mentioned as a factor that enhanced the sense of safety and support our participants experienced. Individuals who received antenatal care at a rural Appalachian birth centre in the USA similarly appreciated the inclusion of their families (Phillippi et al., 2014).

The last facility-related subtheme highlighted participants' preference for a calm, homelike setting rather than a clinical hospital setting. They conveyed a desire to avoid the conventional hospital experience, associating visual aspects, smells, and sounds that were not conducive to their needs with hospitals. The birth centre was called "home away from home", highlighting its calm, peaceful setting. In research on patient satisfaction with care, several authors discussed the perceived significance of the birth-centre environment (Alliman & Phillippi, 2016; Deery et al., 2007; Jamas et al., 2011). Walsh (2006) connected the idea of "nesting" to the significance of the "environmental, organisational and emotional ambience" for individuals who selected birth-centre care. In a study by Combellick et al. (2022), USA-based participants reported feeling satisfied and having more positive experiences with birth-centre and midwife-led care than with hospital care during the coronavirus pandemic. To avoid the stressful hospital setting, they chose community births, such as home births and birth centres, and they regarded those experiences as peaceful and healing.

5.4.4. Experiences related to the midwife-led birth-centre care

There were several subthemes under the theme of experiences with midwife-led birth-centre care, each of which highlighted a different care-related factor that contributed to positive birth experiences. The first subtheme, person-centred care, emerged when participants expressed a significant need and appreciation for individualised, specialised care, valuing midwives who gave their full time to them rather than splitting it between several clients. Participants also reflected on and expressed a desire for meaningful conversations, emotional support and empowerment as additional elements related to person-centred care. Similar themes were noted in a UK-based study in which individuals who booked at birth centres were more likely to rate their overall care as good or very good compared with those who booked at a hospital when they experienced more personalised care, including one-on-one support and respectful treatment (Macfarlane, Rocca-Ihenacho, Turner & Roth, 2014). These findings were echoed in a study by Hitzert et al. (2016), who found that more autonomy, dignity, continuity and choice were linked to more favourable birth-centre versus hospital experiences in the Netherlands.

The second subtheme highlighted the importance of passionate and professional care in creating a feeling of security. Participants perceived professionalism, genuine care and passion for the job as important elements distinguishing birth-centre care from hospital maternity care. Participants valued being allowed to follow their instincts during labour and birth instead of being rigidly directed. The third subtheme, facilitation of a natural and special experience, highlighted the contrast between the hospital experience, where decisions are often dictated, and the midwife-led approach, which encourages a natural process. Jamas et al. (2011) also found that staff members' respect for the physiological process of labour enhanced individuals' experiences of the care they received at a Brazilian birth centre.

5.4.5. Recommendation of midwife-led birth centres

When asked if they would recommend midwife-led birth centre care, all participants replied in the affirmative. The phrases they used to indicate their support for birth-centre care included "no question", "definitely recommended", and "definitely so". Positive statements like "absolutely" and "it's the best place to go" were used to underline their recommendations for birth-centre services. Some of the motivations behind these recommendations were also mentioned in previous subthemes. Positive birth experiences emerged as a significant factor. Participants described their experiences as "beautiful," contrasting the perceived "nothing special" of hospital experiences. Recognising that cultural and religious values were respected during the birthing process further contributed to their advocacy for birth-centre care. Additionally, the affordability of birth-centre care compared to private maternity care was identified as a practical reason for recommending this model of care.

5.5. LIMITATIONS

Data obtained from the focus group and two interviews were more nuanced and richer than the data obtained from the written narratives. Participants could discuss and elaborate on their answers, and the moderator had the opportunity to clarify the meaning of their statements. The original aim was to conduct three focus groups, but unfortunately, recruiting several clients from a birth centre and requesting that they all log in simultaneously proved logistically challenging. One of the limitations of this section of the study would thus be the limited number of participants and the fact that birth-centre clients from more provinces could not be included. However, participants from the two provinces included made corresponding statements and had similar answers to the questions posed to them.

5.6. RECOMMENDATIONS FOR FUTURE RESEARCH

In future research on the experiences of birth-centre clients, it would be beneficial if participants were recruited and interviewed during pregnancy and again after birth to explore their expectations versus their experiences at birth centres. In this way, birth-centre clients would be able to express to what extent their expectations had been met or in which ways birth-centre care could improve. It would also enhance the data quality if clients who experienced transfer or complications were included. To reduce bias, the midwives were requested to recruit their most recent clients, not only those with uncomplicated births, but none of the participants in the study sample reported having had complications or having required transfer to hospitals. Only one mentioned that there had been a discussion about possible transfer at some point during her labour but that it had proved unnecessary in the end.

5.7. SUMMARY

The environment, interpersonal relationships, ongoing communication, cultural sensitivity, person-centred care and financial considerations all influenced the experiences and perceptions of the safety of seven birth-centre clients (and one partner), as described in this chapter. The participants also emphasised the significance of knowing an emergency backup plan is in place. The evidence from the research (Chapter 4) and the input from experts in birth-centre care, which will be described in Chapter 6, were combined with this feedback from recent birth-centre clients to formulate the accreditation criteria for freestanding midwife-led birth centres in South Africa.

6. GATHERING EVIDENCE FOR ACCREDITATION CRITERIA PHASE 2B –EVIDENCE FROM MIDWIVES AND MULTIDISCIPLINARY TEAM

Online nominal group technique session with stakeholders in birth-centre care

6.1. INTRODUCTION

In chapters 4 and 5, I discussed evidence from the research and evidence from women: the first two types of evidence gathered in compiling accreditation criteria for freestanding midwife-led birth centres in South Africa. In this chapter, I will present 'evidence from midwife': the results of a two-hour online nominal group technique session with a panel of experts in midwife-led care and maternity care. This phase also included evidence from resources. Ménage (2016) considered the expertise of the multidisciplinary team and other professionals as one of the aspects of evidence from the resources in decision-making in midwife-led care. This nominal group technique session aimed to gather suggestions about and insights into aspects that should be included in the accreditation criteria. I will report and discuss suggestions generated during the nominal group technique session.

6.2. METHODOLOGY RECAP

6.2.1. Participants

At the start of this study phase, I conducted a comprehensive stakeholder analysis (see: Annexure Y: Sample of stakeholder analysis) to ensure the inclusion of a diverse and representative group of experts in maternity and birth-centre care in South Africa and abroad. Twenty-eight identified stakeholders were invited, and 14 were available and gave consent. A diverse group of participants, including ten experienced midwives, each having over five years of practical experience, participated in the session. Four midwives held a PhD in midwifery, and one a master's degree, adding an academic dimension. Nine of the ten midwives had hands-on experience in independent midwife-led care, with seven also having been actively engaged in freestanding midwife-led birth centres. Geographically, this cohort was distributed across two provinces in South Africa – the Gauteng and Free State provinces – and the United States.

Complementing the midwifery expertise was one participant who was a nurse and midwifery educator with a PhD in nursing. Adding multidisciplinary diversity, a family physician responsible for clinical support at midwife obstetric units in a specific municipal district in the Gauteng Province also participated. An obstetrician serving as a specialist at the provincial government level represented the KwaZulu-Natal province's Department of Health in the session. Finally, a regulatory representative overseeing facility accreditation and compliance contributed a regulatory perspective to the study. This representative is associated with the KwaZulu-Natal Province's Department of Health.

Table 6-1 below summarises the participants in the online nominal group technique session, highlighting their roles, backgrounds, and affiliations. For the remainder of this chapter, the participants will be referred to as ‘experts’.

Table 6-1 Summary of participants in the online nominal group technique session

Participant profession	Number of participants	Background/role	Location
Experienced midwives	10		
Expert 1: Midwife		Birth-centre owner, midwifery lecturer, and academic	Gauteng, South Africa
Expert 2: Midwife		Independent midwife; birth-centre owner	Gauteng, South Africa
Expert 3: Midwife		Former birth centre director; experience with accreditation	USA
Expert 4: Midwife		Independent midwife; experience with birth-centre care	Gauteng, South Africa
Expert 5: Midwife		Independent midwife; experience with birth-centre care	Gauteng, South Africa
Expert 6: Midwife		Independent midwife; experience with birth-centre care	Gauteng, South Africa
Expert 7: Midwife		Independent midwife; birth-centre owner	Gauteng, South Africa
Expert 8: Midwife		Independent midwife; founder of an independent midwifery network	Gauteng, South Africa
Expert 9: Midwife		Independent midwife; experience with birth-centre care	Free State, South Africa
Expert 10: Midwife	Independent midwife; experience with birth-centre care	Free State, South Africa	
Expert 11; Nurse-midwife-educator (PhD in nursing)	1	Professional background in nursing, midwifery, and education	Gauteng, South Africa
Expert 12: Family physician	1	Responsible for clinical support at midwife obstetric units at the municipal level	Specific municipal district in Gauteng Province, South Africa
Expert 13: Obstetrician	1	Obstetrician specialist at the Provincial Department of Health	KwaZulu-Natal Province, South Africa
Expert 14: Regulatory representative, facility accreditation and compliance	1	Holds a regulatory position overseeing inspection and licensing of private healthcare facilities at the Provincial Department of Health	KwaZulu-Natal Province, South Africa

6.2.2. Nominal group technique

The two-hour nominal group technique session was conducted online, and Google Jamboard (Google, 2023) was used to facilitate idea generation and discussion. The procedure consisted of three rounds:

1. ‘Silent round’ for idea generation (approximately ten minutes): experts were given the opportunity to add criteria they deemed important, either on Jamboard sticky notes or in the online meeting platform chat box. Criteria shared in the chat box were transcribed onto sticky notes by the researcher. These sticky notes were then displayed on the shared screen, making them visible to all participants. A screenshot of the Google Jamboard is displayed in Figure 6-1 below.



Figure 6-1 Ideas generated on Google Jamboard

2. Round-robin explanation and discussion round (approximately 75 minutes): experts were given the opportunity to elaborate on and explain their respective suggestions. After each expert’s explanation, others could ask questions, comment or write messages in the chat box. The comments confirmed or agreed with what others had commented on, and there were no disagreements or contradictory comments during the discussions. Further discussion on specific topics will be presented in the results section of this chapter (see 6.3).
3. Categorisation and refinement: during the round-robin phase, the experts grouped ideas into thematic clusters, which the researcher and supervisors further refined (see 6.2.3).

6.2.3. Data analysis

Five overarching themes that could serve as subheadings in the accreditation criteria were pre-identified during the scoping review phase of the study: **governance and management, staffing and qualifications, physical environment and equipment, clinical care, and quality improvement.** These themes served as the foundation for categorising ideas generated during the nominal group technique session. The sticky notes were grouped under their respective themes based on the participants’ input. Figure 6.2 shows the Jamboard

after the ideas had been grouped under the five themes. The colours of the sticky notes were adjusted to reflect the different themes.



Governance and management Staffing and qualifications Physical environment and equipment Clinical care Quality improvement

Figure 6-2 Google Jamboard ideas grouped into thematic clusters

In a unanimous decision, all experts agreed on the five pre-identified themes and the clustering of the sticky notes, demonstrating consensus among the experts about the thematic clusters. After the session’s ideas had been shared by the experts, the sticky notes were rewritten in a separate document and grouped in a table under the predefined themes. Duplications were removed, and ideas that were similar were combined where applicable. Both supervisors reviewed this to ensure that all ideas were organised coherently. Suggested changes were applied until I and my two supervisors agreed, as confirmed during an online discussion. This collaborative and participatory approach enhanced the credibility of the categorisation and provided a strong foundation for subsequent analyses in the study.

6.3. RESULTS

In this section, I will present the elements proposed for incorporation in the accreditation criteria as generated during the online nominal group technique session. Additionally, I will provide an overview of

insights that emerged during the discussions. As previously mentioned, the proposed ideas were organised under five predefined themes.

6.3.1. Aspects of the accreditation criteria

The criteria contributed by the experts underscored the importance of effective governance, meticulous staffing, well-equipped physical environments, comprehensive clinical care protocols, and a commitment to continuous quality improvement for the accreditation of birth centres. The suggested criteria, as grouped under these themes, are presented below.

6.3.1.1. Theme 1: Governance and management

Numerous experts contributed ideas for criteria focused on governance and management in the context of freestanding midwife-led birth centres. A total of 17 suggestions were grouped under this topic and were categorised as follows:

Subtheme: Management and staffing

Two suggestions highlighted the importance of effective management and staffing protocols:

"Management (staff protocols, staffing requirements, staff evaluation, etc.)"

"Practice admin & management skills requirements"

Subtheme: Policies, procedures, and safety standards

Five suggestions emphasised the need for comprehensive policies, procedures, and safety standards in freestanding midwife-led birth centres:

"Workplace policies & procedures"

"Required protocols and equipment for safety"

"Requirement for protocols covering safety"

"Evacuation policy"

"List of standards and indicators the centre must meet"

Subtheme: Record-keeping and archives

Three suggestions highlighted the significance of meticulous record-keeping and safe storage of medical records:

"Safe storage of files and archives"

"Medical records"

"Good record-keeping"

Subtheme: Billing system

One participant suggested the inclusion of an aspect regarding the billing system at birth centres:

"Billing system"

Subtheme: Collaboration and referral systems

Four suggestions noted the importance of collaboration with obstetricians, reliable hospital backup and well-established referral systems, including clear criteria and efficient handover procedures.

"Have a good OBGYN [obstetrician and gynaecologist] relationship"

"Hospital backup"

"Referral criteria to higher levels of care with clear referral pathways"

"Referral links to both public and private backup systems via reliable ambulance services and handover system in place"

6.3.1.2. Theme 2: Staffing and qualifications

Multiple suggestions highlighted the need for birth centres to formulate well-defined staffing requirements to ensure all staff members are accredited and registered with the relevant regulatory bodies. These suggestions were:

"Staffing"

"Staff requirements"

"Midwife registration and accreditation"

"Advanced practice qualifications"

"All staff should be registered with respective regulatory bodies"

Subtheme: Staff-to-patient ratios and support staff

Furthermore, the experts stressed the importance of maintaining appropriate staff-to-patient ratios and having adequate support staff, including doulas:

"Staff to patient ratio"

"Have two midwives at a birth"

"Adequate support staff"

"The use of a doula"

Subtheme: Professional development and training protocols

Two recommendations referred to professional development and comprehensive training protocols for staff members, covering safety, emergency procedures, evidence-based care and the midwifery model of care:

"CPD [continuous professional development] for staff"

"Required protocols for staff training (safety, emergency drills, evidence-based care and midwifery model care)"

6.3.1.3. Theme 3: Physical environment and equipment

Thirty-two suggestions related to the physical environment and equipment at freestanding midwife-led birth centres were grouped under the following subthemes: physical space and infrastructure; equipment and medication; access to emergency support; cleanliness, equipment sterilisation and waste management; and reflection of the midwife-led model. Specific suggestions are presented below.

Subtheme: Physical space and infrastructure

Three expert suggestions referred to the physical space and infrastructure in general, and three focused on water and electricity as important aspects related to the birth-centre environment:

"Physical space is important – form and function are connected"

"Infrastructure should include adequate space for patients and staff"

"Details for facility requirements, i.e., environment, rooms – clean utility, dirty utility, suggested min size of birth rooms, etc."

"Water and electricity"

"Reliable electricity and backup, clean running water"

"Back up electricity"

Subtheme: Equipment and medication

The need for criteria that specify medication and equipment was echoed by several experts:

"Relevant equipment"

"Emergency equipment"

"Have adequate emergency equipment at hand"

"A list of essential equipment, including resus [resuscitation] equipment, should be available and adhered to"

"Sufficient equipment to provide safe care"

"Safe environment, equipment maintenance process"

"Minimum emergency medications required"

"Medication required for the management of obstetric emergencies"

Subtheme: Access to emergency support

Several experts deemed logistical factors about effective emergency response and medical accessibility important for inclusion.

"Notice board with direct emergency numbers of all relevant hospitals and doctors"

"Access to higher level support"

"Distance to referral hospital for emergency care"

"Easy access to emergency vehicle, in other words, good location"

"Easy access for ambulances and wheelchairs"

Subtheme: Cleanliness, equipment sterilisation and waste management

Furthermore, cleanliness, the sterilisation of equipment, the management of medical waste, laundry and access to bathroom and kitchen facilities were identified on numerous sticky notes:

"Cleanliness sterility"

"Sterilisation of equipment facilities"

"Sterilising of equipment"

"Maintenance of biohazard waste"

"Medical waste management"

"Waste management"

"Linen and area to wash linen"

"Comfort area for comfort of staff"

"Bathrooms/kitchen access"

Subtheme: Reflection on the midwife-led model

Lastly, one expert noted that the environment or physical space should reflect the midwifery model of care:

"Reflection of midwifery model of care in care, and environment of midwifery centre"

6.3.1.4. Theme 4: Clinical care

The suggestions presented below were grouped under the topic of clinical care at birth centres.

Subtheme: Woman-centred care and partnership with women

Experts suggested the importance of including criteria encompassing women-centred, individualised, respectful care and partnership with the client. They also noted the significance of educational aspects, recommending that clients need to receive a list of items they need to bring for their birth experience.

"Woman-centred care = the unique woman in our care being the priority"

"Partnership with women: reflect respectful, compassionate care in the program of care, including education offered"

"Provide a list of what patients need to bring for a birth"

Subtheme: Clinical care protocols and policies

Specific clinical protocols and policies were mentioned:

"Implement updated antenatal care protocols"

"Establish IPC protocols" [IPC refers to intrapartum care]

"Have clear criteria regarding assisted birth"

"Water birth policies"

Subtheme: Patient management and referral

Several experts prioritised eligibility criteria and referral criteria for care at freestanding midwife-led birth centres. They also mentioned the need for a streamlined referral process and for clients to have maternity case records in case referral was required.

"Establish clear criteria on which patients should be managed in a birth unit and who should be referred"

"Define admission criteria"

"Set clear guidelines and selection criteria for eligibility to birth in birthing centres"

"Establish referral criteria and processes"

"Maternity book"

Subtheme: Emergency preparedness

Various suggestions were made concerning emergency preparedness at birth centres:

"Develop clear protocols for the management of specific emergencies"

"Ensure emergency care protocols for the baby are in place, e.g., HBB" [HBB refers to Helping Babies Breathe]

"Establish effective emergency transport, including ambulance service"

"Have a link to ambulance services"

"Collaborate with backup support (multidisciplinary)"

Subtheme: Infection prevention and control

The need for infection prevention and control guidelines was identified by one participant:

"Adhere to infection prevention and control guidelines"

6.3.1.5. Theme 5: Quality improvement

The experts provided suggestions regarding quality improvement aspects that should be included in the accreditation criteria. They suggested requiring birth record audits, patient chart reviews, maintaining statistics for research, and establishing a patient feedback system. Additionally, they identified the need for a quality improvement system. Specific suggestions under these themes are presented below.

Subtheme: Audit of birth records

Three suggestions were made that referred to audits of files and birth records:

"Audit of birth records (practice manager/head)"

"Internal and external audits"

"Ongoing audit of files to determine protocols are being followed"

Subtheme: Chart review and case discussions with the multidisciplinary care team

Two suggestions identified multidisciplinary discussion, specifically as it pertains to referrals or complications:

"Chart review process, including review of referrals with care team"

"M/M regularly" [M/M refers to morbidity and mortality meeting]

Subtheme: Keeping statistics

One expert noted the need for statistics to be kept and to be made available for research purposes:

"Statistics available for research purposes"

Subtheme: Client feedback system

The need for a client feedback system was suggested:

"Patient feedback system in place: compliments and complaints"

Subtheme: Quality improvement system

Two suggestions highlighted the need for a quality improvement or maintenance system:

"Requirement of continuous quality improvement process in place"

"Requirements for maintenance of quality (records, equipment, team care review/audits – for routine and advise outcomes, medication, stock, etc)"

6.3.2. Themes that emerged during the nominal group technique discussion phase

In the discussion section of the nominal group technique session, benchmarking versus minimal criteria in the context of birth centre care was debated. Furthermore, a conversation that focused on the difficulties and issues of assisted delivery occurred spontaneously. These themes are discussed below.

6.3.2.1. Theme: Minimum standards versus benchmarking

During the discussion phase of the nominal group technique session, one participant presented and prioritised the adherence to minimum standards for respectful care in labour, as it would likely prevent adverse events.

"... highlight the need to implement some minimum standards for safe and respectful care during labour that every designated delivery or birthing site must adhere to ..." (Expert 13)

"... it's likely that many adverse events would be prevented." (Expert 13)

The standards presented by this participant were consistent with the ideas generated on the Jamboard, and there was consensus in the meeting chat box about their validity. A second expert agreed that minimum standards are essential for licencing or regulation but felt that accreditation criteria should be set to a higher than minimum standard.

"... around the minimum requirements ... I think that it's important to have language clear on the difference between licensure regulation, which are typically part of minimum requirements and accreditation, which is about benchmarking." (Expert 3)

"... you would want to include minimum requirements within your accreditation, but the accreditation shouldn't be held to minimum requirements, it should be actually reaching further." (Expert 3)

6.3.2.2. Theme: Challenges and considerations regarding assisted birth

The topic of assisted birth was one of the focus points during the discussion. Expert 13, when discussing the minimum standards for respectful care during labour, stated that midwives at freestanding midwife-led birth centres must be proficient in assisted birth techniques when necessary:

"I believe it is expected that any midwife-run unit should be capable of performing a vacuum extraction in cases where the baby's head is positioned correctly but the mother cannot push the baby out, perhaps due to concerns about foetal condition or the extended duration of the second stage." (Expert 13)

In the chat box discussion, several participants expressed reluctance to perform vacuum extractions due to potential risks to the client and infant, and potential legal consequences for themselves. Expert 3 reiterated the importance of thorough client screening by midwives to ensure that they accept only low-risk clients expected to have uncomplicated births.

"I think for midwifery centres, because we should only be having or a primary population, we're serving our healthy women with physiological births." (Expert 3)

While acknowledging the need for vacuum extraction equipment, participants agreed it should be used sparingly, and transfer to a higher level of care being considered before resorting to this intervention.

"And so it should be extraordinarily rare that we would ever require a vacuum at the end of a birth if our protocols are being followed, because by the time you reach that point, if you had a protracted labour, if you had an exhausted woman, if you had poor fetal monitoring, you would, you would hopefully have been considering transport before that point". (Expert 3)

"... the clear protocol for that vacuum is really important, because obviously that's going to be lifesaving, as you mentioned, and it would really be something you would never want to not have. But you need to have very clear protocols around its use, because it really shouldn't be a common thing in a midwifery centre." (Expert 3)

A second discussion point centred around the topic of collaboration between midwives at birth centres and their referral networks. All the midwives agreed that effective collaboration is essential; however, they argued that it was challenging in practice. As one of the experts put it:

"... collaboration ... yes, we need pathways of transferring for transfer and backup systems. But it's very different in the real world. I've got what I consider to be a very safe birthing centre, we have very good statistics. And it is not easy to transfer a mom into the state system" (Expert 2)

"We get pushed from pillar to post, we're following the protocols, we are doing what we need to do properly and correctly." (Expert 2)

A possible solution suggested to overcome this challenge was for midwives at birth centres and staff at referral hospitals to meet each other in person:

“And that's where I'm thinking collaboration getting together. So they know the midwives, they're comfortable with the midwives, they know that they can trust the midwives when we bring patients in ...” (Expert 2)

Unfortunately, a second expert agreed regarding the barriers faced in collaboration.

“... 150% agree with (Expert 3). Transferring is one of the units' worst nightmares ... as a unit have been trying for four years to get an appointment to see the higher echelon to government hospitals, so they know who we are. And we just can't get there. They just ignore us and won't do anything. it's the hardest thing to do is so I don't know how collaboration would come with it.” (Expert 7)

6.4. DISCUSSION

In the results section, all ideas generated during the online nominal group technique session were presented under five overarching themes in the results section. This served as the foundation for the accrediting criteria, which were developed and then reviewed using the e-Delphi method. The criteria compilation and review will be covered in more detail in Chapter 7.

Experts suggested effective management and staffing protocols, comprehensive policies, safety standards, meticulous record-keeping, and transparent billing systems as important aspects of the theme, Governance and management. They also underscored the importance of evidence of collaboration with obstetricians, reliable hospital backup, and well-established referral systems as factors that should be considered for inclusion. These suggestions align with existing standards, such as the midwife-led birth-centre standards of the College of Midwives of Ontario (2019), Canada. In these standards, there is a section on organisational and administrative requirements. In terms of administration, the standards include the maintenance of a written organisational structure, a human resources management plan, adherence to generally accepted accounting principles, and written agreements for contracted services. Regarding client services, the standards require birth-centre management to ensure that core services align with relevant legislation and standards, with healthcare providers following established protocols, policies, and procedures (College of Midwives of Ontario, 2019).

In the nominal group technique session, experts did not address the necessity of a written care philosophy. The Midwifery Unit Network developed Midwifery Unit Standards for Europe through a systematic evidence search, integrated with a Delphi study and stakeholder input, followed by synthesis of findings, interviews with unit leaders, and peer review by European stakeholders (Rayment et al., 2020). These standards emphasise the significance of a documented philosophy of care that revolves around a commitment to physiological birth practices, individualised care, and a social model of care (Rocca-Ihenacho et al., 2020). In addition, the European standards mandate that midwifery unit managers prioritise the advancement of equality, diversity, and social inclusion, foster healthy interprofessional partnerships, and guarantee explicit regulations regarding client transfers between midwifery units and obstetric care. Stevens & Alonso (2021) developed operational standards for midwifery centres by consolidating existing evidence-based guidelines from various reputable organisations, such as the Midwifery Unit Network and the American Association of Birth Centers, and adapting them for global applicability with consideration for low- and middle-income countries. These standards prescribed and expressed commitment to dignified and respectful care for women and newborns in midwifery centres as part of the overall philosophy of care.

Our study participants emphasised the need for clearly defined staffing protocols that specify the requirement of qualified personnel registered with relevant regulatory bodies, appropriate staff-to-client ratios, and ongoing professional development within the theme of Staffing and qualifications. This is on par with the College of Midwives of Ontario's (2019) standards, which require specified staffing levels sufficient to guarantee safe client care, efficient facility operations, and general maintenance. Furthermore, the College of Midwives of Ontario (2019) emphasised the significance of staff orientation, continuing education, and yearly performance reviews as essential elements of its guidelines for birth centres.

The Midwifery Unit Network's standards for Europe underscore the need for 24/7 availability of midwifery services, continuous labour support, safe care, and the presence of adequate support staff. Emphasising continuity of care, these standards advocate for a team of midwives that offer antenatal, intrapartum, and postnatal services aligned with clients' preferences to optimise outcomes. Moreover, the Midwifery Unit Network standards state that the specific knowledge and skills required of midwives in a midwifery unit must be delineated. The first component entails a specified list of knowledge and skills that are deemed essential. The second aspect centres on the midwifery unit's plans for education and ongoing professional development to ensure that staff remain updated and proficient (Rocca-Ihenacho et al., 2020). Stevens and Alonso (2021) similarly emphasise that staff members at midwifery centres must possess and use midwifery knowledge in their global standards for these facilities. They also specify the need for continuous professional development programmes, which include emergency drills.

Ideas related to the theme, Physical environment and equipment focused on the importance of clean and adequately sized birth rooms, access to emergency support, adherence to infection control measures, and maintaining essential equipment and medications. These ideas were congruent with the College of Midwives of Ontario's (2019) standards that require midwife-led birth centres to ensure sufficient space to provide a safe and comfortable experience for clients and their families, healthcare providers and staff. According to these standards, the design and furnishings must prioritise client privacy, safe care provision, comfort, security, accessibility, and compliance with infectious diseases standards. Elaborating on medications, equipment, and supplies management, the Ontario standards require birth centres to ensure the provision of the necessary equipment, supplies, and medications for the safe delivery of core services. The facility must maintain a medication inventory and storage system, conducting periodic inspections to restock and replace expired drugs. Birth equipment and supplies must be effectively managed and regularly assessed for accuracy and reliability (College of Midwives of Ontario, 2019).

In their theme on the environment and facilities, the Midwifery Unit Network also considers physical environment factors to improve the whole childbirth experience. They underscore the significance of an environment supporting the health and well-being of the client, their family, and employees. They refer to common social spaces, protection and promotion of relaxation, privacy and dignity, support for mobilisation and active birth, textual and visual elements that communicate the unit's philosophy, and a physical layout that communicates bio-psycho-social principles. The criteria also cover the midwifery unit's adherence to safety protocols and provision of essential facilities for timely transfer in an emergency (Rocca-Ihenacho et al. 2020). The global standards for midwifery centres address the physical environment and facilities in their community-administrative focus standards. These standards cover the midwifery centre's integration into the larger healthcare system, defining the population served, complying with regulations, and ensuring adequate facilities, systems and security measures (Stevens & Alonso, 2021).

Regarding Clinical care aspects, the nominal group technique session participants concentrated on woman-centred care, clear clinical protocols, clear eligibility criteria, client management, referral criteria, and emergency preparedness. Both the Ontario College of Midwives (2019) and the Midwifery Unit Network standards (Rocca-Ihenacho et al. 2020) also emphasised the importance of minimum eligibility criteria for being under the care of a birth centre health care provider. According to the Ontario College of Midwives (2019), eligibility criteria must include an uncomplicated pregnancy, the expectation of uncomplicated labour and birth, anticipation of a healthy newborn, absence of obstacles to emergency procedures, ease of transport for the client or newborn, and consultation results that confirm a healthy pregnancy or labour progress. Furthermore, the Ontario College of Midwives (2019) standards require that midwife-led birth

centres define eligibility for admission based on criteria aligned with the relevant Midwifery Act, its regulations, and local midwifery standards.

In the global standards for midwifery centres, the provider-focused standards emphasise the role of midwifery centres in supporting normal births, encouraging breastfeeding, and providing evidence-based care with periodic evaluations. While the holistic approach to women's health is highlighted in these standards, the importance of swiftly resolving complications or emergencies is emphasised (Stevens & Alonso, 2021). This need for emergency preparedness was recognised by the experts in our study sample and grouped under the theme of Clinical care. The Ontario College of Midwives (2019) standards elaborate on emergency preparedness by maintaining that birth centres must collaborate with local hospitals for seamless and safe client transfers when necessary, with the healthcare provider determining the need for transport, the method, and the intended receiving hospital. Furthermore, the Ontario standards require protocols that include agreements with hospitals, emergency service initiation procedures, and documentation for transfer facilitation and recording.

The nominal group technique experts underlined the necessity of quality improvement plans at birth centres, including regular audits of birth records, client feedback systems, and adherence to infection prevention guidelines. The College of Midwives of Ontario (2019) standards also prescribe a quality management programme that evaluates the midwife-led birth centre's care through systematic assessment of clinical outcomes, adverse events, safety reports, provider and staff performance, infection control, client and community feedback, and compliance with regulations. According to these standards, data collection for the programme must adhere to the relevant acts and standards and ensure comprehensive oversight and continuous quality improvement. The Midwifery Unit Network underscores the importance of fostering an organisational culture that instils a sense of ownership among staff and includes service users in continuous improvement efforts (Rocca-Ihenacho et al., 2020). The global standards for midwifery centres echo the importance of quality improvement and staff involvement. Staff input mechanisms, competency systems, leadership programmes, continuous quality improvement, and ethical research practices are referred to as aspects that need to be addressed (Stevens & Alonso, 2021).

Participants debated the balance between criteria that would set minimum standards versus benchmarking and agreed about the need for minimum standards to ensure respectful care while highlighting the importance of accreditation criteria reaching beyond basic standards for superior quality of care at freestanding midwife-led birth centres. The concept of benchmarking is per the American Association of Birth Centers (2014), which stated that "meeting the standards of accreditation indicates ... that a birth center has

met a high standard of evidence-based and widely recognized benchmarks for maternity care, neonatal care, business operations, and safety.”

Challenges brought forward during the discussion included the careful consideration of assisted birth, where not all experts agreed that assisted births should take place at birth centres. The need for thorough client screening, clear protocols, and a judicious approach to interventions, as well as the importance of timely transfers, were suggested as considerations for including this aspect in the criteria. Collaboration with referral hospitals, specifically in the public sector, was also highlighted as a significant challenge. Midwives expressed the intention to meet with management representatives at their referral hospitals, but they felt that they were being ignored. Collaboration between midwife-led birth centres and their referral networks is a key aspect of their effective functioning, as discussed by various authors such as Bazirete et al. (2023), Behruzi et al. (2017), and Boesveld et al. (2017a) (see 4.6.7 in Chapter 4). The discussion on this topic during the nominal group technique session supported the notion that collaboration, although challenging, is a core element of efficient care and thus needs to be incorporated into the accreditation criteria.

In summary, the insights and ideas shared during the nominal group technique session created a comprehensive foundation for developing accreditation criteria for freestanding midwife-led birth centres, emphasising safety, collaborative healthcare practices and continuous quality improvement. The identified overarching themes, namely Governance and Management, Staffing and Qualifications, Physical Environment and Equipment, Clinical Care and Quality Improvement, provided a robust framework for standards of care. The experts who participated underscored the importance of effective management and staffing protocols, comprehensive policies, and safety standards, aligning with the College of Midwives of Ontario (2019), the American Association of Birth Centers (2017), the European Midwifery Unit Standards (Rocca-Ihenacho et al. 2020) and global standards for midwifery centres as adapted by Stevens and Alonso (2021). The emphasis on client-centred care, clear clinical protocols and quality improvement plans resonated with the established standards. Challenges such as addressing assisted births through client screening and collaboration with referral hospitals highlighted the complexity of ensuring optimal care.

6.5. SUMMARY

This chapter provides feedback on Phase 2b of the study. During an online nominal group technique session, a collaborative effort resulted in delineation accreditation criteria that would be appropriate for the South African setting. Chapter 7 explains how these criteria were compiled and assessed by using the e-Delphi consensus approach.

7. COMBINING THE EVIDENCE AND REFINING THE CRITERIA (PHASE 3)

Formulation of the accreditation criteria by combining the evidence from the scoping review, the experience of birth-centre clients and input from experts and gaining consensus

7.1. INTRODUCTION

This chapter provides an overview of the process of formulating accreditation criteria for freestanding midwife-led birth centres in South Africa. Criteria were developed based on a comprehensive synthesis of research evidence and input from birth-centre clients and experts. This chapter also contains the results of the e-Delphi process used to assess and refine the accreditation criteria. The e-Delphi method was employed to obtain consensus from identified experts, combining qualitative comments and quantitative measures.

7.2. RECAP OF THE FORMULATION PROCESS

Data gathered during Phase 1 and Phase 2 of the study informed the development of draft accreditation criteria for freestanding midwife-led birth centres in South Africa through a scoping review and two qualitative steps.

7.2.1. Scoping review findings (Phase 1)

The scoping review presented in Chapter 4 provided a summary of relevant research evidence. Five themes were identified from the research and existing birth-centre standards and were subsequently used as subheadings for the accreditation criteria: governance and management, staffing and qualifications, physical environment and equipment, and quality improvement. During the nominal group technique session discussed in Chapter 6, experts unanimously agreed on the suitability of these themes as subheadings for the criteria.

7.2.2. Qualitative data collection (Phase 2a)

Input from eight participants (seven birth-centre clients and one partner) was collected, and the key themes that emerged from their feedback were presented in Chapter 5. The participants emphasised the importance of a non-clinical, homelike environment and a sense of control in birth-centre care. They valued one-to-one care, a personal relationship with their midwife, a warm and caring experience, and the significance of doula support. They perceived equipment as important but were less focused on it. Factors contributing to a sense of safety included the midwife's availability, professionalism, effective communication, a supportive atmosphere, emergency preparedness, and the inclusion of partners or support persons. All the participants stated that they would recommend birth-centre care, highlighting positive experiences, accommodation of religious and cultural values, and the affordability of such care. These themes, supported by evidence from qualitative research

obtained during the scoping review, were used to ensure that the criteria had a client-centred orientation.

7.2.3. Nominal group technique (Phase 2b)

Participants identified key items for the accreditation criteria during the idea generation stage in a nominal group technique session involving 14 stakeholders (maternity and birth-centre care experts). During subsequent discussions, they highlighted challenges and debated on the issue of assisted births in birth centres, emphasising the necessity for meticulous client screening and clear protocols.

7.2.4. Draft compilation

The initial version of the accreditation criteria was drafted in tabular format by consolidating the findings from Phase 1, Phase 2a, and Phase 2b, as described above. The five categories identified during the scoping review, which received unanimous approval from experts during the nominal group technique session, were used as subheadings. Criteria proposed by the experts were categorised under these headings. Additionally, insights gained from recent birth-centre clients were integrated.

Important to the specific context, 'the law, culture, and societal values,' as well as 'professional standards, national, and local policies,' as emphasised by Ménage (2016), were incorporated into each criterion after the criteria had been drafted. A literature search was conducted to compile a list of pertinent legislation, guidelines, regulations and protocols. The search was guided by the question: 'What guidelines and legislation in South Africa, and existing accreditation criteria and operational standards globally, could inform accreditation criteria for freestanding midwife-led birth centres?' The South African Nursing Council and official government websites were included in the search, thereby guaranteeing a comprehensive analysis of reliable sources. A set of international principles was compiled to supplement local guidelines, especially for criteria for which local guidelines were not available. Relevant standards found during the scoping review were included. South African regulatory acts and documents are presented in Table 7-1. Relevant guidelines from national and international sources are presented in Table 7-2.

Table 7-1 Regulatory Acts and Documents

Regulation/act/guideline	Source
Guidelines for the management of healthcare waste Guidelines for good practice in the healthcare professions	Health professions council of South Africa (2016)
Newborn care charts: Guidelines for care of all newborns in district hospitals, health centres and midwife obstetric units in South Africa; routine care at birth; and management of the sick and small newborn in hospital	National Department of Health, Republic of South Africa (2014)
National Guideline on Conducting Patient Experience of Care Survey in Public Health Establishments	National Department of Health, Republic of South Africa (2017)
Adult primary care (APC) 2019/2020	(National Department of Health, Republic of South Africa, 2019)
Post-exposure prophylaxis, occupational, in Standard Treatment Guidelines (STGs) and Essential Medicines List (EML), primary healthcare level	National Department of Health, Republic of South Africa (2020)
Occupational Health and Safety Act (Act 85 of 1993)	Republic of South Africa (1993)
National Health Act (Act 61 of 2003)	Republic of South Africa (2004)
Nursing Act (Act 33 of 2005)	Republic of South Africa (2006)
Companies Act (Act 71 of 2008)	Republic of South Africa, 2009a)
National environmental management: Waste National environmental management: National Waste Amendment Act (Act 26 of 2014)	Republic of South Africa)2009b) Republic of South Africa (2014)
Protection of Personal Information Act (Act 4 of 2013)	Republic of South Africa (2013)
Intrapartum Care in South Africa: Updated guideline	South African Medical Research Council and University of Pretoria (2019)
Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession	South African Nursing Council (1990)
Regulations Relating to the Keeping, Supply, Administering or Prescribing of Medicines by Registered Nurses	South African Nursing Council (1984)
Regulation setting out the Acts and Omissions in respect of which the Council may take Disciplinary Steps	South African Nursing Council (2014)
Private Practice for Nurses and Midwives	South African Nursing Council (2021)
Regulations Regarding Scope of Practice for Nurses and Midwives	South African Nursing Council (2022)

Table 7-2 Relevant guidelines from international sources

Guideline	Source
National Midwifery Guidelines for Consultation and Referral, 3rd edition, Issue 2 (Australia)	Australian College of Midwives (2015)
Guideline for the use of water in labour and birth (Canada)	British Columbia College of Nurses and Midwives (2021)
Required equipment and supplies for home birth (Canada)	(British Columbia College of Nurses and Midwives, 2021b)
Part B – Health Facility Briefing and Design: 20 Birthing Unit	(International Health Facility Guidelines, 2017)
Indications for Discussion, Consultation, and Transfer of Care in Home or Birth Center Midwifery Practice (USA)	Midwives' Association of Washington State (2021)
Guideline for the use of water during labour and birth (UK)	Mitchell & Khan (2022)
Midwifery Unit Standards (Europe)	Rocca-Ihenacho et al. (2020)
Facility standards and clinical practice parameters for midwife-led birth centres (Canada)	College of Midwives of Ontario (2019)
WHO recommendations on antenatal care for a positive pregnancy experience	World Health Organization (2016)
WHO recommendations on maternal and newborn care for a positive postnatal experience	World Health Organization (2022)

7.2.5. Supervisors' review

My two supervisors, experts in midwife-led birth-centre care and neonatal nursing care, screened and reviewed the first draft. They applied suggested corrections and changes (for example, adding a criterion regarding routine care of the newborn at birth). The third draft was accepted and adapted for use during the e-Delphi phase of the study.

7.3. E-DELPHI VALIDATION OF ACCREDITATION CRITERIA

7.3.1. Overview

The e-Delphi method offers a structured approach suited for situations involving geographical constraints and time limitations.

7.3.2. Participants

All the experts who participated in the nominal group technique session (n=14) agreed during the online session to participate in the e-Delphi and were thus invited. Experts who agreed but could not attend the nominal group technique were also invited (n=6). Due to the anonymisation of e-Delphi questionnaire responses, it was not possible to assess the degree of participation overlap between the nominal group and e-Delphi stages. Still, in total, 13 participated in the first round and nine in the second round of the e-Delphi.

As part of the e-Delphi questionnaire (see Annexure AC: Google Forms draft of accreditation criteria used during round 1 of e-Delphi), participants were asked to indicate their roles and expertise in the context of accreditation for birth centres. They were asked to respond to four background questions: 'What is your main profession?', 'What best describes your current role?', 'How many years of experience do you have in your main profession?' and 'Which of the following applies to you? Choose all that apply (options to choose from: 'I opened my freestanding birth centre or have been on the board of directors'; 'As a midwife, I have practised at a freestanding birth centre'; 'As an academic or researcher I have experience in the development of guidelines or policies'; 'I gave input in policy development related to midwife-led care and/or freestanding birth centres at a government department'; 'As an obstetrician or paediatrician I have worked at a referral hospital for a birth centre'; 'Other'). A summary of participants' professional backgrounds can be seen in Table 7-3 and Figures 7-1 and 7-2 below.

Table 7-3 Characteristics of the experts

Profession	Current role	Years of experience	Description of experience and role (chose options)
1. Midwife	Full-time academic at a college or university	11-20 years	I have opened my freestanding birth centre or have been on the board of directors of one As a midwife, I have practised at a freestanding birth centre As an academic or researcher, I have experience in the development of guidelines or policies
2. Midwife	Working as a private practitioner	> 20 years	I have opened my freestanding birth centre or have been on the board of directors of one
3. Midwife	Specialist consultant	> 20 years	Other: I opened a mom-and-baby centre, but no births were conducted there. I worked as a private midwife, conducting home births, and have been involved in the development of guidelines
4. Midwife	Working as a private practitioner	> 20 years	I have opened my freestanding birth centre or have been on the board of directors of one As a midwife, I have practised at a freestanding birth centre
5. Midwife	Working as a private practitioner	6 – 10 years	As a midwife, I have practised at a freestanding birth centre
6. Midwife	Working as a private practitioner	> 20 years	As a midwife, I have practised at a freestanding birth centre
7. Midwife	Specialist consultant	> 20 years	I have opened my freestanding birth centre or have been on the board of directors of one As a midwife, I have practised at a freestanding birth centre I have input in policy development related to midwife-led care and/or freestanding birth centres at a government department
8. Midwife	Working as a private practitioner	6-10 years	I have opened my freestanding birth centre or have been on the board of directors of one As a midwife, I have practised at a freestanding birth centre

9. Midwife	Working as a private practitioner	> 20 years	As a midwife, I have practised at a freestanding birth centre
10. Obstetrician	Working at a tertiary or academic hospital	11-20 years	As an obstetrician or paediatrician, I have worked at a referral hospital for a birth centre As an academic or researcher, I have experience in the development of guidelines or policies
11. Family physician	Working for municipal, provincial or national government health department	11-20 years	I have input in policy development related to midwife-led care and/or freestanding birth centres at a government department Other: Clinical support to midwives in midwife-led care as a family physician
12. Midwife	Working for municipal, provincial or national government health department	> 20 years	As a midwife, I have practised at a freestanding birth centre Other: Clinical support to midwives in midwife-led care as a district clinical specialist advanced midwife
13. Midwife	Part-time midwife at a birth centre	> 20 years	I have input in policy development related to midwife-led care and/or freestanding birth centres at a government department As an academic or researcher, I have experience in the development of guidelines or policies

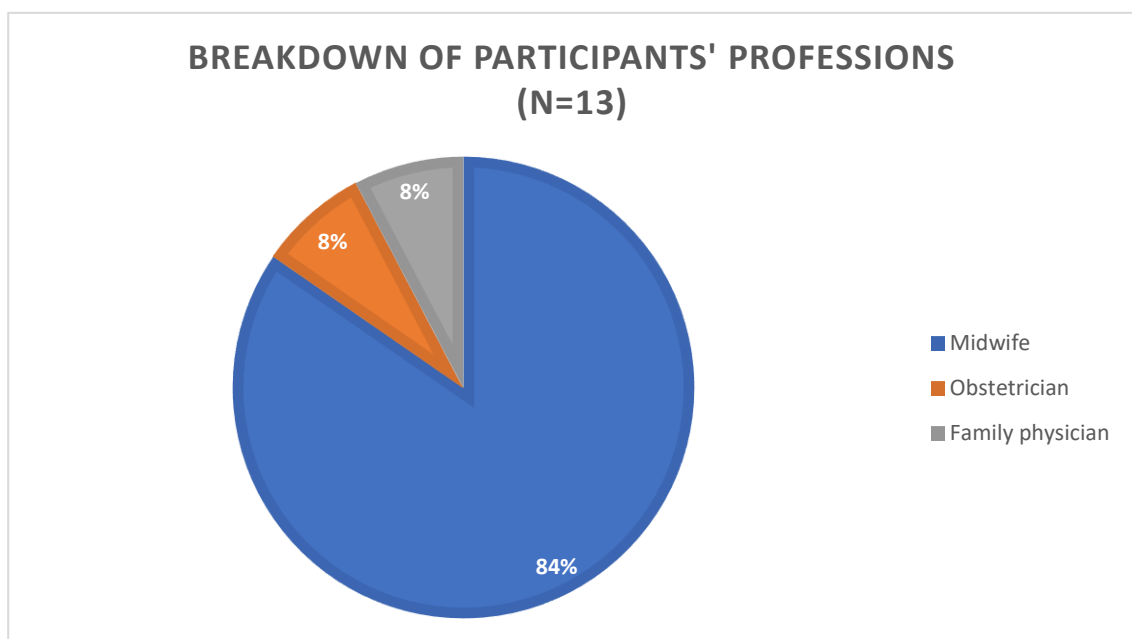


Figure 7-1 Professional representation of e-Delphi participants

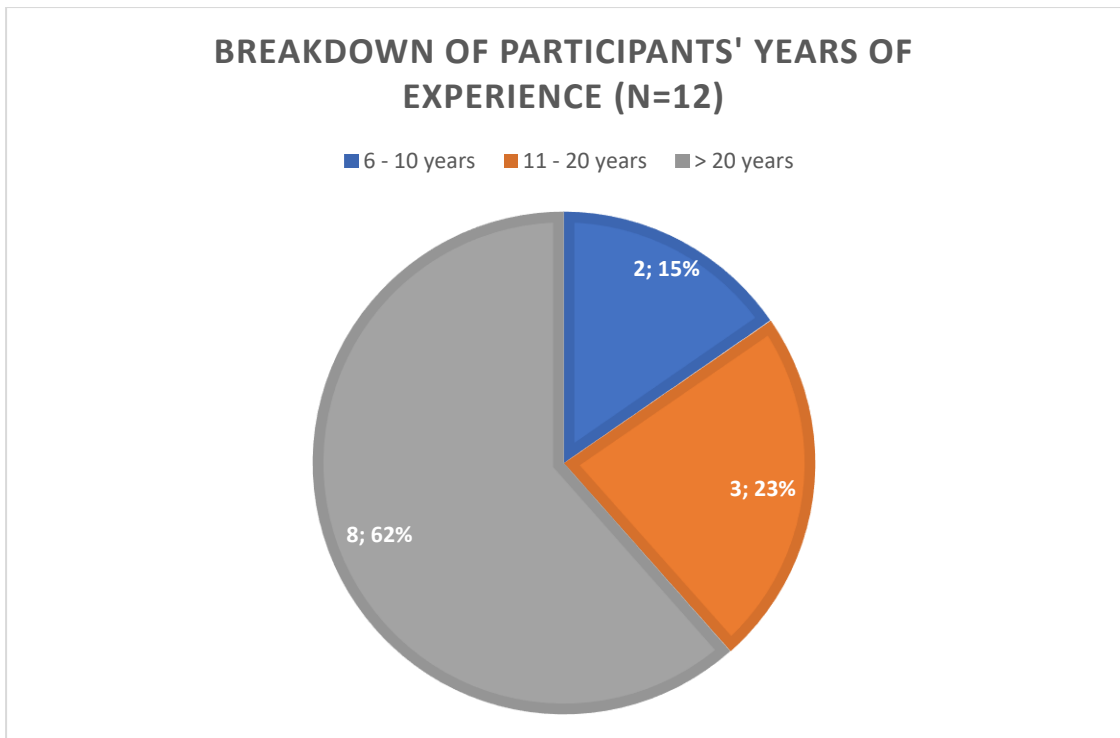


Figure 7-2 Participants' years of experience

In summary, the participants' background information is marked by a wide range of experience and a proportionate representation of different professions.

7.3.3. Rounds of e-Delphi

Three e-Delphi rounds were conducted. In the first two rounds, the drafted accreditation criteria were adapted into a questionnaire in Google Forms format (see Annexure AC: Google Forms draft of accreditation criteria used during round 1 of e-Delphi). The questionnaire design allowed respondents to go through each criterion and select its applicability by using a five-point Likert scale with 0 indicating 'irrelevant' and 5 'must be included'. This was followed by an area designated for open-ended qualitative remarks. Following the establishment of consensus on all criteria during the second round, my supervisors and I agreed that a third round of voting was unnecessary. In the third round, the accreditation criteria, adapted to input received during the first two rounds, were sent for final comments via email. Subsequently, only two participants responded, offering minor suggestions.

7.3.4. Results

Both quantitative data from Likert scale responses and qualitative data from the open-ended section of the survey will be discussed below.

7.3.4.1. Quantitative measures

In this section, I will provide quantitative data, such as consensus levels, ratings and measures used to assess the importance or relevance of criteria. There were 13 respondents in the first round and nine in the second round of the e-Delphi study. A minimum of 70% agreement was considered a reflection of consensus. Overall, both e-Delphi rounds showed agreement among participants regarding all criteria related to governance, staffing, physical environment, clinical care, and quality improvement in birth centres. Table 7-4 shows that all aspects were scored 4 or 5 by more than 70% of participants in both rounds, indicating consensus.

Table 7-4 First and second round e-Delphi scores

Themes	Criteria	E-Delphi score						
			0	1	2	3	4	5
Governance and Management	A well-defined birth-centre administration and management structure that aligns with specific and clearly stated goals must be available. A philosophy of care, a vision, and a mission statement must also be included.	This criterion was added after the first round, thus only voted on in Round 2*						
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
	Workplace policies and procedures must be documented.	Round 1	0	0	0	0	1 (7.7%)	12 (92.3%)
		Round 2	0	0	0	0	1 (11.1%)	8 (88.9%)
	A filing system and record-keeping practices that meet legal requirements must be overseen.	Round 1	0	0	0	0	2 (15.4%)	11 (84.6%)
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
	A sound financial management system must be established.	Round 1	0	0	1 (7.7%)	0	3 (23.1%)	9 (69.2%)
		Round 2	0	0	0	0	1 (11.1%)	8 (88.9%)
	Health and safety protocols must be developed and implemented.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Evidence of a collaborative interprofessional approach with obstetricians, paediatricians, and other relevant healthcare providers must be provided.	Round 1	0	0	0	0	2 (15.4%)	11 (84.6%)
		Round 2	0	0	0	1 (11.1%)	0	8 (88.9%)
	Clear referral criteria to higher levels of care and referral pathways, must be established and documented. Hospital backup arrangements must also be in place.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Evidence of a reliable transfer system must be provided, including ambulance transport and handover documents and practices.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
Staffing and Qualifications	All staff must be registered with their respective regulatory bodies. Evidence of the birth centre's requirements regarding the skills midwives should possess and the supervision of less experienced midwives must also be provided.	Round 1	0	0	0	0	1 (7.7%)	12 (92.3%)
		Round 2	0	0	0	0	0	9 (100%)
	A staff-to-client ratio and care approach must be defined. A minimum of two midwives should be present at every birth.	Round 1	0	0	1 (7.7%)	2 (15.4%)	2 (15.4%)	8 (61.5%)
		Round 2	0	0	0	1 (11.1%)	1 (11.1%)	7 (77.8%)
	Adequate support staff must be available, depending on the size of the birth centre (e.g., cleaning staff, receptionist, accounting staff)	Round 1	1 (7.7%)	0	0	2 (15.4%)	1 (7.7%)	9 (69.2%)
		Round 2	Combined with another criterion for second round #					

	The use of support persons of the woman's own choice (partner, family member or doula) during labour must be allowed and encouraged.	Round 1	0	0	0	0	1 (7.7%)	12 (92.3%)
		Round 2	0	0	0	1 (11.1%)	0	8 (88.9%)
	Evidence of a system for the continuous professional development of staff must be available.	Round 1	0	0	0	0	2 (23.1%)	10 (76.9%)
		Round 2	0	0	0	0	2 (22.2%)	12 responses 7 (77.8%)
	Required protocols for staff training, including safety, emergency drills, maternal and newborn resuscitation updates, evidence-based care, and the midwifery model of care, must be available.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
Physical Environment and Equipment	Evidence-based protocols must be in place to ensure that birth rooms offer a calming, comfortable and safe environment for labouring women and staff (aesthetically calming, adequately sized, fully equipped, and clean).	Round 1	0	0	0	0	5 (38.5%)	8 (61.5%)
		Round 2	0	0	0	1 (11.1%)	2 (22.2%)	6 (66.7%)
	Establish a safe and legal protocol for managing medical and hazardous waste	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Sufficient physical space must be available for clients and staff, including ablution facilities and a kitchen. Proof of backup electricity (or equipment that can function without electricity) and access to clean water is essential.	Round 1	0	0	0	0	2 (15.4%)	11 (84.6%)
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
	To ensure optimal care for mothers and newborns, a list of equipment that meets the highest safety and quality standards. A schedule for regular inspections and servicing of all equipment is essential.	Round 1	0	0	0	0	2 (15.4%)	11 (84.6%)
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
	A list of required equipment for safe practice and emergencies must be available.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Medication and consumables necessary for safe practice and the management of obstetric emergencies must be listed and accessible and must comply with regulations and legislation.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
Clinical Care	Partnerships with women must be promoted.	Round 1	0	0	0	0	2 (23.1%)	10 (76.9%)
		Round 2	0	0	0	0	2 (22.2%)	12 responses 7 (77.8%)
	Clear eligibility criteria for care in the birth centre must be outlined.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	1 (11.1%)	8 (88.9%)

	Updated antenatal care protocols must be in place.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Clear protocols for the monitoring, supporting and managing of a woman in labour must be defined.	Round 1	0	0	0	0	0	12 (100%) (12 responses)
		Round 2	0	0	0	0	0	9 (100%)
	A set of criteria and a protocol for the safe management of water births must be available.	Round 1	0	0	0	1 (7.7%)	1 (7.7%)	11 (84.6%)
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
	A set of criteria and a comprehensive protocol must govern the use of assisted birth methods must be in place. Assisted birth methods can only include a vacuum extraction (e.g., Kiwi Omnicup) in an out-of-hospital setting.	Round 1	0	0	0	0	1 (7.7%)	12 (92.3%)
		Round 2	0	0	0	1 (11.1%)	0	8 (88.9%)
	A clear, evidence-based protocol for the routine management of the newborn at birth must be in place	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	A clear, evidence-based protocol for the care of the woman and newborn during the post-natal period must be in place	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Clear protocols for managing obstetric and paediatric (neonatal) emergencies must be defined.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Infection prevention and control guidelines must be implemented.	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Record-keeping requirements must be specified and monitored (see Quality Improvement section)	Round 1	0	0	0	0	0	13 (100%)
		Round 2	0	0	0	0	0	9 (100%)
	Provide proof that women and their families have access to accurate, comprehensive and transparent information that empowers them to understand their options fully, assess potential risks and benefits and make decisions that align with their unique needs and preferences.	Round 1	0	0	0	0	2 (16.7%)	10 (83.3%) (12 responses)
		Round 2	0	0	0	0	2 (22.2%)	7 (77.8%)
Quality Improvement	Statistics of antenatal care and birth outcomes must be available for quality improvement and research purposes. Stats can be reported by the practice itself or submitted to an independent midwife network once the process becomes available.	Round 1	0	0	1 (7.7%)	0	2 (23.1%)	9 (69.2%) 12 responses
		Round 2	0	0	0	0	5 (55.6%)	4 (44.4%)

	To determine protocol adherence, a protocol and schedule for ongoing audits of files and birth records (internal and external) must be in place.	Round 1	0	0	0	2 (15.4%)	5 (38.5%)	6 (46.2%)
		Round 2	0	0	0	0	6 (66.7%)	3 (33.3%)
	A client feedback system must be in place.	Round 1	0	0	0	2 (15.4%)	2 (15.4%)	9 (69.2%)
		Round 2	0	0	0	0	1 (11.1%)	8 (88.9%)
	The birth centre must have established quality requirements for every facet of care, including records, equipment, team care review/audits, medication and stock. Additionally, a well-defined protocol should be available for monitoring compliance and reviewing quality requirements.	Round 1	0	0	0	0	3 (23.1%)	10 (76.9%)
		Round 2	0	0	0	0	1 (11.1%)	8(88.9%)

**This criterion was added after the second round based on a qualitative comment in which an expert referred to the importance of following the midwifery model of care.
 #This criterion was adjusted and combined with another criterion based on a qualitative comment in which an expert stated that this could be seen as 'micro-management'.*

7.3.4.2. Qualitative comments

Feedback obtained in the comments is presented in Table 7.5 below. Comments were categorised and added to the table next to the corresponding criterion to which they pertained. All comments were analysed and evaluated to inform refinements of the criteria for the subsequent round of the e-Delphi phase.

Table 7-5 Summary of qualitative comments group under relevance to criteria

Themes	Criteria	Relevant sub criteria	Comments (quotes) Round 1	Comments (quotes) Round 2
Governance and Management	Workplace policies and procedures must be documented.	Provide proof that staff members have read and acknowledge all policies and procedures.	<i>'These policies and procedures must also be readily available to staff (not just provide proof they read them).'</i> (Expert 7)	
	A filing system and record-keeping practices that meet legal requirements must be overseen.	This must include a protocol for handling clients' requests to obtain a copy of their records.	<i>'Records need to be available to clients – perhaps they can have a copy or can see their records anytime they request.'</i> (Expert 7)	
	A sound financial management system must be established.	Adhere to guidelines set by the Board of Healthcare Funders (BHF) and other relevant bodies when setting fees for medical services.	<i>'The setting of fees/guidelines adhering to BHF etc: this will be a problem for the midwives who feel they should be allowed to determine their own fees as long as the client is happy to pay that fee. It's a tough one and touches on SANC's new regulation they are trying to set for us too but it's smells of price fixing and not really fair as a professional. Dr's/ physios/ OT's [occupational therapists] / sonographers etc can charge what they like as long as it is transparent.'</i> (Expert 2)	
		Practice Management Software: If using software for financial management, ensure it complies with relevant industry standards and data protection regulations	<i>'A sound financial system is less about the software and more about fiscal viability. Can decisions be made when the director is not available (ie what if oxytocin runs out and the director is on vacation), is there occ [unknown term] audits, and most importantly, are the fees given to all patients prior to registration for care.'</i> (Expert 7)	
	Health and safety protocols must be developed and implemented.	Provide health and safety protocols and proof that staff are aware of and	<i>'I would add a policy on disaster preparedness and plan for power outages.'</i> (Expert 7)	

		<p>are implementing these protocols:</p> <p>Evacuation plan; Security measures; Management of occupational exposure to bloodborne pathogens; Personal protective equipment (PPE).</p>		
	<p>Evidence of a collaborative interprofessional approach with obstetricians, paediatricians and other relevant healthcare providers must be provided.</p>	<p>Document evidence of collaboration and identify obstetricians, paediatricians and other healthcare providers in the interprofessional team (preferably a written agreement)</p>	<p><i>'Collaboration needs more than a written agreement and a note on the chart. Peds [paediatricians] and OBs [obstetricians] should be invited to chart reviews – when the center reviews charts of women who were referred etc.'</i> (Expert 7)</p>	<p><i>'With home birth units been a low-risk option, and usually an intimate experience and a small staff compliment policies and procedures vary and are quite different to that of a hospital or active birth unit. It is also difficult to have M&M [morbidity and mortality] meetings with the extended staff ie the back up Dr's due to time constraints on their side and very minimal intervention that may require back up at a home birth unit.'</i> (Expert 6)</p>
	<p>Clear referral criteria to higher levels of care and referral pathways must be established and documented. Hospital backup arrangements must be in place.</p>	<p>Provide a document that clearly defines referral criteria and pathways to higher levels of care, as well as hospital backup arrangements</p>	<p><i>'Clear referral criteria and evidence of reliable transport could go together in one question perhaps?'</i> (Expert 2)</p>	
	<p>Evidence must be provided of a reliable transfer system, including ambulance transport and handover documents and practices.</p>	<p>Provide a protocol in which the transfer system is described and ambulance transport and handover practices are outlined.</p>	<p><i>'Yes, and any costs involved with who is responsible for those costs.'</i> (Expert 7)</p>	
Staffing and Qualifications	<p>All staff must be registered with their respective regulatory bodies. Evidence of the birth centre's requirements regarding the skills midwives should possess, and the supervision of less experienced midwives must also be provided.</p>	<p>Clear documentation of the birth centre's prerequisites for midwives' skill sets and the guidance provided to junior midwives needing supervision.</p>	<p><i>'Clear documentation of the birth centres prerequisites for midwives' skills sets..... not quite sure what is meant here or what 'ou'd be looking for so maybe a bit clearly stated?'</i> (Expert 2)</p>	<p><i>'What about malpractice insurance?'</i> (Expert 2)</p>

	Staff-to-client ratio and care approach must be defined.	Midwife-to-client ratio and approach must be outlined (e.g., team approach or caseload approach).		<i>'the ratio of births per midwife a month can easily be identified in stats. Why are you requiring it? If you are recommended a specific ratio, that is more complicated. How many primigravids/mo, how much SRH [unknown term] is the center doing? Are the midwives new? I would not required this to be documented (as it is in the stats already)'. (Expert 7)</i>
	Staff-to-client ratio and care approach must be defined.	Staff-to-client ratio and care approach must be defined, with a minimum of two midwives present at every birth.	<i>'Do you want 2 midwives or 2 people who are trained on emergencies (newborn resuscitation and PPH [post-partum haemorrhage] especially). Requiring 2 midwives could be cost prohibitive (unless you want to charge a lot, then you cannot provide care to the women who need it the most). Consider 2 people at every birth – 1 midwife and 1 nurse or midwife assistant with both of them trained on newborn resuscitation.'</i> (Expert 7)	
	Adequate support staff must be available depending on the size of the birth centre (e.g., cleaning staff, receptionist, accounting staff)	Provide a document that outlines the necessary supporting staff levels and responsibilities. The number of staff members in relation to the centre's size must be motivated.	<i>'I think this is micromanaging. Require proof of the work (ie documentation of terminal cleaning of birth rooms when used, registration books, etc) not the number of staff.'</i> (Expert 7)	
	The use of support persons of the woman's own choice (partner, family member or doula) during labour must be encouraged and discussed.	Provide evidence that using a support person chosen by the woman (e.g., partner, family member, or doula) during labour is encouraged.	<i>'The use of support persons.... I would word it differently "The woman is encouraged to choose her own support person" or 'support persons during birth has be encouraged and discussed" perhaps?'</i> (Expert 2) <i>'Policy and evidence of informing women is adequate evidence'. (Expert 7)</i>	
	Evidence of a system for the continuous professional development of staff must be available.	Provide evidence of workshops, conferences, webinars, etc., attended during the past year and schedule for planned	<i>'If you are going to required CPD [continuous professional development], then you need to reimburse something for it (ie all professional staff are given X amount a year toward CPD with the expectation they</i>	<i>'Would this include staff meetings to ensure good communication given midwives in a practice may not necessarily see one another very often?'</i> (Expert 2)

		attendance during the following year.	<i>present to all staff on their experience etc).</i> ' (Expert 7)	
Physical Environment and Equipment	Evidence-based protocols must be in place to ensure that birth rooms offer a calming, comfortable and safe environment for labouring women and staff (aesthetically calming, adequately sized, fully equipped, and clean).	Provide evidence-based guidelines for maintaining properly functioning beds, chairs and other essential equipment to support efficient and seamless care during birthing.	<i>'Calm, comfortable, safe environment – I would add privacy to this too/ private birthing space – bear in mind some midwife facilities may be in very low income areas where they may not necessarily have one woman per room.'</i> (Expert 2) <i>'I would add adequate supplies (ie medications, ambu etc).'</i> (Expert 7)	
	Sufficient physical space, including ablation facilities and a kitchen, must be available for clients and staff. Proof of backup electricity (or equipment that can function without electricity) and access to clean water is essential.	Provide proof of access to backup electricity or equipment that can function without electricity, as well as clean water to wash hands and flush toilets (in times of water restrictions or outages, the woman should be aware that a water birth may not be an option).	<i>'Physical space – you could also add 'clean running water' to this for hand washing etc.'</i> (Expert 2)	
	A list of equipment that meets the highest safety and quality standards must be available to ensure optimal care for mothers and newborns. A schedule for regular inspections and servicing of all equipment is essential.	Provide a list of equipment that meets safety and quality standards, with a schedule for regular inspections and servicing. <i>Round 2:</i> Monitoring Equipment: A foetal heart rate monitor, blood pressure monitor, stethoscope, and thermometer to monitor the health and vital signs of the individual in labour and the baby (a pulse oximeter is advised).	<i>'A list of required equipment – never thought of this but it is a good point – it should be a standard requirement for all birth centres not individuals listing what they have if that makes sense (although this is exactly what you're trying to achieve). Not sure if this makes sense?'</i> (Expert 2) <i>'Emergency equipment and medications. Generally a CQI book (continuous quality improvement) should be maintained documenting monthly checks of equipment, medication supplies and expiration dates.'</i> (Expert 7)	<i>'Why are you requiring a fetal monitor? There is no evidence for the use of one with normal labor. Requiring one to be present in an accreditation process will result in them being used more (if they are there, they will be used). If a collaborating or referral hospital requires an NST [non-stress test] on admission, they can have an NST machine and do it. but that would be in their individual protocols (which you do mandate to be present'.</i> (Expert 7)
	Medication and consumables necessary for safe practice and the management of obstetric	List accessible medication and consumables.		<i>'No mention of magnesium sulfate. Why is Oxytocin considered a standard drug rather than an emergency drug. You do not want people doing inductions or</i>

	emergencies must be listed and accessible and must comply with regulations and legislation.	- Standard medication: Oxytocin; local anaesthetic and supplies for administration.		<i>augmentation at a midwifery center.</i> (Expert 7) <i>'Storage of medication: fridge / safe storage in lock up cupboard.'</i> (Expert 2)
Clinical Care	Clear eligibility criteria for care in the birth centre must be outlined.	Provide clear eligibility criteria for birth-centre admission that align with the midwives' scope of practice, SANC [South African Nursing Council] regulations, laws, and relevant national and international guidelines.	<i>'I would recommend that birth centres adhere only to national guidelines, as including international guidelines can become open to interpretation.'</i> (Expert 5) <i>'I would also suggest ongoing risk assessment (every prenatal visit should have a risk assessment to show they are still meeting eligibility criteria).'</i> (Expert 7)	
	Clear protocols must be defined for monitoring, supporting, and managing a woman in labour.	Provide a protocol for monitoring, supporting, and managing women in labour. Attach national or international guidelines that are followed.	<i>'I would recommend that birth centres adhere only to national guidelines, as including international guidelines can become open to interpretation.'</i> (Expert 5) <i>I do think it is important that midwifery centers meet legal criteria and guidelines. But the midwifery model of care is unique. Therefore the standards should not just be meeting legal criteria, but something that reflects MMOC [midwifery model of care].'</i> (Expert 7)	
	Clear protocols for the specific management of obstetric and paediatric (neonatal) emergencies must be defined	Provide clear protocols for managing obstetric and neonatal emergencies, including but not limited to Foetal distress, maternal distress, respiratory distress, persistent tachycardia or hypotension, cord prolapse, shoulder dystocia, neonatal resuscitation & neonatal respiratory distress, third- or fourth-degree perineal tear, retained placenta, postpartum haemorrhage.	<i>'Obstetric emergencies: ? also include retained placenta or will this just fall under PPH [postpartum haemorrhage]?'</i> (Expert 2) <i>'What is maternal distress? Do you mean pain?'</i> (Expert 7)	<i>'Pre-eclampsia/eclampsia?'</i> (Expert 7)

	<p>Proof that women and their families have access to accurate, comprehensive and transparent information that empowers them to understand their options fully, assess potential risks and benefits and make decisions that align with their unique needs and preferences.</p>	<p>Provide a policy that outlines the types of information that will be provided to clients, the formats in which it will be presented, and the channels through which it will be communicated (e.g., information given during antenatal consultations or educational materials, workshops, or seminars).</p>	<p><i>'I think you may want to consider requiring childbirth education as well. It is difficult to just give people information and say they are informed.'</i> (Expert 7)</p>	
Quality Improvement	<p>Statistics of antenatal care and birth outcomes must be available for quality improvement and research purposes. Statistics can be reported by the practice itself or submitted to an independent midwife network once the process becomes available.</p>	<p>Provide a statistics protocol that includes:</p> <ul style="list-style-type: none"> - Proof that clients give permission for their data to be used for statistics purposes per POPIA [Protection of Personal Information Act] (e.g., a consent form) 	<p><i>'I think research is important, but this seems more like a research protocol then what is important for a practice. The center should collect data for quality improvement, and participate in research when able. They can determine the rest I think?'</i> (Expert 7)</p>	<p><i>'I don't think it is necessary to say stats may be submitted. Accreditation does not need to grant permission for this. You do require clients consent for research, that is what is important'.</i> (Expert 7)</p>
	<p>To determine protocol adherence, a protocol and schedule for ongoing audits of files and birth records (internal and external) must be in place.</p>	<p>Provide a protocol with regards to auditing of files specifying:</p> <ul style="list-style-type: none"> - Frequency and scope: how often internal audits will be conducted and the scope of the audit, ensuring comprehensive review of patient files and birth records. 	<p><i>'What do you mean by external audit? I think licensure and accreditation are enough. This implies there will be an external board evaluating the quality of charting. That should occur during licensure and accreditation, yes? Internal audits are very important. They should occur regularly (ie monthly) on charts, and intermittently for specific issues (ie transfers, resuscitation, quality improvement etc).'</i> (Expert 7)</p>	
	<p>A client feedback system must be in place.</p>	<p>Provide a patient feedback protocol that describes:</p> <ul style="list-style-type: none"> - The mechanisms for collecting patient feedback, such as a survey, focus groups, or complaint registers. 	<p><i>'Client feedback – we discussed this at length yesterday in the team and ultimately those that want to complain often aren't brave enough to do so and will just go elsewhere or ultimately go onto social media. It is really hard to get people to respond to feedback surveys/forms/comment boxes. Good thought but an ongoing challenge.'</i> (Expert 2)</p>	

		<ul style="list-style-type: none"> - The frequency of obtaining client feedback (e.g., after each antenatal visit, birth, or final post-natal visit). - How client will be analysed and used to identify areas for improvement. 		
General comments			<i>'The suggested criteria are all highly important and relevant and should be included. The criteria are well described and clear.'</i> (Expert 11)	<i>'All these requirements are essential.'</i> (Expert 5) <i>'It would be very exciting to be a part of such a birthing unit.'</i> (Expert 9)

Qualitative feedback was received from the participants during the initial phase of the e-Delphi in the comments section. The experts generally agreed with the overall criteria but shared valuable insights on improving the descriptions and sub criteria. One expert stressed the importance of making all policies and procedures readily accessible to staff instead of only expecting them to read and sign these policies. Another raised concerns about expecting a fee structure strictly adhering to the Board of Healthcare Funders rates. The Board of Healthcare Funders in South Africa is an industry association representing the interests of healthcare funders in the country. Serving as a collective voice for medical schemes and administrators, they aim to enable them to provide sustainable, affordable, accessible, high-quality healthcare (Board of Healthcare Funders, 2019).

A second commenter on the financial management criterion noted that it should be less about the specific financial management system and more about a practical plan for managing funds (for example, in the manager's absence). Both agreed that there should be transparency in financial matters and full disclosure of all fees to clients, including fees involved in possible emergency transfers. Adding disaster preparedness policies and backup electricity to the health and safety criterion was suggested.

There was debate about the requirement for two midwives at every birth, with concerns about the cost and practical implications. As evidenced by a relatively lower quantitative rating, other experts were also concerned about this criterion. The suggestion was made that the criterion should rather require the presence of two individuals trained in the management of obstetric emergencies (such as a midwife and a nurse). Furthermore, suggestions were made for adding the requirement of clean running water in the birthing environment, a specific list of emergency equipment, and ongoing risk assessment of clients at every consultation. Initially, several criteria referred to adherence to national guidelines *and* international

guidelines. An expert noted that this might cause confusion; however, for some aspects of birth-centre care, no national guidelines exist (e.g., water birth). The term *international* was removed for guidelines for which national guidelines existed.

The requirement for client feedback mechanisms was acknowledged as essential, although participants expressed concerns about requiring official feedback methods. They expressed challenges in maintaining formal feedback systems due to the reluctance of clients to respond. One participant also touched on the role of research in midwifery centres and the necessity for internal audits for quality assurance, raising questions about the meaning and requirements of external audits. Finally, an expert underscored the uniqueness of the midwifery model of care, suggesting that the accreditation criteria, and therefore midwife-led birth centres, should reflect this approach.

7.4. FINALISING THE ACCREDITATION CRITERIA

Following establishing consensus through two e-Delphi rounds, we focused on final adjustment and refinement of criteria based on qualitative comments. In a collaborative online meeting with my supervisors, we thoroughly discussed all comments received in the second round and deliberated on effectively incorporating them into the criteria. Subsequently, I implemented the necessary adjustments, submitted the revised draft to my supervisors for their review, and then shared the final version with all participants for additional comments. Importantly, this final round did not involve voting but served as an opportunity for participants to provide any last insights. Only two experts responded to the invitation for final comments. Expert 1 suggested that an ‘evacuation chair’ could be used as an alternative to a stretcher for ambulance access in the criteria on emergency preparedness. Expert 2 noted that, regarding the governance and management criteria, she agreed with the requirement of ‘evidence of collaborative meetings or chart reviews between midwives, obstetricians or paediatricians following referrals’, noting:

“It is challenging but I feel it is really important as midwives in private practice are isolated and stand the risk of not having to account to anyone about their actions or not keeping up to date as they go unseen often. Ideally this should be an absolute requirement.” (Expert 2)

The e-Delphi phase proved consensus regarding the accreditation criteria in the sense that all aspects already received a score of 4 or 5 out of 5 from more than 70% of participants. Valuable comments contributed to an improved second draft that was sent out again for evaluation and input. There were no contentious issues with the initial two drafts; however, the staffing criteria that obtained the lowest score during the first round (requirement of having enough support staff such as cleaning staff, a receptionist, and an accountant) was

referred to as ‘micro-management’ in the comments section. This criterion was removed in the second draft and combined as a short subheading to another criterion, specifying that a birth centre must at least have enough staff to ensure that all essential tasks (such as cleaning of birth rooms) are completed.

7.5. DISCUSSION

The inclusion of national legislation and regulations and international guidelines aimed to ensure that the identified criteria we would develop would not only be grounded in theoretical considerations, but also aligned with established legal and professional frameworks. This section of the scoping review was ongoing, particularly following the nominal group technique session based on ideas generated by stakeholders.

The review of South African national legislation revealed regulatory acts and documents pertinent to various healthcare and maternity care landscape aspects. The Occupational Health and Safety Act (Act 85 of 1993 (Republic of South Africa, 1993), for instance, offered insights into regulations concerning occupational health and safety, while the National Health Act (Act 61 of 2003) (Republic of South Africa, 2004) and the Nursing Act (Act 33 of 2005) (Republic of South Africa, 2006) provided essential information on broader healthcare regulations and those specifically related to the nursing and midwifery professions. The Companies Act (Act 71 of 2008) (Republic of South Africa, 2009a) and the National Environmental Management Acts (Act 62 of 2008 and Act 25 of 2014) (Republic of South Africa 2009b, 2014) brought forth regulations related to corporate governance and facility management, including removing medical waste.

Of note were regulations directly impacting midwifery-led care, such as the Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990) and Regulations Relating to the Keeping, Supply, Administering, or Prescribing of Medicines by Registered Nurses (South African Nursing Council, 1984). These not only addressed the scope of practice (South African Nursing Council, 2022) but also outlined specific guidelines for midwifery practice and the administration of medicines by nurses and midwives. Additionally, regulatory measures like the Protection of Personal Information Act (Act 4 of 2013) (Republic of South Africa, 2013) and regulations regarding disciplinary actions (South African Nursing Council, 2014) underscored the importance of the protection of clients’ privacy and professional accountability in the healthcare context.

Complementing the national legal landscape, including international guidelines from reputable sources further strengthened the criteria development. Guidelines from the British Columbia College of Nurses and Midwives (2021), International Health Facility Guidelines (2017), Midwifery Unit Network (Rocca-Ihenacho

et al., 2020) and the World Health Organization (2016, 2022) covered a wide range of topics, from water use during labour and birth to facility design and antenatal, intrapartum, and postnatal care.

The integration of these diverse sources aimed to ensure that the criteria that would be supplemented by the scoping review were not only evidence-based but also aligned with legal, regulatory and professional standards at both the national and international levels. This approach contributed to the comprehensiveness and applicability of the criteria in guiding birth-centre practices, encompassing legal requirements and evidence-informed guidelines.

The final accreditation criteria are presented in Chapter 8 (see Table 8-1).

7.6. SUMMARY

This chapter presents and discusses the key findings from the e-Delphi validation process. Refining the accreditation criteria based on expert input and achieving consensus were the essential final steps in developing these criteria to ensure they are comprehensive and reflect stakeholder perspectives and expertise. Chapter 8 summarises the findings, strengths, limitations, recommendations, and conclusions.

8. CONCLUSIONS

Summary of the findings, strengths and limitations, recommendations and conclusions

8.1. INTRODUCTION

In this final chapter, I will reflect on and make conclusions about this multimethod research endeavour through which we developed accreditation criteria for freestanding midwife-led birth in South Africa. The Ménage (2016) model guided us through three phases of evidence-based decision-making in midwife-led care. We summarised existing research ('evidence from research'), engaged stakeholders ('evidence from midwife' and the multidisciplinary team) and birth-centre clients ('evidence from woman and partner'). We also considered the 'law, culture, values of society' and 'professional standards, national and local policy' to formulate contextually suitable accreditation criteria. In this chapter, I will discuss the implications of the study outcomes, acknowledge the study's strengths and limitations, and provide recommendations for future research.

8.2. SUMMARY OF FINDINGS

Throughout the study, we successfully addressed the research questions in each phase:

8.2.1. Phase 1

In Phase 1: Our examination of global evidence and the relevant regulatory framework through a scoping review led to a thorough understanding of freestanding midwife-led birth centres. This laid the groundwork for the subsequent phases by establishing a knowledge base of research, guidelines and legislation that inform care at freestanding midwife-led birth centres globally and in the South African context.

8.2.2. Phase 2

In Phase 2, we engaged former birth-centre clients using multiple data collection methods (focus groups, individual interviews, and writer narratives). We also involved various experts through a nominal group technique session. Insights gathered from these interactions contributed significantly to the formulation of accreditation criteria. The perceptions of birth-centre clients ensured that the accreditation criteria would be client-centred and reflect the needs of recipients of birth-centre care. Input from stakeholders ensured that the criteria would be comprehensive, experience-based, and relevant to South Africa.

8.2.3. Phase 3

In Phase 3, comprehensive and relevant accreditation criteria were formulated for South African freestanding midwife-led birth centres. These criteria were drafted by combining the synthesis of global evidence, input from stakeholders, and reported experiences of recent birth-centre clients. Stakeholders were given the opportunity to review and rate the criteria using the e-Delphi technique. After two rounds, consensus was established. Qualitative comments were applied to refine the criteria. The figure below illustrates, in summary, the process followed to formulate and evaluate the accreditation criteria.

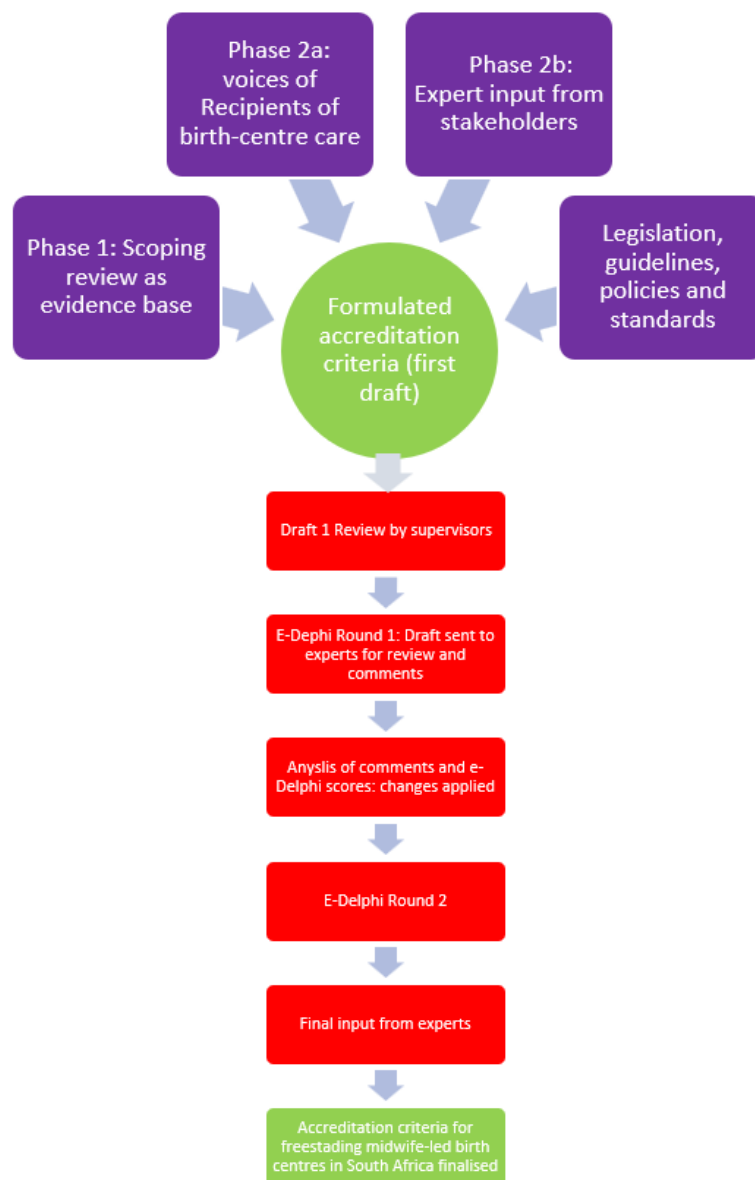


Figure 8-1 Formulation and evaluation of accreditation criteria

8.2.4. Final accreditation criteria for freestanding midwife-led birth centres in South Africa

After two e-Delphi rounds, the accreditation criteria were refined and sent to stakeholders for final comments. We also responded to e-Delphi comments in the final draft sent to stakeholders. Only two participants made final comments. Criteria that were accepted in the e-Delphi phase were edited but not adjusted. Adding more information in hindsight would compromise the legitimacy of the agreed upon criteria. The final accreditation criteria are presented in Table 8.1 below.

Table 8-1 Final accreditation criteria for freestanding midwife-led birth centres in South Africa

Themes	Criteria	Relevant legislation/ guidelines/ additional sources	Instructions for required documentation
1. Governance and Management	<i>Evidence of a governance and management structure with a clear vision and mission, and evidence of compliance with legislation, including regulatory bodies, following South African laws and regulations.</i>		
	1.1. A well-defined birth-centre administration and management structure that aligns with specific and clearly stated goals must be available. A care philosophy and vision and mission statement must be included.	Regulation Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022) Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide a document that outlines: <ul style="list-style-type: none"> - The practice administration and management structure, including roles and responsibilities. - A clear vision and mission statement. - A care philosophy statement that articulates the practice's core values and convictions regarding the care of clients.
	1.2. Workplace policies and procedures must be documented.	National Health Act (Act 61 of 2003) (Republic of South Africa, 2004) Nursing Act (Act 33 of 2005) (Republic of South Africa, 2006) Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014) Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022) Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South	Provide a file that contains: <ul style="list-style-type: none"> - Workplace policies and procedures related to clinical care, safety, and ethics. - Relevant acts and regulations. Provide proof that staff members have read and acknowledged all policies and procedures. These policies and procedures must be readily available to staff.

		<p>African Nursing Council, 1990)</p> <p>Regulations Relating to the Keeping, Supply, Administering or Prescribing of Medicines by Registered Nurses (South African Nursing Council, 1984)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016)</p> <p><i>- More recent version under review in March 2024</i></p>	
	<p>1.3. A filing system and record-keeping practices that meet legal requirements must be overseen.</p>	<p>National Health Act (Act 61 of 2003) (Republic of South Africa, 2004)</p> <p>Protection of Personal Information Act (Act 4 of 2013) (Republic of South Africa, 2013)</p>	<p>Provide a document that describes the filing system and record-keeping practices and how these are overseen (in accordance with legal requirements). This must include a protocol for handling clients' requests to obtain a copy of their records.</p>
	<p>1.4. A sound financial management system must be established.</p>	<p>Companies Act (Act 71 of 2008) (Republic of South Africa, 2009a)</p> <p>Protection of Personal Information Act (Act 4 of 2013) (Republic of South Africa, 2013)</p>	<p>Describe the financial management system for the birth centre. The following may be relevant:</p> <ul style="list-style-type: none"> - A clear plan for financial management, designating responsible parties for decision-making and expense management, particularly during the manager's absence, ensuring seamless operations and stock replenishment. - The practice must determine a fee structure, ensuring fiscal viability and transparency. - There must be evidence of open communication with clients about fees before registration, providing a detailed

			<p>breakdown of costs, inclusions and exclusions.</p> <p>Provide proof that financial management is compliant with the Protection of Personal Information Act (Act 4 of 2013) (Republic of South Africa, 2013) which regulates the collection, use and protection of personal information, including client data.</p>
	<p>1.5. Health and safety protocols must be developed and implemented.</p>	<p>Occupational Health and Safety Act (Act 85 of 1993) (Republic of South Africa, 1993)</p> <p>Post-exposure prophylaxis, occupational. In Standard treatment guidelines and essential medicines list for South Africa, primary healthcare level (National Department of Health, Republic of South Africa, 2020)</p> <p>Part B – Health Facility Briefing & Design: 20 Birthing Unit (International Health Facility Guidelines, 2017)</p>	<p>Provide health and safety protocols and proof that staff members are aware of and are implementing these protocols:</p> <ul style="list-style-type: none"> - Evacuation plan: detail safe exit procedures and assembly points for emergencies. - Disaster preparedness. - Plan for load shedding/power outages. - Security measures: outline available security measures and response plans for security incidents. - Bloodborne pathogens: manage occupational exposure with disposal guidelines and post-exposure protocols. - Personal protective equipment (PPE): Specify PPE usage, care and disposal when necessary. - Injury prevention: guideline on proper body mechanics and ergonomics for safer work practices.
	<p>1.6. Evidence must be provided of a collaborative interprofessional approach with obstetricians, paediatricians, neonatologists and other relevant healthcare providers.</p>	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014)</p>	<p>Document evidence of collaboration and identify obstetricians, paediatricians and other healthcare providers in the interprofessional team (preferably a written agreement).</p> <p>Provide evidence of collaborative morbidity and mortality (M&M) meetings or chart reviews between midwives, obstetricians or paediatricians following referrals. (The criteria are not specific on all aspects to accommodate variations, allowing units to justify their practices. Regarding morbidity and mortality meetings or chart reviews, despite the rarity of complications and the difficulty in</p>

		<p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016)</p>	<p>organising regular meetings, effective communication and feedback/discussion after referrals, especially in cases of poor outcomes, indicates collaboration.)</p>
	<p>1.7. Clear referral criteria to higher levels of care and referral pathways, must be established and documented, and hospital backup arrangements must be in place.</p>	<p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p>	<p>Provide a document that clearly defines referral criteria, pathways to higher levels of care, as well as hospital backup arrangements.</p>
	<p>1.8. Evidence of a reliable transfer system, including ambulance transport and handover documents and practices, must be provided.</p>	<p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p>	<p>Provide a protocol in which the transfer system is described, and ambulance transport and handover practices are outlined. Include information regarding costs and who is responsible for these costs.</p>

<p>2. Staffing and Qualifications</p>	<p><i>Staff protocols, including clear staffing requirements and evaluation procedures, must be established.</i></p>		
	<p>2.1. All staff members must be registered with their respective regulatory bodies. There must be evidence of the birth centre's requirements regarding the skills midwives should possess and the supervision of less experienced midwives.</p>	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Nursing Act (Act 33 of 2005) (Republic of South Africa, 2006)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Private Practice for Nurses and Midwives (South African Nursing Council, 2021)</p>	<p>Provide:</p> <ul style="list-style-type: none"> - Evidence that all staff members are registered with their respective regulatory bodies (e.g., SANC for midwives) and provide proof thereof. - Proof that midwives have malpractice, or liability insurance or motivation, if not. - When applicable, proof of advanced practice qualifications, as per the South African Nursing Council (SANC) requirement, must be provided (this requirement is currently under discussion). - Clear documentation of the birth centre's prerequisites for midwives' skill sets (e.g., years of experience, specific prior experience, if additional training is required) and the guidance provided to junior midwives in need of supervision.
	<p>2.2. Adequate staffing for midwifery and additional responsibilities must be ensured to maintain quality care.</p>	<p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p>	<p>Provide a document in which:</p> <ul style="list-style-type: none"> - a flexible system for determining and monitoring the birth centre's client capacity is outlined (this criterion aims to address potential issues arising from instances where midwives/birth centres exceed their capacity, which could compromise the quality of care provided). - there is evidence that the two people trained on emergencies (e.g., resuscitation and postpartum haemorrhage management) are present at every birth, and, if not, motivate and explain contingency plan; and - there is evidence of sufficient staff to perform additional duties such as cleaning birth rooms, receiving clients

			and invoicing/accounting (depending on the size of the birth centre).
	2.3. The use of support persons of the woman's choice (partner, family member or doula) during labour must be encouraged and discussed.	Intrapartum Care in South Africa: Updated Guideline (South African Medical Research Council & University of Pretoria, 2019)	Provide evidence that using a support person chosen by the woman (e.g., partner, family member or doula) during labour is encouraged.
	2.4. Evidence of a system for continuous professional development of staff must be available.	Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide evidence of staff meetings, workshops, conferences, webinars, etc., attended during the past year and schedule for planned attendance the following year.
	2.5. Required protocols for staff training, including safety, emergency drills, maternal and newborn resuscitation updates, evidence-based care, and the midwifery model of care must be available.	Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide protocols for and proof of staff training, including safety, emergency drills, maternal and newborn resuscitation updates, evidence-based care, and the midwifery model of care.
3. Physical Environment and Equipment	<i>A safe environment must be ensured.</i>		
	3.1. Evidence-based protocols must be in place to ensure that birth rooms offer a comfortable and safe environment for labouring women and staff (adequately sized, fully equipped, conducive to the midwife-led model of care, and clean).	National Health Act (Act 61 of 2003) (Republic of South Africa, 2004) Part B – Health Facility Briefing & Design: 20 Birthing Unit (International Health Facility Guidelines, 2017) Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide evidence-based guidelines for maintaining properly functioning beds, chairs, and other essential equipment to support efficient and seamless care during birthing (specific criteria on equipment to follow). Specify the dimensions of the birth rooms. They could vary based on individual circumstances and available space (e.g., at least 20.9 to 37.2 square meters or with a functional design such as roll-out drawers for emergency equipment). The size should allow for the client's unrestricted movement, seating for her support person(s), unrestricted access for midwives, and space for emergency care provisions, such as medical equipment and supplies, without creating a cramped or cluttered environment. Ambulance access with a stretcher or evacuation chair must be described. Provide guidelines, supported by evidence, regarding maintaining clean and sanitised rooms to promote a safe birthing environment.

			Describe the birthing environment, outlining its alignment with the midwife-led model of care (e.g., features such as the availability of a birth pool, space to allow freedom of movement, and the accommodation of clients' preferences for elements like music, dim lights, candles).
	3.2. Establish a safe and legal protocol for managing medical and hazardous waste.	<p>National Environmental Management: Waste Act (Act 59 of 2008) (Republic of South Africa 2009b)</p> <p>National Environmental Management: Waste Amendment Act (Act 26 of 2014) (Republic of South Africa, 2014)</p> <p>Guidelines for the management of health care waste, Booklet 12: Guidelines for good practice in the health care professions Health professions council of South Africa (2016)</p>	Provide a protocol that outlines how medical and hazardous waste must be handled by birth-centre staff, including segregation, storage and removal.
	3.3. Sufficient physical space must be available for clients and staff, including ablution facilities and a kitchen. Proof of backup electricity (or equipment that can function without electricity) and access to clean water is essential.	<p>National Health Act (Act 61 of 2003) (Republic of South Africa, 2004)</p> <p>Part B – Health Facility Briefing & Design: 20 Birthing Unit (International Health Facility Guidelines, 2017)</p>	Provide proof of sufficient physical space for clients and staff, including ablution facilities and a kitchen. Provide proof of access to backup electricity or equipment that can function without electricity, as well as clean water to wash hands and flush toilets (in times of water restrictions or outages, the women should be aware that a water birth may not be an option).
	3.4. A list of equipment that meets the highest safety and quality standards to ensure optimal care for mothers and newborns must be available. A schedule for regular inspections and servicing of all equipment is essential.	Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)	<p>Provide a list of equipment that meets safety and quality standards, with a schedule for regular inspections and servicing. Basic equipment includes:</p> <ul style="list-style-type: none"> - Monitoring equipment: hand-held foetal heart rate monitor, blood pressure monitor, stethoscopes and thermometer to monitor the health and vital signs of

		<p>Required equipment and supplies for home birth (British Columbia College of Nurses and Midwives 2021b))</p>	<p>the individual in labour and the baby (pulse oximeter advised).</p> <ul style="list-style-type: none"> - Birth instruments and supplies: basic birth and suturing instruments, cord clamps, and swabs. - Blood collection tubes and equipment: for routine antenatal testing and cord blood collection at birth. - Hygiene supplies: hand soap, sanitisers, gloves, and other hygiene supplies to maintain cleanliness and prevent infections. - Newborn care equipment: scales, warm towels, and newborn assessments and care supplies.
	<p>3.5. A list of required equipment for safe practice and emergencies must be available.</p>	<p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Required equipment and supplies for home birth (British Columbia College of Nurses and Midwives, 2021)</p>	<p>List all available equipment for safe practice and emergencies.</p> <ul style="list-style-type: none"> - Instruments for vacuum extraction: as per the birth centre's policy. - Emergency equipment: resuscitation equipment for both adults and infants, including bag-valve-mask devices, suction devices, and oxygen supplies. <p>Describe equipment control procedures and name the responsible person(s) (e.g., senior midwife or administrator).</p>
	<p>3.6. Medication and consumables necessary for safe practice and the management of obstetric emergencies must be listed and accessible and must comply with regulations and legislation.</p>	<p>Regulations Relating to the Keeping, Supply, Administering or Prescribing of Medicines by Registered Nurses (South African Nursing Council, 1984)</p>	<p>List accessible medication and consumables.</p> <ul style="list-style-type: none"> - Intravenous supplies: intravenous fluids and supplies for insertion of an intravenous line. - Medication: local anaesthetic and supplies for administration; Oxytocin (for

		<p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)</p>	<p>active third-stage management with consideration of client preference).</p> <ul style="list-style-type: none"> - Newborn: Vitamin K for newborn and supplies for administration (parental choice must be respected and consent must be obtained) - Emergency medications: medications for managing emergencies, such as postpartum haemorrhage (Oxytocin, Misoprostol, Tranexamic Acid), and imminent eclampsia (magnesium sulphate). <p>Describe stock control procedures and name the responsible person(s) (e.g., senior midwife or administrator).</p> <p>Provide a policy that describes the secure storage of medications to ensure patient safety and regulatory compliance. Include proof of adherence to specified temperature controls, such as refrigeration for certain drugs. and secure storage in a safe for controlled substances.</p>
4. Clinical Care	<i>The care programme must reflect family-centred, respectful and compassionate care for the mother and the newborn infant.</i>		
	<p>4.1. Partnership with women must be promoted.</p>	<p>National Health Act (Act 61 of 2003 (Republic of South Africa, 2004)</p> <p>Intrapartum Care in South Africa: Updated Guideline (South African Medical Research Council & University of Pretoria, 2019)</p> <p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p>	<p>Provide the following:</p> <ul style="list-style-type: none"> - Proof of collective decision-making: Maintain documented evidence showcasing joint decision-making efforts. This might include consent forms with both parties' signatures, birth plans, and detailed records of conversations between birth centre staff and women about various aspects of the women's care. - Collaborative care strategies: provide examples of individualised care plans developed through a collaborative approach with the client. These plans should mirror the client's desires, principles, and requirements. Documentation of these care plans can

			<p>serve as substantiation of the partnership.</p> <ul style="list-style-type: none"> - Uninterrupted assistance: Present proof of ongoing support throughout pregnancy, childbirth, and the postpartum period. This may include documented prenatal care records, support group activities, and one-on-one consultations.
	<p>4.2. Clear eligibility criteria for care in the birth centre must be outlined.</p>	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)</p> <p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p> <p>National Midwifery Guidelines for Consultation and Referral, 3rd edition, Issue 2 (Australian College of Midwives, 2015)</p> <p>Indications for Discussion, Consultation, and Transfer of Care in Home or Birth Center Midwifery Practice (Midwives' Association of Washington State, 2021)</p>	<p>Provide clear eligibility criteria for birth-centre admission that align with the midwives' scope of practice, SANC regulations, laws, and relevant national and international guidelines.</p> <p>Include a section in the policy that outlines the continuous assessment of eligibility for birth-centre care throughout the antenatal period, and timeous referral when risk factors or complications arise.</p>
	<p>4.3. Updated antenatal care protocols must be in place.</p>	<p>Regulations Regarding the Scope of Practice for Nurses</p>	<p>Provide the schedule of antenatal care appointments and antenatal care records used.</p> <p>Include a list and schedule of special examinations</p>

		<p>and Midwives (South African Nursing Council, 2022)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Adult Primary Care (APC) 2019/2020 (National Department of Health, Republic of South Africa, 2019)</p> <p>Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)</p> <p>WHO recommendations on antenatal care for a positive pregnancy experience (World Health Organization, 2016)</p>	<p>and screening tests advised. Attach national guidelines that are followed.</p> <p>Protocols for antenatal care must reflect the midwife-led model of care, emphasising client-centredness, informed choice, and midwife-client partnership.</p>
	<p>4.4. Clear protocols for the monitoring, supporting and managing a woman in labour must be defined.</p>	<p>Intrapartum Care in South Africa: Updated Guideline (South African Medical Research Council & University of Pretoria, 2019)</p> <p>Regulations Regarding the Scope of Practice for Nurses</p>	<p>Provide a protocol for monitoring, supporting and managing women in labour. Attach national or international guidelines that are followed.</p> <p>Protocols for care during labour must align with the fundamental principles of the midwife-led approach (informed choice, control, freedom of movement,</p>

		<p>and Midwives (South African Nursing Council, 2022)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)</p>	evidence-based use of interventions, and individualised care).
	4.5. A set of criteria and a protocol for the safe management of water births must be available.	<p>Guideline for the use of water during labour and birth (Mitchell & Khan 2022)</p> <p>Guideline for the use of water in labour and birth (British Columbia College of Nurses and Midwives, 2021)</p>	Provide criteria and protocols for safe water births. Attach national or international guidelines that are followed.
	4.6. A set of criteria and a comprehensive protocol must govern the use of assisted birth methods. Assisted birth methods can only include a vacuum extraction (e.g., Kiwi Omnicup) in an out-of-hospital setting.	Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016)	<p>A set of criteria should be established to ensure the judicious and appropriate use of assisted birth techniques. These criteria would:</p> <ul style="list-style-type: none"> - Specify the circumstances under which assisted birth becomes a viable option (e.g., maternal health, foetal well-being, and labour progress). - A guide for the midwife or referral healthcare practitioners in implementing assisted birth procedures: Step-by-step instructions, safety measures, and decision-making processes to be followed when opting for assisted birth. - Emphasise the importance of informed consent, clear communication with the

			birthing individual and their family, and considering any potential risks or alternatives. <ul style="list-style-type: none"> - If the practice's policy is for midwives not to perform assisted birth techniques, motivate and specify criteria for timeous referral in cases where the impending need for possible assisted birth arises.
	4.7. A clear, evidence-based protocol must be in place for the routine management of the newborn at birth.	Newborn care charts: Guidelines for care of all newborns in district hospitals, health centres and midwife obstetric units in South Africa; routine care at birth; and management of the sick and small newborn in hospital (National Department of Health, Republic of South Africa, 2014)	The newborn care protocol must prioritise safety while embodying the midwife-led model of care (informed choice, active parental involvement and empowerment, promoting bonding and breastfeeding assistance).
	4.8. A clear, evidence-based protocol for caring for the woman and newborn during the post-natal period must be in place.	Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.). (National Maternity Guidelines Committee, 2016) Adult Primary Care (APC) 2019/2020 (National Department of Health, Republic of South Africa, 2019) Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)	Provide a post-natal care policy that encompasses: <ul style="list-style-type: none"> - Comprehensive guidance pertaining to the timing and regimen of regular examinations. - Identification of potential concerns warranting professional referral. - Information regarding assistance with breastfeeding and support alternatives available. - The protocol care for post-natal care should reflect the midwife-led model of care that emphasises continuity, individualised care, focusing on empowerment of parents, cultural sensitivity, breastfeeding assistance and psychological support to ensure the well-being of both the newborn and the family.

		WHO recommendations on maternal and newborn care for a positive postnatal experience (World Health Organization, 2022)	
	4.9. Clear, valid and current protocols must be defined for the specific management of obstetric and paediatric (neonatal) emergencies.	<p>Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014)</p> <p>Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016)</p>	<p>Provide clear protocols for managing obstetric and neonatal emergencies, including but not limited to:</p> <ul style="list-style-type: none"> - Foetal distress - Maternal fever, respiratory distress, persistent tachycardia, or hypotension - Pre-eclampsia/eclampsia - Cord prolapse - Shoulder dystocia - Neonatal resuscitation & neonatal respiratory distress - Third- or fourth-degree perineal tear - Retained placenta - Postpartum haemorrhage <p>Attach national guidelines/algorithms that are followed.</p>
	4.10. Infection prevention and control guidelines must be implemented.	Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014)	Provide infection prevention and control guidelines.

	<p>4.11. Record-keeping requirements must be specified and monitored (see quality improvement section).</p>	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may carry on their Profession (South African Nursing Council, 1990)</p> <p>Regulation Setting Out the Acts and Omissions in Respect of which the Council may take Disciplinary Steps (South African Nursing Council, 2014)</p> <p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p>	<p>Provide a policy that outlines record-keeping requirements for clinical care.</p>
	<p>4.12. Proof that women and their families have access to accurate, comprehensive and transparent information that empowers them to understand their options fully, assess potential risks and benefits and make decisions that align with their unique needs and preferences.</p>	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p>	<p>Provide a policy that outlines the types of information that will be provided to clients, the formats in which it will be presented, and the channels through which it will be communicated (e.g., information given during antenatal consultations or educational materials, clients encouraged to attend antenatal education courses). Provide proof that clients receive comprehensive information about the services (benefits, limitations, and potential risks); pricing and fees, including any additional costs or charges that may apply; terms and conditions governing the use of services; contractual obligations and rights of clients; privacy policies and data handling practices. Evidence of clients being provided with a checklist outlining the items required for childbirth should be supplied.</p>

			Provide a policy or information regarding accessible communication channels that allow clients to reach out to their designated midwives. These channels may include but are not limited to, telephone contact for emergencies and time-sensitive issues, as well as options such as WhatsApp or email for general questions and non-urgent matters.
5. Quality Improvement	<i>A continuous quality improvement process must be implemented, including the aspects below.</i>		
	5.1. A protocol must be established for obtaining consent to capture data about antenatal care and birth outcomes for quality improvement and research purposes (where relevant). Birth centres must have a systematic process for monitoring outcomes and identifying areas of improvement.	Protection of Personal Information Act (Act 4 of 2013) (Republic of South Africa, 2013) Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide data management protocol that includes: <ul style="list-style-type: none"> - Proof that clients give permission for their data to be use for statistics or research purposes per the Protection of Personal Information Act (e.g., a consent form). - A description of the birth centre’s process for monitoring outcomes and identifying areas of concern (e.g., by keeping records of specific data elements, frequency of data collection, methods used, and how data will be analysed and communicated for improvement).
	5.2. To ensure protocol adherence, a protocol and schedule for ongoing audits of files and birth records must be in place.	Guidelines for maternity care in South Africa: A manual for clinics, community health centres and district hospitals (4th ed.) (National Maternity Guidelines Committee, 2016) Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)	Provide a protocol concerning the auditing of files, specifying: <ul style="list-style-type: none"> - Frequency and scope: how often internal audits will be conducted and the scope of the audit, ensuring comprehensive review of patient files and birth records. - Criteria and metrics: define criteria and metrics that will be used to assess adherence during the audits, providing a clear standard for evaluation. - Audit team composition: compose the audit team to ensure competent and impartial assessment. - External audits: If external audits will be conducted, specify the criteria for selecting external auditors to ensure an objective evaluation by independent entities. - Documentation and communication: Outline how audit findings will be

			documented, communicated, and shared with relevant stakeholders. Also, outline the steps for follow-up actions and improvement plans to address any identified issues.
	5.3. A plan for responding to client feedback must be in place.	<p>National Health Act (Act 61 of 2003) (Republic of South Africa, 2004)</p> <p>National Guideline on Conducting Patient Experience of Care Surveys in Public Health Establishments (National Department of Health, Republic of South Africa, 2017)</p>	<p>Encourage client feedback and allow clients to share their thoughts or complaints voluntarily.</p> <p>Implement a patient feedback protocol outlining:</p> <ul style="list-style-type: none"> - Methods for gathering patient feedback, like surveys, focus groups or complaint registers. - The planned frequency of collecting client feedback (e.g., after antenatal visits, births, or final post-natal visits, or only if a client spontaneously gives feedback) - Utilisation of client feedback to pinpoint areas for improvement. - Protocols for responding to and addressing client concerns or complaints. - Methods for communicating client feedback to the team that will enhance the quality of care provided.
	5.4. The birth centre must establish quality requirements for every facet of care, including records, equipment, team care review/audits, medication, and stock. Additionally, a well-defined protocol should be for monitoring compliance and reviewing quality requirements.	<p>Regulations Regarding the Scope of Practice for Nurses and Midwives (South African Nursing Council, 2022)</p> <p>Midwifery Unit Standards (European) (Rocca-Ihenacho et al. 2020)</p>	Provide a protocol describing how non-compliance with quality requirements will be identified and addressed, including any corrective and preventative actions.

8.3. STRENGTHS OF THE STUDY

Several strengths enhanced the credibility of this research:

- **Comprehensive approach:** The comprehensive multimethod approach followed throughout the study ensured that the study findings and the formulated accreditation criteria would be evidence-based and suitable for freestanding midwife-led birth centres in South Africa.
- **Engagement with clients and stakeholders:** Exploring perceptions of birth-centre clients and involving local stakeholders in idea generation, discussion, and consensus led to a more holistic and in-depth understanding of the study context. This participatory approach ensured that the accreditation criteria were not only based on research findings but also incorporated the perspectives and insights of those directly involved or affected by the criteria. The addition of an international expert, well-versed in developing accreditation criteria, further contributed to the overall comprehensiveness of the criteria.
- **Rigorous methodology:** Throughout the process, measures were implemented to ensure rigour and quality control, emphasising credibility, dependability, confirmability, transferability, and authenticity. Adherence to guidelines, active stakeholder involvement, and method triangulation contributed to the trustworthiness of the study findings and the development of relevant accreditation criteria for midwife-led birth centres in South Africa.
- **Variety of methods:** The use of a range of methods enhanced the depth of information acquired throughout the study.

8.4. LIMITATIONS OF THE STUDY

During the process of this study, several limitations were identified:

- **Limited generalisability:** The study findings and developed criteria are specific to the South African context and may not directly apply to other regions or countries.
- **Time constraints:** Midwives, physicians, and new parents have busy schedules, which limits the time available to engage with them. Recruiting recent birth-centre clients proved challenging due to the unpredictability of the post-natal period.
- **Language translation:** The translation of questionnaire responses from Afrikaans to English, however necessary, may not fully capture the original depth and cultural nuances expressed by participants.

- **Accreditation criteria not yet piloted:** Due to the extensive formulation process, the accreditation criteria have not been piloted, although we aim to do this in a follow-up study.

8.5. RECOMMENDATIONS

8.5.1. Healthcare system

Based on the findings of this study, we propose several recommendations for the healthcare system, particularly in the context of freestanding midwife-led birth centres in South Africa:

Integration of accreditation criteria: We suggest that developed accreditation criteria be integrated into the regulatory framework for independent midwife-led care. We further suggest collaboration with relevant health authorities to ensure seamless incorporation into existing healthcare policies.

Public awareness and education: We recommend public awareness campaigns to educate the public about safety at freestanding midwife-led birth centres. This includes disseminating information about the accreditation process and encouraging informed decision-making among expectant parents.

Collaborative models of care: It is important to explore and implement collaborative care models involving midwives, obstetricians and other healthcare professionals. This collaboration should enhance continuity of care, especially in cases requiring referral from birth centres to hospital settings.

8.5.2. Midwifery education

Considering the outcomes of the study, the following recommendations are proposed for midwifery education:

Inclusion of information on accreditation of midwife-led birth centre care in undergraduate curricula: We suggest that undergraduate students be taught about the significance of accrediting standards and their role in guaranteeing safe and high-quality treatment, given the growth of midwife-led and birth centre care.

Seminars, workshops or conferences: We propose that the accreditation criteria and process be presented to midwives at seminars, workshops, or conferences.

Incorporate client-centred training: We suggest enhanced midwifery education programmes to emphasise client-centred care, non-clinical aspects, and the importance of creating a supportive, comfortable

environment. This would better prepare midwives for the unique challenges and preferences of freestanding midwife-led birth centres.

Continued professional development: Continuous professional development for midwives must be encouraged to ensure that they stay updated on the latest standards and practices in freestanding birth-centre care. This may include ongoing training on emergency preparedness and effective communication.

8.5.3. Midwifery practice

Recommendations for enhancing midwifery practice based on the study outcomes include:

Establishment of an accreditation organisation or institution: We propose establishing an accreditation organisation or institution in collaboration with existing ones to implement and monitor the accreditation of freestanding midwife-led birth centres.

Implementation of accreditation criteria: We advocate for the widespread adoption and implementation of the developed accreditation criteria in midwifery practice settings. This should be accompanied by ongoing evaluation and refinement to ensure their relevance and effectiveness of the criteria.

Interprofessional collaboration: We suggest facilitating continuous interprofessional collaboration between midwives and other healthcare providers. Open communication channels and collaborative care models must be encouraged to address challenges identified in the study, particularly concerning assisted births in birth centres and transfers from birth centres to referral hospitals.

8.5.4. Research

Recommendations for future researchers include:

Applicability of the criteria in real-world settings: Researchers should investigate the practical implementation of the established criteria in real-world birth-centre settings in South Africa. Managers of birth centres, staff and clients may be able to provide insights into the criteria's applicability, practicality and relevance.

Outcomes of care pre- and post-implementation of the criteria: Future researchers should delve into the evaluation of maternal and newborn outcomes before and after implementing the criteria in clinical practice. This analysis should include not only clinical indicators but also client satisfaction, cost-effectiveness, and

overall healthcare quality. Understanding the impact of criteria implementation can guide evidence-based improvements.

Birth centre clients' and midwives' experiences following transfer from a birth centre to a hospital during labour: Further research should explore the subjective experiences of clients who undergo transfer from a birth centre to a hospital during labour in the South African context. This investigation should include aspects such as communication effectiveness, emotional support and perceptions of continuity of care. Furthermore, gaining insights into midwives' perspectives during the emergency transfer of their clients can contribute to refining protocols and practices to optimise outcomes and client experiences when navigating transfers.

8.6. STUDY IMPLICATIONS

8.6.1. Midwifery practice

The implications for midwifery practice stemming from this research are as follows:

Enhanced client-centred care: The study highlighted the importance of maintaining a client-centred focus in midwifery practice, aligning care with the identified themes of non-clinical environments, one-to-one care and personalised relationships.

Continuous quality improvement: The developed accreditation criteria provided a foundation for ongoing quality improvement in midwifery practice. Regular assessments and adaptations based on feedback from clients and stakeholders should be integrated into practice protocols.

8.6.2. National and provincial healthcare policy

The study has broader policy implications:

Policy integration: The research outcomes emphasised that the legal and regulatory framework for freestanding midwife-led birth centres should be integrated with client-centred, evidence-based, stakeholder-informed accreditation criteria.

Resource allocation: National and provincial healthcare policymakers should consider allocating resources for implementing these accreditation criteria, including training programmes and monitoring mechanisms to ensure compliance. Birth centres, as outlined in the study, could enhance maternity care by providing client-centred, evidence-based, and collaborative services. When national health insurance is initiated in South

Africa, birth centres could contribute to realising the national health insurance goals, ensuring accessible, quality healthcare services for all South Africans, especially in the crucial area of maternal and newborn care.

8.7. CONCLUSION

In conclusion, this in-depth research journey, through which accreditation criteria for freestanding midwife-led birth centres in South Africa have been developed, has been a diverse and collaborative process. Following Ménage's (2016) model for evidence-based decision-making in midwife-led care, the study was applied through three distinct phases, combining insights from research, input from stakeholders, and the experiences of birth-centre clients.

Commencing with a scoping review and continuing with the active participation of birth-centre clients and stakeholders, concise and relevant accreditation criteria for South African midwife-led birth centres were developed. The research process was characterised by collaborative efforts, consensus-building and refinement facilitated by the e-Delphi technique.

Numerous strengths have enhanced the credibility of the study. The comprehensive multimethod approach ensured that the accreditation criteria were evidence-based and grounded in the practical experiences and perspectives of those directly involved. Engagement with birth-centre clients and stakeholders leads to a more holistic understanding of the study context. Rigorous methodology, characterised by adherence to guidelines, stakeholder involvement and method triangulation, contributed to the trustworthiness of the findings and the developed accreditation criteria.

Acknowledging limitations is crucial for placing the study outcomes in context. While applicable to the South African context, the findings and accreditation criteria may lack direct applicability to other regions or countries. Time constraints and challenges in recruiting recent birth-centre clients emphasised the need for flexibility in research designs. Importantly, the accreditation criteria are yet to be piloted, pinpointing an important avenue for further research.

While this study lays a foundational framework for freestanding midwife-led birth centres in South Africa, future research should concentrate on piloting the accreditation criteria, assessing their effectiveness, and adapting them based on real-world implementation. Ongoing collaboration between researchers, practitioners and policymakers is vital to ensure the continuous evolution and improvement of midwifery practices and policies.

8.8. REFLECTIONS OF THE RESEARCHER

The path I took to formulate accreditation criteria for freestanding midwife-led birth centres in South Africa was not without its challenges. Still, it was a journey that had a profound impact on me on a personal level. Each obstacle presented an opportunity for growth and learning, not only in my academic pursuits but also in my understanding of the significance of optimal birth-centre care.

Synthesising diverse research evidence and exploring client experiences, was a challenging but incredibly rewarding journey of discovery. The challenges I encountered led to a deeper understanding of the complexities inherent in midwifery practice, healthcare policy, and the delicate balance required to address the individual needs of midwifery clients.

Through engagement with stakeholders, including birth-centre clients, midwifery experts, and other relevant parties, I realised the importance of adaptability and openness to diverse perspectives. Their input not only enriched the formulation of accreditation criteria but also showed their collective commitment to advancing the quality of care provided in birth centres. I found this very encouraging.

This research journey has instilled in me a profound sense of duty to actively participate in the continuous improvement of care for mothers and newborns at freestanding midwife-led birth centres. While this project serves as a foundation, I am committed to advancing my knowledge, improving practice, and contributing to the broader field of maternal and newborn health.

As I conclude this project, I do so with gratitude for the invaluable contributions of my supervisors and stakeholders, a renewed commitment to ongoing learning, and optimism about the positive impact this work may have on the future of freestanding midwife-led birth-centre care.

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ANNEXURES

Annexure A: Participant information and consent document for focus group discussion

INFORMATION LEAFLET AND INFORMED CONSENT: PARTICIPATION IN A RESEARCH PROJECT

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan-Schlebusch; Prof Mariatha Yazbek

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime numbers: 083 [REDACTED]

Afterhours: 083 [REDACTED]

DATE AND TIME OF POST INFORMED CONSENT DISCUSSION:

Date	Month	Year

Time

Dear Participant

Dear..... date of consent procedure/...../.....

1) INTRODUCTION

I am currently conducting a PhD in Nursing/ Midwifery at the University of Pretoria. I would like to invite you to participate in my study by giving your input during the development of accreditation criteria for midwife-led birth centres in South Africa. The following information will empower you to make an informed decision about assisting me with the study.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study will be to develop accreditation criteria for midwife-led birth centres in South Africa. The researcher will gather information from available research studies and from midwives, maternity care specialists and other stakeholders in birth centre care.

Midwife-led birth centres aim for more individualised care. Input from women and partners who recently experienced birth centre care will therefore add to the trustworthiness of the accreditation criteria.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you avail yourself for participation in this study the following will be expected of you:

To discuss your experiences of the care you recently received at a birth centre with three other couples in an online group session.

4) POSSIBLE RISKS AND DISCOMFORT INVOLVED

The online sessions may be time-consuming, although the researcher will aim to make it as swift as possible. If you experience any distress during or after the group discussion you can make the researcher aware at any time. You will be referred to a counsellor for debriefing and counselling.

5) POSSIBLE BENEFITS OF THIS STUDY.

Accreditation criteria for midwife-led birth centres in South Africa will contribute to the safety of and good outcomes for mothers and new-borns at these facilities. Accreditation of birth centres may also lead to enhanced credibility and more access by women who seek natural birth or midwife-led care.

6) COMPENSATION

You will receive no payment for your cooperation with this study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Cooperation is voluntary and you will have the right to withdraw from the study at any time, even after signing informed consent.

8) ETHICAL APPROVAL

Please note that the study has been granted ethical clearance from the Ethics Committee of the Faculty of Health Sciences of The University of Pretoria.

9) INFORMATION

You are welcome to contact me if you have further questions regarding the study. Please email me at stellax01@gmail.com or contact me telephonically at 083 [REDACTED]. Or contact my supervisor: Prof M Yazbek: 082 [REDACTED]

10) CONFIDENTIALITY

All transcribed nominal group technique data and feedback forms will be kept anonymous, and no names will appear. I will not share your personal information with any other participants, nor will I identify participants in the study reports. Electronic data will be stored in a password protected computer. Recorded online sessions will not be shared with any person other than the researcher, research assistant and supervisor.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I hereby voluntarily consent to assist the researcher in the above-mentioned study. I am not coerced in any way and I understand that I can withdraw at any time. I understand that my name will remain anonymous to anyone who is not part of the study, and that the information will be kept confidential. I am aware of the benefits of this project to myself and my peers. I understand the possible risks and I know that someone will be available if I have any more questions or concerns. I have received a copy to sign this informed consent agreement.

Are you the birth centre client or partner? _____

Age? _____

Is this your first baby? _____

.....

Participant's name (Please Print)

Date

.....

Participant's signature

Date

.....

Investigator's name (Please Print)

Date

.....

Investigator's signature

Date

.....

Witness's name

Date

.....

Witness's signature

Annexure B: Participant information and consent document for individual interview

INFORMATION LEAFLET AND INFORMED CONSENT: PARTICIPATION IN A RESEARCH PROJECT

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan-Schlebusch; Prof. Mariatha Yazbek

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime numbers: 083 [REDACTED]

Afterhours: 083 [REDACTED]

DATE AND TIME OF POST INFORMED CONSENT DISCUSSION:

Date	Month	Year

Time

Dear Participant

Dear..... date of consent procedure/...../.....

1) INTRODUCTION

I am currently conducting a PhD in Nursing/ Midwifery at the University of Pretoria. I would like to invite you to participate in my study by giving your input during the development of accreditation criteria for midwife-led birth centres in South Africa. The following information will empower you to make an informed decision about assisting me with the study.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study will be to develop accreditation criteria for midwife-led birth centres in South Africa. The researcher will gather information from available research studies and from midwives, maternity care specialists and other stakeholders in birth centre care.

Midwife-led birth centres aim for more individualised care. Input from women and partners who recently experienced birth centre care will therefore add to the trustworthiness of the accreditation criteria.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you avail yourself for participation in this study the following will be expected of you:

To discuss your experiences of the care you recently received at a birth centre in an individual online interview with the researcher. You can include your partner if they wish to participate.

4) POSSIBLE RISKS AND DISCOMFORT INVOLVED

The online sessions may be time-consuming, although the researcher will aim to make it as swift as possible. If you experience any distress during or after the group discussion you can make the researcher aware at any time. You will be referred to a counsellor for debriefing and counselling.

5) POSSIBLE BENEFITS OF THIS STUDY.

Accreditation criteria for midwife-led birth centres in South Africa will contribute to the safety of and good outcomes for mothers and new-borns at these facilities. Accreditation of birth centres may also lead to enhanced credibility and more access by women who seek natural birth or midwife-led care.

6) COMPENSATION

You will receive no payment for your cooperation with this study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Cooperation is voluntary and you will have the right to withdraw from the study at any time, even after signing informed consent. The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way.

8) ETHICAL APPROVAL

Please note that the study has been granted ethical clearance from the Ethics Committee of the Faculty of Health Sciences of The University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research in people. The researcher can give you a copy of the Declaration if you wish to read

9) INFORMATION

You are welcome to contact me if you have further questions regarding the study. Please email me at christel.jordaan@up.ac.za or contact me telephonically at 083 [REDACTED].

Or contact my supervisor: Prof M Yazbek 082 [REDACTED]

10) CONFIDENTIALITY

All transcribed data from the interviews will be kept anonymous, and no names will appear. We will use pseudonyms instead of real names in transcriptions as well as in research reports. I will not share your personal information with any other participants, nor will I identify participants in the study reports. Electronic data will be stored in a password protected computer. Recorded online sessions will not be shared with any person other than the researcher, research assistant and supervisor.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I hereby voluntarily consent to assist the researcher in the above-mentioned study. I am not coerced in any way and I understand that I can withdraw at any time. I understand that my name will remain anonymous to anyone who is not part of the study, and that the information will be kept confidential. I am aware of the benefits of this project to myself and my peers. I understand the possible risks and I know that someone will be available if I have any more questions or concerns. I give consent for the interview to be recorded.

I have received a copy to sign this informed consent agreement.

Are you the birth centre client or partner? _____

Age? _____

Is this your first baby? _____

.....
Participant's name (Please Print)	Date

.....
Participant's signature	Date

.....
Investigator's name (Please Print)	Date

.....
Investigator's signature	Date

.....
Witness's name	Date

.....
Witness's signature	

Annexure C: Participant information and consent document written narrative based on a questionnaire

INFORMATION LEAFLET AND INFORMED CONSENT: PARTICIPATION IN A RESEARCH PROJECT

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan-Schlebusch; Prof. Mariatha Yazbek

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime numbers: 083 [REDACTED]

Afterhours: 083 [REDACTED]

DATE AND TIME OF POST INFORMED CONSENT DISCUSSION:

Date	Month	Year	Time

Dear Participant

Dear..... date of consent procedure/...../.....

1) INTRODUCTION

I am currently conducting a PhD in Nursing/ Midwifery at the University of Pretoria. I would like to invite you to participate in my study by giving your input during the development of accreditation criteria for midwife-led birth centres in South Africa. The following information will empower you to make an informed decision about assisting me with the study.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study will be to develop accreditation criteria for midwife-led birth centres in South Africa. The researcher will gather information from available research studies and from midwives, maternity care specialists and other stakeholders in birth centre care.

Midwife-led birth centres aim for more individualised care. Input from women and partners who recently experienced birth centre care will therefore add to the trustworthiness of the accreditation criteria.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you avail yourself for participation in this study the following will be expected of you:

To answer three central questions and give additional comments about the care you recently received during labour at a midwife-led birth centre in written form.

4) POSSIBLE RISKS AND DISCOMFORT INVOLVED

Writing about your experiences may be time-consuming, but you are welcome to complete the questionnaire in your own time. If you find it distressing to write about your experiences, you can make the researcher aware. You will be referred to a counsellor for debriefing and counselling.

5) POSSIBLE BENEFITS OF THIS STUDY.

Accreditation criteria for midwife-led birth centres in South Africa will contribute to the safety of and good outcomes for mothers and new-borns at these facilities. Accreditation of birth centres may also lead to enhanced credibility and more access by women who seek natural birth or midwife-led care.

6) COMPENSATION

You will receive no payment for your cooperation with this study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Cooperation is voluntary and you will have the right to withdraw from the study at any time, even after signing informed consent. Refusing to participate or withdrawing at any stage will not affect you in any way.

8) ETHICAL APPROVAL

Please note that the study has been granted ethical clearance from the Ethics Committee of the Faculty of Health Sciences of The University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research in people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION

You are welcome to contact me if you have further questions regarding the study. Please email me at christel.jordaan-schlebusch@tuks.co.za or contact me telephonically at 083 [REDACTED].

Or contact my supervisor: Prof M Yazbek at 082 [REDACTED]

10) CONFIDENTIALITY

Completed questionnaires will be kept anonymous, and no names will appear. I will not share your personal information with any other participants, nor will I identify participants in the study reports. Electronic data will be stored in a password protected computer. Recorded online sessions will not be shared with any person other than the researcher, research assistant and supervisor.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I hereby voluntarily consent to assist the researcher in the above-mentioned study. I am not coerced in any way and I understand that I can withdraw at any time. I understand that my name will remain anonymous to anyone who is not part of the study, and that the information will be kept confidential. I am aware of the benefits of this project to myself and my peers. I understand the possible risks and I know that someone will be available if I have any more questions or concerns.

I have received a copy to sign this informed consent agreement.

Are you the birth centre client or partner? _____

Age? _____

Is this your first baby? _____

.....
 Participant's name (Please Print) Date

.....
 Participant's signature Date

.....
 Investigator's name (Please Print) Date

.....
 Investigator's signature Date

.....
 Witness's name Date

.....
 Witness's signature

Annexure D: Participant information and consent document for Nominal Group Technique

INFORMATION LEAFLET AND INFORMED CONSENT: ASSISTANCE WITH A RESEARCH PROJECT

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan-Schlebusch; Prof Mariatha Yazbek; Prof Carin Maree

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime numbers: +1639 [REDACTED]

Afterhours: +1639 [REDACTED]

WhatsApp: 083 [REDACTED]

DATE AND TIME OF POST INFORMED CONSENT DISCUSSION:

Date	Month	Year

Time

Dear Participant

Dear..... date of consent procedure/...../.....

1) INTRODUCTION

I am currently conducting a PhD in Nursing/ Midwifery at the University of Pretoria. I would like to invite you to participate in my study by taking part giving your input during the development of accreditation criteria for midwife-led birth centres in South Africa. The following information will empower you to make an informed decision about assisting me with the study.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of the study is to develop accreditation criteria which the National Department of Health can use to accredit midwife-led birth centres in South Africa. The study will take place in 3 phases:

- o Phase 1: To conduct a scoping review of the literature regarding birth centres. The focus will be on exploring factors that contribute to good outcomes and positive experiences for women and new-borns at

freestanding birth centres. The research will summarize the available evidence on birth centre care so that it can be used in the formulation of accreditation criteria during phase 3.

- o Phase 2: To conduct stakeholder analysis and involve important stakeholders in the process of developing accreditation criteria for free-standing birth centres. Potential stakeholders include the National Department of Health; other applicable governing bodies; professional organisations; midwives; and members of their referral network. The nominal group technique will be applied in an online Microsoft teams session to review the evidence and prioritize quality measures and logistical prerequisites to be included in the accreditation criteria.
- o Phase 3: To use the evidence gathered during phase 1 and the information gathered during phase 2 to formulate accreditation criteria for midwife-led birth centres in South Africa. The e-Delphi technique will be used to get consensus on these accreditation criteria from all stakeholders.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

You are considered a stakeholder in birth centre care in South Africa. If you avail yourself for participation in this study the following will be expected of you:

To participate in an online session to give your input in the contents of accreditation criteria for midwife-led birth centres in South Africa. The nominal group technique will be used. It is a technique that gives participants the opportunity to write down and share idea. Online sessions will be recorded.

4) POSSIBLE RISKS AND DISCOMFORT INVOLVED

The online sessions may be time-consuming, although the researcher will aim to make it as swift as possible. Reading through the drafted accreditation criteria and giving your input will also be time-consuming. Sufficient time will be given during this phase of the study.

5) POSSIBLE BENEFITS OF THIS STUDY.

Accreditation criteria for midwife-led birth centres in South Africa will contribute to the safety of and good outcomes for mothers and new-borns at these facilities. Accreditation of birth centres may also lead to enhanced credibility of and more access to birth centre care.

6) COMPENSATION

You will receive no payment for your cooperation with this study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Cooperation is voluntary and you will have the right to withdraw from the study at any time, even after signing informed consent.

8) ETHICAL APPROVAL

Please note that the study has been granted ethical clearance from the Ethics Committee of the Faculty of Health Sciences of The University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the

Declaration of Helsinki (last update: October 2013). The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION

You are welcome to contact me if you have further questions regarding the study. Please email me at christel.jordaan-schlebusch@tuks.co.za or contact my supervisor Prof M Yazbek telephonically at 082 [REDACTED]

10) CONFIDENTIALITY

All transcribed nominal group technique data and feedback forms will be kept anonymous, and no names will appear. I will not share your personal information with any other participants, nor will I identify participants in the study reports. Electronic data will be stored in a password protected computer. Recorded online sessions will not be shared with any person other than the researcher, research assistant and supervisor.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I hereby voluntarily consent to assist the researcher in the above-mentioned study. I am not coerced in any way, and I understand that I can withdraw at any time. I understand that my name will remain anonymous to anyone who is not part of the study, and that the information will be kept confidential. I am aware of the benefits of this project to myself and my peers. I understand the possible risks and I know that someone will be available if I have any more questions or concerns.

I have received a copy to sign this informed consent agreement.

.....
Participant's name (Please Print)	Date

.....
Participant's signature	Date

.....
Investigator's name (Please Print)	Date

.....
Investigator's signature	Date

.....
Witness's name	Date

.....
Witness's signature	

Annexure E: Participant information and consent document for the e-Delphi technique

INFORMATION LEAFLET AND INFORMED CONSENT: ASSISTANCE WITH A RESEARCH PROJECT

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan-Schlebusch; Prof. Mariatha Yazbek

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime numbers: 083 [REDACTED] (WhatsApp)

Afterhours: 083 [REDACTED] (WhatsApp)

DATE AND TIME OF POST INFORMED CONSENT DISCUSSION:

Date	Month	Year

Time

Dear Participant

Dear..... date of consent procedure/...../.....

1) INTRODUCTION

I am currently conducting a PhD in Nursing/ Midwifery at the University of Pretoria. I would like to invite you to participate in my study by taking part giving your input during the development of accreditation criteria for midwife-led birth centres in South Africa. The following information will empower you to make an informed decision about assisting me with the study.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of the study is to develop accreditation criteria which the National Department of Health can use to accredit midwife-led birth centres in South Africa. The study will take place in 3 phases:

- o Phase 1: To conduct a scoping review of the literature regarding birth centres. The focus will be on exploring factors that contribute to good outcomes and positive experiences for women and new-borns at

freestanding birth centres. The research will summarize the available evidence on birth centre care so that it can be used in the formulation of accreditation criteria during phase 3.

- o Phase 2: To conduct stakeholder analysis and involve important stakeholders in the process of developing accreditation criteria for free-standing birth centres. Potential stakeholders include the National Department of Health; other applicable governing bodies; professional organisations; midwives; and members of their referral network. The nominal group technique will be applied in a group of at least ten participants each to review the evidence and prioritize quality measures and logistical prerequisites to be included in the accreditation guidelines.
- o Phase 3: To use the evidence gathered during phase 1 and the information gathered during phase 2 to formulate accreditation criteria for midwife-led birth centres in South Africa. The e-Delphi technique will be used to get consensus on these accreditation criteria from all stakeholders.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

You are considered a stakeholder in birth centre care in South Africa. If you avail yourself for participation in this study the following will be expected of you:

To receive drafts of the formulated accreditations criteria to give comments and/or propose changes. The e-Delphi technique will be used in this phase of the study. The e-Delphi method complements research evidence with expert opinion. It is a structured process in which a document, in this case accreditation criteria, is sent to experts in several rounds to obtain consensus.

4) POSSIBLE RISKS AND DISCOMFORT INVOLVED

Reading through the drafted accreditation criteria and giving your input will be time-consuming. Sufficient time will be given during this phase of the study.

5) POSSIBLE BENEFITS OF THIS STUDY.

Accreditation criteria for midwife-led birth centres in South Africa will contribute to the safety of and good outcomes for mothers and new-borns at these facilities. Accreditation of birth centres may also lead to enhanced credibility of and more access to birth centre care.

6) COMPENSATION

You will receive no payment for your cooperation with this study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Cooperation is voluntary and you will have the right to withdraw from the study at any time, even after signing informed consent.

8) ETHICAL APPROVAL

Please note that the study has been granted ethical clearance from the Ethics Committee of the Faculty of Health Sciences of The University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the

Declaration of Helsinki (last update: October 2013). The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION

You are welcome to contact me if you have further questions regarding the study. Please email me at christel.jordaan-schlebusch@tuks.co.za or contact me via WhatsApp at 083 [REDACTED].

Or contact my supervisor: Prof. M Yazbek 082 [REDACTED]

10) CONFIDENTIALITY

All feedback forms will be kept anonymous, and no names will appear. I will not share your personal information with any other participants, nor will I identify participants in the study reports. Electronic data will be stored in a password protected computer.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I hereby voluntarily consent to assist the researcher in the above-mentioned study. I am not coerced in any way and I understand that I can withdraw at any time. I understand that my name will remain anonymous to anyone who is not part of the study, and that the information will be kept confidential. I am aware of the benefits of this project to myself and my peers. I understand the possible risks and I know that someone will be available if I have any more questions or concerns.

I have received a copy to sign this informed consent agreement.

.....
Participant's name (Please Print)	Date

.....
Participant's signature	Date

.....
Investigator's name (Please Print)	Date

.....
Investigator's signature	Date

.....
Witness's name	Date

.....
Witness's signature	

Annexure F: Approval to conduct this study by the University of Pretoria Faculty of Health Sciences Research Ethics Committee



Faculty of Health Sciences

Faculty of Health Sciences **Research Ethics Committee**

18 May 2023

Approval Certificate Annual Renewal

Dear Ms C Jordaan,

Ethics Reference No.: 305/2021 – Line 3

Title: Development of accreditation criteria for freestanding midwife-led birth centres in South Africa

The **Annual Renewal** as supported by documents received between 2023-04-18 and 2023-05-17 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-05-17 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Renewal of ethics approval is valid for 1 year, subsequent annual renewal will become due on 2024-05-18.
- Please remember to use your protocol number (305/2021) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely



On behalf of the FHS REC, Dr R Sommers

MBChB, MMed (Int), MPharmMed, PhD

Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3064
Email: deepzka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tsa Maphelo

Annexure G: Approval to amend methods used in this study by the University of Pretoria Faculty of Health Sciences Research Ethics Committee



Faculty of Health Sciences

Faculty of Health Sciences **Research Ethics Committee**

Approval Certificate Amendment

28 April 2023

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

Dear Ms C Jordaan,

Ethics Reference No.: 305/2021 – Line 2

Title: Development of accreditation criteria for freestanding midwife-led birth centres in South Africa

The **Amendment** as supported by documents received between 2023-03-28 and 2023-04-25 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-04-25 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Please remember to use your protocol number (305/2021) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely



On behalf of the FHS REC, Dr R Sommers

MBChB, MMed (Int), MPharmMed, PhD

Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 350 3084
Email: deepika.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tsa Maphelo

Annexure H: Prisma-SCR Checklist

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	53
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Not in thesis
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	56
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	54
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	No protocol registered
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	54-56
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	56-57
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	57
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	57
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	57-58
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	58
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	58
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	60
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	61-63



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	64 - 67 ; annexures J-U
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	64 - 67 ; annexures J-U
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	68-90
Limitations	20	Discuss the limitations of the scoping review process.	90
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	90
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	N/A

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 16 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).

Annexure I: Excel spreadsheet for scoping review

Scoping review March 2022 to July 2023

Search

Christel Jordaan-Schlebusch

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Clipboard Font Alignment Number Styles Cells Editing Add-ins Analyze Data

A1 fx Author (Year)

Author (Year)	Year	Country	Type of study	Themes	Guidelines/operational standards/regulation	Quality indicators	Characteristics of facilities	Choice of equi	Eligibility criteria for adm	Outcomes at birth centre/safety	Interventions used during labour & birth	Women's experience of satisfaction with ca	Collaboratio n between birth centres their ref	Characteristics of birth centre ca providers	Purpose	Population & sample	Type of study/methods	Outcomes/findings
4 Alliman and Phillippi (2016)	2016	USA and internationally	Integrative literature review of maternal outcomes in birth centres	Outcomes at birth centres/safety. Interventions used during labour and birth. Women's experiences/satisfaction with care						1	1	1		To assess the research on maternal outcomes from at birth centres	23 quantitative and 9 qualitative studies performed in the USA and internationally that included a combined total of more than 84,300 Low risk pregnant individuals who sought birth centre care	Integrative literature review of maternal outcomes in birth centres	commenced care in birth centres he spontaneous vaginal birth and intact Caesarean rates were lower among i planned birth centre care. Antepartu, intrapartum transfer rates varied, wil individuals having higher transfer r maternal outcomes and deaths were individuals expressed satisfaction v comprehensive and personalised c birth centres.	
7 Almanza et al. (2022)	2022	USA	Mixed methods	Women's experiences/satisfaction with care					1			1		To examine the impact of culturally centred at Roots (a Black-owned birth centre) on the client's experience of autonomy and respect.	and birthing individuals who received care at Roots Community Birth Center (referred to as Roots) as well as a national sample of individuals in community birth settings from the GVM study. The Roots sample consisted of 80 clients, with over a third of them identifying as people of colour (n = 26, 34.2%). The GVM sample included 244 respondents, with a third of them identifying as people of colour	Mixed methods	Clients receiving culturally centred r birth centre reported higher scores f respect compared to the national sa there was no significant difference l and white clients at Roots. BIPOC ir less variation in their care experienc suggests supporting community bir especially those owned by BIPOC tr improve perinatal care for BIPOC cc comprehensive midwifery care for w uncomplicated pregnancies. While equipment is accessible if required, an FMU is seen as a natural and sp process. The care of midwives durir labours offers numerous advantage including reduced medicalisation a interventions compared to hospitals. The home birth group reported less lower desire for pain-relieving medi	
10 Baczek et al. (2020)	2020	Iran	Structured integrative review of theoretical papers and empirical studies	Outcomes at birth centres/safety. Interventions used during labour and birth. Women's experiences/satisfaction with care				1		1	1	1		To review and summarise published evidence regarding FMUs and to identify potential research gaps	Theoretical papers and empirical studies on the topic of freestanding midwife-led units: 56 out of 107 originally found articles were identified as eligible for the review	Structured integrative review of theoretical papers and empirical studies		

Final Eligibility criteria Years Cochrane Yes All Maybe Sheet3 No ... +

Annexure J: Summary of studies that characterised birth centres

Summary/findings	Author/s
The authors highlighted that birth centre care offered a distinctive alternative to hospital care, accommodating the clinical needs as well as personal preferences of childbearing families. Freestanding birth centres provided extended prenatal visits, emphasising relationships with midwifery care providers and promoting trust. This model supported continuity of care with known midwives, resulting in improved outcomes. Natural progression of labour was prioritised, avoiding medical interference, encouraging the parent and newborn to stay together, and facilitating skin-to-skin care and breastfeeding. The integration of birth centres into the healthcare system promoted collaboration with physicians and hospitals. According to the authors birth centre care was associated with favourable outcomes, including lower caesarean rates, fewer interventions, higher breastfeeding rates, and increased satisfaction. The Strong Start study (as referred to by the authors) noted cost savings and reduced disparities, emphasising the role of birth centres in addressing healthcare challenges.	Alliman, Bauer and Williams (2022)
This scoping review focused on freestanding midwifery units, also known as birth centres, exploring their characteristics and significance in perinatal care. The authors described freestanding midwifery units as following a client-centred approach, continuity of care during pregnancy and the post-natal period, with lower medicalisation and active involvement of the client in decision-making. These units catered to individuals with uncomplicated pregnancies, avoiding routine engagement with gynaecologists and neonatologists. In case of complications, women were transferred to hospitals. The review highlighted the limited research on the educational role of freestanding midwifery units for midwives. The perspectives of midwives, decision-making processes, and perinatal outcomes were discussed. Pregnant individuals generally reported positive experiences, citing support, personalised care, and involvement in decision-making. The review identified research gaps and challenges faced by freestanding midwifery units, emphasising their value in promoting physiological labour and providing positive experiences for both midwives and their clients.	Baczek et al. (2020)
Through case study and appreciative inquiry, the researchers delved into the characteristics of successful midwife-led birthing centres in four low-and-middle income countries, reporting key insights. Financing models, ranging from external funding partnerships to governmental support, played a vital role in making childbirth care affordable. They reported that midwife-led birthing centres in South Africa (referring to public midwife-led obstetric units) offered free healthcare, enhancing accessibility. According to the researchers successful midwife-led birthing centres provided respectful, culturally sensitive midwifery care that supports physiological labour and birth. Women appreciated continuous support, confidentiality, and accurate information from midwives, with partner and family involvement highly valued. Interdisciplinary collaboration, including coordination with obstetricians and functional referral systems, ensured timely access to advanced care. Supportive leadership, governance, and ongoing training for midwives contributed to quality care, while reliable monitoring and evaluation mechanisms were deemed crucial for the impactful operation of midwife-led birthing centres.	Bazirete et al. (2023)
As part of the Dutch Birth Centre Study birth centres were characterised, described, and divided into three clusters based on specific characteristics: The researchers investigated 23 birth centres between January 2014 and April 2015, using interviews and questionnaires to assess integration across six dimensions. The birth centres were classified into three clusters: mono-disciplinary-oriented (MOBC), mixed cluster (MIBC), and multi-disciplinary-oriented (MUBC). MOBC centres (43.5%) exhibited lower integration scores, primarily focusing on providing an alternative birthplace without emphasising collaboration. MIBC centres (30.4%) showed variability in organisation, with higher clinical integration scores. MUBC centres (26.1%) had higher integration scores across all dimensions, emphasising multi-disciplinary collaboration and joint decision-making on care protocols and guidelines	Boesveld et al. (2017a)
The authors described a birth centre, known as Roots Community Birth Center, as a culturally centred and innovative model of care located in North Minneapolis, Minnesota. Established in 2015, it is the first and only African American midwife owned and operated freestanding birth centre in the state. The centre was committed to improving access and equity in care for racially and ethnically diverse pregnant individuals, particularly those from low-income backgrounds. Rooted in the principles of culturally centred and relationship-centred care, the centre provided comprehensive antenatal, birth, and postnatal services. Notably, Roots accepted all clients with Medicaid (government funding) coverage, emphasising its commitment to providing accessible care to marginalised communities.	Hardeman et al. (2020)
In this article the definition for birth centres in the Netherlands was stated as follows: 'Birth centres are midwifery-managed locations that offer care to low risk individuals during labour and	Hermus et al. (2017a)

<p>birth. They have a homelike environment and provide facilities to support physiological birth. Independent community midwives take primary professional responsibility for care. In case of referral the secondary caregiver (obstetrician or paediatrician) takes over the professional responsibility of care.'</p>	
<p>In this part of the Dutch Birth Centre Study researchers explored the characteristics and experiences of birthing individuals in different planned birth settings, such as birth centres, home births, and hospital births under midwives or obstetricians. Among 2 162 participants, 54.6% responded, with 263 planning birth at a birth centre. The results highlighted characteristics of birth centres and services offered there that the majority of those who gave there evaluated positively: the homelike environment (81.3%), hotel service (84.2%), and bath (94.8%). Most (93.0%) reported that birth centre experiences met expectations, with 84.9% arriving and leaving at their preferred times.</p>	Hitzert et al. (2016)
<p>Among 16 surveyed Australian birth centres, key findings included variations in pain relief options, staffing models, and equipment availability. Some centres were affiliated with hospitals, while others were freestanding. Birth centres varied in proximity to labour wards (2m to 15km), intrapartum transfer rates (7% to 29%), availability of on-site special care nursery or neonatal intensive care unit, induction methods (artificial rupture, oxytocin, prostaglandins), pain relief options (nitrous oxide, local anaesthetic, systemic opioids, pudendal analgesia), and their use of foetal monitoring. The study highlighted the lack of a standard definition for birth centres in the country, however, two philosophies were consistently reported as very important by birth centres representatives: 'commitment to normality of pregnancy and birth' and 'to provide midwifery-led care'.</p>	Laws et al. (2009)
<p>The authors of this article noted changes in 16 birth centres that also reflected changes in the Australian maternity care system between 1997 and 2007: stricter admission criteria (more frequent exclusion post term pregnancies, vaginal births after caesarean section, and pregnant individuals classified as obese), and more the judicious use of specific interventions (artificial rupture of membranes, forceps, and opioids). An increase in the use of natural therapies, and more birth centres managing induction of labour and electronic foetal monitoring were also observed.</p>	Laws et al. (2011)
<p>The researchers who conducted this qualitative study highlighted the importance of time, physical environment, midwifery care, continuity, empowerment, and the belief in physiologic birth in shaping birth centre models of care and enhancing client confidence. It also contrasted birth centre care with challenges in hospital settings and cultural perceptions of birth in the USA.</p>	Neerland and Skalisky (2022)
<p>With this scoping review and scoping survey researchers aimed to investigate the presence and characteristics of midwife-led birthing centres in low- and middle-income countries. Through a scoping review of literature and a structured survey, the researchers identified midwife-led birthing centres in 57 low- and middle-income countries, with 24 countries having robust evidence from multiple sources. The study revealed a prevalence of such centres in low- and lower-middle-income nations, often taking the form of freestanding facilities. Challenges were noted in upholding the midwifery philosophy of care and establishing effective referral systems. Importantly, the research emphasised substantial knowledge gaps, including the lack of data on the impact and costs of midwife-led birthing centres in low- and middle-income countries, highlighting areas for future exploration and development in maternal healthcare. The South African midwife-led birth centres referred to in this scoping review were publicly operated midwife-obstetric units and studies focused on these facilities found that some clients reported disrespect and abuse.</p>	Nove et al. (2023)
<p>In this study, set in in rural Appalachia, pregnant individuals who were receiving prenatal care at a birth centre identified the alternative, non-medical approach, relaxing atmosphere, appointment availability and short wait times, inclusion of their families, and personalised, unrushed care as positive characteristics of the birth centre.</p>	Phillippi et al. (2014)
<p>The researchers explored a freestanding midwifery unit in east London, emphasising a social model for maternity care. Serving an economically deprived area, the freestanding midwifery unit facilitated around 500 births annually, providing continuity of care. The unit's characteristics included a diverse midwifery team and co-located facilities with birthing rooms. Findings highlighted key themes such as Relationships and Trust, Ownership, Autonomy, and Continuous Learning, Team Spirit, Interdependency, and Power Relations, as well as Salutogenesis. Distinctive features of the freestanding midwifery unit were found to be a positive culture that fostered relationships, midwives' ownership and autonomy, continuous learning, collaborative care organisation, and a focus on wellbeing for both staff and clients.</p>	Rocca-Ihenacho et al. (2021)
<p>In this case study focused on two Italian birth centres researchers pinpointed essential factors in the spatial and organisational design of birthing environments that enhanced birth experiences. Collaborative decisions made by stakeholders and users, resulted in environments that emphasised safe physiological birth, psychosocial wellbeing, movement and relaxation, privacy</p>	Setola et al. (2018)

<p>and intimacy, and human connections. The findings indicated that these elements offered valuable guidance for improving birthing facilities, including hospitals.</p>	
<p>The authors of this article described characteristics of a specific birth centre model of care as an example of successful collaborative practice between midwives and an obstetrician. The centre prioritised regular communication through weekly staff meetings, provider interactions, and emergency drills. Administrative meetings occurred semi-annually to review policies. Collaboration, mutual respect, and evidence-based care are core values, blending the midwifery and medical models. The birth centre, serving a diverse population including Medicaid recipients, actively engaged in a grant program for family planning. This collaborative approach led to positive outcomes, financial stability, and unexpected benefits such as enhanced relationships in the hospital setting. It was noted that the centre also provided educational opportunities.</p>	<p>Stevens et al. (2012)</p>
<p>Researchers systematically examined midwife-led birthing centres across low-to-middle income countries through a scoping review using a Network of Care (NOC) framework. Overall, the review provided a comprehensive guide for policymakers, healthcare providers, and researchers, outlining ideal characteristics for successful midwife-led birthing centre implementation. The authors highlighted crucial elements for successful midwife-led birthing centre implementation, refereeing to four domains. The 'agreement and enabling environment' domain underscored the significance of supportive policies, citing examples from Brazil, South Africa, Iran, and Indonesia. Emphasis was placed on financing strategies for accessibility, such as health insurance and fee waivers. Intentional arrangements, including responsive care and trust-building with communities, were deemed essential. In the Operational standards domain, challenges like workforce shortages and inadequate infrastructure were acknowledged. Quality, efficiency, and responsibility domain emphasised effective coordination, benchmarking, and evidence-based guidance. The Learning and adaptation domain focused on client-centred care, flexibility, and innovation, exemplified by cases from Pakistan, Mexico, and Brazil.</p>	<p>Turkmani et al. (2023)</p>
<p>Three case studies of birth centres in informal settlements were presented to make the case for the potential success of the birth centre model of care low resource settings. Characteristics that contributed to the success of these birth centres were highlighted. Birth centres in informal settlements offered proximity and quality care, addressing the challenges of distance and access faced by pregnant individuals in these areas. The model emphasised respectful and culturally appropriate care, ensuring that the care provided aligned with the cultural background of the community. Birth centres, with trained staff, provided a balance by allowing normal physiological birth while ensuring prompt action in case of complications. Community-based birth centres empowered communities by involving local health workers and traditional birth attendants. Education and community engagement were integral to the success of birth centres, increasing awareness and encouraging facility births. Birth centres alleviated pressure on overcrowded secondary and tertiary care centres, ensuring that high-risk cases received appropriate attention while low-risk births were managed efficiently in the community.</p>	<p>Wallace (2019)</p>
<p>The findings of this study highlighted the importance of the birth environment and setting in pregnant individuals' decision-making process when choosing a birth centre. The birth centre's atmosphere, friendly staff, and one-to-one emotional support provided to clients during labour were significant factors contributing to their positive experiences. The study also emphasised the concept of "nesting," where both staff and clients engaged in activities to create a comfortable and nurturing environment, resembling a home-like setting.</p>	<p>Walsh (2006)</p>

Annexure K: Summary of studies that specified or described eligibility criteria

Summary/findings	Authors
<p>This article provided a summary of risk out criteria for out-of-hospital births (variations by location): The "risk-out" criteria, compiled from various sources including Oregon birth centres, The Netherlands, Ontario and British Columbia in Canada, and Washington State for home births, outlining conditions that necessitated the transfer of care from midwives to obstetricians. For gestational diabetes, insulin-dependent cases required immediate transfer to an obstetrician, and pre-existing diabetes necessitated obstetric care. Labour after caesarean required referral if conception occurred within 12 months of surgery or for multiple caesareans without prior vaginal births. Preterm labour or rupture of membranes before 36 weeks prompted transfer, with variations based on previous preterm history. Post term pregnancies beyond 43 weeks or over 42 weeks with abnormal nonstress test results mandated transfer. Breech presentations not imminent at full term and abnormal presentations in labour required transfer or obstetric care. Multiple gestations, preeclampsia, eclampsia, and severe hypertension called for transfer or obstetric referral depending on the severity of the condition. These criteria guided midwives in making appropriate decisions to ensure the safety of both the birthing individual and newborn.</p>	<p>Bovbjerg et al. (2017)</p>
<p>This study attempted to explore the acceptability and safety of vaginal delivery after a prior caesarean section at freestanding midwife-led birth centres in Germany. The analysis focused on examining the outcomes of vaginal birth after caesarean section (VBAC) in birth centres and compared it with a control group of women who had not undergone a previous caesarean section. Out of 6 812 birth centre clients, 5.3% had previous caesarean sections. The groups with and without previous caesarean sections showed no significant differences in basic data, maternal and neonatal mortality, or transfer rates. There were no uterine ruptures in the previous caesarean group. Significant differences included higher maternal transfer rates, mode of birth (caesarean), and postnatal conditions for individuals with previous caesareans. Individuals with a previous caesarean had an 8-fold higher risk of caesarean delivery in the second birth, and various factors increased this risk further (e.g., labour arrest, cephalo-pelvic disproportion).</p>	<p>David et al. (2009)</p>
<p>This retrospective quantitative study, conducted from 1993 to 2010 in an Amish birth centre in Southwestern Wisconsin, included 927 individuals who received care during labour. The study focused on the impact of previous caesarean sections on outcomes. The overall caesarean rate was low at 4% (35 out of 927). Notably, there were no reported cases of uterine rupture or maternal death because of trial of labour after caesarean (TOLAC) or vaginal birth after caesarean (VBAC). According to the authors neonatal death rate of 5.4 per 1 000 births was comparable to rates in Wisconsin (4.6 per 1 000) and the United States (4.5 per 1 000). They suggested that, in this specific birth centre setting, individuals with a history of caesarean section were able to have successful TOLAC and VBAC with low rates of adverse outcomes.</p>	<p>Deline et al. (2012)</p>
<p>In this expert review the risks of out-of-hospital birth were discussed and a list of conditions that, in their opinion, necessitated hospital birth was provided: a history of previous uterine surgery or caesarean delivery, previous stillbirth, postpartum haemorrhage, preeclampsia, or complications during previous births such as shoulder dystocia, retained placenta, haemorrhage, or trauma. Additionally, instrumental delivery in the past, as well as current obstetric factors like placenta previa and/or accreta, abruptio placentae, any placental anomaly, multiple gestation (twins, triplets), foetal malpresentation (e.g., breech), maternal medical conditions (e.g., heart disease, seizures, hypertension, autoimmune disease, thyroid disease, diabetes mellitus, preeclampsia, renal disease, liver disease, substance abuse, psychiatric disease), foetal anomalies, foetal cardiac arrhythmia, intrauterine growth restriction, polyhydramnios or oligohydramnios, body mass index below 18.5 or above 35, rupture of membranes exceeding 24 hours, a history of cord prolapse or foetal distress, Rh isoimmunization, anaemia, maternal age over 35, smoking, nulliparity, infections (e.g., Group B Streptococcus-positive or sexually transmitted diseases), and an extended distance to the nearest hospital or birth unit all constituted contraindications to consider when contemplating an out-of-hospital birth. According to the authors the safety and wellbeing of both the pregnant individual and the newborn are better ensured within a hospital setting where specialised care and resources are readily available.</p>	<p>Grünebaum et al. (2023)</p>
<p>The focus of this case study was Roots Community Birth Center. To be eligible for admission at this birth centre, prospective clients had to meet the following criteria: be pregnant with a single foetus in a vertex position, have no pre-existing health conditions, maintain normal blood glucose levels (gestational diabetes mellitus is acceptable if it could be managed without medication), and have normal a blood pressure. They allowed clients who had one previous c-section if normal placental placement and normal haemoglobin levels had been confirmed. These eligibility criteria were communicated with clients in advance to ensure transparency regarding when a transfer of care</p>	<p>Hardeman et al. (2020)</p>

might be necessary, and they aligned with recommendations from the American College of Nurse-Midwives (ACNM) and American Association of Birth Centers (AABC).	
The research team determined criteria that would define 'uncomplicated' or 'low risk' pregnancies (pregnancies that do not involve any medical or obstetric risk factors) at the onset of the study. They primarily relied on the Australian College of Midwives Guidelines for Consultation and Referral as a reference to define what qualifies as an uncomplicated pregnancy which provided a comprehensive list of criteria (Australian College of Midwives, 2015).	Homer et al. (2019)
Excluding individuals from freestanding birth centres solely based on a body mass index >30 may not be justified according to the findings of this study. The findings indicated that pregnant individuals with body mass indexes >30 had uncomplicated pregnancies and vaginal births, with no significant differences in complications or outcomes compared to those with body mass indexes in the normal range. In cases where intrapartum referrals or transfers were necessary, the primary reasons were unrelated to body mass index, including prolonged labour, inadequate pain relief, client choice, or meconium-stained liquor. This suggested that body mass index alone may not be an accurate predictor of birth centre suitability, as evidenced by a relatively low caesarean birth rate among primiparous individuals with body mass indexes >30 starting labour at a birth centre.	Jevitt et al. (2021)
A table with specific exclusion criteria for community birth was included in this article. This included: medical history exclusion; current pregnancy exclusions; and exclusion risk factors at onset of labour	Jolles, Montgomery, et al. (2022)
The researchers observed a decline in the acceptance of post term pregnancies, vaginal births after caesarean section and individuals classified as obese (body mass index >35) in 16 Australian birth centres between 1997 and 2007. Maternal smoking and age were never reasons for exclusion, however, drug and alcohol dependence and fertility treatment consistently remained in exclusion criteria. Several other changes in exclusion criteria were discussed.	Laws et al. (2011)
Birth outcomes of 1 913 individuals who planned to attempt VBAC in 41 birth centres over a 10-year period were evaluated. The prevalence of uterine rupture (0.4%) and foetal/neonatal death (0.5%) were low; however, the overall hospital transfer rate was 24%. The risk of uterine rupture and foetal/neonatal death were significantly increased in individuals who had >1 previous caesarean or reached 42 weeks gestation. The authors concluded that they would not recommend attempted VBAC at birth centres.	Lieberman et al. (2004)
This study on trends and risk status in USA out-of-hospital births between 2004 and 2014 found that individuals who had out-of-hospital births had lower rates of pre-pregnancy obesity and smoking compared to those opting for hospital births. This suggested that more women with these 'risk factors' might have been directed towards hospital births.	MacDorman and Declercq (2016)
In this two-part study eligibility criteria for freestanding midwife-led birth centres were listed as 'singleton pregnancy, vertex presentation, spontaneous onset of labour, pregnancy from 37 to 42 completed weeks of gestational age, spontaneous rupture of membranes under 24 hours, no relevant medical history...and uncomplicated pregnancy.'	Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Macfarlane, Rocca-Ihenacho and Turner (2014)
The study focused on births attended by members of a statewide midwifery professional association, who adhered to eligibility criteria specified by the association (Midwives' Association of Washington State, 2021). A summary of criteria is given: 'term gestation, singleton, vertex foetus with no known fluid abnormalities at term, no prior caesarean birth, no hypertensive disorders, no prepregnancy diabetes'.	Nethery et al. (2021)
The researchers explored factors or variables associated with the need for hospital transfer of birth centre clients with the aim of identifying predictors for transfer to improve risk screening. Nulliparity (being pregnant from the first time), previous caesarean section and previous hospital birth were among the strongest predictors of hospital transfer.	Nguyen et al. (2009)
In this systematic review the researchers included studies from Australia, the UK, Sweden Denmark, and Germany conducted between 1982 and 2011. The combined sample comprised at least 84 500 individuals who received birth centre care in the included studies. Results did not suggest a trend toward higher neonatal mortality in birth centres, however it was found that nulliparity, maternal age > 35, and giving birth at > 42 weeks' gestation was associated with an increased risk of neonatal mortality.	Phillippi et al. (2018)
This study explored maternal and neonatal outcomes in planned community births and the effect of foetal macrosomia revealing a dose-response relationship between the severity of macrosomia and adverse outcomes, including perineal trauma, postpartum haemorrhage, shoulder dystocia, neonatal respiratory distress, and extended neonatal intensive care unit (NICU) stays. These findings emphasised the importance of careful consideration when deciding eligibility for birth	Pillai et al. (2020)

centre care. The authors concluded that imprecise nature of pre-birth foetal weight estimation necessitates enhanced antenatal support and shared decision-making processes, particularly for individuals where macrosomia is suspected, ensuring that appropriate medical facilities and interventions are available to address potential complications.	
The researchers found that midwives were aware of the ethical dilemma they faced when having to reject some individuals for care at birth centres due to specific 'risk criteria', denying some the choice of this model of care often on the bases of 'perceived risk'. Midwives were also aware of risk management and local and international standards. The author argued that women-centred care, when considered within an ethical framework similar to that of end-of-life care, could allow for a more inclusive decision-making process.	Scamell (2014)
According to this study focused on transfers from out-of-hospital births in New South Wales (NSW), Australia pregnant individuals were considered eligible for birth centre or home birth and were included in the study if they had low-risk pregnancies: were between 37 to 41 weeks at onset of labour, had singleton pregnancies with cephalic foetal presentation, no complications, spontaneous onset of labour, and were aged 17 to 40.	Scarf et al. (2019)
According to these authors pregnant individuals in the Netherlands were referred from a community midwife to an obstetrician if they had pre-existing health issues, a complicated obstetric history, or had complications like foetal growth restriction, preeclampsia, or labour difficulties (e.g., stalled labour progress or foetal distress). Referral in the post-natal period occurred due to complications after labour like severe tears or excessive bleeding.	Schuit et al. (2016)
According to this study eligibility criteria for birth centre care in Ontario varied between two centres. Both centres admitted low-risk pregnant individuals at full term with a healthy foetus, for whom a straightforward labour and birth was anticipated. However, there were differences in the definition of low risk. Only one centre accepted clients with a history of one previous caesarean birth who wished to attempt vaginal birth. Additionally, one centre limited admission to individuals with a pre-pregnancy body mass index below 40, while the other did not.	Sprague et al. (2018)
Eligibility criteria for this study was specified as birth centres that followed the American Association of Birth Centers (AABC) and Commission for the Accreditation of Birth Centers (CABC) set criteria for birth centre care, requiring singleton, full-term pregnancies with vertex presentation and no medical conditions that might indicate the need for medical interventions like continuous foetal monitoring or induced labour.	Stapleton et al. (2013)
The researchers specified study inclusion criteria as 'low-risk' pregnant population served by Washington State birth centres, specifically individuals with singleton, vertex-position pregnancies at ≥ 37 weeks gestation. Cases of preterm labour, prior caesarean birth, non-vertex foetal presentation, multiple pregnancies, or foetal death were not considered low risk and were excluded. Key factors linked to hospital transfer from birth centres were identified: nulliparity, maternal age > 40 , hypertensive disorders, having government insurance, maternal obese body mass index, and insufficient antenatal care.	Stephenson-Famy et al. (2018)
The authors of this article specified that midwife-led birth centres in Japan provided care exclusively to individuals with singleton cephalic pregnancies, but only after a rigorous assessment that excluded individuals with medical, obstetric, and neonatal risks. An element of this risk assessment process involved collaboration with obstetricians.	Suto et al. (2015)
This study focused on clients of American Association of Birth Centers (AABC) birth centres that were committed to follow AABC guidelines: included individuals were at least 37 weeks pregnant and in spontaneous labour. Excluded individuals had induced labours, twin pregnancies, abnormal foetal positions, prior caesarean section, foetuses estimated to weigh less than 2500 grams or more than 6000 grams at birth, and those with certain medical conditions such as low or high body mass index, hypertension, diabetes, renal disease, asthma, history of seizures, treated psychiatric disorders, substance abuse, and a history of physical or sexual victimisation. Antenatal complications like gestational diabetes, hypertension, anaemia, infections, preterm labour, placental issues, and abnormal foetal testing also led to exclusion from the study as they would be excluded from birth centre care.	Thornton et al. (2017)
This study included a substantial number of pregnant individuals ($n = 1\ 138\ 813$) with a relatively small proportion opting for VBAC ($n = 109\ 970$; 9.65%). The majority of these VBAC births occurred in a hospital setting (97.14%), while a smaller proportion took place in out-of-hospital settings (2.45%). The findings indicated a pattern of increased neonatal morbidity associated with out-of-hospital VBAC births, as evidenced by higher rates of neonatal seizures, low Apgar scores (both <7 and <4), neonatal death, and ventilator support among infants born in out-of-hospital settings. These differences were statistically significant for some outcomes, while others did not reach statistical significance.	Tilden et al. (2017)
To establish a low-risk sample, the researchers in this study excluded individuals with multiple gestations, preterm births before 37 weeks, smokers, individuals diagnosed with pregestational or	Wax et al. (2010)

gestational diabetes, chronic hypertension, hypertensive disorders during pregnancy, or those who had undergone previous caesarean sections.	
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Annexure L: Summary of studies that focused on choice, equity and access to birth centre care

Summary/findings	Author/s
<p>In this article the authors discussed the challenges and disparities in the USA perinatal care system, with a focus on the potential benefits of birth centre and midwifery-led care. They highlighted the positive outcomes observed in the national evaluation of the Strong Start for Mothers and Newborns Initiative, which showed a significant reduction in preterm births, low birth weight, and caesarean births for individuals who had birth centre care compared to usual care. Despite these findings, the authors noted a lack of policy discussion and implementation of birth centre and midwifery-led care on a broader scale.</p>	<p>Alliman and Bauer (2020)</p>
<p>The researchers conducted a study involving 6 424 Medicaid beneficiaries enrolled in 45 American Association of Birth Centers (AABC) Strong Start practices across 19 USA states from 2013 to 2017. They aimed to understand the socio-demographic characteristics, perinatal outcomes, care use patterns, and disparities in birth outcomes. The findings suggested that the AABC Strong Start model was associated with positive perinatal outcomes, lower caesarean rates, and high breastfeeding rates. While racial and ethnic disparities persisted, the model appeared to contribute to narrowing these disparities in some outcomes. The findings emphasised the importance of midwifery-led care, early access to prenatal care, and appropriate access to care in achieving favourable birth outcomes.</p>	<p>Alliman et al. (2019)</p>
<p>In this study comparing birth centre care at Roots (a Black-owned birth centre) and Giving Voice to Mothers (a non-Black-owned birth centre), participant demographics showed a third identifying as people of colour in both groups. Roots participants reported significantly higher autonomy and respect scores compared with Giving Voice to Mothers participants. The analysis also revealed that while there was no statistical difference in autonomy scores between Black, Indigenous, and People of Colour (BIPOC) and white individuals, there was a significant difference in respect scores, with BIPOC individuals experiencing higher levels of respect. The study suggests that culturally centred care at Roots was associated with higher autonomy and respect levels for all clients, irrespective of race. The authors advocated for increased investment in community birth centres staffed by BIPOC providers to enhance health equity.</p>	<p>Almanza et al. (2022)</p>
<p>The reviewers delved into global studies on midwifery units (MU), highlighting that the significance of readiness for implementation of these facilities was influenced by cultural, structural, and professional factors. Structural barriers included gendered power dynamics and medicalised care prevalence, and decision-making factors such as norms and safety perceptions. Recognition of midwives' roles, along with considerations of cost, national guidelines, and local policies, influenced readiness. Successful strategies included training, exposure to the MU model, collaboration, integration, effective communication, and charismatic leadership. While acknowledging the importance of the physical environment, the reviewers cautioned against exclusively focusing on physical changes. Overall, the emphasis was on cultural, organisational, and professional factors in fostering MU implementation readiness globally.</p>	<p>Batinelli et al. (2022)</p>
<p>USA Medicaid participants in the Strong Start Birth Centers program reported choosing birth centre care for personalised, low-intervention experiences, unlike their previous negative encounters with hospitals or obstetric care. However, birth centres faced challenges like inadequate reimbursement, payment disparities with hospitals, limited contracts with Managed Care Organizations (MCOs), coverage limits for services, and state licensure obstacles. Some centres restricted Medicaid enrolment or directed potential clients to hospitals due to insufficient reimbursement, impacting their finances. State laws further limited birth centre access and coverage.</p>	<p>Courtot et al. (2020)</p>
<p>Australian residents expressed interest in birth centres and homebirth, with most emphasising the importance of having a wide range of options available for place of birth and care provider, highlighting specific factors such as continuity of care, midwife-led care, safety, proximity to home, and flexible guidelines, which influenced their choice regarding birth centre care.</p>	<p>Dahlen et al. (2011)</p>
<p>This study evaluated the implementation of a new freestanding birth centre, emphasising the philosophy of promoting physiological childbirth and giving pregnant individuals the autonomy to decide on their preferred birth location. The findings suggested that individuals who chose the birth centre reported higher satisfaction with continuity of care, a relaxed environment, and non-hierarchical relationships with midwives. Midwives experienced increased job satisfaction, autonomy, and the ability to practice "real midwifery." However, reported challenges included the need for more support, awareness, and promotion of the birth centre, as well as resistance to the social model of birth. The authors recommended further research to address these issues and enhance maternity care.</p>	<p>Deery et al. (2007)</p>

<p>The authors concluded that encouraging shared decision-making in birth setting options enabled individuals to make informed choices that aligned with their values and health. They suggested that implementing decision aids for pregnant individuals could enhance equity in accessing birth settings, reducing perinatal health disparities. However, difficulties in obtaining unbiased information persisted in the USA as demonstrated by this case study.</p>	<p>George et al. (2022)</p>
<p>The researchers aimed to explore pregnant individuals' decision-making regarding their birthplace and factors that influenced their choice between a midwifery-led primary maternity unit and a tertiary hospital in New Zealand. They found that "confidence" was the key factor that shaped these decisions, with pregnant individuals who opted for primary units expressing confidence in the birth process, their abilities, midwives, the maternity system, and the unit itself, while those choosing tertiary hospitals lacked confidence in these aspects but had confidence in their midwife. The study findings underscored the significance of birthplace in birth experiences and highlighted the complexity of birthplace decision-making, emphasising the need for various factors to align for pregnant individuals to confidently choose a midwife-led primary maternity unit.</p>	<p>Grigg et al. (2015)</p>
<p>The findings of this study suggested that non-Hispanic black pregnant individuals on Medicaid (USA government insurance) who had certified nurse-midwives or other midwives as attendants during labour and birth had significantly decreased odds of giving birth to a newborn born small for gestational age. Those who gave birth in birth centres or had planned home births also had decreased odds of small for gestational age births, while unplanned home births were associated with increased odds. The associations remained statistically significant after adjusting for various factors, suggesting that the type of attendant and the place of birth may impact birth outcomes, potentially indicating the importance of culturally competent and personalised care.</p>	<p>Hansel et al. (2022)</p>
<p>This case study focused on Roots Community Birth Center, an African American-owned, midwife-led facility in North Minneapolis that offered culturally centred maternity care that addresses racial disparities in birth outcomes. They served Medicaid beneficiaries and provided customised prenatal and postpartum care but faced financial challenges due to payment models designed for typical obstetrician and hospital care. Despite these challenges, their culturally centred approach was proven effective, with no preterm births among 284 families during the preceding four years. This centre showcased the potential of equitable, community-based care to reduce racial disparities in childbirth.</p>	<p>Hardeman et al. (2020)</p>
<p>This Brazilian study revealed that pregnant individuals faced significant problems in hospital settings, including lack of beds, accommodation of companions, and privacy. They experienced standardised care and unnecessary procedures. Seeking birth centre care was motivated by positive recommendations, proximity, and easier access. Reported satisfaction with birth centre care stemmed from a pleasant atmosphere, continuous presence of professionals, respect for choices, emotional support, and respect for physiological birth.</p>	<p>Jamas et al. (2011)</p>
<p>The findings of this study suggested that, despite higher indicators for socioeconomic risk, individuals with obese body mass indexes who received midwifery care in birth centres demonstrated outcomes similar to those with normal body mass indexes, challenging generalised risk-based care for obesity and highlighting the potential for birth centres to provide safe, cost-effective, and equitable care options for individuals with obesity.</p>	<p>Jevitt et al. (2021)</p>
<p>Two studies delved into the outcomes of births among individuals who were beneficiaries of the USA public insurance programs (Medicaid) at birth centres. The findings of these studies painted a promising picture, revealing that these individuals experienced satisfactory outcomes. Positive trends demonstrated that regardless of socioeconomic status or insurance coverage, pregnant individuals could access and receive safe care in birth centres. The study findings highlighted the potential for reduced disparities in maternal and infant health outcomes when there is equal access to the birth centre model of care.</p>	<p>Jolles et al. (2020) Jolles, Hoehn-Velasco, et al. (2022)</p>
<p>In the context of equity of access to birth centres, this study highlighted the need for healthcare providers to recognise and address the unique sociocultural realities and experiences of African American pregnant and birthing individuals.</p>	<p>Karbeah et al. (2019)</p>
<p>The findings of this qualitative study highlighted the significance of agency, culturally sensitive care, and trust-building in ensuring equitable birthing experiences for Black individuals at birth centres.</p>	<p>Karbeah et al. (2022)</p>
<p>This Dutch study was conducted to examine preference for a proposed new birth centre in terms of services and facilities. Researchers found a strong preference for the comprehensive services the birth centre would offer, especially from non-Dutch women. Higher educated, non-Dutch women indicated their preference for the personalised care that would be offered.</p>	<p>Lescure et al. (2017)</p>
<p>The researchers found that, among planned home births (67.1%) and birth centre births (31.9%), more than two thirds and one third in the USA were self-paid between 2004 and 2014, highlighting the gap in national insurance coverage. In contrast, only and 3.4% of hospital births were self-paid. These disparities highlighted the financial challenges faced by individuals seeking out-of-hospital births, particularly in home settings, and suggests a need for improved insurance coverage to</p>	<p>MacDorman and Declercq (2016) MacDorman and Declercq (2019)</p>

<p>enhance accessibility to birth centres. The study findings also revealed a lack of access to hospital vaginal births after caesarean section (VBACs), leading to higher rates of out-of-hospital VBACs. In a later publication the same researchers still reported the lack of insurance or Medicaid coverage to be a significant barrier for pregnant individuals seeking out-of-hospital births in most states, yet the increasing number of such births indicated the strong motivation of some pregnant individuals to opt for this choice despite the obstacles.</p>	
<p>The findings of this study highlighted disparities in the quality of care and birth experiences between individuals who chose care at Barkantine Centre, a freestanding midwifery unit in a deprived area of east London, and those who opted for the obstetric unit at the Royal London Hospital. Individuals who met the criteria for birth centre care and chose it reported positive experiences, including personalised care, respectful treatment, and more natural birth practices. The authors suggested that pregnant individuals in deprived areas benefit from the availability of freestanding midwifery units.</p>	<p>Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Macfarlane, Rocca-Ihenacho and Turner (2014)</p>
<p>In rural Appalachia recipients of antenatal care at a birth centre identified Medicaid state funding, the location of the birth centre, all care being in one location (antenatal appointments, blood tests etc.) and the availability of appointments as facilitators for access to birth centre care. They mentioned transport and work schedules as barriers to access.</p>	<p>Phillippi et al. (2014)</p>
<p>The researchers found that only 58.2% of women in Switzerland had a true choice between giving birth in a hospital or a birth centre, with hospitals being more accessible than birth centres. The median travel time to hospitals was 9.8 minutes, while it was 23.9 minutes to birth centres. The accessibility of birth hospitals was generally good across the country, with 94% of women having reasonable access within 30.1 minutes. In contrast, only 59% of women had reasonable access to a birth centre within 30.2 minutes, and the variation across areas was significant. The mean travel time difference between birth hospitals and birth centres was 16.0 minutes, with birth centres being less accessible, and this difference varied widely across different regions in Switzerland.</p>	<p>Rauch et al. (2022)</p>
<p>The findings of the study revealed important insights into low-risk pregnant individuals' choice of birth setting. Notably, there were racial and insurance disparities, with black clients and publicly insured individuals more likely to choose hospitalisation over a freestanding birth centre. Various factors, including insurance restrictions and family preferences, influenced their decisions. Additionally, more first-time pregnant individuals (primiparas) reported a preference for hospitalisation.</p>	<p>Sanders et al. (2021)</p>
<p>In this study the researchers interrogated ethical aspects of admission policies in freestanding birth centres in the UK. They involved 33 midwives from both National Health System and independent sectors. The findings revealed that midwives encountered ethical dilemmas when rejecting individuals based on 'risk criteria', denying them the choice of birth centre care. The researchers suggested adopting a woman-centred approach, akin to the ethical framework used in end-of-life care, to ensure a more inclusive decision-making process for accessing birth centre services.</p>	<p>Scamell (2014)</p>
<p>The results of this study suggested that, regardless of race or ethnicity, approximately 12.6% of pregnant individuals, including both black and white participants, expressed feeling safest giving birth outside of a hospital. Demographically, those endorsing out-of-hospital birth were more likely to be older, have an annual income less than \$15,000, and had education levels beyond high school, including those with a master's degree. Disparities in planned out-of-hospital births between black and white individuals were likely not due to differences in feelings about safety but may have been influenced by socioeconomic factors, such as education and income. The study findings suggested the need for further research to explore the reasons behind these disparities and emphasised the importance of understanding women's preferences for birth settings to improve maternity care.</p>	<p>Sperlich et al. (2017)</p>
<p>Through this scoping review, utilising the Network of Care (NOC) framework, the reviewers examined challenges and enablers for midwife-led birthing centres in low-to-middle income countries. They concluded that a client-centred approach is crucial for underserved populations, requiring community engagement and equitable access. Their findings underscored the importance of all Network of Care elements for the success of midwife-led birthing centres and they proposed an assessment tool. Despite limitations, the review provided valuable insights for scaling up midwife-led birthing centres, emphasising the need for further research on maternal health outcomes at these facilities and implementation strategies.</p>	<p>Turkmani et al. (2023)</p>

<p>Three case studies presented in this article demonstrated that the birth centre model of care significantly improved equity and access to maternity services in low resource settings, particularly in urban informal settlements. Birth centres, characterised by proximity, culturally appropriate care, and midwifery-led services, offered a feasible solution for individuals who faced challenges in accessing healthcare due to poor infrastructure, fear of violence, and financial constraints. By being located within the community, these centres provided a safe and respectful environment for childbirth, reducing the reliance on home births and mitigating the barriers associated with facility-based births. The article showcased successful examples from Bangladesh and the Philippines, emphasising the positive impact of birth centres in promoting equity and enhancing access to essential maternal care services for vulnerable populations.</p>	<p>Wallace (2019)</p>
<p>This study revealed that pregnant individuals' choices were influenced by various factors such as personal birth history, recommendations from family and friends, proximity of facilities to their homes, and the social environment of the birth centre. The findings suggested that pregnant individuals' decisions were guided more by social and psychological factors than clinical considerations such as mortality and morbidity statistics.</p>	<p>Walsh (2006)</p>
<p>In this article, the authors highlighted disparities in perinatal health and maternity care access faced by Black families in Detroit, reflecting nationwide inequities. Addressing challenges in underfunded public health, a community initiative, Birth Detroit, emerged. Led by local Black women, it aimed to increase access to midwifery-led maternity care, challenging exclusivity perceptions and advocating for birthing individuals' rights. A community survey supported midwives, doulas, and birth centres, emphasising evidence-based, respectful, and autonomous care. Birth Detroit's proactive engagement and collaboration led to Birth Detroit Care, a successful community midwifery clinic, showcasing a community-driven approach prioritising equity, culturally competent care, and reducing maternal and infant health disparities</p>	<p>Welch et al. (2022)</p>
<p>This Dresden-based study including 177 pregnant individuals explored the influence of psychopathological risk factors on choice of birthplace. At the outset, 68.4% planned hospital births, 23.7% freestanding midwifery units, and 7.9% home births. Primiparas preferred hospitals, while multiparas favoured freestanding midwifery units and home births. Psychopathological risk factors, including prenatal distress and childhood trauma, were assessed. Primiparity, prenatal distress, and childhood trauma predicted hospital births.</p>	<p>Winter et al. (2022)</p>

Annexure M: Summary of maternal and perinatal outcomes reported in the literature and authors that reported on one or more of these outcomes

Maternal clinical outcome reported on in the literature on freestanding midwife-led birth centres	Author/s that reported on one of more of these outcomes (n=61)
<p>Mode of birth Normal/spontaneous vaginal/vertex delivery Caesarean section (at referral hospital) Assisted birth (vacuum or forceps) (mostly at referral hospital) Vaginal birth after caesarean Water birth Spontaneous labour onset Duration of labour Complications during labour and birth Intrapartum transfer from birth centre to hospital Non-reassuring foetal heart rate pattern Meconium-stained liquor Uterine rupture Placental abruption Shoulder dystocia requiring manoeuvres Perineal integrity (incidence of 3rd or 4th degree tear) Unplanned hysterectomy Postpartum complications Postpartum haemorrhage (blood loss > 500ml after vaginal birth; >1000ml after caesarean) and/or blood transfusion required Retained placenta Postpartum hospitalisation Maternal infection/sepsis Maternal admission to high care Postpartum anxiety and/or depression Maternal death</p>	<p>Alliman and Phillippi (2016) Alliman et al. (2019) Baczek et al. (2020) Behruzi et al. (2017) Benatar et al. (2013) Benatar et al. (2013) Bovbjerg et al. (2017) Brocklehurst et al. (2012) Brocklehurst et al. (2012) Christensen and Overgaard (2017) da Silva, de Oliveira, Bick, Osava, Nobre, et al. (2012) da Silva, de Oliveira, Bick, Osava, Tuesta, et al. (2012) David et al. (2006) David et al. (2009) De Jonge et al. (2017) de Oliveira et al. (2019) Deline et al. (2012) Erickson et al. (2020) Grigg et al. (2017) Hansel et al. (2022) Hermus et al. (2017b) Hollowell et al. (2017) Homer et al. (2019) Jevitt et al. (2021) Jolles et al. (2017) Jolles et al. (2020) Jolles, Hoehn-Velasco, et al. (2022) Kataoka et al. (2018) Kataoka et al. (2013) Laws et al. (2010) Leslie and Romano (2007) Leslie and Romano (2007) Lieberman et al. (2004) Lopes et al. (2019) Lotshaw et al. (2020) Macfarlane, Rocca-Ihenacho and Turner (2014) MacKinnon et al. (2017) McIntyre (2012) Monk et al. (2014) Monk et al. (2017) Nethery et al. (2018) Nethery et al. (2021) Nguyen et al. (2009) Niemczyk et al. (2022) Niemczyk et al. (2022) Niemczyk, Ren and Stapleton (2022) Penwell (2004) Pillai et al. (2020) Saxton et al. (2015) Scarf et al. (2019) Schuit et al. (2016) Snapp et al. (2020) Sprague et al. (2018) Stapleton et al. (2013) Stephenson-Famy et al. (2018) Stevens et al. (2012)</p>

	<p>Suto et al. (2015) Thornton et al. (2017) Tilden et al. (2017) Walsh and Downe (2004) Wax et al. (2010)</p>
Perinatal clinical outcome reported on in the literature on freestanding midwife-led birth centres	Author/s that reported on one or more of these outcomes (n=51)
<p>Preterm labour/birth Low birth weight (<2500g) or small for gestational age Macrosomia or large for gestational age (>4000g) Low Apgar score (equal to or below 7 at 5 minutes; or equal to or below 4 at 5 min) Neonatal respiratory concerns at birth Respiratory distress/grunting; neonatal resuscitation/mechanical ventilation required Complications in the neonatal period Neonatal seizures Meconium aspiration syndrome Neonatal infection/sepsis Hyperbilirubinemia/need phototherapy Hospital/NICU admission Neonatal injury Intrapartum asphyxia Neonatal encephalopathy Intraventricular haemorrhage Cephalohematoma Brachial plexus injury/fractured humerus/fractured clavicle Perinatal mortality Intra-uterine foetal demise or intrapartum stillbirth Early neonatal death (< 7 days) Late neonatal death (>7 and < 28 days) Breastfeeding</p>	<p>Alliman et al. (2019) Baczek et al. (2020) Behruzi et al. (2017) Benatar et al. (2013) Bovbjerg et al. (2017) Brocklehurst et al. (2012) Christensen and Overgaard (2017) David et al. (2006) David et al. (2009) de Oliveira et al. (2019) Deline et al. (2012) Grigg et al. (2017) Grünebaum et al. (2013) Grünebaum, McCullough, et al. (2022) Hansel et al. (2022) Homer et al. (2019) Jevitt et al. (2021) Jolles et al. (2017) Jolles et al. (2020) Jolles, Hoehn-Velasco, et al. (2022) Kataoka et al. (2018) Kataoka et al. (2013) Koiffman et al. (2010) Laws et al. (2010) Leslie and Romano (2007) Lieberman et al. (2004) Lopes et al. (2019) Lotshaw et al. (2020) McIntyre (2012) Monk et al. (2014) Monk et al. (2017) Nethery et al. (2018) Nethery et al. (2021) Nguyen et al. (2009) Niemczyk et al. (2022) Niemczyk, Ren and Stapleton (2022) Penwell (2004) Phillippi et al. (2018) Pillai et al. (2020) Scarf et al. (2019) Shinohara and Kataoka (2021) Snapp et al. (2020) Sprague et al. (2018) Stapleton et al. (2013) Stevens et al. (2012) Suto et al. (2015) Thornton et al. (2017) Tilden et al. (2017) Walsh and Downe (2004) Wax et al. (2010) Way et al. (2022)</p>
Summary of factors studied or identified as potentially associated with outcomes and authors that identified one of more of these factors (n=60)	

Demographic and other variables reported or identified	Author/s
Maternal age	Alliman et al. (2019)
Gestational age	Baczek et al. (2020)
Twin/multiple pregnancy	Benatar et al. (2013)
Breech presentation/malpresentation	Bovbjerg et al. (2017)
Previous caesarean section	Brocklehurst et al. (2012)
Nulliparity	Christensen and Overgaard (2017)
Grand multiparity	da Silva, de Oliveira, Bick, Osava, Nobre, et al. (2012)
Body mass index	da Silva et al. (2012b)
Pre-existing or pregnancy induced medical conditions	David et al. (2006)
Marital status/presence of a partner	David et al. (2009)
Location of birth centre (rural or urban)	De Jonge et al. (2017)
Ethnicity	de Oliveira et al. (2019)
Level of education	Deline et al. (2012)
Socio-economic status/level of employment	Erickson et al. (2020)
Private insurance or public insurance beneficiary	Grigg et al. (2017)
Frequency of antenatal care	Grünebaum et al. (2013)
Early antenatal booking	Grünebaum, McCullough, et al. (2022)
Smoking during pregnancy	Hansel et al. (2022)
Fundal height in relation to gestation	Hermus et al. (2017b)
Infant weight at birth	Hollowell et al. (2017)
Neonatal gender	Homer et al. (2019)
Oxytocin use during labour	Jevitt et al. (2021)
Maternal position at birth	Jolles et al. (2017)
Prolonged 2 nd stage of labour	Jolles et al. (2020)
Hydrotherapy/emersion in water during labour and/or birth	Jolles, Montgomery, et al. (2022)
Requiring intrapartum transfer/transfer time	Jolles et al. (2022)
	Kataoka et al. (2018)
	Kataoka et al. (2013)
	Koiffman et al. (2010)
	Laws et al. (2010)
	Leslie and Romano (2007)
	Lieberman et al. (2004)
	Lieberman et al. (2004)
	Lopes et al. (2019)
	Lotshaw et al. (2020)
	Macfarlane, Rocca-Ihenacho and Turner (2014)
	MacKinnon et al. (2017)
	Monk et al. (2014)
	Monk et al. (2017)
	Nethery et al. (2018)
	Nethery et al. (2021)
	Nguyen et al. (2009)
	Niemczyk et al. (2022)
	Niemczyk, Ren and Stapleton (2022)
	Penwell (2004)
	Phillippi et al. (2018)
	Pillai et al. (2020)
	Saxton et al. (2015)
	Scarf et al. (2019)
	Schuit et al. (2016)
	Shinohara and Kataoka (2021)
	Snapp et al. (2020)
	Sprague et al. (2018)
	Stapleton et al. (2013)
	Stephenson-Famy et al. (2018)
	Suto et al. (2015)
	Thornton et al. (2017)
	Tilden et al. (2017)
	Wax et al. (2010)
	Way et al. (2022)

Annexure N: Studies reporting on medical interventions used at freestanding midwife-led birth centres

Interventions reported in studies focused on freestanding midwife-led birth centres and the authors of articles that reported on these interventions (n=29)	
Interventions	Author/s
Interventions during labour explored Episiotomy Analgesia/pharmacological pain relief Epidural anaesthesia Oxytocin use in labour/augmentation of labour Induction of labour Amniotomy in labour Foetal heart rate auscultation (per hour) Continuous/electronic foetal monitoring Delayed cord clamping Active 3 rd stage management	Alliman and Phillippi (2016) Alliman et al. (2019) Baczek et al. (2020) Benatar et al. (2013) Brocklehurst et al. (2012) Christensen and Overgaard (2017) da Silva, de Oliveira, Bick, Osava, Tuesta, et al. (2012) De Jonge et al. (2017) Erickson et al. (2020) Grigg et al. (2017) Hermus et al. (2017b)Hollowell et al. (2017) Homer et al. (2019) Jolles et al. (2017) Jolles et al. (2020) Jolles, Hoehn-Velasco, et al. (2022) Jolles, Montgomery, et al. (2022) Kataoka et al. (2013) Koiffman et al. (2010) Laws et al. (2010) Leslie and Romano (2007) Macfarlane, Rocca-Ihenacho and Turner (2014) MacKinnon et al. (2017) Monk et al. (2014) Nethery et al. (2021) Shinohara and Kataoka (2021) Snapp et al. (2020) Sprague et al. (2018) Walsh and Downe (2004)

Annexure O: Summary of studies reporting on experiences/satisfaction with care

Topic/factor studied in relation to experience/satisfaction with care	Author/s
Location where birth took place (birth centre/hospital/home)	Borquez and Wieggers (2006) Combellick et al. (2022) Fleming et al. (2016) Grigg, Tracy, Schmied, Monk, et al. (2015) Jolles et al. (2017) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Reszel et al. (2021) Winter et al. (2022)
Type of birth (vaginal birth vs caesarean section)	Fleming et al. (2016) Hitzert et al. (2016) Reszel et al. (2021)
Institutional structure and system of care	Alliman and Phillippi (2016) Jamas et al. (2011) Walsh (2006)
Amenities	Hitzert et al. (2016) Phillippi et al. (2014) Reszel et al. (2021)
Relaxing birth centre environment	Alliman and Phillippi (2016) Combellick et al. (2022) Deery et al. (2007) Jamas et al. (2011) Phillippi et al. (2014) Reszel et al. (2021) Walsh (2006)
Social model of care in birth centre	Deery et al. (2007) Hitzert et al. (2016) Jamas et al. (2011) Walsh (2006)
Comprehensive personalised/individualised care	Alliman and Phillippi (2016) Baczek et al. (2020) Combellick et al. (2022) Deery et al. (2007) Fleuriet (2009) Hitzert et al. (2016) Phillippi et al. (2014)
One-to-one care	Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Communication	Hitzert et al. (2016) Jamas et al. (2011) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Being listened to	Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Having questions answered	Fleuriet (2009) Jamas et al. (2011) Phillippi et al. (2014)
Prompt attention	Hitzert et al. (2016) Phillippi et al. (2014)
Positive relationship with midwifery caregivers/relationship-centred care	Alliman and Phillippi (2016) Borquez and Wieggers (2006) Fleming et al. (2016) Fleuriet (2009) Jamas et al. (2011) Karbeah et al. (2022) Phillippi et al. (2014)

	Pewitt (2008) Rocca-Ihenacho et al. (2021) Smythe et al. (2016) Smythe et al. (2014)
Experience of partnership approach between midwife and client	Combellick et al. (2022) Smythe et al. (2014)
Advocacy role of midwife	Combellick et al. (2022)
Attendance of antenatal classes/prenatal education	Macfarlane, Rocca-Ihenacho and Turner (2014)
Continuity of care	Hitzert et al. (2016) Jamas et al. (2011) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Quality of care provision	Fleming et al. (2016) Karbeah et al. (2022)
Support/empathy/care offered	Baczek et al. (2020) Combellick et al. (2022) Fleming et al. (2016) Fleuriet (2009) Jamas et al. (2011) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Walsh (2006) Smythe et al. (2016)
Perceived kindness and understanding from staff	Fleuriet (2009) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Walsh (2006) Smythe et al. (2016) Smythe et al. (2014)
Positive talk from midwife	Smythe et al. (2016)
Personal attributes of individuals who accessed birth centre	Fleming et al. (2016) Winter et al. (2022)
Sense of empowerment	Pewitt (2008) Smythe et al. (2016)
Sense of confidence (in birth and motherhood)	Deery et al. (2007) Pewitt (2008) Smythe et al. (2016)
Sense of achievement	Pewitt (2008)
Sense of security or safety	Pewitt (2008) Rocca-Ihenacho et al. (2021)
Trust in midwife	Rocca-Ihenacho, Yuill and McCourt (2021) Smythe et al. (2016) Smythe et al. (2014)
Trust/belief in a higher power	Fleuriet (2009) Smythe et al. (2016)
Encouraged in the ability to give birth naturally	Leslie and Romano (2007) Smythe et al. (2016)
Freedom of movement during labour	Macfarlane, Rocca-Ihenacho and Turner (2014)
Access to non-pharmacological pain relief methods (hydrotherapy/massage)	Macfarlane, Rocca-Ihenacho and Turner (2014)
Antenatal care raised self esteem	Alliman and Phillippi (2016) Smythe et al. (2016)
Family centred care	Deery et al. (2007) Jamas et al. (2011) Pewitt (2008) Phillippi et al. (2014)
Culturally centred care	Almanza et al. (2022)
Culturally and historically safe care	Karbeah et al. (2022)
Respect/accommodation of religious views	Fleuriet (2009)

Autonomy (right to participate in decision-making), choice, and control	Almanza et al. (2022) Baczek et al. (2020) Combellick et al. (2022) Deery et al. (2007) Hitzert et al. (2016) Karbeah et al. (2022) Leslie and Romano (2007) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Agency	Karbeah et al. (2022)
Respect	Almanza et al. (2022) Combellick et al. (2022) Fleuriet (2009) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) Smythe et al. (2014)
Tact from care providers	Smythe et al. (2014)
Dignity	Hitzert et al. (2016) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Privacy	Macfarlane, Rocca-Ihenacho, Turner and Roth (2014)
Confidentiality	Hitzert et al. (2016)
Respect for the physiological process of labour	Combellick et al. (2022) James et al. (2011) Leslie and Romano (2007)
Control of unnecessary interventions	Combellick et al. (2022)
Complications during labour, birth, or postpartum/transfer to hospital	Grigg, Tracy, Schmied, Monk, et al. (2015) Hays et al. (2022) Hitzert et al. (2016) Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) MacKinnon et al. (2017) Reszel et al. (2021)
Duration of labour	MacKinnon et al. (2017)

Annexure P: Summary of studies that explored collaboration between birth centres and referral networks

Summary/findings related to collaboration	Author
To improve transfer between out-of-hospital birth settings (birth centres and home) and their referral networks, the Utah Women and Newborns Quality Collaborative partnered with the LIFT Simulation Design Lab to develop interprofessional birth transfer simulation training. Engaging stakeholders, the training featured scenarios of postpartum haemorrhage transfers. With 102 participants from diverse healthcare roles, the participants found the simulations realistic and beneficial. Participants' self-efficacy significantly improved, indicating that these simulation trainings were an acceptable, feasible, and effective method for training interprofessional birth care teams and improving communication during emergency transfers.	Baayd et al. (2023)
The authors of this case study article noted that the success of midwife-led birthing centres in the four countries hinged on four universal themes: an effective financing model, quality midwifery care recognised by the community, interdisciplinary collaboration with functional referral systems, and supportive leadership and governance. Regarding collaboration, midwife-led birthing centres functioned best when effective coordination with obstetricians, nurses, and support staff was in place. A well-functioning referral system ensured timely access to advanced care, when necessary, facilitated by communication and coordination. This collaborative approach was highlighted in quotes from staff emphasising the common goal of ensuring no maternal and newborn deaths, fostering teamwork, and positive relationships.	Bazirete et al. (2023)
The researchers explored factors that affected collaboration between midwives and other health care professionals in a birth centre and its affiliated Quebec hospital. The study involved 25 healthcare professionals. Four major themes affecting collaboration between birth centres and their referral network emerged. The first theme centred around the definition of collaborative work - working together for the wellbeing of clients. Interactional factors, particularly conflicts, were identified as a significant challenge. Conflicts arose over professional philosophy, autonomy, territory, work style, and compensation. Organisational factors included differences in philosophy and mission between hospitals and birth centres, administrative challenges such as the lack of midwives in leadership roles, and resource-related issues. Systemic factors highlighted power dynamics and the need for midwife representation at the government level. Additionally, the cultural differences between interventionist hospital environments and non-interventionist birth centres presented challenges. Finally, structural factors, including organisational rules and regulations and the hierarchical nature of hospitals, influenced collaboration. The authors concluded that addressing these factors is crucial for fostering effective collaboration between birth centres and their referral network.	Behruzi et al. (2017)
The researchers explored the level of integration between birth centres and their local maternity care systems. They successfully classified birth centres in the Netherlands into three clusters based on integration profiles, using the Rainbow model of integrated care and a corresponding taxonomy. Birth centres in the three clusters demonstrated statistically significant differences, particularly in the dimensions of normative, professional, organisational, system, functional, and clinical integration. The clusters reflected the varying degrees of collaboration and integration in birth care. Birth centres in regions with high collaboration scores tended to adopt multidisciplinary-orientated structures, while those in less collaborative regions focused more on providing a comfortable birthing facility.	Boesveld et al. (2017a)
The authors reported that there had been a noteworthy but still relatively low increase in community births (home and birth-centre births), rising by 20% from 2004 to 2008 and a further 59% from 2008 to 2012, though the overall rate remained below 2%. While most births in the USA occurred in hospitals, other high-resource countries prioritised home and birth-centre births, with community midwives playing a more central role in care. In these countries, perinatal outcomes between hospital and community births differed marginally, and there were lower rates of maternal morbidity in community settings. According to the authors perinatal mortality seemed higher for community births in the USA, but a comprehensive national study comparing outcomes and accounting for planned place of birth was lacking. Hospital births in the USA were associated with significantly higher rates of interventions, including caesarean section. Countries with higher rates of community births had more integrated systems, clearer national guidelines, and better-defined risk criteria for planned birth location and transfers to higher levels of care. They noted that understanding these differences is crucial for person-centred care and risk reduction across all birth settings.	Caughey and Cheyney (2019)
The authors proposed that implementing various strategies, including shared electronic health records, aligned clinical practice guidelines, and improved communication between birth centres	Danhausen et al. (2022)

and hospitals, could enhance their partnership, ultimately improving the transfer experience for patients and potentially benefiting other midwifery practice models seeking to collaborate with larger healthcare systems.	
This qualitative study found that midwives' relationship with their referral hospital influenced the decisions they made specifically in cases of prolonged second stage of labour.	Faulk and Niemczyk (2021)
The experiences of individuals during emergency transfers from primary maternity units to tertiary hospitals in New Zealand were influenced significantly by communication, which emerged as a major theme. The way staff at the facility and external personnel such as ambulance drivers communicated with the individuals who needed to be transferred had a direct impact on their overall experience. These instances of negative communication added to the complexity of experiences during the transfer process.	Grigg, Tracy, Schmied, Monk, et al. (2015)
In Washington state, a notable percentage (16.2%) of clients from birth centres and planned home births, or their newborns (1.8%), required transfer to hospitals during labour or early postpartum, and these transfers negatively impacted both clients and clinicians. The Smooth Transitions Quality Improvement Program aimed to improve cooperation between community midwives, emergency medical services (EMS), and hospital staff, with the potential for replication in other areas. Plans included expanding EMS relationships, enhancing data collection, protected case reviews, and involving consumers in quality improvement efforts.	Hays et al. (2022)
This study emphasised the need for a tailored approach to ensure quality in handovers from Dutch birth centres to referral facilities. Seven key obstacles were identified that were related to quality, including caregiver absence, lack of direct contact, multiple health records, inadequate knowledge, unfamiliarity with team members, and the absence of continuity in both caregivers and care for clients.	Hitzert et al. (2018)
This study was focused on a collaborative model between a freestanding birth centre and a tertiary care medical centre in the southeast USA. Between January 2017 and December 2018, 1 394 individuals received prenatal care at the birth centre. Among 1 061 individuals who planned to give birth there, 573 (82%) had vaginal births at the birth centre, while 130 (18%) were transferred for hospital. The overall caesarean section rate was 6%, with 1% maternal transfers for postpartum haemorrhage. Neonatal intensive care admissions occurred in 6% of cases, with 1% having 5-minute Apgar scores less than 7 and 0.3% experiencing previsible neonatal deaths. This collaborative approach maintained a traditional birth centre experience while ensuring access to specialised tertiary care, offering potential options for regional perinatal systems.	Lotshaw et al. (2020)
This study was focused on enhancing communication and collaboration between birth centre midwives, paramedics, and hospital staff during emergent transfers from birth centres. The researchers conducted education sessions for paramedics, resulting in a 43.5% increase in test scores. An interprofessional mock drill involving birth centre staff, paramedics, and hospital staff was carried out, and participants expressed strong support (97%) for future drills. The study emphasised the importance of clear guidelines, efficient communication, and interprofessional education sessions and mock drills in improving perinatal outcomes during emergent transfers from birth centres.	Olvera et al. (2020)
In 2014, two midwifery-led birth centres were established in Ontario, Canada. This study explored the integration of these centres into the local intrapartum care systems, focusing on the perspective of healthcare providers and managerial staff. Interviews and focus groups were conducted with paramedics, midwives, nurses, and physicians who had experience with maternal or newborn transports from the birth centres to hospitals in Ottawa or Toronto. The analysis revealed positive experiences attributed to collaborative planning, training, and communication before the birth centres opened. Integration varied based on hospital-specific factors like history and culture. Minor improvements in administrative processes were suggested, and the challenge of keeping staff updated on transport policies was noted. Overall, the study findings highlighted the successful integration of midwifery care through collaborative planning, offering insights for integrating new healthcare facilities into existing systems.	Reszel et al. (2018)
The article showcased a birth centre-based model in Pennsylvania, where collaborative care led to positive outcomes, empowering clients, and improving the overall maternity care experience. The authors offered a description of the successful collaborative practice model between obstetrician-gynaecologists, midwives, and expectant parents, emphasising the importance of mutual respect, joint development of practice guidelines, and effective communication. The collaborative approach, combining the strengths of both medical and midwifery models, aimed to provide safe, individualised, high-quality, and cost-effective maternity care. The collaborative relationship resulted in a seamless transition of care between home, birth centre, and hospital settings, ultimately contributing to the success of the practice.	Stevens et al. (2012)

Annexure Q: Summary of studies that explored characteristics of birth centre care providers

Summary/findings regarding characteristics of birth centre care providers	Author/s
This study on midwives in a birth centre setting found that midwives sought mutual support from peers and managers and reported increased job satisfaction associated with practicing autonomously. Effective support mechanisms for reflection and interpersonal skills were recommended. Conflicting ideologies among midwives were deemed unhelpful, suggesting the importance of grouping like-minded midwives for better working relationships.	Deery et al. (2007)
The study investigated postpartum haemorrhage in 17 836 community births in the USA from 2004-2009, with a focus on midwifery and demographic factors. The findings revealed that 15.9% of births experienced postpartum haemorrhage (>500 mL blood loss), with 3.3% having 1000 mL or greater blood loss. Midwives, primarily holding the Certified Professional Midwife, Licensed Midwife, or Licensed Direct-Entry Midwife credentials, attended 78% of the births. Notably, the incidence of postpartum haemorrhage varied based on demographic and labour characteristics, such as gestational age, maternal age, parity, and birth setting. The researchers also explored differences in postpartum haemorrhage rates based on midwifery credentials and state regulatory status. The results indicated higher postpartum haemorrhage rates in births attended by Certified Professional Midwives and in states with regulatory barriers to midwifery practice. Certified Nurse-Midwives had lower odds of having clients with postpartum haemorrhage compared with other midwives. The study highlighted the importance of considering these factors in understanding and addressing postpartum haemorrhage risks in community births.	Erickson et al. (2020)
This study revealed that midwives' decision-making was impacted by the contrasting environments of hospitals and freestanding birth centres. Moreover, their trust in the birth process, birthing individuals, and the healthcare team also played a crucial role in their decision-making process	Everly (2012)
In this study it was found that midwives made decisions about managing prolonged second stage of labour based on hands-on assessment, considering time but understanding its limitations. Their approach was continuous, employing multiple senses. Their decisions on transfers were influenced by their relationship with the referral hospital.	Faulk and Niemczyk (2021)
According to the authors of this expert review, one of the influencing factors on outcomes at USA birth centres is the presence of a Certified Nurse Midwife, Certified Midwife, or midwife whose education and licensure aligned with the Global Standards for Midwifery Education established by the International Confederation of Midwives (ICM).	Grünebaum et al. (2023)
This New Zealand-based study aimed to explore enabling attributes of midwives providing labour care in freestanding midwifery-led units. The findings revealed that confidence was a vital element in enabling midwives to excel in these units. This confidence was nurtured through practical experience, belief in the advantage of midwifery units for healthy women in labour, and the reinforcement of confidence through routine encounters with normal labour and birth. The findings also stressed the importance of strong, trusting relationships within the midwifery team and respectful collaboration with obstetric colleagues to maintain this confidence. For less experienced midwives or those primarily trained in obstetric units, additional support may be necessary to transition into providing labour care in freestanding midwifery units. Witnessing successful normal births and feeling supported in their role further bolstered the midwives' confidence, highlighting the significance of immersion in these units for building the required confidence.	Hunter et al. (2018)
The study examined midwives, student midwives, and doulas at Roots Community Birth Center, a predominantly African American staff serving a majority African American population. The main findings emphasised the staff's dedication to culturally sensitive perinatal care, prioritising the clients' cultural identities. Birth workers sought to establish relationships that encouraged clients to openly express their cultural identity, avoiding preconceived ideas. Racial justice was highlighted, recognising the impact of systemic racism on clients' lives beyond prenatal care. The authors recommended approaches that address societal issues, recognising client agency, and promoting	Karbeah et al. (2019)

<p>cultural humility of birth centre staff. Cultural humility, as defined by participants, included attending to individual social and emotional needs, respecting cultural practices without judgment, and navigating situations were professional authority balanced necessary care with client preferences.</p>	
<p>The focus of the study was on birth centre care providers, mainly certified nurse-midwives and certified professional midwives, in urban and rural Minnesota birth centres. Most were certified nurse-midwives, with experience ranging from 7 months to 29 years. Six key themes emerged: birth centre environment, personalised midwifery care, continuity of care, empowering birthing individuals, normalising physiologic birth, and contrasting birth centre care with hospital practices in the USA. Providers emphasised creating a welcoming atmosphere, individualised care, shared decision-making, and empowering birthing individuals. They viewed physiologic birth as the norm, contrasting it with the medicalised approach in USA hospitals, and emphasised the promotion of confidence and autonomy through respectful and supportive care.</p>	<p>Neerland et al. (2022)</p>
<p>In this ethnographic study that explored key 'pillars' of well-functioning midwifery units in the UK, staff related themes that emerged were positive relationships between staff members, a sense of autonomy and ownership of the birth centre, continuous learning, support, 'team spirit', interdependency, and feeling valued by each other and the families under their care. A relationship-based model of care was noted in these units, which enhanced client and staff experiences.</p>	<p>Rocca-Ihenacho et al. (2021)</p>
<p>The researchers explored post-natal care experiences of birth centre clients and the perceptions of their care providers (nurses and midwives), with a focus on the concept of tact. Tact was described as the ability to engage openly with the client's current situation, listening, watching, and understanding to establish connectedness within the relationship. Tact involved a dynamic responsiveness to each unique situation, with an awareness that circumstances are unpredictable. It required a willingness to wait and be present, resisting the urge to predict, order, or control. The finding suggested that tact was embodied thoughtfulness, integrating mind and body, and required self-awareness, a spirit of care, and values that strived for sincerity and truthfulness. Tactful care providers demonstrated a balance of firmness and silence, adjusting to the cues given by the client.</p>	<p>Smythe et al. (2014)</p>
<p>The midwives interviewed in this qualitative German study exhibited a deep commitment to supporting physiological birth, defined as a process unique to each individual. Their care focused on allowing spontaneous onset of labour, acknowledging variability in progress, intermittent foetal auscultation, allowing freedom of movement, avoidance of routine artificial rupture of membranes, non-pharmacologic pain relief, and moderate, gentle interventions such as homoeopathy, acupuncture, and massage. They emphasised the importance of psychological transformation and the need for continuous care throughout the entire birth process. The midwives navigated between objective, medical parameters, and subjective, undocumented information, allowing a holistic approach to birth. They used medical explanations to define normalcy, navigate uncertainty, and steer away from the discourse of risk, while affirming the birthing individual's concerns. These findings suggested the need for a revised focus in midwifery training programs, specifically tailored to out-of-hospital births, and the importance of acknowledging midwifery as a distinct profession with its own body of knowledge and skills.</p>	<p>Stone (2012)</p>
<p>The study highlighted the impact of technology, specifically ultrasound scans, on the relationship between pregnant individuals and their babies. The widespread use of ultrasound scans caused "technological quickening," where parents saw foetal images before feeling movements, disrupting natural pregnancy experiences. Despite this, midwives played a vital role. They used abdominal palpation to help pregnant individuals feel more connected to their babies, fostering positive attitudes toward pregnancy. This embodied awareness enabled them to share crucial information with their midwives, enhancing overall safety during pregnancy and birth.</p>	<p>Stone et al. (2022)</p>

Annexure R: Studies that identified guidelines/operational standards or regulations for birth centres

Guidelines/operational standards/regulations of birth centres	Author/s
The authors refer to the 'American Association of Birth Centers Standards for Birth Centers' (American Association of Birth Centers 2017). These standards encompass planning, organisational structure, administration, facility and equipment maintenance, service quality, staffing, health records, quality care evaluation, and research conduct.	Alliman, Jolles and Summers (2015)
Evidence-based guidelines that provided specific criteria for planning births in midwife-led units in Northern Ireland (including freestanding midwife-led units). These guidelines aimed to assist women and maternity care professionals in their decision-making regarding the choice of birth setting, potentially increasing the utilisation of midwife-led units services and necessitating regular staffing level reviews	Healy and Gillen (2016)
European Midwifery unit standards were developed and organised into ten categories, covering various aspects such as the biopsychosocial model of care, environment and facilities, pathways of care, staffing, leadership, autonomy, knowledge and training, equality, clinical governance, and working across boundaries. These standards aimed to ensure the quality and effectiveness of midwifery units across Europe (Rocca-Ihenacho et al., 2020).	Rayment et al. (2020)
Silva et al. (2015) developed a clinical model, the PROTRIP tool, with the aim of predicting the likelihood of intrapartum transfers from a midwife-led birth centre based on factors identified in a prior case-control study. Using data on 2 726 births at a specific birth centre in Sao Paulo, Brazil, they found an overall transfer rate of 4.1%. The PROTRIP tool, an online interface for clinicians, focuses on various interacting variables related to women admitted to the birth centre.	Silva et al. (2015)
Through a systematic process the researchers developed operational standards for 'midwifery centers' in low- and middle-income countries by combining existing standards, removing duplicates, settling on 52 standards that were reviewed through a Delphi process and piloted in low- and middle-income countries. A final list of 43 comprehensive and woman-centred standards were agreed upon, focusing on three key aspects: Dignity, Provider Quality, and Community-Administrative Focus. Under the Dignity standards, the emphasis is on respectful treatment of every pregnant individual and newborn, communication, shared and informed decision making, offering supportive services, and respecting cultural and spiritual preferences. Provider Quality standards highlight evidence-based care, holistic health approaches, emergency preparedness, and continuous staff training. The Community-Administrative Focus standards highlight integration with the healthcare system, compliance with local regulations, provision of basic amenities, maintaining a secure and homelike environment where staff are available 24/7, and fostering community engagement. Administrative standards also include the need for a plan for financial viability and continuous quality improvement.	Stevens and Alonso (2021)
One of the domains reported in this scoping review is the "Operational Standards" domain, highlighting crucial challenges and facilitators for midwife-led birthing centres low-and middle-income countries. The integration of midwife-led birthing centres into established referral systems was deemed vital for user confidence, but obstacles like inadequate ambulances services, equipment, and geographical constraints impeded effectiveness. Data-driven monitoring faced challenges in locations that lacked integrated systems, such as Iran. Inadequate resources and infrastructure, including insufficient supplies and poor facilities, impacted midwife-led birthing centres' standard of care. Workforce challenges, such as midwife shortages and clinical competency issues, posed barriers. While midwife-led birthing centre midwives practicing at their full scope enhanced the profession, professional and structural issues in Brazil presented challenges. Positive impacts in Mexico underscored the value of midwives through collaboration and referrals, emphasising the role of in-service training for competence and leadership. The operational standards domain emphasised factors that enhanced the functioning of midwife-led birthing centres.	Turkmani et al. (2023)

Annexure S: Summary of literature that references quality indicators for birth centres

Quality indicators identified	Author/s
<p>The researchers employed a mixed method study to identify 30 determinants for structure and process quality indicators for birth centre care in The Netherlands and to test the usability of these quality indicators (28/30 were found 'usable'). The quality indicators encompassed various aspects of efficiency, structure, timeliness, accessibility, safety, client-centeredness, equity, effectiveness, and process. Factors such as the proximity between birth centres and hospitals, indoor connections for efficient transfers, timely transportation, physical accessibility for clients and healthcare providers, 24/7 telephone accessibility, emergency facilities, pain management options, and vision for birth care were included. Cooperation and partnership agreements with relevant organisations, maternity care consultation group participation, written agreements, protocols, and chain of care pathways ensured effective processes. Safety measures involve agreements with ambulance services, access guarantees during referrals, emergency care training, and structural evaluations. Client-centeredness was emphasised through continuous healthcare provider presence, individual birth plans, client representation, and research on client experiences. Equity was addressed through formal partnerships, participation agreements, and admission agreements for professionals. Additionally, effectiveness was monitored through the presence of maternity care assistants during labour, joint electronic care records, IT systems integration, multidisciplinary education, and structured quality improvement systems such as accreditation.</p>	<p>Boesveld et al. (2017b) Boesveld et al. (2018)</p>
<p>The researchers evaluated outcomes and quality of care at Ontario birth centres. According to their evaluation, individuals with low-risk pregnancies seeking a low-intervention approach for labour and birth received good quality and safe care in these centres. The quality indicators they identified included adherence to national guidelines, low rates of morbidity and mortality, and lower intervention rates compared to planned hospital births.</p>	<p>Sprague et al. (2018)</p>

Annexure T: Studies ineligible following full text review

Study ID	Reference	Reason for exclusion
1	Adelson P, Fleet JA, McKellar L, Eckert M. Two decades of Birth Centre and midwifery-led care in South Australia, 1998-2016. <i>Women Birth</i> . 2021 Feb;34(1):e84-e91. DOI: 10.1016/j.wombi.2020.05.005. Epub 2020 Jun 6. PMID: 32518041.	Wrong population/setting (focus on care at alongside birth centres)
2	Albers LL. Safety of VBACs in birth centers: choices and risks. <i>Birth (Berkeley, Calif.)</i> . 2005 Sep;32(3):229-231. DOI: 10.1111/j.0730-7659.2005.00375.x. PMID: 16128979.	Wrong publication type (critique/commentary on another study)
3	Barbosa da Silva FM, Rego da Paixão TC, de Oliveira SM, Leite JS, Riesco ML, Osava RH. Assistência em um centro de parto segundo as recomendações da Organização Mundial da Saúde [Care in a birth center according to the recommendations of the World Health Organization]. <i>Rev Esc Enferm USP</i> . 2013 Oct;47(5):1031-8. Portuguese. DOI: 10.1590/S0080-623420130000500004. PMID: 24346440.	Foreign language (Portuguese)
4	Barsky E. Les maisons de naissance encadrées par un cahier des charges [Birthing center restrictions]. <i>Soins Pédiatr Pueric</i> . 2014 Nov-Dec;(281):9. French. PMID: 25608350.	No access to full text; foreign language (French)
5	Berghella V, Di Mascio D. Evidence-based labor management: before labor (Part 1). <i>Am J Obstet Gynecol MFM</i> . 2020 Feb;2(1):100080. DOI: 10.1016/j.ajogmf.2019.100080. Epub 2019 Dec 20. PMID: 33345992.	Wrong study type and outcomes (literature series on labour management)
6	Bick DE, Rycroft-Malone J, Fontenla M. A case study evaluation of implementation of a care pathway to support normal birth in one English birth centre: anticipated benefits and unintended consequences. <i>BMC Pregnancy Childbirth</i> . 2009 Oct 5;9:47. DOI: 10.1186/1471-2393-9-47. PMID: 19804624; PMCID: PMC2761848.	Wrong population/setting (focus on care at alongside birth centre)
7	Boesveld IC, Valentijn PP, Hitzert M, Hermus MAA, Franx A, de Vries RG, Wieggers TA, Bruijnzeels MA. 2017c. An Approach to measuring Integrated Care within a Maternity Care System: Experiences from the Maternity Care Network Study and the Dutch Birth Centre Study. <i>Int J Integr Care</i> , 17(2):6. DOI: 10.5334/ijic.2522. PMID: 28970747; PMCID: PMC5624115.	Wrong outcome (assessment of a questionnaire)
8	Borquez HA, Wieggers TA. A comparison of labour and birth experiences of women delivering in a birthing centre and at home in the Netherlands. <i>Midwifery</i> . 2006 Dec;22(4):339-47. DOI: 10.1016/j.midw.2005.12.004. Epub 2006 Apr 27. PMID: 16647170.	Wrong population/setting (focus on care at alongside birth centre)
9	Brailey S. A Swiss birthing centre. <i>Pract Midwife</i> . 2008 Feb;11(2):27-8. PMID: 18372817.	Anecdotal (personal reflection)
10	Breedlove G, Rathbun L. Facility Design: Reimagining Approaches to Childbirth in Hospital and Birth Center Settings. <i>J Perinat Neonatal Nurs</i> . 2019 Jan/Mar;33(1):26-34. DOI: 10.1097/JPN.0000000000000376. PMID: 30543565.	Wrong population/outcome
11	Calvin S. On the need for a real choice. <i>J Clin Ethics</i> . 2013 Fall;24(3):291-2. PMID: 24282859.	No access to full text
12	Campos SE, Lana FC. Resultados da assistência ao parto no Centro de Parto Normal Dr. David Capistrano da Costa Filho em Belo Horizonte, Minas Gerais, Brasil [Results of childbirth care at a birthing center in Belo Horizonte, Minas Gerais, Brazil]. <i>Cad Saude Publica</i> . 2007 Jun;23(6):1349-59. Portuguese. DOI: 10.1590/s0102-311x2007000600010. PMID: 17546326.	Foreign language (Portuguese)
13	Cross-Barnet C, Benatar S, Courtot B, Hill I. Limits of prenatal care coordination for improving birth outcomes among Medicaid participants. <i>Prev Med</i> . 2022 Nov;164:107240. DOI: 10.1016/j.ypmed.2022.107240. Epub 2022 Sep 3. PMID: 36063876.	Wrong population/setting (focused on maternity care homes)
14	Davies R, Davis D, Pearce M, Wong N. The effect of waterbirth on neonatal mortality and morbidity: a systematic review and meta-analysis. <i>JBIS Database System Rev Implement Rep</i> . 2015 Oct;13(10):180-231. DOI: 10.11124/jbisrir-2015-2105. PMID: 26571292.	Wrong outcome (focus on waterbirth)
15	Douglas VK. The Rankin Inlet Birthing Centre: community midwifery in the Inuit context. <i>Int J Circumpolar Health</i> . 2011 Apr;70(2):178-85. DOI: 10.3402/ijch.v70i2.17803. Epub 2011 Apr 8. PMID: 21481300.	Background article (history of a birth centre)
16	Edmonds JK, et al. Midwife Led Units: Transforming Maternity Care Globally. <i>Annals of Global Health</i> . 2020; 86(1): 44, 1–4. DOI: https:// doi.org/10.5334/aogh.2794	Background article (viewpoint)

17	Fischbein SJ, Freeze R. Breech birth at home: outcomes of 60 breech and 109 cephalic planned home and birth center births. <i>BMC Pregnancy Childbirth</i> . 2018 Oct 11;18(1):397. DOI: 10.1186/s12884-018-2033-5. PMID: 30305050; PMCID: PMC6180643.	Wrong population (obstetrician-led)
18	Garvey M. The national birth center study II: Research confirms low Cesarean rates and health care costs at birth centers. <i>Midwifery Today Int Midwife</i> . 2013 Summer;(106):40, 68. PMID: 23847895.	Wrong publication type
19	Gaudineau A, Sauleau EA, Nisand I, Langer B. Issues obstétricales et néonatales en « maison de la naissance » : une étude cas-témoins [Obstetric and neonatal outcomes in a home-like birth centre: a case-control study]. <i>Gynecol Obstet Fertil</i> . 2012 Sep;40(9):524-8. French. DOI: 10.1016/j.gyobfe.2012.07.001. Epub 2012 Aug 16. PMID: 22902711.	Foreign language (French)
20	Gayatri RV, Hsu YY, Damato EG. Utilization of Maternal Healthcare Services among Adolescent Mothers in Indonesia. <i>Healthcare (Basel)</i> . 2023 Feb 25;11(5):678. DOI: 10.3390/healthcare11050678. PMID: 36900683; PMCID: PMC10000571.	Wrong population/setting (focused on traditional vs institutional birth rather than on birth centres)
21	George EK. Birth Center Breastfeeding Rates: A Literature Review. <i>MCN Am J Matern Child Nurs</i> . 2022 Nov-Dec 01;47(6):310-317. DOI: 10.1097/NMC.0000000000000862. PMID: 35857035	Wrong outcome (focused on breastfeeding rate)
22	Giles LA. Implementing Screening Guidelines for Preeclampsia Prevention in a Birth Center: A Quality Improvement Project. <i>J Perinat Neonatal Nurs</i> . 2020 Oct/Dec;34(4):324-329. DOI: 10.1097/JPN.0000000000000489. PMID: 32804877	Wrong outcome (focused on pre-eclampsia)
23	Gottvall K, Waldenström U, Tingstig C, Grunewald C. In-hospital birth center with the same medical guidelines as standard care: a comparative study of obstetric interventions and outcomes. <i>Birth</i> . 2011 Jun;38(2):120-8. DOI: 10.1111/j.1523-536X.2010.00461.x. Epub 2011 Mar 10. PMID: 21599734.	Wrong population (in-hospital birth centre)
24	Gross MM, Drobnic S, Keirse MJ. Influence of fixed and time-dependent factors on duration of normal first stage labor. <i>Birth</i> . 2005 Mar;32(1):27-33. DOI: 10.1111/j.0730-7659.2005.00341.x. PMID: 15725202.	Wrong outcome (not focused on outcomes or experiences)
25	Grünebaum A, Bornstein E, McLeod-Sordjan R, Lewis T, Wasden S, Combs A, Katz A, Klein R, Warman A, Black A, Chervenak FA. The impact of birth settings on pregnancy outcomes in the United States. <i>Am J Obstet Gynecol</i> . 2023 May;228(5S):S965-S976. DOI: 10.1016/j.ajog.2022.08.011. Epub 2023 Mar 23. PMID: 37164501	Wrong publication type (expert review)
26	Gutteridge K. PART ONE. How to ... build and develop a birth centre. <i>Midwives</i> . 2016 Summer;19:36-7. PMID: 27498476.	Wrong outcome (not focused on outcomes or experiences)
27	Gyaltsen K, Gipson JD, Gyal L, Kyi T, Hicks AL, Pebley AR. Maternal health care seeking by rural Tibetan women: characteristics of women delivering at a newly-constructed birth center in western China. <i>BMC Pregnancy Childbirth</i> . 2015 Sep 22;15:225. DOI: 10.1186/s12884-015-0634-9. PMID: 26396077; PMCID: PMC4580301.	Wrong population/setting (not a freestanding midwife-led birth centre)
28	Hodnett, E.D., Downe, S. and Walsh, D., 2012. Alternative versus conventional institutional settings for birth. <i>Cochrane database of systematic reviews</i> , (8).	Wrong population/setting (focus on care at alongside birth centres)
29	Hofmeyr, G., Mancotywa, T., Silwana-Kwadjo, N., Mgodlwa, B., Gülmezoglu, A., Lawrie, T., 2014. Audit of a new model of birth care for women with low risk pregnancies in South Africa: the primary care onsite midwife-led birth unit (OMBU). <i>BMC Pregnancy Childbirth</i> 14, 1–6. https://doi.org/10.1186/s12884-014-0417-8	Wrong population/setting (focus on care at alongside birth centres)
30	Holmquist J, Fischl AFR, Niemczyk NA. A Program Evaluation of Behavioral Health Integration in a Freestanding Birth Center. <i>J Perinat Neonatal Nurs</i> . 2021 Jan-Mar 01;35(1):29-36. DOI: 10.1097/JPN.0000000000000533. PMID: 33528185.	Wrong outcome (focused on postnatal depression)
31	Homer, C. S. E. et al. (2014) Birthplace in New South Wales, Australia: An Analysis of Perinatal Outcomes Using Routinely Collected Data. <i>BMC Pregnancy and Childbirth</i> , 14, pp. 206–206. DOI: 10.1186/1471-2393-14-206.	Wrong population/setting (mostly alongside birth centres, not specified in outcomes)
32	Jackson DJ, Lang JM, Swartz WH, Ganiats TG, Fullerton J, Ecker J, Nguyen U. Outcomes, safety, and resource utilization in a collaborative care birth center program compared with traditional physician-based perinatal care. <i>Am J Public Health</i> . 2003 Jun;93(6):999-1006. DOI:	No access to full text

33	Jamas MT, Hoga LA, Reberte LM. Narrativas de mulheres sobre a assistência recebida em um centro de parto normal recebida em um centro de parto normal [Women's narratives on care received in a birthing center]. <i>Cad Saude Publica</i> . 2013 Dec;29(12):2436-46. Portuguese. DOI: 10.1590/0102-311x00039713. PMID: 24356690.	Foreign language (Portuguese)
34	Jimenez V, Klein MC, Hivon M, Mason C. A mirage of change: family-centered maternity care in practice. <i>Birth</i> . 2010 Jun;37(2):160-7. DOI: 10.1111/j.1523-536X.2010.00396.x. PMID: 20557539.	Wrong population/setting (not specifically focused on birth centres)
35	Johansson C, Finnbogadóttir H. First-time mothers' satisfaction with their birth experience - a cross-sectional study. <i>Midwifery</i> . 2019 Dec;79:102540. DOI: 10.1016/j.midw.2019.102540. Epub 2019 Sep 21. PMID: 31580998.	Wrong population/setting (alongside/ co-located birth centre on hospital grounds)
36	Khatri RB, Dangi TP, Gautam R, Shrestha KN, Homer CSE. Barriers to utilization of childbirth services of a rural birthing center in Nepal: A qualitative study. <i>PLoS One</i> . 2017 May 11;12(5):e0177602. DOI: 10.1371/journal.pone.0177602. PMID: 28493987; PMCID: PMC5426683.	Wrong setting (government funded non-homelike facilities)
37	Kirkham, M. (2020) 'Sop, Starve, Shut: the modern birth centre process', <i>Midwifery Matters</i> , (164), pp. 6–8. Available at: https://search.ebscohost.com/uplib.idm.oclc.org/login.aspx?direct=true&db=cin20&AN=142136305&site=ehost-live&scope=site (Accessed: 16 October 2023).	Background article (not focused on outcomes or client experiences)
38	Laws PJ, Xu F, Welsh A, Tracy SK, Sullivan EA. Maternal morbidity of women receiving birth center care in New South Wales: a matched-pair analysis using linked health data. <i>Birth</i> . 2014 Sep;41(3):268-75. DOI: 10.1111/birt.12114. Epub 2014 Jun 17. PMID: 24935768.	Wrong population/setting (birth centre alongside/ co-located on hospital grounds)
39	Leister N, Teixeira TT, Mascarenhas VHA, Gouveia LMR, Caroci-Becker A, Riesco ML. Complementary and Integrative Health Practices in a Brazilian Freestanding Birth Center: A Cross-Sectional Study. <i>Holist Nurs Pract</i> . 2022 Aug 5. DOI: 10.1097/HNP.0000000000000535. Epub ahead of print. PMID: 35947420.	Wrong outcome (focused prevalence of CIHPs rather than on outcomes or experiences)
40	Lobo SF, de Oliveira SM, Schneck CA, da Silva FM, Bonadio IC, Riesco ML. Resultados maternos e neonatais em centro de Parto Normal peri-hospitalar na cidade de São Paulo, Brasil [Maternal and perinatal outcomes of an alongside hospital birth center in the city of São Paulo, Brazil]. <i>Rev Esc Enferm USP</i> . 2010 Sep;44(3):812-8. Portuguese. DOI: 10.1590/s0080-62342010000300037. PMID: 20964062.	Wrong population/setting (birth centre alongside/ co-located on hospital grounds)
41	Low LK, Bailey JM, Sacks E, Medina L, Piñeda HO. Postpartum hemorrhage prevention: a case study in northern rural Honduras. <i>J Midwifery Womens Health</i> . 2008 Jan-Feb;53(1):e1-6. DOI: 10.1016/j.jmwh.2007.08.014. PMID: 18164426.	Wrong population/setting (one-to-one midwife led care not practiced)
42	Lubic RW, Flynn C. The Family Health and Birth Center--a nurse-midwife- managed center in Washington, DC. <i>Altern Ther Health Med</i> . 2010 Sep- Oct;16(5):58-60. PMID: 20882732.	Background article (historical overview of a specific birth centre)
43	Lukasse M, Øian P, Aamodt G. En jordmorledet fødeenhet [A midwife-led birthing unit]. <i>Tidsskr Nor Laegeforen</i> . 2006 Jan 12;126(2):170-2. Norwegian. PMID: 16415940.	Foreign language (Norwegian)
44	MacDorman MF, Declercq E, Mathews TJ. Recent Trends in Out-of-Hospital Births in the United States. <i>J Midwifery Womens Health</i> . 2013 Sep- Oct;58(5):494-501. DOI: 10.1111/jmwh.12092. Epub 2013 Sep 24. PMID: 26055924.	More recent update of this study included
45	MacDorman MF, Barnard-Mayers R, Declercq E. United States community births increased by 20% from 2019 to 2020. <i>Birth</i> . 2022 Sep;49(3):559-568. DOI: 10.1111/birt.12627. Epub 2022 Feb 25. PMID: 35218065.	Wrong outcome (statistics provided, not specifically focused on outcomes or satisfaction with care)
46	McCourt, C., Rayment, J., Rance, S., & Sandall, J. (2016). Place of Birth and Concepts of Wellbeing: An Analysis from Two Ethnographic Studies of Midwifery Units in England. <i>Anthropology In Action</i> , 23, 17-29.	Wrong population/setting (focus on care at alongside birth centres)
47	McLaughlin M, Bragg K, Pedaline SH, Nelson PA, Wassilchik D. Improving the process: increasing utilization, safety and satisfaction in a birth center. <i>Nurs Womens Health</i> . 2007 Dec;11(6):600-6. DOI: 10.1111/j.1751-486X.2007.00251.x. PMID: 18088297.	Wrong population/setting (focus on care at a hospital birth centre)

48	O'Leary BD, Ciprike V. Are women attending a midwifery-led birthing center at increased risk of anal sphincter injury? <i>Int Urogynecol J.</i> 2020 Mar;31(3):583-589. DOI: 10.1007/s00192-019-04218-y. Epub 2020 Jan 4. PMID: 31901952.	Wrong population/setting (focus on care at alongside birth centres)
49	Olivas ET, Valdez M, Muffoletto B, Wallace J, Stollak I, Perry HB. Reducing inequities in maternal and child health in rural Guatemala through the CBIO+ Approach of Curamericas: 6. Management of pregnancy complications at Community Birthing Centers (Casas Maternas Rurales). <i>Int J Equity Health.</i> 2023 Feb 28;21(Suppl 2):204. DOI: 10.1186/s12939-022-01758-6. PMID: 36855147; PMCID: PMC9976365.	Wrong population/setting (not midwife-led)
50	Osava RH, Silva FM, Tuesta EF, Oliveira SM, Amaral MC. Cesarean sections in a birth-center. <i>Rev Saude Publica.</i> 2011 Dec;45(6):1036-43. English, Portuguese. DOI: 10.1590/s0034-89102011000600005. Erratum in: <i>Rev Saude Publica.</i> 2012 Aug;46(4):759. PMID: 22124737.	Wrong population (in-hospital birth centre)
51	Pereira AL, Moura MA. Hegemonia e contra-hegemonia no processo de implantação da Casa de Parto no Rio de Janeiro [Hegemony and counter-hegemony in the process of implementing the Casa de Parto Birth Center in Rio de Janeiro]. <i>Rev Esc Enferm USP.</i> 2009 Dec;43(4):872-9. Portuguese. DOI: 10.1590/s0080-62342009000400019. PMID: 20085158.	Foreign language (Portuguese)
52	Perry HB, Valdez M, Blanco S, Llanque R, Martin S, Lambden J, Gregg C, Leach K, Olivas E, Muffoletto B, Wallace J, Modanlo N, Pfeiffer E, Westgate CC, Lesnar B, Stollak I. Reducing inequities in maternal and child health in rural Guatemala through the CBIO+ approach of Curamericas: 2. Study site, design, and methods. <i>Int J Equity Health.</i> 2023 Feb 28;21(Suppl 2):195. DOI:	Wrong population/setting (not midwife-led)
52	Perry HB, Stollak I, Llanque R, Okari A, Westgate CC, Shindhelm A, Chou VB, Valdez M. Reducing inequities in maternal and child health in rural Guatemala through the CBIO+ Approach of Curamericas: 5. Mortality assessment. <i>Int J Equity Health.</i> 2023 Feb 28;21(Suppl 2):198. DOI: 10.1186/s12939-022-01757-7. PMID: 36855128; PMCID: PMC9976377.	Wrong population/setting (not midwife-led)
53	Phillippi JC, Alliman J, Bauer K. The American Association of Birth Centers: history, membership, and current initiatives. <i>J Midwifery Womens Health.</i> 2009 Sep-Oct;54(5):387-392. DOI: 10.1016/j.jmwh.2008.12.009. PMID: 19720340.	Background article (history of AABC)
54	Potera C. A freestanding birthing center trumps hospitals. <i>Am J Nurs.</i> 2013 Aug;113(8):17. DOI: 10.1097/01.NAJ.0000432948.27150.80. PMID: 23883985.	Wrong publication type (a summary of another study that has already been included in this review)
55	Quattrocchi P. Policies and Practices on Out-of-Hospital Birth: a Review of Qualitative Studies in the Time of Coronavirus. <i>Curr Sex Health Rep.</i> 2023;15(1):36-48. DOI: 10.1007/s11930-022-00354-7. Epub 2022 Dec 9. PMID: 36530373; PMCID: PMC9735103.	Wrong study type (review of other qualitative studies)
56	Rana TG, Rajopadhyaya R, Bajracharya B, Karmacharya M, Osrin D. Comparison of midwifery-led and consultant-led maternity care for low risk deliveries in Nepal. <i>Health Policy Plan.</i> 2003 Sep;18(3):330-7. DOI: 10.1093/heapol/czg039. PMID: 12917274.	Wrong population (in-hospital birth centre)
57	Rathbun L. Birth Center Model of Care. <i>JAMA.</i> 2017 Feb 14;317(6):645-646. DOI: 10.1001/jama.2016.20479. PMID: 28196247.	Wrong publication type (critique/commentary/response to another study)
58	Roder-DeWan S, Baril N, Belanoff CM, Declercq ER, Langer A. Being Known: A Grounded Theory Study of the Meaning of Quality Maternity Care to People of Color in Boston. <i>J Midwifery Womens Health.</i> 2021 Jul;66(4):452-458. DOI: 10.1111/jmwh.13240. Epub 2021 Jul 9. PMID: 34240539; PMCID: PMC8456935.	Wrong population (participants had not received care at freestanding birth centres)
59	Sakala C, Hernández-Cancio S, Wei R. Improving Our Maternity Care Now Through Community Birth Settings. <i>J Perinat Educ.</i> 2022 Oct 1;31(4):184-187. DOI: 10.1891/JPE-2022-0015. PMID: 36277227; PMCID: PMC9584101.	Wrong publication type (technical summary)
60	Santos NCP, Vogt SE, Duarte ED, Pimenta AM, Madeira LM, Abreu MNS. Factors associated with low Apgar in newborns in birth center. <i>Rev Bras Enferm.</i> 2019 Dec;72(suppl 3):297-304. English, Portuguese. DOI: 10.1590/0034-7167-2018-0924. Erratum in: <i>Rev Bras Enferm.</i> 2020 Feb 10;73(1):e2020e04. PMID: 31851267.	Wrong population/setting (focus on care at a hospital birth centre)
61	Schneck CA, Riesco ML, Bonadio IC, Diniz CS, Oliveira SM. Maternal and neonatal outcomes at an alongside birth center and at a hospital. <i>Rev Saude Publica.</i> 2012	Wrong population/setting

	Feb;46(1):77-86. English, Portuguese. DOI: 10.1590/s0034-89102012000100010. PMID: 22249753.	(focus on care at alongside birth centres)
62	Senti J, LeMire SD. Patient satisfaction with birthing center nursing care and factors associated with likelihood to recommend institution. <i>J Nurs Care Qual.</i> 2011 Apr-Jun;26(2):178-85. DOI: 10.1097/NCQ.0b013e3181fe93e6. PMID: 21372647.	Wrong population/setting (focus on care at a hospital birth centre)
63	Spector JM, Villanueva HS, Brito ME, Sosa PG. Improving outcomes of transported newborns in Panama: impact of a nationwide neonatal provider education program. <i>J Perinatol.</i> 2009 Jul;29(7):512-6. DOI: 10.1038/jp.2009.20. Epub 2009 Feb 26. PMID: 19242483.	Wrong population/setting (not midwife-led)
64	Skoko E, Ravaldi C, Vannacci A, Nespoli A, Akooji N, Balaam MC, Battisti A, Cerizzo M, Iannuzzi L, Morano S, Downe S. Findings from the Italian Babies Born Better Survey. <i>Minerva Ginecol.</i> 2018 Dec;70(6):663-675. DOI: 10.23736/S0026-4784.18.04296-X. Epub 2018 Sep 26. PMID: 30264953.	No access to full text
65	Steel A, Adams J, Frawley J, Broom A, Sibbritt D. The characteristics of women who birth at home, in a birth centre or in a hospital labour ward: A study of a nationally-representative sample of 1835 pregnant women. <i>Sex Reprod Healthc.</i> 2015 Oct;6(3):132-7. DOI: 10.1016/j.srhc.2015.04.002. Epub 2015 Apr 30. PMID: 26842635.	Wrong population/setting (focus on care at alongside birth centre)
66	Stevens NR, Adams N, Wallston KA, Hamilton NA. Factors associated with women's desire for control of healthcare during childbirth: Psychometric analysis and construct validation. <i>Res Nurs Health.</i> 2019 Aug;42(4):273-283. DOI: 10.1002/nur.21948. Epub 2019 Apr 23. PMID: 31016758.	Wrong outcome (testing an instrument/focus on desire for control)
67	Tingstig C, Gottvall K, Grunewald C, Waldenström U. Satisfaction with a modified form of in-hospital birth center care compared with standard maternity care. <i>Birth.</i> 2012 Jun;39(2):106-14. DOI: 10.1111/j.1523-536X.2012.00533.x. Epub 2012 May 17. PMID: 23281858.	Wrong population/setting (focus on care at an in-hospital birth centre)
68	Thomas JW, Levy DP, Sherpa AJ, Lama L, Judkins A, Chambers AA, Crandall H, Schoenhals S, Bjella KB, Vaughan JH, Grubb PH, Fassl B. Analysis of the Perinatal Care System in a Remote and Mountainous District of Nepal. <i>Matern Child Health J.</i> 2022 Oct;26(10):1976-1982. DOI: 10.1007/s10995-022-03479-2. Epub 2022 Aug 24. PMID: 36002697.	Wrong population/setting (focus on primary health care centre with physicians on-site)
69	Thornton, Patrick Effect of Birth Center Care on Clinical & Cost Outcomes, 2016; 1-1. (1p) (Article - research, doctoral dissertation) ISBN: 9781369384352 AN: 124424989, Database: CINAHL	PhD thesis (one relevant research article already included; studies on cost not included review)
70	Tracy SK, Dahlen H, Caplice S, Laws P, Wang YA, Tracy MB, Sullivan E. Birth centers in Australia: a national population-based study of perinatal mortality associated with giving birth in a birth center. <i>Birth.</i> 2007 Sep;34(3):194-201. DOI: 10.1111/j.1523-536X.2007.00171.x. PMID: 17718869.	Wrong population/setting (focus on care at alongside birth centre)
71	Tucker K, Ochoa H, Garcia R, Sievwright K, Chambliss A, Baker MC. The acceptability and feasibility of an intercultural birth center in the highlands of Chiapas, Mexico. <i>BMC Pregnancy Childbirth.</i> 2013 Apr 16;13:94. DOI: 10.1186/1471-2393-13-94. PMID: 23587122; PMCID: PMC3679776.	Wrong population/setting (focus on an alongside birth centre)
72	Vogt SE, Diniz SG, Tavares CM, Santos NC, Schneck CA, Zorzam B, Vieira Dde A, Silva KS, Dias MA. Características da assistência ao trabalho de parto e parto em três modelos de atenção no SUS, no Município de Belo Horizonte, Minas Gerais, Brasil [Characteristics of labor and delivery care in three healthcare models within the Unified National Health System in Belo Horizonte, Minas Gerais State, Brazil]. <i>Cad Saude Publica.</i> 2011 Sep;27(9):1789-800. Portuguese. DOI: 10.1590/s0102-311x2011000900012. PMID: 21986606.	Foreign language (Portuguese)
73	Waldenström U, Grunewald C, Gottvall K. The safety of birth centers: response to a critique of the stockholm birth center study. <i>Birth.</i> 2006 Jun;33(2):165-7. DOI: 10.1111/j.0730-7659.2006.0098a.x. PMID: 16732785.	Response to critique
74	Walford D. Looking back to go forward: Tair Afon--the first birth centre in Wales. <i>RCM Midwives.</i> 2005 Nov;8(11):448-9. PMID: 16312120.	Background article (history of a birth centre)
75	Wellfens K, Derisbourg S, Costa E, Englert Y, Pintiaux A, Warnimont M, Kirkpatrick C, Buekens P, Daelemans C. The Cocoon," first alongside midwifery- led unit within a Belgian hospital: Comparison of the maternal and neonatal outcomes with the standard obstetric unit over 2 years. <i>Birth.</i> 2020 Mar 47(1):115-122. DOI: 10.1111/birt.12466. Epub 2019 Nov 19. PMID: 31746028 PMCID: PMC7065252. "	Wrong population/setting (focus on care at alongside birth centre)

76	Woo VG, Milstein A, Platchek T. Hospital-affiliated outpatient birth centers: a possible model for helping to achieve the triple aim in obstetrics. JAMA. 2016; 316(14):1441-1442	Wrong publication type (viewpoint)
77	Woo VG, Milstein A, Platchek T. Birth Center Model of Care. JAMA. 2017 Feb 14;317(6):646. DOI: 10.1001/jama.2016.20482. PMID: 28196250.	Wrong publication type (response to critique)
78	Wu, M. S.-P. 2004. A comparison of certified nurse-midwives in two locations: the freestanding birth center and the hospital. dissertation.	No access to full text (PhD dissertation)
79	Yu S, Fiebig DG, Scarf V, Viney R, Dahlen HG, Homer C. Birth models of care and intervention rates: The impact of birth centres. Health Policy. 2020 Dec;124(12):1395-1402. DOI: 10.1016/j.healthpol.2020.10.001. Epub 2020 Oct 10. PMID: 33131907.	Wrong population/setting (mainly co-located/alongside birth centres)

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Alliman and Bauer (2020) USA	Next steps for transforming maternity care: what strong start birth center outcomes tell us	To describe the key findings of the Strong Start study and make recommendations on how these findings can be applied	Commentary and research discussion were focused on the Strong Start study, which was reported in a series of publications that evaluated different perinatal care modalities, such as midwife-led birth centre care	Commentary, research discussion and recommendations	The authors commented that the Strong Start study showed favourable perinatal outcomes at midwife-led birth centres, especially in populations that are usually affected by racial or economic disparities in other models of perinatal care. They concluded that the results should be disseminated and that lawmakers and policymakers should be engaged to improve access and reimbursement for care at these facilities.	Choice, equity and access
Alliman, Jolles and Summers (2015) USA	The innovation imperative: scaling freestanding birth centers, CenteringPregnancy, and midwifery-led maternity health homes	To argue for the need for disruptive innovation in maternity care in the USA. This would include scaling up the freestanding birth centre and 'midwifery-led maternity health homes'.	Not applicable	Commentary, research discussion and recommendations	A table with nine standards for freestanding birth centres is included in the article	Guidelines/ operational standards/ regulations
Alliman and Phillippi (2016) USA and internationally	Maternal outcomes in birth centers: an integrative review of the literature	To assess the research on maternal outcomes at birth centres	Twenty-three (n=23) quantitative and nine (n=9) qualitative studies were performed in the USA and internationally, including a combined total of more than 84 300 low risk pregnant individuals who sought birth centre care.	Integrative literature review of maternal outcomes in birth centres	The reviewers found that individuals who commenced care in birth centres had higher rates of spontaneous vaginal birth and intact perineum. Caesarean rates were lower among individuals who planned birth centre care. Antepartum and intrapartum transfer rates varied, with nulliparous individuals having higher transfer rates. Severe maternal outcomes and deaths were rare. Overall, individuals expressed satisfaction with the comprehensive and personalised care experienced at birth centres.	Outcomes at birth centres/ safety Interventions used during labour and birth Client's experiences/ satisfaction with care

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Alliman et al. (2019) USA	Strong Start in birth centers: socio-demographic characteristics, care processes, and outcomes for mothers and newborns	To evaluate socio-behavioural and medical risk factors, and core perinatal quality outcomes between an American Association of Birth Centers (AABC) sample and national data during the study period.	AABC Perinatal Data Registry: data for 6 424 Medicaid or Children's Health Insurance Program (CHIP) beneficiaries in birth centre care who gave birth between 2013 and 2017.	Quantitative, Retrospective data; descriptive statistics	Individuals who were enrolled to give birth at AABC sites had similar socio-behavioural risk factors to the national profile. AABC sites performed better than national quality benchmarks for low birth weight, preterm birth, and primary caesarean birth. Racial differences in perinatal indicators in the Strong Start sample were smaller than in national data. The AABC model of care led to lower rates of induction of labour, preterm labour, low birth weight infants, and caesarean section than the national average. Furthermore, breastfeeding rates were higher, and health disparities were less pronounced in the AABC sample.	Outcomes at birth centres/safety Interventions used during labour and birth Choice, equity, and access
Alliman, Bauer and Williams (2022) USA	Freestanding birth centers: an evidence-based option for birth centers.	To summarise the characteristics and status quo of freestanding birth centres.	Research studies on birth centre care for low-risk pregnant individuals.	Literature review	The authors concluded that birth centre care was expanding but, despite evidence of positive outcomes was still underutilised in the USA. They argued that educating more childbearing individuals about all options, including the birth centre, could promote access to person-centred care.	Characteristics of facilities
Almanza et al. (2022) USA	The impact of culturally-centered care on peripartum experiences of autonomy and respect in community birth centers: a comparative study	To examine the impact of culturally centred at Roots (a Black-owned birth centre) on the clients' experiences of autonomy and respect.	The study included pregnant and birthing individuals who received care at Roots Community Birth Center (referred to as Roots) and a national sample of individuals in community birth settings from the Giving Voice to Mothers study. The Roots sample consisted of 80 clients, with over a third of them identifying as people of colour (n = 26; 34.2%). The Giving Voice to Mothers sample included 244 respondents, with a third of them identifying as people of colour (n = 80; 33.3%).	Mixed methods	Clients receiving culturally-centred care at the Roots birth centre reported higher scores for autonomy and respect than the national sample. Although there was no significant difference between Black, Indigenous, and People of Colour (BIPOC) and white clients at Roots, BIPOC individuals showed less variation in their care experiences. The findings suggested that supporting community birth centres, especially those owned by BIPOC individuals, to improve perinatal care for BIPOC communities.	Clients' experiences/satisfaction with care

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Baayd et al. (2023) USA	Catalyzing collaboration among interprofessional birth transfer teams through simulation	To improve the quality of transfer between out-of-hospital birth settings and hospitals.	There were 102 participants (stakeholders): community midwives and doulas, emergency medical technicians, paramedics, emergency dispatch personnel, and hospital-based clinicians, including certified nurse-midwives, labour and birth nurses, obstetricians, and maternal-foetal medicine specialists.	Quality improvement project	Despite encountering challenges in the simulation setup, the training was well-received. Feasibility: All groups were well represented. 80% of participants found the simulations realistic. Acceptability: 98% felt the training would benefit others in their profession, and 100% considered the 4-hour training worthwhile. Effectiveness: Participants' self-efficacy in emergency birth transfers significantly improved across 9 survey items, with effect sizes indicating a large positive impact (ranging from 0.3 to 1.1). Practice changes: collaboration led to new dispatch guidelines, reintroduction of oxytocin in ambulances, clearer guidelines for midwife involvement, and revisions to the Transfer Toolkit, incorporating EMS model practices.	Collaboration between birth centres and their referral network
Bailey (2017) New Zealand	Birth outcomes for women using free-standing birth centers in South Auckland, New Zealand	The researchers examined maternal and perinatal outcomes for individuals who had low-risk pregnancies and laboured at freestanding birth centres, compared with those in a hospital maternity unit in a major health district in New Zealand.	The sample included 7 381 individuals who had low-risk pregnancies and gave birth in South Auckland maternity facilities from 2003 to 2010.	Quantitative, observational	Labour in birth centres was linked to lower rates of instrumental delivery, caesarean section and blood transfusion compared with labour in hospitals. Infants of first-time birthing individuals in birth centres had fewer admissions to the neonatal intensive care unit. The intrapartum and neonatal mortality rates in birth centres and hospitals were low and did not differ significantly. Nulliparous individuals had a transfer rate of 39% for labour and postnatal complications, while multiparous individuals had a transfer rate of 9%. Identified risk factors for transfer included being a first-time parent, advanced maternal age, and a prolonged pregnancy of 41 weeks or more.	Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Baczek et al. (2020) Iran	Freestanding midwife-led units: a narrative review	To review and summarise published evidence regarding freestanding midwife-led units and to identify potential research gaps.	Theoretical papers and empirical studies on the topic of freestanding midwife-led units: 56 out of 107 originally found articles were identified as eligible for the review	Structured integrative review of theoretical papers and empirical studies.	The reviewers found that freestanding midwife-led units provide a homelike setting and comprehensive midwifery care for individuals with uncomplicated pregnancies. While emergency equipment was accessible if required, giving birth in a freestanding midwife-led unit was seen as a natural and spontaneous process. Midwives' care during low-risk labour offered numerous advantages, primarily including reduced medicalisation and fewer medical interventions compared to hospitals.	Characteristics of facilities Outcomes at birth centres/safety Interventions used during labour and birth Clients' experiences/satisfaction with care
Batinelli et al. (2022) International	What are the strategies for implementing primary care models in maternity? A systematic review on midwifery units	To explore effective strategies for integrating Midwifery Units (MUs) into maternity services, aiming to support and inform the implementation process in countries where this model of care is not yet mainstream despite its association with optimal perinatal outcomes, improved satisfaction among service users and professionals and cost-effectiveness.	Articles and literature related to integrating Midwifery Units (MUs) into maternity services. The sample comprised relevant articles obtained through a systematic search of various databases and additional key articles added by the research team. The screening process involved reviewing titles, abstracts, and full texts of identified papers against pre-determined inclusion and exclusion criteria.	Systematic review	The reviewers analysed global studies on midwifery unit (MU) implementation, noting variability in regulation and autonomy. Common features included midwife-led care in a separate unit involving professionals, managers, and commissioners. The analysis emphasised multifaceted readiness and highlighted cultural, structural, and professional factors. Barriers included power dynamics and medicalised care. Decision-making factors involved norms, safety perceptions, and information. Recognition of midwives' roles, cost considerations, guidelines, and local policies influenced readiness. Successful strategies included training, exposure to the MU model, collaboration, integration, effective communication, and charismatic leadership. The review stressed the importance of not solely focusing on physical changes, concluding with an emphasis on cultural, organisational, and professional factors for MU implementation readiness.	Choice, equity and access

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Bazirete et al. (2023) International (lower- and middle-income countries)	Midwife-led birthing centres in four countries: a case study	The purpose of this study was to explore midwife-led birth centres in four low-to-middle-income countries (Bangladesh, Pakistan, South Africa, and Uganda), with the specific aim of understanding the requirements for a successful midwife-led birth centre and identifying key enablers.	The population/sample included 210 informants, including health service leaders, midwife-led birth centre staff, and midwife-led birthing centre clients, with 34–66 participants per country. Data were collected through key informant interviews and focus group discussions guided by the Network of Care framework.	Case study (appreciative inquiry)	The study found that successful midwife-led birth centres in low-to-middle-income countries were characterised by four universal themes: (1) an effective financing model, including external funding partnerships, government support, and flexible financial approaches; (2) quality midwifery care recognised by the community, involving respectful, culturally sensitive, and compassionate care that supports physiological birth; (3) interdisciplinary and interfacility collaboration, coordination, and functional referral systems, emphasising teamwork, coordination meetings, and well-functioning referral mechanisms; and (4) supportive and enabling leadership and governance at all levels, encompassing government support, effective leadership, coordination meetings, and reliable monitoring and evaluation mechanisms. These factors were crucial for addressing challenges and improving maternal and newborn health outcomes in diverse contexts.	Characteristics of facilities Collaboration between birth centres and their referral networks
Behruzi et al. (2017) Canada	Understanding factors affecting collaboration between midwives and other health care professionals in a birth center and its affiliated Quebec hospital: a case study	Researchers aimed to investigate factors that affect interprofessional and inter-organisational collaboration between midwives in birth centres and healthcare professionals in hospitals in Quebec.	The target population included midwives in birth centres and other health care professionals in hospitals in Quebec. Through purposive sampling, administrators in both hospital and birth centres, midwives with different levels of experience, various nurses, obstetricians & gynaecologists, and family physicians.	Qualitative, case study design	The study highlighted the interplay of interactional, organisational, and systemic factors affecting collaboration between midwives in birth centres and physicians and nurses in Quebec hospitals. Interactions were hindered by conflicts in the scope of practice, misconceptions about midwives, and communication challenges. Organisational barriers included limited integration of midwives into hospitals, driven by differences in philosophy, lack of interest, and organisational culture. Systemically, the demand for midwife-led care surpassed availability,	Collaboration between birth centres and their referral networks

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					emphasising the need to address conflicts, enhance collaboration, and grant hospital access privileges to fully integrate midwives into the Canadian healthcare system.	
Benatar et al. (2013) USA	Midwifery care at a freestanding birth center: a safe and effective alternative to conventional maternity care	To compare maternal and neonatal outcomes following midwifery care at a freestanding birth centre or conventional maternity care	Birth certificate data from 2005 to 2008 of births in Washington D.C. and D.C. residents who gave birth in other jurisdictions (at least two prenatal visits, a singleton birth, and a gestational age ≥ 24 weeks). Included sample: freestanding birth (n=872) centre and usual care births (n=42 987)	Quantitative, retrospective	The freestanding birth centre in Washington showed equal or better outcomes than standard care, with reduced caesarean sections and higher average infant birthweight. African American women at the centre had lower caesarean section rates and fewer assisted deliveries. Infant outcomes showed few significant differences, except for the higher average birthweight and lower preterm birth rate in the birth centre group.	Outcomes at birth centres/safety Interventions used during labour and birth
Boesveld et al. (2017a) The Netherlands	Typology of birth centres in the Netherlands using the Rainbow model of integrated care: results of the Dutch Birth Centre Study	As part of a larger study the aim of this sub-study was to group birth centres into clusters based on similar characteristics and levels of integration.	23 Birth centres in the Netherlands.	Mixed methods, Survey and qualitative interviews	The 'Rainbow model of integrated care' combines the functions of primary care and integrated care. This model's dimensions are clinical, professional, organisational, system integration, functional integration, and normative integration. Based on levels of integration, three clusters of birth centres were identified.	Characteristics of facilities Collaboration between birth centres and their referral networks
Boesveld et al. (2017b) The Netherlands	Developing quality indicators for assessing quality of birth centre care: a mixed-methods study	To identify a comprehensive structure and process indicators to assess the quality of birth centre care.	Professionals from different disciplines with birth centre experience, representatives of health insurance companies, policymakers, clients, and advisors in birth in The Netherlands: A panel of 42 experts.	A literature review to develop a complete list of determinants, followed by a Delphi study.	The researchers developed a set of 30 determinants that could be translated into 30 structure and process quality indicators that can be applied to assess the quality of birth centre care in the Netherlands.	Quality indicators

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Boesveld et al. (2018) The Netherlands	An approach to assessing the quality of birth centres results of the Dutch birth centre study.	To assess if birth centre quality indicators (as developed in a previous phase of a larger study) are usable.	Managers as representatives of 23 birth centres in the Netherlands.	Mixed methods	The study found that 28 of 30 quality indicators used to assess birth centres in the Netherlands were applicable. One indicator lacked an optimal value definition, and another could not be scored due to unavailable information. Each indicator was scored as 0 or 1, revealing differences among birth centres with scores ranging from 7 to 22. The researchers suggested combining or refining certain indicators for easier assessment and adapting others that are specific to certain types of birth centres, such as freestanding or alongside birth centres.	Quality indicators
Borquez and Wieggers (2006) The Netherlands	A comparison of labour and birth experiences of women delivering in a birthing centre and at home in the Netherlands	To compare labour and birth experiences of individuals who had a birth centre and home births in the Netherlands.	Individuals who received care from one birth centre and three midwifery practices between September and December 2003 in a Dutch urban area.	Quantitative, descriptive study (questionnaires)	The home birth group reported less pain and had a lower desire for pain-relieving medication compared to the birth centre group. They also felt a stronger connection with their midwife and rated their birth setting higher. Furthermore, the home birth group valued the trustworthiness and dependability of their own home, having their personal space and belongings, as well as feeling comfortable and relaxed during the birth process. The birth centre group placed more importance on safety, the availability of medical assistance, and convenience.	Clients' experiences/satisfaction with care
Bovbjerg et al. (2017) USA	Perspectives on risk: Assessment of risk profiles and outcomes among women planning community birth in the United States	To evaluate the extent to which specific risk factors (primiparity, advanced maternal age, obesity, gestational diabetes, preeclampsia, post-term pregnancy, twins, breech presentation, history of caesarean and vaginal birth, and history of caesarean without	Data on births (n=47 394) attended by midwives in community settings in the USA between 2004 and 2009 (data from the Midwives Alliance of North America Statistics Project).	Quantitative	Maternal age and obesity had limited effects, with small, adjusted odds ratios (AOR) below 2.0 for various outcomes. The breech presentation showed a strong association with complications and foetal and neonatal mortality. Individuals with a history of both caesarean and vaginal birth had better outcomes compared with primiparous individuals. In comparison, those with a history of caesarean but no prior	Eligibility criteria for admission Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
		history of vaginal birth) contribute to maternal and neonatal outcomes in maternity settings.			vaginal births had poorer outcomes, particularly foetal or neonatal demise. Caesarean births were most common in the breech, preeclampsia, history of caesarean without vaginal birth, and primipara groups.	
Brocklehurst et al. (2012) UK	Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study	To compare outcomes and interventions in low-risk pregnancies based on planned place of birth. Primary focus: perinatal mortality, neonatal morbidities, including stillbirth, early neonatal death, and birth-related injuries. Secondary focus: maternal interventions, mode of birth, and maternal and neonatal morbidities.	Individuals (n=64,538) were eligible if they were pregnant with a single baby, gave birth at term (≥ 37 weeks gestation), were “booked” for antenatal care and gave birth between April 2008 and April 2010. Planned caesarean sections, caesarean sections before labour, and unplanned home births were excluded.	Quantitative, prospective cohort	No significant differences in outcomes when comparing non-obstetric unit settings to obstetric units. However, for individuals having their first baby (nulliparous), the likelihood of primary outcome events was higher for planned home births but not for either midwifery unit setting. For individuals who had previously given birth (multiparous), there were no significant differences in the occurrence of the primary outcome events based on the planned place of birth. The rate of interventions during labour was notably lower in all non-obstetric unit settings. Transfers from non-obstetric unit settings were more common for nulliparous individuals.	Outcomes at birth centres/safety Interventions used during labour and birth
Caughey and Cheyney (2019) USA	Home and birth center birth in the United States: time for greater collaboration across models of care	Part of a clinical expert series in which clinical experts examined the history, clinical issues and evidence regarding home and birth centre births.	Experts in maternity care.	Expert opinion, review of the literature.	In some high-resource countries, home and birth-centre births attended by community midwives were more common and associated with lower rates of maternal morbidity, but perinatal mortality appeared to be higher for community births in the USA. Countries with better-integrated systems and clearer national guidelines governing risk criteria and planned birth location had higher rates of community births and lower rates of intervention. The authors highlighted the importance of understanding differences in outcomes, systems, approaches, and client motivations for person-centred care and risk reduction across all birth settings.	Outcomes at birth centres/safety Collaboration between birth centres and their referral networks

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Christensen and Overgaard (2017) Denmark	Are freestanding midwifery units a safe alternative to obstetric units for low-risk, primiparous childbirth? An analysis of effect differences by parity in a matched cohort study.	The study focused on low-risk pregnant individuals who intended to give birth in a freestanding midwifery unit or in an obstetric unit within the North Denmark Region. The aim was to evaluate the effect of birthplace and parity on maternal outcomes and the use of interventions.	Data from two freestanding midwifery units and two obstetric units located in the North Denmark Region. In both types of settings, care for low-risk pregnant individuals was provided by midwives, and all units followed the same multidisciplinary guidelines for referral and transfer: low-risk individuals. intending birth in a freestanding midwifery unit (n=839; primary participants) and low-risk women (n=839) intending birth in an obstetric unit (individually matched control group)	A quantitative, matched cohort	Pregnant individuals who intended to give birth in a Freestanding Midwifery Unit had significantly better outcomes compared to those in an Obstetric Unit. This was consistent for both primiparous and multiparous women. Those in the Freestanding Midwifery Unit group were less likely to undergo caesarean sections, had better perineal outcomes, and had lower readmission rates. Freestanding Midwifery Unit births also showed fewer instrumental deliveries and labour augmentations. The transfer rate to the Obstetric Unit during or after birth was higher for primiparas compared to multiparas	Outcomes at birth centres/safety Interventions used during labour and birth
Combellick et al. (2022) USA	Birth during the Covid-19 pandemic: What childbearing people in the United States needed to achieve a positive birth experience	To identify factors that contributed to positive birth experiences during the coronavirus pandemic.	Nationally distributed web-based questionnaires were completed by individuals (n=707) in 46 US states and the District of Columbia.	Mixed method, cross-sectional survey	Findings indicated positive experiences and satisfaction in choosing birth centres and midwife-led care during the pandemic. Participants opted for community births, including birth centres and home births, to avoid the stressful hospital environment. Those who chose community birth described it as calm and healing. Overcoming barriers such as insurance coverage and limited providers, some individuals continued with their desired home births. Advocacy, particularly from doulas or midwives, role in controlling unnecessary interventions and ensuring informed decision-making. Midwife-led care was valued for its transparency, respect, and equal partnership approach, regardless of the type of provider, highlighting the importance of personalised and supportive care in these settings.	Clients' experiences/satisfaction with care
Courtot et al. (2020)	Midwifery and birth centers under state Medicaid programs:	To explore birth centres' experiences with Medicaid (public	Different phases included birth centre key informants (n=248 managers, registered nurses, and	Mixed methods	During focus groups, Strong Start clients reported a preference for birth centre care based on recommendations	Choice/equity of access

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
USA	current limits to beneficiary access to a high-value model of care	insurance), and identify factors that affected Medicaid beneficiaries access to midwife-led and birth centre care	midwives); pregnant and postpartum Medicaid and CHIP beneficiaries (n=215); representatives of Medicaid programs; staff members from American Association of Birth Centers (AABC) Strong Start sites (n=38)		and due to having more options and more autonomy at these facilities. Birth centres reported that although at least a third of their clients were funded by Medicaid, they experienced several challenges with Medicaid, such as low reimbursement for services or no reimbursement in cases where transfers occurred. Specific states had additional regulatory requirements or high licensing fees, causing licencing to be more difficult to obtain. These factors affected Medicaid clients' access to birth centre care.	
da Silva, de Oliveira, Bick, Osava, Nobre, et al. (2012) Brazil	Factors associated with maternal intrapartum transfers from a freestanding birth centre in São Paulo, Brazil: a case control study.	To identify factors associated with intrapartum transfer from a freestanding birth centre to a hospital in São Paulo, Brazil.	The sample included individuals who were transferred from a freestanding birth centre in Sao Paulo to the referral hospital during labour (March 2002 and December 2009). The participant group included individuals (n=111) who experienced such transfers during that time. Additionally, individuals who gave birth at the birth centre during the same period were not transferred (n=456). Control participants were randomly selected at a ratio of four controls for each case.	Quantitative, case-control study	Nulliparity, maternal age ≥ 35 years, not having a partner and cervical dilation ≤ 3 cm on admission to the birth centre were identified as factors that were associated with intrapartum transfer. A low correlation between fundal height and pregnancy gestation was identified as potentially protective against transfer.	Outcomes at birth centres/safety
da Silva, de Oliveira, Bick, Osava, Tuesta, et al. (2012) Brazil	Risk factors for birth-related perineal trauma: a cross-sectional study in a birth centre	To identify maternal, newborn, and obstetric risk factors that contribute to perineal trauma in an independent birth centre.	Individuals who gave birth in one freestanding birth centre in Brazil from 2006 to 2009 (n=1079).	Quantitative, Cross-sectional study	Parity, oxytocin during labour, position at time of birth and infant weight were associated with second-degree lacerations in primiparous individuals.	Outcomes at birth centres/safety Interventions used during labour and birth
Dahlen et al. (2011) Australia	Birth centres and the national maternity services review: response to consumer	The aim of this study was to examine what participants said about birth centres in the submissions to the	The researchers reviewed 832 submissions to the MSR that are publicly available on	Qualitative descriptive study	Out of 832 submissions to the Maternity Review, 24% mentioned birth centres, while 60% mentioned home birth. Only 4% of submissions mentioned birth centres without also	Choice, equity and access

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
	demand or compromise?	Australian Maternity Service Review (MSR)	the Commonwealth of Australia Department of Health and Ageing website. All 832 submissions were downloaded and read for any mention of the words 'birth center', 'birth centre'		mentioning home birth. Most submissions emphasised the importance of choosing a birthplace and care provider. Reasons for choosing a birth centre included it being the best available compromise, the natural way to give birth and its perceived safety. Pregnant individuals had specific requirements for a birth centre, such as continuity of care, midwife-led care, a non-medicalised environment, adequate resources, proximity to home, and flexible guidelines. Ultimately, various factors were weighed when deciding whether to give birth in a birth centre.	
Danhausen et al. (2022) USA	Strengthening interprofessional collaboration to improve transfers between a freestanding birth center and an academic medical center	This article outlined the strategies employed in the ongoing partnership between birth centres and hospital healthcare providers.	The Birth Center referred to in this article is an independent facility affiliated with an academic medical centre. It collaborated with a hospital-based midwifery practice responsible for attending to patients transferring from the Birth Center.	Qualitative, case study	The authors suggested that implementing strategies such as adopting a shared electronic health record, aligning clinical practice guidelines, preparing birth centre clients for possible hospital transfer, presenting a united team across birth sites, establishing clear communication pathways, and facilitating ongoing communication and collaboration between teams can enhance the partnership between birth centres and hospital healthcare providers.	Collaboration between birth centres and their referral networks
David et al. (2006) Germany	Intrapartum transfer from a birth centre to a hospital – reasons, procedures, and consequences	To explore the factors that lead to intrapartum transfer from a birth centre to a hospital during childbirth, along with the transfer methods and outcomes.	The study involved all seven Berlin birth centres, which used 13 Berlin hospitals and 18 Bavaria hospitals as referral hospitals. The data analysed included 3,060 births at birth centres in Berlin and Bavaria during 1999/2000, compared with a selected dataset of 89,696 hospital births in Berlin and Bavaria during 1998/1999.	Quantitative, retrospective cohort	During the study, 411 transfers occurred from birth centres to hospitals in Berlin and Bavaria. Complete questionnaire responses were available for 360 cases. The study found that only 10% of transferred individuals in Bavaria and 30% in Berlin had contacted the hospitals during pregnancy. The most common reason for transfer was premature rupture of membranes, while breech presentations were also transferred despite being considered a	Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					<p>contraindication for birth centres. Midwives most frequently advised the transfers and foetal reasons for transfer were usually related to abnormal cardiotocograph readings. Transfer distances ranged from 0.2 km to 55 km, taking 5 to 60 minutes. Transfer distances did not significantly affect cord pH and Apgar scores, and there were no fatalities in the transfer group. Primigravida's were at a higher risk of transfer.</p>	
<p>David et al. (2009)</p> <p>Germany</p>	<p>Prior cesarean section-an acceptable risk for vaginal delivery at free-standing midwife-led birth centers? Results of the analysis of vaginal birth after cesarean section (VBAC) in German birth centers</p>	<p>To investigate the safety and outcomes of out-of-hospital vaginal birth at a birth centre for individuals who had had a previous caesarean section and to compare their maternal and neonatal outcomes with those of a control group of individuals who had not previously undergone a caesarean section.</p>	<p>Documented singleton births with cephalic presentation and gestational age greater than or equal to 34 weeks, occurring between 2000 and 2004 in one of 80 German birth centres. Only second births were considered for analysis. The sample comprised all births that took place in the birth centre or when labour had already started in the birth centre prior to transfer. Out of the total population, 364 (5.3%) had had a previous caesarean section.</p>	<p>Quantitative, retrospective analysis of prospectively collected data</p>	<p>Previous caesarean section was reported in 5.3% of the study sample. A control group of individuals (n=6 4480 with no previous caesarean was included. Significant differences ($p < 0.05$) were observed between these two groups with regard to the intrapartum transfer rate from a birth centre to a hospital clinic, the number of emergency transfers, the method of delivery (repeat caesarean), and the Apgar score at 5 minutes. These outcomes occurred at a higher rate in the previous caesarean group. Serious maternal and neonatal complications were found to be rare.</p>	<p>Eligibility criteria for admission</p> <p>Outcomes at birth centres/safety</p>
<p>De Jonge et al. (2017)</p> <p>England and the Netherlands</p>	<p>Mode of birth and medical interventions among women at low risk of complications: A cross-national comparison of birth settings in England and the Netherlands.</p>	<p>To compare the mode of birth and medical interventions in England and the Netherlands, focusing on broadly equivalent birth settings.</p>	<p>Low-risk pregnancies (singleton, term, spontaneous labour) in different birth settings were included using data from the Birthplace study in England (April 2008 to April 2010) and the National Perinatal Register in the Netherlands (2009). Low-risk pregnant individuals from both countries were included (n= 79 117). In England, the participants were divided into four groups: planning to give birth at home (n=16 470), in freestanding</p>	<p>Quantitative, cohort study</p>	<p>Caesarean rates were higher in low-risk English individuals planning births in obstetric units compared with Dutch individuals planning midwife-led hospital births. Additionally, rates of instrumental vaginal births were generally lower in the English comparison groups, except for planned births in obstetric units. Transfer, augmentation, and episiotomy rates were much lower in England compared with the Netherlands for all midwife-led groups, but epidural rates were higher among English groups in most cases.</p>	<p>Outcomes at birth centres/safety</p> <p>Interventions used during labour and birth</p>

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
			midwifery units (n=11 133), in alongside midwifery units (n=16 418), and in obstetric units (n=19 096). In the Netherlands, there were two groups: individuals who planned to give birth at home (n=40 468) and those who planned to give birth in the hospital under midwife-led care (n=37 887).			
de Oliveira et al. (2019) Brazil	Adequacy of prenatal assistance in birth houses and causes associated with hospital transfers	To assess the quality of prenatal care (according to specific parameters) provided at the birth house/birth centre and investigate the reasons behind maternal and newborn transfers to the hospital during the prenatal period.	Individuals who were pregnant with a single foetus had no risk factors and planned to give birth at Casa de Parto David Capistrano Filho, but required hospital transfer. Out of individuals who had been in labour (n=1 525), 1 290 gave birth at the institution, and 235 (15.4%) were transferred to a hospital.	Quantitative, cross-sectional	It was found that suitable prenatal care was prevalent (42.8%), and there was no significant association ($p = 0.55$) with transfers. Maternal transfers were linked to ruptured membranes and altered foetal heart rate patterns. Newborn transfers were associated with meconium-stained liquor (PR = 2.40, 95% CI 1.30-4.43), Apgar scores below 7 (PR = 5.33, 95% CI 2.65-10.73), and the need for positive pressure ventilation at birth (PR = 9.41, 95% CI 5.52-16.04).	Outcomes at birth centres/safety
Deery et al. (2007) UK	Women in the driving seat: birth centre insights	To explore and understand the experiences, needs, and perspectives of a birth centre's clients and the midwives working in this setting. The study was part of a larger Birth Center project and was funded by a trust.	Midwives working in a birth centre and their clients who had recently received care at the birth centre. All 9 midwives and a total of 15 birth centre clients were recruited to be part of the study	Qualitative, exploratory study	Birth centre clients expressed a need for support from family, friends, and midwives during childbirth. Midwives sought mutual support from peers and managers within the trust. Practicing autonomously and having more control over their work increased midwives' job satisfaction. Conflicting ideologies among midwives were found to be unhelpful in a birth-centre setting, suggesting the importance of grouping like-minded midwives for better working relationships.	Women's experiences/satisfaction with care Choice, equity and access Characteristics/experiences of birth centre care providers
Deline et al. (2012) USA	Low primary cesarean rate and high VBAC rate with good outcomes in an Amish birthing center	To evaluate birth outcomes measures (including rates of caesarean, TOLAC and VBAC deliveries, and	All individuals (n=927) who received care during labour at a birth centre for Amish women in Southwestern Wisconsin from 1993 to 2010.	Quantitative, retrospective	The caesarean rate was 4% (35 out of 927), while the trial of labour after caesarean (TOLAC) and vaginal birth after caesarean (VBAC) rates were high, with 100% and 95%, respectively. There were no cases of uterine rupture or	Eligibility criteria for admission Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
		perinatal outcomes) in the study sample			maternal deaths reported. The neonatal death rate of 5.4 per 1 000 births was comparable to the rates in Wisconsin (4.6 per 1 000) and the United States (4.5 per 1 000).	
Erickson et al. (2020) USA	Factors affecting third-stage management and postpartum hemorrhage in planned midwife-led home and birth center births in the United States	To investigate postpartum haemorrhage incidence among individuals who gave birth in a community setting and their demographic and clinical characteristics.	Individuals (n=17 836) who gave birth in community settings and whose details were entered in the Midwives of North America 2.0 database (2004–2009)	Quantitative, retrospective cohort	Among 17 836 vaginal births analysed, 15.9% experienced blood loss over 500 mL, and 3.3% had blood loss over 1000ml. The rate of hospital transfer after birth was 1.4% (n=247). Adjusting for various factors, the study found that postpartum haemorrhage was less likely at home births, with certified nurse-midwives /certified midwife credentialed midwives, and in multiparous women without postpartum haemorrhage history or prior caesarean birth. Postpartum haemorrhage was more likely in states with barriers to midwifery practice compared to regulated states.	Outcomes at birth centres/safety Characteristics/ experiences of birth centre care providers
Everly (2012) USA	Facilitators and barriers of independent decisions by midwives during labor and birth	To explore factors that affected midwives' decision-making when caring for women in labour in freestanding birth centres and hospitals.	Midwives with experience in managing labour and birth in both hospital settings and freestanding birth centres in the USA. The researchers conducted ten interviews, and the final framework was reviewed by seven participants.	Qualitative	The contrasting environments of hospitals and freestanding birth centres impacted midwives' decision-making. Moreover, their trust in the birth process, birthing individuals, and the healthcare team also played a crucial role.	Characteristics/ experiences of birth centre care providers
Faulk and Niemczyk (2021) USA	Key indicators influencing management of prolonged second stage labour by midwives in freestanding birth centres: Results from an ethnographic interview study.	An exploration into the methods employed by midwives in USA birth centres to recognise the onset of the second stage of labour and decide on the appropriate timing for transferring clients to the hospital when facing a prolonged second stage.	Twenty-one midwives (n=18 certified nurse-midwives, n=3 certified professional midwives/equivalent) with at least 2 years' experience in 18 birth centres in 11 USA states (45% with hospital practice privileges).	Qualitative, ethnographic study	Midwives relied on hands-on 'embodied' practice while assessing each labour to make decisions regarding its management. They acknowledged the importance of time as a helpful factor in their decision-making process, but they recognised its limitations. Despite the significance of time and progress in guiding midwives' decisions, they understood that the assessment process was ongoing, multifaceted, and involved multiple senses. Additionally, their decision-	Collaboration between birth centres and their referral networks

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					making about transfers was influenced by the established relationship with the transfer hospital.	
Fleming et al. (2016) USA	Birth Satisfaction Scale/Birth Satisfaction Scale-Revised (BSS/BSS-R): A large scale United States planned home birth and birth centre survey	To explore the level of birth satisfaction for planned birth at home or birth centres in the USA.	Individuals who had planned to birth in a birth centre or at home: A convenience sample of childbearing individuals (n=2 229) who had planned to birth at home or a birth centre in the USA.	Quantitative, survey	Sub-scale mean scores quantified the quality of care provision, birthing individuals' attributes, and stress experienced during labour. Satisfaction was higher for individuals who had vaginal births compared with caesarean sections. Satisfaction was higher for individuals who had planned to deliver at home or a birth centre and successfully did so.	Clients' experiences/satisfaction with care
Fleuriet (2009) USA	La tecnología y las monjitas: constellations of authoritative knowledge at a religious birthing center in south Texas	To explore and contrast the conceptualisations of authoritative knowledge in pregnancy and birth between USA midwives and their Mexican immigrant clients at a religious birthing centre in south Texas.	Five certified nurse-midwives and 26 clients (15 interviewees and 11 focus group attendees) at a religious birth centre in South Texas.	Qualitative, participant-observation, surveys, ethnographic interviews, and a focus group	Differing perspectives of Mexican immigrant individuals and midwives at a religious birthing centre regarding authoritative knowledge were explored in the context of prenatal care and birth. Mexican clients prioritised gendered care and social support during pregnancy, relying on medical technology to assess risks and problems. They often placed their trust in doctors and hospitals for birth. In contrast, midwives at the birth centre emphasised the labouring individuals' intuitive knowledge of their body and the importance of spirituality during pregnancy and birth. They considered medical technology less important, viewing it as potentially disempowering. While the two groups had conflicting views on authoritative knowledge, the reasons clients chose the birth centre were influenced by cost, family needs, and the supportive environment provided by the centre.	Women's experiences/satisfaction with care
George et al. (2022) Canada	Choosing a Birth Setting: A Shared Decision-Making Approach	The study aimed to investigate an individual-centred approach in birth settings, focused on shared decision-making	A case study that uses one woman's (K.T) decision-making process as an example	Qualitative, case study	Encouraging shared decision-making regarding birth setting options enables individuals to make informed choices aligning with their values and health. Implementing decision aids could	Choice, equity and access

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		that enabled well-informed choices aligned with individual values.			enhance equity in accessing birth settings, reducing perinatal health disparities. However, difficulties in obtaining unbiased information persisted, as was demonstrated in K.T.'s case.	
Grigg et al. (2015) New Zealand	Women's birthplace decision-making, the role of confidence: part of the Evaluating Maternity Units study, New Zealand	To explore the decision-making process regarding the choice of birthplace and to pinpoint the factors that empowered individuals to opt for a freestanding midwifery-led primary-level maternity unit over an obstetric-led tertiary-level maternity hospital in New Zealand.	Pregnant individuals classified as 'low risk' for complications who were scheduled to give birth in either a primary unit or the tertiary hospital. Irrespective of their intended or actual birthplace, all participants received consistent midwifery care throughout their pregnancy: there were eight focus groups (n=37) and a six-week postpartum survey (n=571)	Mixed methods, prospective cohort design	Five core themes were identified: the birth process, self-belief in the ability to give birth, midwives, the health system, and birthplace, with "confidence" as the overarching concept influencing these themes. Individuals planning a primary unit birth expressed confidence in the birth process, their birthing capabilities, their midwife, the maternity system, and/or the primary unit itself. In contrast, those planning a tertiary hospital birth lacked confidence in the birth process, their birthing abilities, the transfer system, and/or the primary unit as a birthplace. However, they did have confidence in their midwife.	Choice, equity and access
Grigg, Tracy, Schmied, Monk, et al. (2015) New Zealand	Women's experiences of transfer from primary maternity unit to tertiary hospital in New Zealand: part of the prospective cohort Evaluating Maternity Units study	This study is a component of the larger prospective cohort research study, the "Evaluating Maternity Units," which focused specifically on individuals' experiences with transfers from primary maternity units to tertiary hospitals in New Zealand.	This study relied on data collected from a six-week postpartum survey involving individuals (n=174) who had originally planned to give birth in a primary maternity unit but experienced changes or transfers in their birthplace plans.	Mixed methods: Prospective cohort, quantitative survey with qualitative analysis of an open-ended question	Analysis showed that among the individuals who had to change their intended place of birth or transfer, 38.6% reported being unbothered by the change. In comparison, 8.8% were "very unhappy," and 7.6% were "very happy". Qualitative analysis revealed four themes from open-ended survey responses of those who experienced transfers: "not to plan," control, communication, and "my midwife." The interplay between these themes had varying effects, resulting in either a positive or negative overall experience. Overall, individual's experiences of transfer during labour were generally positive, with no reported stress or trauma associated with the transfer.	Clients' experiences/satisfaction with care

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Grigg et al. (2017) New Zealand	Evaluating maternity units: a prospective cohort study of freestanding midwife-led primary maternity units in New Zealand—clinical outcomes	To compare maternal and neonatal birth outcomes and morbidities of planned births in a freestanding primary-level midwife-led maternity unit or tertiary-level obstetric-led maternity hospital (TMH) in Canterbury, Aotearoa, New Zealand.	The sample consisted of individuals (n=407) who planned to give birth in a primary-level midwife-led maternity unit and individuals (n=285) who planned to give birth at the TMH in 2010–2011. All the women planning a TMH birth were 'low risk', and 29 of the primary level midwife-led maternity unit cohort had risk factors.	Quantitative, retrospective	Planned births in a primary-level midwife-led maternity unit were more likely to result in spontaneous vaginal birth and less likely to involve instrumental assistance. There were no significant differences in emergency and elective caesarean section rates, low 5-minute Apgar scores, or neonatal unit admissions compared with tertiary-level obstetric-led maternity hospital births. Overall, planning to give birth in a primary-level midwife-led maternity unit was associated with comparable or lower chances of interventions during labour and similar odds of neonatal well-being indicators.	Outcomes at birth centres/safety
Grünebaum et al. (2022) USA	Neonatal outcomes of births in freestanding birth centers and hospitals in the United States	To compare various neonatal safety metrics in two different birth settings and with different birth attendants in the USA. Specifically, the study looked at deliveries in freestanding birth centres and hospital deliveries by midwives and physicians.	The study involved a total of term, singleton, low-risk births that took place in the USA between 2016 and 2019 (n=9,894,978). Of these births, 87.82% (n=8 689 467) occurred in a hospital setting and were attended by medical doctors and obstetricians. Meanwhile, 11.43% (n=1 131 398) of the births occurred in hospitals and were attended by midwives. Finally, 0.75% (n=74 113) of the births occurred in freestanding birth centres.	Quantitative, retrospective cohort	The results showed that individuals who gave birth in freestanding birth centres were less likely to be non-Hispanic Black or Hispanic, less likely to have public insurance, less likely to be primigravids, and more likely to be individuals with advanced education and to have reached pregnancy of 40 weeks' gestation. However, these births had significantly higher rates of neonatal deaths, neonatal seizures, and low Apgar scores compared with in-hospital births. Additionally, hospital physician-attended births had significantly higher adverse neonatal outcomes than hospital midwife-attended births.	Outcomes at birth centres/safety
Grünebaum et al. (2013) USA	Apgar score of 0 at 5 minutes and neonatal seizures or serious neurologic dysfunction in relation to birth setting	To investigate the incidence of 5-minute Apgar scores of 0 and instances of seizures or severe neurological issues in four distinct groups categorised by both the place of birth (hospital, freestanding	The study focused on USA singleton births, occurring at ≥ 37 weeks of gestation and with a birthweight of ≥ 2500 g. These births occurred in various settings, including hospitals, birth centres, and homes, attended by physicians or midwives (n=13 891 274). Hospital births attended by	Quantitative	Home births with midwives had a significantly higher risk of a 5-minute Apgar score of 0, especially for nulliparous individuals and those ≥ 35 years of age. Freestanding birth centre midwife births had lower risks than home births but were still higher than hospital births by physicians. Midwife-attended births within hospitals had a	Outcomes at birth centres/safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
		birth centre, and home) and the attending healthcare provider (physician or midwife) in the USA during the years 2007 to 2010.	physicians accounted for the majority at 91.16% (n=12 663 051 births), followed by midwife-attended hospital births at 8.05% (n=1 118 678 births), and midwife-attended home births at 0.49% (n=67 429 births). Data were obtained from the CDC.		lower risk compared with physician-attended hospital births. Additionally, midwife home births had an increased risk of seizures or serious neurologic dysfunction, particularly for nulliparous individuals . At the same time, freestanding birth centre midwife births also showed an increased risk compared with hospital births by physicians.	
Hansel et al. (2022) USA	Associations between place of birth, type of attendant, and small for gestational age births among pregnant non-Hispanic Black Medicaid recipients	The purpose of this study was to analyse 2017 Natality data for non-Hispanic Black pregnant individuals using Medicaid, specifically examining the relationship between place of birth, type of birth attendant, and the likelihood of newborns being born small for gestational age.	The population under study comprised all non-Hispanic Black pregnant individuals in the United States who utilized Medicaid as their source of payment for healthcare services in the year 2017 (n=322 604).	Quantitative, cross sectional	Pregnant individuals attended by certified nurse-midwives or other midwives during labour had a lower likelihood of having a newborn born small for gestational age compared with those attended by physicians. Additionally, those who gave birth in a birth centre or had planned home births had decreased odds of having a neonate born small for gestational age, while those with unplanned home births had twice the odds of compared with hospital or clinic births.	Choice, equity and access Outcomes at birth centres/ safety
Hardeman et al. (2020) USA	Roots Community Birth Center: A culturally-centered care model for improving value and equity in childbirth	A case study that provides the description of a culturally sensitive model of care at a freestanding birth centre.	A freestanding birth centre in the USA, Roots community birth centre	Case study report	Emphasised the significance of Roots Community Birth Center, an African American-owned, midwife-led facility in North Minneapolis, which employed a culturally centred maternity care model to address racial disparities in birth outcomes. They catered to Medicaid beneficiaries, offering personalised prenatal and postpartum care. Roots have achieved remarkable results, with no preterm births among 284 families over the previous four years. The authors noted the potential of culturally-centred, community-based care in mitigating racial disparities in childbirth outcomes.	Characteristics of facilities Choice, equity and access Eligibility criteria for admission
Hays et al. (2022)	Smooth Transitions: enhancing interprofessional	To improve the quality and safety of hospital transfers from planned	Community-based midwives, emergency medical services	Quality improvement project	Key interventions outlined and strategies implemented as part of this initiative to enhance the quality and	Clients' experiences/ satisfaction with care Collaboration between

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USA	collaboration when planned community births transfer to hospital care	community births attended by licensed midwives in Washington state through a quality improvement (QI) initiative called Smooth Transitions.	(EMS), and hospital personnel were the focus of the QI initiative		safety of hospital transfers from planned community births attended by midwives were reported. Responses to questionnaires and audits indicated that Smooth Transitions had a positive impact on providers, staff, and clients' experiences with hospital transfers. Ongoing efforts and strategies employed to improve the referral experience for all stakeholders involved in community-to-hospital transfers were highlighted.	birth centres and their referral networks
Healy and Gillen (2016) Northern Ireland	Planning birth in and admission to a midwife-led unit: development of a GAIN evidence-based guideline	To describe the process of creating evidence-based guidelines for admission to midwife-led units (MLUs) by collaborating with various stakeholders in maternity care.	A total of 35 individuals, including healthcare professionals (midwives, consultant obstetricians, consultant anaesthetists) and representatives from women's and parent groups, formed the Guideline Development Group (GDG) and participated in 12 meetings.	Guideline development project	The GDG reviewed and critically appraised relevant evidence regarding planning birth and the criteria for admitting birthing individuals alongside midwife-led units or freestanding midwife-led units. The study's outcome was the creation of evidence-based guidelines that provided specific criteria for planning births in midwife-led units alongside midwife-led units and freestanding midwife-led units. These guidelines aimed to assist pregnant individuals and maternity care professionals in their decision-making regarding the choice of birth setting, potentially increasing the utilisation of midwife-led unit services and necessitating regular staffing level reviews.	Guidelines/ operational standards/ regulations
Hermus et al. (2017a) The Netherlands	Defining and describing birth centres in the Netherlands - a component study of the Dutch Birth Centre Study	To develop a definition of birth centres for use in the Netherlands, to identify them and describe their characteristics.	Dutch birth locations that might qualify as birth centres: 46 selected birth centres.	Mixed methods: digital survey, questionnaires, literature review, consensus process.	A total of 23 birth centres fit the new definition: 'Birth centres are midwifery-managed locations that offer care to low-risk women during labour and birth. They have a homelike environment and provide facilities to support physiological birth. Independent community midwives take primary professional responsibility for care. In case of referral, the secondary caregiver (obstetrician or paediatrician)	Characteristics of facilities

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					takes over the professional responsibility of care.'	
Hermus et al. (2017b) The Netherlands	Differences in optimality index between planned place of birth in a birth centre and alternative planned places of birth, a nationwide prospective cohort study in The Netherlands: results of the Dutch Birth Centre Study	To compare the Optimality Index (maximum outcome with minimal intervention) of planned birth centre birth with planned birth in a hospital and planned home birth for low-risk, term pregnant individuals who started labour under the care of a community midwife.	Low-risk term pregnant individuals (n=3,455; n=1 686 nulliparous and n=1 769 multiparous) who gave birth between 1 July 2013 and 31 December 2013 in The Netherlands: planned birth centre births (n=1 668), planned midwife-led hospital births (n=701) and planned home births (n=1 086).	Quantitative, Prospective cohort study	No differences were found in the Optimality Index NL-2015 for planned births in a birth centre compared with planned births in a hospital. Although effect sizes were small, individuals who planned home births had a higher Optimality Index NL-2015 than those who planned births in a birth centre. The differences were larger for multiparous than for nulliparous individuals.	Outcomes at birth centres/safety Interventions used during labour and birth
Hitzert et al. (2018) The Netherlands	Quality improvement opportunities for handover practices in birth centres: a case study from a process perspective	To assess handover practices in Dutch birth centres, both within and between healthcare, to identify challenges and areas for improvement to ensure the best possible care quality during these transitions	7 Dutch birth centres	Qualitative	Various solutions to improve handovers from birth centres to hospitals were found. Four out of seven centres had agreements with hospitals for client support when birth centre staff was unavailable. Six of the seven centres used face-to-face communication during handovers, while only one centre used electronic health records. Two centres offered joint training for emergencies, but it wasn't mandatory in the three centres. Caregiver continuity was maintained in four centres, and postpartum care was provided in three of them.	Collaboration between birth centres and their referral networks
Hitzert et al. (2016) The Netherlands	Experiences of women who planned birth in a birth centre compared to alternative planned places of birth. Results of the Dutch Birth Centre Study. Midwifery	To assess care experiences in a birth centre compared to alternative planned places of birth, using the responsiveness concept of the World Health Organization.	Clients of 82 midwifery practices working in proximity to each of the birth centres included in the Dutch Birth Centre Study: 2 162 gave written consent to receive the questionnaire, and 1 181 (54.6%) completed the questionnaire.	Quantitative, cross-sectional study	Individuals who had planned birth centre care had similar experiences to those who planned hospital birth with a midwife; they had less favourable experiences than those who planned home birth and significantly better experiences than those who planned hospital birth with an obstetrician. Autonomy, dignity, continuity, choice, and amenities were reported as factors that contributed to their experiences.	Characteristics of facilities Experiences/ satisfaction with care

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Hollowell et al. (2017) UK	A comparison of intrapartum interventions and adverse outcomes by parity in planned freestanding midwifery unit and alongside midwifery unit births: secondary analysis of 'low risk' births in the birthplace in England cohort	To analyse data from low-risk individuals with singleton, term pregnancies in the Birthplace national cohort. Outcomes included adverse perinatal outcomes, instrumental delivery, intrapartum caesarean section, straightforward vaginal birth, perineal trauma, blood transfusion, and maternal admission for higher-level care, with a 1% significance level for secondary outcomes.	The population for this study consisted of low-risk individuals with singleton pregnancies at term who were considered "booked" for their pregnancies. Data used included planned births in a Freestanding Midwifery Unit (n=11 265) and planned births in an Alongside Midwifery Unit (n=16 673).	Quantitative, secondary analysis of data used in a prospective cohort study	No significant difference in adverse perinatal outcomes was found between planned alongside midwifery unit and freestanding midwifery unit births. Planned freestanding midwifery unit births had lower odds of instrument-assisted delivery and higher odds of straightforward vaginal birth compared with planned midwifery unit births, with no significant difference in intrapartum caesarean section rates. The findings suggested a trend towards fewer interventions and better maternal outcomes in planned freestanding midwifery unit births.	Outcomes at birth centres/safety Interventions used during labour and birth
Homer et al. (2019) Australia	Maternal and perinatal outcomes by planned place of birth in Australia 2000 - 2012: a linked population data study	To assess and compare perinatal and maternal outcomes in Australian individuals with uncomplicated pregnancies based on their planned place of birth: hospital labour wards, birth centres, and home births.	The study included data from uncomplicated singleton births in Australia (n=1 251 420) between 2000 and 2012. Among these births, 93.6% occurred in hospital labour wards (n=1 171 703), 5.7% in birth centres (n=71 505), and 0.7% at home (n=8 212).	Quantitative, population-based retrospective design	Compared with planned hospital births, both planned birth centres and home births had over double the odds of normal labour and birth (AOR 2.72), while planned home births had nearly six times the odds (AOR 5.91). No significant differences were found in rates of intrapartum stillbirths or neonatal deaths among the three planned birth settings.	Eligibility criteria for admission Outcomes at birth centres/safety Interventions used during labour and birth
Hunter et al. (2018) New Zealand	Confidence: fundamental to midwives providing labour care in freestanding midwifery-led units	To identify the factors that empowered, protected, and maintained the ability of midwives to deliver labour and birth care in freestanding midwifery-led units.	There were 14 participants, 11 midwives and 3 obstetricians. The midwives provided care in freestanding midwifery-led units, while the obstetricians offered antenatal consultations on-site in these units.	Qualitative, hermeneutic phenomenological	The findings highlighted the importance of confidence in freestanding midwifery units, built through experience and trust in their suitability for healthy births. Regularly attending normal births reinforced this confidence. Trusting team relationships and respectful collaboration with obstetric colleagues were crucial for maintaining it. Novice midwives needed support when transitioning, but witnessing normal births and feeling supported strengthened their commitment.	Characteristics/experiences of birth centre care providers

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Jamas et al. (2011) Brazil	Mothers' birth care experiences in a Brazilian birth centre	To explore why individuals who were previously birthed at a hospital birth chose birth centre care and their experiences of care they received in both settings	Eighteen individuals who received birth care in a birth centre of the Brazilian public health system.	Qualitative, narrative analysis	Three primary themes were revealed: 'Encountering significant challenges within the hospital environment,' 'Motivations for choosing the birth centre,' and 'Satisfaction' associated with care at the birth centre.' In both the first and third themes, individuals primarily discussed aspects about the institutional framework and healthcare system.	Choice, equity and access Clients' experiences/satisfaction with care
Jevitt et al. (2021) USA	Birth Outcomes of women with obesity enrolled for care at freestanding birth centers in the United States	To compare pregnancy and birth outcomes of individuals with body mass indexes >30 to that of individuals with normal body mass indexes who experienced care at USA-based freestanding birth centres	Pregnancies recorded in the American Association of Birth Center Perinatal Data Registry from 2012 to 2015: 2 groups of primiparous women (n = 964); 1:1 matching of individuals with normal body mass indexes and women with obese body mass indexes (>30)	Quantitative, matched pair analysis	Most individuals with body mass indexes classified as obese had uncomplicated pregnancies and vaginal births, with no significant differences in complications or outcomes compared with those with normal body mass indexes. In cases of intrapartum referrals or transfers, the main reasons were prolonged labour, inadequate pain relief, client choice, or meconium-stained liquor, with primiparous women with obese body mass indexes starting labour at a birth centre having a 30.7% transfer rate and an 11.1% caesarean birth rate.	Eligibility criteria for admission Outcomes at birth centres/safety Choice, equity, and access
Jolles, Hoehn-Velasco, et al. (2022) USA	Strong Start innovation: equitable outcomes across public and privately insured clients receiving birth center care	To evaluate the potential of the birth centre model of care in decreasing healthcare disparities between childbearing families from different socio-economic backgrounds.	Prospective American Association of Birth Centers Perinatal Data Registry data: individuals (n=26 259) who received care at 45 Center for Medicare and Medicaid Innovation Strong Start birth centre sites	Quantitative, secondary analysis of prospectively captured data	Excluding those with medical risk factors, Strong Start Medicaid beneficiaries experienced similar outcomes to privately insured individuals. No significant differences in maternal or newborn outcomes were found between these groups, including Apgar score below 7 at 5 minutes, low birth weight and referral during pregnancy. Rates of induction of labour, epidural analgesia use, caesarean section, and exclusive breastfeeding on discharge also did not differ significantly between groups.	Outcomes at birth centres/safety Interventions used during labour and birth Choice, equity and access
Jolles et al. (2020)	Rural resilience: the role of birth centers in the United States	To explore the role of birth centres in rural maternal health care	All childbearing families enrolled in care at an American Association of Birth Centers	Quantitative, retrospective	Quality outcomes exceeded national benchmarks across all geographic regions in both rural and urban settings.	Outcomes at birth centres/safety

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USA			Perinatal Data Registry user sites between 2012 and 2020 (n=88 574)		A stable and predictable transfer rate to a higher level of care was found across geographic regions, with over half of the population remaining eligible for the birth centre level of care throughout the perinatal period. Controlling for sociodemographic and medical risk factors, outcomes were as favourable for clients in rural areas as in urban and suburban areas. Being less than five miles from the nearest transfer facility was not linked to better outcomes (caesarean rate, transfer rate, and Apgar score less than 7 at 5 minutes).	Interventions used during labour and birth Choice, equity and access
Jolles et al. (2017) USA	Outcomes of childbearing Medicaid beneficiaries engaged in care at Strong Start birth center sites between 2012 and 2014.	To evaluate socio-behavioural and medical risks, and core perinatal quality outcomes of Medicaid beneficiaries enrolled at the American Association of Birth Centers (AABC) Center for Medicare and Medicaid Innovation Strong Start sites who gave birth between 2012 and 2014	Medicaid beneficiaries enrolled in prenatal care with AABC Strong Start sites who gave birth between 2012 and 2014 (n=3 136).	Quantitative, observational, prospective	Medicaid beneficiaries at AABC sites exceeded quality benchmarks in induction (no inductions), episiotomy (2.1% in this study vs 5% nationally), caesarean (14.1% in the study vs national rate of 26.9% for nulliparous term individuals), and breastfeeding (92.7% in the study sample). Among low-risk individuals, 82% attended prenatal education classes, 99% received midwifery-led care, and 84% had midwifery-attended births. Preferences were respected, with 83% of clients birthing at their preferred site and 95% using their preferred feeding method. Elective hospitalisation in labour raised the risk of caesarean birth fourfold.	Outcomes at birth centres/safety Interventions used during labour and birth Clients' experiences/satisfaction with care
Jolles, Montgomery, et al. (2022) USA	Place of birth preferences and relationship to maternal and newborn outcomes within the American Association of Birth Centers Perinatal Data Registry, 2007-2020	To describe sociodemographic variations in preference for birthplace and its relationship to perinatal outcomes.	Secondary analysis of data from the American Association of Birth Centers (AABC) Perinatal Data Registry (PDR) spanning from 2007 to 2020. The analysis included a convenience sample of individuals (n=173 195) who received care at 115 AABC PDR user sites across the USA.	Quantitative, descriptive	This study found that birth centres provided safe labour and birth care across diverse sociodemographic groups in the USA. However, it also revealed disparities, such as higher caesarean birth rates among Black and Hispanic individuals, especially for those who chose hospital admission without a medical reason.	Eligibility criteria for admission Outcomes at birth centres/safety Interventions used during labour and birth

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Karbeah et al. (2019) USA	Identifying the key elements of racially concordant care in a freestanding birth center	To identify the key components of quality care according to African American birth workers providing care for African American clients.	Healthcare professionals, specifically midwives, student midwives, and doulas, totalled 10 participants. These individuals either worked directly at or had close associations with an African American-owned birthing centre located in North Minneapolis, Minnesota.	Qualitative (critical race theory framework)	Four main themes emerged from the analysis: - Acknowledging the importance of the client's cultural identity in clinical encounters. - Commitment to promoting racial justice. - Emphasising agency and cultural humility in the clinician-client relationship. - Birth workers of colour's culturally centred approach as a key aspect of care.	Choice, equity and access Characteristics/ experiences of birth centre care providers
Karbeah et al. (2022) USA	From a place of love: the experiences of birthing in a Black-owned culturally-centered community birth center.	This research delved into the experiences of Black individuals during childbirth to understand what constituted a positive birth experience.	Clients who had used a Black-owned culturally centred birth centre: two focus groups and three one-on-one interviews involving a total of 10 participants.	Qualitative, using reproductive justice and critical race theoretical perspectives	The researchers discovered that the concerns of Black birthing individuals revolved around three primary themes: agency, the importance of historically and culturally safe birth experiences, and the significance of relationship-centred care. Several participants explicitly referenced prior encounters with medical mistreatment and obstetric racism while describing their vision of an ideal birth experience.	Quality indicators Choice, equity and access Clients' experiences/ satisfaction with care
Kataoka et al. (2013) Japan	Outcomes of independent midwifery attended births in birth centres and home births: a retrospective cohort study in Japan	To describe and compare outcomes of independent midwife-led home and birth centre births in Tokyo.	Recipients of care from 43 eligible independent midwives assisting home and birth centre births. Nineteen (44%) of the midwives participated. They collectively assisted 5 477 clients between 2001 and 2006.	Quantitative, retrospective	The researchers found that 83.9% of births occurred at birth centres and 16.1% at home, with 70.6% of clients being multiparous. No vacuum, forceps or caesarean section deliveries occurred – all were spontaneous vaginal births. No breech or multiple births were noted. There were no maternal deaths. Regarding maternal outcomes: blood loss over 500 ml was recorded in 22.6% of cases over 1000 ml in 3.6%, and approximately 60% had intact perineums. In terms of neonatal outcomes: preterm births (0.6%) and post-term births (1.3%) were rare; the average birth weight was 3 126g.	Outcomes at birth centres/ safety Interventions used during labour and birth

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Kataoka et al. (2018) Japan	Maternal and neonatal outcomes in birth centers versus hospitals among women with low-risk pregnancies in Japan: A retrospective cohort study	To compare and describe the outcomes of low-risk individuals who gave birth in birth centres and hospitals in Japan and their neonates	Within 19 birth centres in Japan and two hospitals located in Tokyo, the study focused on a group of individuals who had singleton vaginal birth (n=9 588).	Quantitative, retrospective cohort	Among the 9 588 participants, those in birth centres were older (31.67 vs 31.62), were fewer first-time mothers (29.4% vs 63.6%), and had more blood loss >1 L but fewer perineal lacerations. Birth centres had fewer infants with low Apgar scores compared to hospitals.	Outcomes at birth centres/safety
Koiffman et al. (2010) Brazil	Risk factors for neonatal transfers from the Sapopemba free-standing birth centre to a hospital in São Paulo, Brazil	To explore neonatal transfers from a freestanding birth centre to a hospital and to describe the associated risk factors	The sample included 96 out of 2 840 newborns who were born at the birth centre between September 1998 and August 2005. Sample: newborns who required transfer (n=32); control: newborns who did not require transfer (n=64)	Quantitative, epidemiological case-control study	Maternal smoking during pregnancy, labour complications and Apgar scores of < or equal to 7 were associated with a higher likelihood of required transfer of newborns at birth.	Outcomes at birth centres/safety Interventions used during labour and birth
Laws et al. (2009) Australia	Characteristics and practices of birth centres in Australia	This study aimed to locate all birth centres in Australia, to describe their characteristics and procedures, and develop a definition.	23 birth centres in Australia	Quantitative, surveys	Three key aspects of a birth centre were identified. A focus on normal pregnancy and birth was the most important philosophy for 44% of centres. Most birth centres used group practice or caseload midwifery, and there was variation in their location (some were attached to hospitals, and only one was completely freestanding). Intrapartum transfer rates and the availability of interventions such as artificial rupture of membranes and systemic opioids varied. Foetal monitoring was used in all centres; some performed instrumental deliveries and episiotomies.	Characteristics of facilities
Laws et al. (2011) Australia	Changes to booking, transfer criteria and procedures in birth centres in Australia from 1997-2007: a national survey	To describe changes in booking and transfer criteria and available procedures at Australian birth centres in 2007 compared with those in 1997.	Out of 23 birth centres, 19 fit the inclusion criteria, and 16 responded.	Quantitative, descriptive	Between 1997 and 2007, significant changes occurred in birth centre bookings and transfer criteria and procedures: a decrease in birth centres accepting post-term pregnancies, vaginal births after caesarean section, and women classified as 'obese'. Additionally, there were reductions in the use of interventions such as artificial rupture of membranes,	Characteristics of facilities Eligibility criteria for admission

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					forceps, and opioids. Natural therapies became more commonly used in 2007. There was an increase in birth centres managing labour induction and utilising electronic foetal monitoring during this period.	
Laws et al. (2010) Australia	Perinatal outcomes of women intending to give birth in birth centers in Australia	To evaluate perinatal outcomes for women who intended to give birth in a birth centre when labour started, regardless of where they eventually gave birth.	Data from the National Perinatal Data Collection in Australia involving individuals who gave birth between 2001 and 2005 (n=822 955), along with their newborn infants (n=836 919). Among these, 2.7% (n=22 222) planned to give birth in a birth centre at the beginning of labour.	Quantitative, population-based, cross-sectional	Individuals who intended to give birth in birth centres experienced lower intervention rates than those who intended to give birth in hospitals. Lower rates of adverse perinatal outcomes, including fewer preterm births or low birthweight babies, were also found in the intended birth centre group. There were no significant differences in perinatal mortality for term babies between birth centres and hospital births.	Outcomes at birth centres/safety Interventions used during labour and birth
Lescurc et al. (2017) The Netherlands	Preferences for birth center care in the Netherlands: an exploration of ethnic differences	To explore preferences for care at a proposed new birth centre, especially among individuals from different ethnic backgrounds	Pregnant individuals living in The Hague, The Netherlands in 2011 (n=200).	Quantitative	A strong preference for comprehensive services to be offered in the proposed birth centre was evident, especially among non-Dutch pregnant individuals.	Choice, equity and access
Leslie and Romano (2007) International	Appendix: birth can safely take place at home and in birthing centers: the coalition for improving maternity services	A systematic review of studies that explored the safety of home and freestanding birth centre care.	Seven birth centre studies, which focused specifically on home birth and care at freestanding birth centres, were analysed.	Systematic review	The seven included studies were rated between A and B (good and fair) in terms of quality and quantity. These studies evaluated the use of interventions during labour and birth, freedom of movement allowed during labour, maternal and neonatal outcomes, and complications, as well as satisfaction with care at freestanding birth centres.	Outcomes at birth centres/safety Interventions used during labour and birth Clients' experiences/satisfaction with care
Lieberman et al. (2004) USA	Results of the national study of vaginal birth after cesarean in birth centers	Evaluation of prospectively collected data to explore outcomes of attempted vaginal birth after cesarean in 41 birth centres over a ten-year period.	Individuals (n=1 913) who had had one previous caesarean and planned to attempt VBAC at a birth centre between 1990 and 2000.	Quantitative, prospective study	Out of 1 913 planned VBACs, 1 453 laboured at one of the birth centres; 24% were transferred to the hospital; 0.4% had uterine ruptures; 0.1% underwent hysterectomies; 1.0% infants had Apgar scores <7 at 5 mins; and 0.5% foetal/newborn deaths occurred. Half of uterine ruptures and	Eligibility criteria for admission Outcomes at birth centres/safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					57% of the foetal/newborn deaths involved individuals with >1 previous caesarean or gestational age of 42 weeks. Uterine rupture and foetal/newborn death rates were 0.2% in those without these additional risks.	
Lopes et al. (2019) Brazil	Perineal care and outcomes in a birth center	To investigate the occurrence, severity, and factors related to perineal tears, such as maternal and neonatal variables and birth care practices. Suturing, wound care practices and healing were also investigated.	Birth records of clients of Casa Angela (a freestanding birth centre, São Paulo, Brazil) from January 2016 to June 2017 (n=415).	Quantitative, cross-sectional study	It was found that 11.8% of the birth centre clients experienced no perineal tears, while 61.9% had first-degree and 26.3% had second-degree tears. Factors such as maternal age and a second stage lasting more than 2 hours were associated with a higher occurrence of spontaneous tears. Having previous vaginal births and using non-vertical maternal positions during childbirth reduced the likelihood of tears.	Outcomes at birth centres/safety
Lotshaw et al. (2020) USA	A collaborative model of a community birth center and a tertiary care medical center	To describe the development implementation, and evaluation of a model of collaboration between a birth centre and tertiary medical centre in the USA.	Low-risk pregnant individuals who continued their prenatal care and planned to give birth at the birth centre (n=1 061).	Quantitative, retrospective cohort	Of individuals who planned to have a birth in the birth centre, 573 (82%) had successful vaginal births in the birth centre; 130 (18%) were transferred for hospital birth, 41 (6%) ultimately underwent caesarean delivery. Maternal transfers for postpartum haemorrhage occurred in eight individuals (1%). There were 39 neonatal intensive care admissions (6%), eight cases (1%) of 5-minute Apgar scores less than 7, and two neonatal deaths (1%).	Outcomes at birth centres/safety Collaboration between birth centres and their referral networks
MacDorman and Declercq (2016)	Trends and characteristics of United States out-of-hospital births 2004-2014: new information on risk status and access to care	The study's purpose was to examine trends in out-of-hospital births, their risk profile, and state differences in individuals' access to these births.	Data for 2017 and prior years were derived from birth certificates registered in state vital statistics offices and then transmitted to the National Centre for Health Statistics. In 2017, there were 38 343 home births and 19 878 birth centre births	Quantitative, retrospective cohort	Out-of-hospital births in the United States increased by 72% from 2004 to 2014, accounting for 1.50% of all births in 2014. Individuals who had out-of-hospital births had lower rates of pre-pregnancy obesity and smoking and higher rates of college degrees. There was an increase in breastfeeding initiation and substantially more planned home births. Vaginal births after caesarean (VBAC) rates were notably higher for home birth.	Choice/equity of access Eligibility criteria for admission

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
MacDorman and Declercq (2019) USA	Trends and state variations in out-of-hospital births in the United States, 2004-2017	To analyse out-of-hospital birth trends, risk profiles, and regional disparities in access.	National birth certificate data from 2004 to 2017: national data on payment methods (private insurance, Medicaid, self-pay) to measure access to out-of-hospital birth options.	Quantitative	Out-of-hospital births in the United States increased significantly from 2004 to 2017, reaching 1.61% of all births in 2017. Home births increased by 77%, and birth centre births more than doubled during this period. These births were more common in the Pacific Northwest and less common in southeastern states. Women opting for out-of-hospital births had fewer risk factors (such as teen pregnancies and smoking), and most planned home births were self-paid. There were varied payment patterns by state. A lack of insurance or Medicaid coverage was a significant barrier for women seeking out-of-hospital birth in most states.	Choice/equity of access
Macfarlane, Rocca-Ihenacho, Turner and Roth (2014) UK	Survey of women's experiences of care in a new freestanding midwifery unit in an inner city area of London, England. 1: methods and women's overall ratings of care	To examine and contrast pregnant individuals' decisions and experiences regarding maternity care prior to and following the establishment of the Barkantine Birth Centre, a new independent midwifery facility in an urban area.	Phase 1 of the study included pregnant individuals (n=259) out of a total eligible population (n=620) residing in Tower Hamlets and meeting the Barts and the London National Health System Trust's criteria for using the birth centre.	Mixed methods: surveys and interviews (see part 2 below)	Individuals who met the criteria for birth centre care and booked there for antenatal care were more likely to rate their overall care as good or very good compared to those who initially booked at the hospital. Additionally, individuals who were in labour at the birth centre experienced more personalised care, including having a familiar midwife, one-on-one support, and respectful treatment, highlighting significant differences from hospital-based care.	Choice/equity of access Clients' experiences/satisfaction with care Eligibility criteria for admission
Macfarlane, Rocca-Ihenacho and Turner (2014) UK	Survey of women's experiences of care in a new freestanding midwifery unit in an inner city area of London, England: 2. Specific aspects of care. Midwifery	To examine and contrast participants' experiences of specific aspects of maternity care prior to and following the establishment of the Barkantine Birth Centre, a new independent midwifery facility in an urban area.	Phase 2 of the study included individuals (n=361) out of the 620 who met the Barts and the London National Health System Trust's criteria for using the birth centre.	Mixed methods: surveys and interviews (see part 1 above)	Clients at the birth centre were more likely to attend and find antenatal classes useful, less likely to be induced, and preferred non-pharmacological pain relief methods like water and avoiding pethidine. They had more freedom of movement during labour, less frequent artificial rupture of membranes, and were encouraged to push spontaneously. Primiparous individuals at the birth centre had fewer episiotomies, and a majority birthed vaginally, with some in water.	Choice/equity of access Women's experiences/satisfaction with care Outcomes at birth centres/safety Interventions used during labour and birth

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					Additionally, they had more choices regarding the third stage of labour and reported higher rates of skin-to-skin contact with their newborn infants within the first two hours after birth.	
MacKinnon et al. (2017) Canada	Birth setting, labour experience, and postpartum psychological distress	To examine the influence of place of birth and personal perception of the birth experience on postpartum depression and postpartum post-traumatic stress disorder (PTSD).	Three cohorts of individuals who gave birth vaginally: those who gave birth at a tertiary care hospital (n=157), those who gave birth at a birth centre (n=53), and those who were transferred from the birth centre to the tertiary care hospital (29).	Quantitative, prospective longitudinal cohort study	There were no significant differences in the symptoms of postpartum depression and post-traumatic stress disorder among the different birth groups. However, subjective birth experiences and obstetric factors did show variation. There was a noteworthy correlation between pain and intrapartum transfer from the birth centre hospital.	Experiences/ satisfaction with care Outcomes at birth centres/ safety Interventions used during labour and birth
McIntyre (2012) International	Safety of non-medically led primary maternity care models: a critical review of the international literature	To conduct a critical review of international literature that focused on primary maternity care models such as birth centre care (outcome measures explored were perinatal mortality, morbidity, and incidence of birth interventions and transfers).	Research articles published between 2004 and 2011, including 22 Australian and international studies that met the criteria, and three systematic reviews from the Cochrane Collaboration.	A critical review of international literature	Eight studies focused on birth centres were found eligible for inclusion. These studies had been conducted in Australia, the USA, Sweden, and the UK. Some were population-based studies and some focused on specific birth centres. The authors concluded that, based on international evidence, low-risk births could safely take place in alternative models of care, such as birth centre care. <i>Note: Most studies included in this critical review were also included in this Scoping Review. However, we excluded studies focused on alongside birth centres.</i>	Outcomes at birth centres/ safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Monk et al. (2014) Australia	Evaluating midwifery units (emu): a prospective cohort study of freestanding midwifery units in New South Wales, Australia	To compare the outcomes and complications of birthing individuals and newborns in two midwifery units and two high-level maternity units in New South Wales, Australia, based on the intention of giving birth in these facilities.	Individuals (n=494) who planned to give birth at midwifery units and individuals (n=3157) who gave birth at tertiary-level maternity units. All participants had low-risk singleton pregnancies and were less than 28+0 weeks pregnant at the time of booking.	Quantitative, prospective cohort	Of 494 individuals who planned to give birth at a freestanding midwifery unit, 48.2% gave birth at a tertiary-level maternity unit, 49.4% gave birth at the midwifery unit as planned, and 2.4% gave birth before admission. Individuals who had planned midwifery births were more likely to have spontaneous vaginal births and less likely to have caesarean sections. Newborns from midwifery unit births had no significant difference in 5-minute Apgar scores but were less likely to be admitted to neonatal intensive care. Additionally, the birth centre group had more spontaneous labour, less blood loss, and fewer medical interventions. At the same time, their newborn infants were more likely to have normal birth weight and be breastfed at birth or exclusively breastfed upon discharge.	Outcomes at birth centres/safety Interventions used during labour and birth
Monk et al. (2017) Australia	Freestanding midwifery units: maternal and neonatal outcomes following transfer	To compare the birth outcomes of individuals who initially planned to give birth at midwifery units but were transferred to tertiary maternity units with those of a low-risk group who planned to give birth directly at tertiary maternity units, focusing on both maternal and neonatal outcomes.	There were two groups of low-risk pregnant individuals with singleton pregnancies, both less than 28 weeks pregnant at booking: individuals planning to give birth at a midwifery unit (initially n=494) who were transferred to a tertiary maternity unit at various stages (n=260), and individuals planning to give birth directly at a tertiary maternity unit (n=3 157).	Quantitative, descriptive	When they transferred during the intrapartum/postnatal period, the freestanding midwifery unit group had a lower proportion of caesarean sections (16.1%) than those in tertiary maternity units (24.8%). Other outcomes were similar between the groups. The Statistical significance of the findings could not be concluded due to the relatively small sample of individuals who required transfer.	Outcomes at birth centres/safety
Neerland et al. (2022) USA	Prenatal care in US birth centers: midwives' perceptions of contributors to birthing people's confidence in physiologic birth	To define prenatal care models used in USA freestanding birth centres and to investigate the relationship between the care components and birthing individuals'	The sample included twelve midwives from six urban and rural freestanding birth centres in the Midwest USA.	Qualitative, descriptive	The researchers identified six key themes: (1) Birth Centre Environment focused on trust-building and individualised care, boosting client confidence; (2) Midwifery Care highlighted human connection, communication, and empowerment as confidence factors; (3) Continuity of	Characteristics/experiences of birth centre care providers

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
		confidence in their capacity to have a physiologic birth.			Care emphasised consistent support and smaller practices fostering trust; (4) Empowered Birthing stressed active involvement, informed choices, and tailored education for empowerment; (5) Physiologic Birth promoted confidence by normalising natural birth; and (6) Hospital Challenges compared birth centres to hospitals, citing interventions and fear, making birth centres appealing to physiologic birth seekers.	
Neerland and Skalisky (2022) USA	A qualitative study of US women's perspectives on confidence for physiologic birth in the birth center model of prenatal care	To increase understanding of the USA Birth Centre model of prenatal care and how it contributed to birthing individuals' confidence for physiologic childbirth.	Twelve individuals who had given birth in freestanding birth centres in a Midwestern US state in the previous 6 months.	Qualitative, descriptive study using semi-structured interviews	Birth centre culture and environment, the midwifery model of care, internal influences (the belief that birth is a normal physiologic process), and outside influences, including family support and positive birth stories, contributed to birth centre clients' confidence in physiologic birth.	Characteristics of facilities Clients' experiences/ satisfaction with care
Nethery et al. (2021) USA	Birth outcomes for planned home and licensed freestanding birth center births in Washington State	To explore maternal and perinatal birth outcomes for community births (home and licensed freestanding birth centres) in Washington State, where midwifery practice and integration reflected international settings.	Low-risk planned home, and birth centre births (n=10 609) attended by midwifery professionals who were members of and followed a statewide association's guidelines for out-of-hospital birth (between 1 January 2015 and 30 June 2020)	Quantitative, retrospective cohort	Intrapartum transfers to the hospital were more common in nulliparous compared to multiparous individuals. Nulliparous individuals had a higher caesarean rate at 11.4%, while multiparous individuals had a rate of 0.87%. The perinatal mortality ratio, which included intrapartum and neonatal deaths within 7 days after birth, was 0.57 per 1 000 births. Rates of other adverse outcomes were low.	Eligibility criteria for admission Outcomes at birth centres/safety Interventions used during labour and birth
Nethery et al. (2018) USA	Rural community birth: maternal and neonatal outcomes for planned community births among rural women in the United States, 2004-2009	To compare rural individuals' birth centre outcomes to those of nonrural individuals.	Using the dataset from the Midwives Alliance of North America Statistics Project 2.0, the sample included low risk planned home and birth centre births (n=18 723). Individuals living in rural areas who planned to give birth at home or in birth centres (n=3 737) were compared to non-rural individuals.	Quantitative, secondary analysis prospectively collected data	Rural individuals were initially found to have different risk profiles and a lower risk of adverse maternal and neonatal outcomes in basic analyses. When adjusting for various risk factors and confounding variables, no significant differences were found in the composite outcomes of maternal or neonatal outcomes between rural and nonrural birth centre births.	Outcomes at birth centres/ safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Nguyen et al. (2009) USA	Transfers among women intending a birth centre delivery in the San Diego birth centre study.	To explore predictors of transfer to allow a birth centre to better define its target population.	Individuals (n=1 808) who intended to give birth at a freestanding birth centre in San Diego.	Quantitative, prospective longitudinal study	Out of 1 808 individuals who planned to give birth at a birth centre, 45.7% did so, while 34.6% were transferred before labour and 19.6% were transferred during labour. Nulliparous individuals were twice as likely to transfer than multiparous individuals with no history of caesarean or hospital delivery. Individuals with a history of caesarean were 2.6 times more likely to transfer, while individuals with a history of hospital birth but no caesarean were 2.1 times more likely to transfer. Factors such as nulliparity, caesarean history, and previous hospital birth remained strong predictors of transfer even after adjusting for other potential predictors.	Eligibility criteria for admission Outcomes at birth centres/safety
Niemczyk et al. (2022) USA	Adoption of consensus guidelines for safe prevention of the primary cesarean delivery by freestanding birth centers	To compare outcomes from before and after adopting new guidelines based on a 'Consensus Statement on Safe Prevention of Primary Cesarean Delivery' for freestanding birth centres.	Data from the American Association of Birth Centers' Perinatal Data Registry (PDR): the researchers contacted 66 birth centres that had continuously contributed data from 2010 to 2019 to identify centres that changed their clinical practice guidelines following the Consensus Statement (33 centres responded).	Quantitative, retrospective before-after analysis	A total of 11 out of 33 birth centres (one-third) altered their clinical practice guidelines, primarily redefining active labour onset at 6 cm cervical dilatation and permitting 4 hours of arrest of dilatation in active labour before hospital transfer. These changes were linked to a decrease in diagnoses of the prolonged first stage of labour but did not significantly impact rates of intrapartum transfers or caesarean births.	Outcomes at birth centres/safety Interventions used during labour and birth
Niemczyk, Ren and Stapleton (2022) USA	Associations between prolonged second stage of labor and maternal and neonatal outcomes in freestanding birth centers: a retrospective analysis	To analyse second-stage labour lengths in birth centres and maternal and newborn complications associated with prolonged second stage. The overall aim was to provide evidence for better decision-making in hospital transfers.	The researchers utilised de-identified client-level data from the American Association of Birth Centers Perinatal Data Registry. Data included information from individuals who gave birth in freestanding birth centres between January 1, 2007, and December 31, 2016. The final sample included individuals who fit the inclusion criteria and had complete records (n=2196	Quantitative, retrospective cohort	It was found that 2.3% of primiparous and 6.6% of multiparous individuals experienced second-stage labour lasting more than 3 hours. As the duration of the second stage of labour increased from less than 15 minutes to over 2 hours, there was a notable increase in the need for newborn transfers (from 0.6% to 6.33% for primiparous and 1.4% to 10.6% multiparous women). Additionally, postpartum transfers for women who	Outcomes at birth centres/safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
			primiparous; n=22,093 multiparous)		had given birth before increased from 1.4% when the second stage was less than 15 minutes to over 4% when it exceeded 2 hours. These trends were statistically significant.	
Niles et al. (2023) USA	Examining respect, autonomy, and mistreatment in childbirth in the US: do provider type and place of birth matter?	To examine experiential outcomes following childbirth (respect, autonomy and mistreatment experienced) based on place of birth and care provider in the USA.	Secondary analysis of data from the Giving Voice to Mothers USA (GVtM) study, focusing on individuals (n=1 771) who responded to questions regarding their intended birthplace and subsequently gave birth in their planned location.	Quantitative, cross-sectional survey	Midwifery care in community settings was associated with higher autonomy, respect, and satisfaction compared to hospital settings and lower odds of mistreatment. Those receiving midwifery care in hospitals experienced more mistreatment than those in community settings. Receiving care from physicians in hospitals was associated with less autonomy and less time spent with providers than care from midwives in community settings. Overall, midwifery care in community settings was associated with better experiential outcomes.	Clients' experiences/ satisfaction with care
Nove et al. (2023) International	Which low- and middle-income countries have midwife-led birthing centres and what are the main characteristics of these centres? A scoping review and scoping survey	The study investigated the presence and characteristics of midwife-led birth centres in low—and middle-income countries. It aimed to bridge the gap in knowledge about the availability and nature of such facilities by conducting a comprehensive assessment to identify which low—and middle-income countries had midwife-led birthing centres and explore their key features.	Firstly, a scoping review was conducted, including peer-reviewed and grey literature from January 2012 to February 2022. The review involved searching nine academic databases and using Google to identify literature describing birthing centres in low- and middle-income countries where midwives or nurse-midwives served as primary care providers. Additionally, a structured online questionnaire was distributed to professional midwives' associations and United Nations Population Fund country offices. Responses were received from 77 out of 137 low- and middle-income countries.	Scoping review and scoping survey	Midwife-led birthing centres were identified in 57 low- and middle-income countries, supported by evidence from peer-reviewed literature, grey literature, and survey responses. Of these countries, 24 had relatively strong evidence from multiple sources. Low- and lower-middle-income countries were more likely to have midwife-led birthing centres than upper-middle-income countries. Freestanding centres were the most common type, with variations observed in staffing, ranging from entirely midwife-staffed to multidisciplinary teams. Findings identified challenges faced by midwifery philosophy of care and effective referral systems. The review highlighted significant knowledge gaps, including the lack of evidence concerning the impact and	Characteristics of facilities

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					costs of midwife-led birthing centres in low- and middle-income countries.	
Olvera et al. (2020) USA	Interprofessional communication and collaboration during emergent birth center transfers: a quality improvement project	A quality improvement project in which emergency transfers from birth centres were simulated as mock drills by midwives, paramedics and receiving hospitals.	Midwives and paramedics involved in emergency transfers from birth centres to hospitals: 110 paramedics from different fire stations.	Quality improvement project	Mean test scores after paramedic education sessions increased by 43.5%. 97% of participants indicated their probable support for the sustainability of future mock drills in the birth centre setting.	Collaboration between birth centres and their referral networks
Penwell (2004) The Philippines	Mercy in action. Philippine birth center statistics	To evaluate the outcomes of births in two charity birth centres established in the Philippines. The purpose was to assess the safety and efficacy of midwife-led care for individuals in labour, particularly focusing on those with higher-than-average risk factors for poor pregnancy outcomes, such as poverty, malnutrition, and crowded living conditions.	Individuals admitted for labour and birth in the two freestanding charity birth centres between February 8, 1996, and December 31, 2003 (n=7 565). All births were conducted by certified professional midwives or licensed midwives from the USA, Canada, and the Philippines.	Quantitative, retrospective	A majority (95%) of the births were spontaneous vaginal births. In 83% of cases blood loss was less than 500ml, indicating relatively low rates of postpartum haemorrhage. Newborn outcomes were reassuring, with 85% not requiring any resuscitation and 90% having a normal birth weight. In terms of labour complications, 67% of labours occurred without foetal distress or meconium-stained liquor. Although transfers to the hospital occurred in 7% of cases after admission, only half of these transfers happened before birth, emphasising the effectiveness of midwife-led care in managing complications during labour. The neonatal mortality ratio was relatively low at 4.1 per 1 000.	Outcomes at birth centres/safety
Pewitt (2008) USA	The experience of perinatal care at a birthing center: a qualitative pilot study	To explore individuals' experiences and satisfaction with the care they received care at a freestanding birth centre in the USA.	Seven individuals had given birth at the birth centre within the previous 12 months.	Qualitative	The researcher identified three key themes: empowerment, a sense of motherhood, and establishing or strengthening relationships. The findings indicated that the birth centre clients highly valued supportive caregivers, whose positive influences led to satisfactory outcomes and satisfaction with care.	Clients' experiences/satisfaction with care

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Phillippi et al. (2018) International (developed countries)	Neonatal outcomes in the birth center setting: a systematic review	Systematic review of neonatal outcomes at birth centres in developed countries.	Studies on outcomes in neonates who were born at birth centres (17 studies including the newborn infants of more than 84 500 individuals admitted at birth centres during labour)	Systematic review	Included studies were from Australia, the UK, Sweden Denmark, and Germany. Findings were inconsistent due to substantial flaws and differences in study design, sampling, and definitions. Data did not suggest a trend toward higher neonatal mortality in birth centres. The researchers concluded that the infants of nulliparous individuals aged > 35 and with pregnancies of more than 42 weeks' gestation may have an increased risk of neonatal mortality.	Eligibility criteria for admission Outcomes at birth centres/safety
Phillippi et al. (2014) USA	Facilitators of prenatal care access in rural Appalachia.	To explore individuals' perspectives of the prenatal care they received at a rural birth centre	Pregnant individuals (n=29) who received care at a rural Appalachian birth centre in the USA with low rates of preterm birth.	Qualitative, semi-structured interviews and demographic questionnaires, qualitative content analysis	Participants mentioned provider characteristics and other aspects that positively affected their care: personalised, compassionate care that was unrushed, female care providers, and having their questions answered. Positive clinic characteristics were the alternative approach (less medical), appointment availability, the relaxing atmosphere, short wait times, the location of the birth centre, and inclusion of the family in care.	Characteristics of facilities Choice/equity of access Women's experiences/satisfaction with care
Pillai et al. (2020) USA	Fetal macrosomia in home and birth center births in the United States: maternal, fetal, and newborn outcomes	To compare outcomes of newborns (and their mothers) with different levels of macrosomia (large infant birth weight) to those with normal birth weight in out-of-hospital birth settings.	All planned community births in the USA between 2012 and 2018 were included in the Midwives' Alliance of North America (MANA) statistics project (n = 68 966).	Quantitative, retrospective cohort	Different grades of macrosomia were associated with increased risks of adverse outcomes. Grade 1 (4000-4499 g), grade 2 (4500-4999 g), and grade 3 (≥5000 g) macrosomia were linked to higher odds of complications such as postpartum haemorrhage compared with normal birth weight.	Outcomes at birth centres/safety Eligibility criteria for admission
Rauch et al. (2022) Switzerland	A true choice of place of birth? Swiss women's access to birth hospitals and birth centers	To assess if Swiss pregnant individuals would truly have a choice in where to give birth based on their geographical location.	Disaggregated population data provided by the Swiss Federal Statistical Office, which included gender and age group composition at a spatial resolution of 100x100 meters; administrative data from the Swiss Federal Office of	Quantitative	The researchers concluded that 58.2% of Swiss individuals would have a true choice of birth location, with hospitals being more accessible (9.8 mins) than birth centres (23.9 mins). It was found that 94% had access to hospitals within 30.1 mins, while 59% had access to birth centres within 30.2 mins (16.0	Choice/equity of access

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
			Topography Swisstopo for specialising communities and federal states; street network data from OpenStreetMap with assigned car travel speeds; and addresses of existing birth hospitals and birth centres from the Swiss Federal Office of Public Health and the Interest Group of Swiss Birth Centres (2020).		mins mean travel time difference, significant regional variations).	
Rayment et al. (2020) International (Europe)	The development of midwifery unit standards for Europe	To develop midwifery unit standards for Europe	<p>Literature Review: Qualitative research evidence on the function and organisation of midwifery units from published papers and theses.</p> <p>Delphi Study: 122 midwifery unit experts from across Europe with at least two years' experience in midwifery unit development, management, or support. 98 participants started the first Delphi survey, and 64 completed it.</p> <p>Stakeholder Meetings: Participants from the Delphi panel and wider midwifery community, including experts from the International Confederation of Midwives (ICM) Triennial Conference.</p> <p>Interviews with Midwifery Unit Leaders: The managers of three high-performing midwifery units in England were identified as 'Beacon Sites' using specific criteria set by the Midwifery Unit Network.</p> <p>Peer Review: Twelve interdisciplinary European expert reviewers, including midwives, obstetricians, service</p>	Multiple methods in various steps: Literature Review Delphi Study, stakeholder Involvement, synthesis refinement interviews with midwifery unit leaders, peer review	Through a systematic literature review 24 papers and three PhD theses on midwifery units' function and organisation were analysed, generating 45 thematic codes. These findings were integrated into a Delphi study involving 122 European midwifery experts. Two online surveys established consensus, resulting in 54 standards across seven themes, addressing safety, staffing, organisation, family focus, public health, communication, and environment/ facilities. Stakeholder meetings in London and Toronto refined the standards, emphasising leadership, organisational culture, models of care, individual autonomy of clients, and community relationships. Interviews with managers of high-performing midwifery units provided practice perspectives. A synthesis process combined literature, Delphi outcomes, stakeholder inputs, and interviews into ten categories of standards. Peer review involving twelve interdisciplinary experts ensured a comprehensive evaluation, making a final 31-page standards document publicly available, offering valuable guidelines for midwifery unit development and management.	Guidelines/ operational standards/ regulations

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
			user representatives, campaigners, service improvement professionals, and commissioners.			
Reszel et al. (2018) Canada	The integration of Ontario birth centers into existing maternal-newborn services: health care provider experiences	To explore, from the viewpoint of healthcare providers and managerial staff, the integration of birth centres into the existing intrapartum systems at the local level.	Twenty-four healthcare professionals (paramedics, midwives, nurses, physicians) and managerial staff who had encountered urgent or nonurgent maternal or newborn transports from a birth centre to one of four hospitals in Ottawa or Toronto.	Qualitative, content analysis.	Participants reported positive experiences in transporting clients and newborns from birth centres to hospitals, crediting collaborative planning, training, and communication. Integration levels depended on hospital-specific factors like history, culture, and midwifery privileges. The need for minor administrative improvements was noted, and keeping staff updated on urgent transport policies proved challenging.	Collaboration between birth centres and their referral networks
Reszel et al. (2021) Canada	Client experience with the Ontario birth center demonstration project	To explore and compare experiences of intended care at two new birth centres compared with hospital and home births	Individuals (n=382) under the care of midwives who practiced at two birth centres (survey response rate 54.6%)	Quantitative, Cross-sectional survey	Result showed a significant difference on the Composite Satisfaction Scores between the birth centre (19.4), home (19.5), and hospital (18.9) groups. Individuals who gave birth at a birth centre were satisfied with students present at their births, the accessibility of the centres, and the physical environment.	Experiences/ satisfaction with care
Rocca-Ihenacho et al. (2021) UK	Relationships and trust: two key pillars of a well-functioning freestanding midwifery unit	The researchers explored care within a freestanding midwifery unit by examining perceptions of service users, midwives, and staff. They also explored the integration of midwifery philosophy, culture, and practices within this setting. Additionally, they identified and analysed the essential elements that defined a well-functioning freestanding midwifery unit.	A purposive sample includes 23 freestanding midwifery unit staff midwives, 6 maternity care assistants, 1 administration staff, 2 hospital midwives, 1 obstetrician, 3 student midwives, 2 midwifery placement participants, 2 managers, 2 consultants, 2 steering group members, 1 commissioner, and a total of 18 birth centre clients, 15 partners, and 4 other birth supporters.	Qualitative, critical realist ethnographic	Relationships and trust were identified as central themes and key components of an effective freestanding midwifery unit. Eleven other themes were categorised into six groups: <ul style="list-style-type: none"> - Ownership, autonomy, and continuous learning - Team spirit, interdependency, and power relations - Salutogenesis - Friendly environment - Having time and mindfulness - Social capital 	Characteristics of facilities Clients' experiences/ satisfaction with care Collaboration between birth centres and their referral networks

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Sanders et al. (2021) USA	Exploring why birth center clients choose hospitalization for labor and birth	To investigate the timing and reasons behind elective hospitalisation for labour by birth centre clients	The study sample consisted of individuals with low-risk pregnancies who were eligible for birth centre birth, divided into two groups: the birth centre preference group and the hospital preference group. The study was conducted in Pittsburgh, Pennsylvania.	Quantitative, secondary analysis of survey data	Out of 1 155 eligible cases, 77.8% (899 individuals) preferred birth centre births, while 22.2% (256 individuals) chose hospitalisation. Within the hospital preference group, there was a disproportionate representation of Black individuals, publicly insured individuals, and first-time mothers. Analysis of health records and questionnaire responses revealed several influential factors, including insurance limitations, family choices, pain relief preferences, and postpartum care considerations.	Choice/equity of access
Saxton et al. (2015) Australia	Does skin-to-skin contact and breast feeding at birth affect the rate of primary postpartum haemorrhage: Results of a cohort study	To evaluate if pronurturance (skin-to-skin contact with newborn and breastfeeding) within half an hour after giving birth affects the rate of postpartum haemorrhage.	Birth records (n=7 548) of individuals who gave birth at two obstetric units and a freestanding birth centre in New South Wales (NSW), Australia, excluding those (n=3 671) who did not have the opportunity for skin-to-skin and breast-feeding (2009 and 2010 records on the electronic database ObstetriX).	Quantitative, retrospective cohort	Individuals who did not have immediate skin-to-skin or breastfeeding were nearly twice as likely to have a postpartum haemorrhage, even after adjusting for other variables/ risk factors.	Outcomes at birth centres/safety
Scamell (2014) UK	'She can't come here!' Ethics and the case of birth centre admission policy in the UK	To interrogate the ethics behind the admission policies of freestanding birth centres in the UK. The researchers questioned the approach at the time, which heavily relied on abstract risk calculations, overlooking the real-life experiences of individuals seeking these services.	Midwives (n=33) in the National Health System and independent sector who were responsible for intrapartum care in various clinical settings, including a freestanding birth centre	Qualitative, ethnographic	The researcher found that midwives were aware of the ethical dilemma they faced when rejecting some individuals for care at birth centres due to specific 'risk criteria', denying some the choice of this model of care often based on 'perceived risk'. Midwives were also aware of risk management and local and international standards. The author argued that <i>women-centred care</i> , when considered within an ethical framework similar to that of end-of-life care, could allow for a more inclusive decision-making process.	Choice/equity of access Eligibility criteria for admission
Scarf et al. (2018)	Maternal and perinatal outcomes by planned place of birth among women with low-risk	To conduct a systematic review of high-quality research and perform a meta-analysis of relevant	The systematic review included peer-reviewed journals articles (2000 and 2016) comparing outcomes from two or more	Systematic review with meta-analysis	Infant outcomes: the likelihood of intrapartum stillbirth did not vary significantly based on place of birth. Regardless of study quality, no	Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
High income countries: Australia, The Netherlands, the United Kingdom, Nordic countries, European countries, New Zealand, the USA, Japan.	pregnancies in high-income countries: A systematic review and meta-analysis	data to assess and compare maternal and perinatal outcomes across various birth locations.	places of birth, written in English (n=28)		<p>significant differences were observed in the rate of early neonatal death (0–7 days) between birthplaces. Data from planned birth centre births revealed no significant difference in the odds of NICU admission, irrespective of study quality.</p> <p>Maternal outcomes: individuals who intended to give birth in a birth centre had almost twice the odds of experiencing normal vaginal births compared with those who planned hospital births. The likelihood of instrumental birth and caesarean section was significantly lower for those opting for birth centres, irrespective of the birth centre type. Higher-quality studies on births planned in birth centres indicated significantly lower odds of severe perineal trauma. Planned home births exhibited a significantly reduced likelihood of severe postpartum haemorrhage (≥ 1000 mL) compared with planned hospital births. However, in studies of planned birth centre births, irrespective of the birth centre type, no significant differences in odds were identified.</p>	
Scarf et al. (2019) Australia	Mapping the trajectories for women and their babies from births planned at home, in a birth centre or in a hospital in New South Wales, Australia, between 2000 and 2012.	To map trajectories and interventions used in birth centres, hospitals, and home births in New South Wales.	Low-risk pregnant individuals at low risk for complication: (planned home birth n=546; planned birth centre n=12 782; planned hospital n=209 664)	Quantitative, Decision tree modelling, retrospective population-based cohort	Between 2000 and 2012, 34% of primiparous and 12% of multiparous individuals were transferred from birth centres to hospitals (15% of birth centres were freestanding). Higher normal birth rates and lower neonatal admission rates were found in intended birth centres and home births compared with hospital births. Newborns of multiparous individuals had lower neonatal admission rates than those of nulliparous individuals in all settings.	Eligibility criteria for admission Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Schuit et al. (2016) The Netherlands	Risk indicators for referral during labor from community midwife to gynecologist: a prospective cohort study	To pinpoint factors that increased the likelihood of pregnant individuals under the care of community midwives being referred to gynaecologists during labour.	Individuals with singleton, full-term pregnancies between 2000 and 2007 (tracked in the Dutch national perinatal registry) who were referred by a community midwife to a gynaecologist during labour (n=241 595)	Quantitative, Prospective cohort	Of the study population, 241 595 (32%) were referred by midwives to gynaecologists during labour. Reasons included foetal distress (5%), failure to progress in the second stage (14%), meconium-stained amniotic fluid (24%), failure to progress in the first stage (17%), wish for pain relief (7%), and other reasons (33%). Key risk factors for referral included gestational age, intended place of birth, and birth history. Specific reasons for referral were influenced by maternal age, ethnicity, urbanisation, socioeconomic status, newborn gender, and newborn birth weight.	Eligibility criteria for admission Outcomes at birth centres/ safety
Setola et al. (2018) Italy	Optimal settings for childbirth	To explore Italian birth centres and maternity homes and elements that contribute to a healthy setting for childbirth.	Midwives and obstetricians involved in birth centre care: 2 lead midwives and 1 lead consultant obstetrician	Qualitative, Case studies of two settings	Physical characteristics that contributed to optimal settings were collaborative design decisions between stakeholders and users and an environment that would be conducive to safe physiological birth, psychosocial wellbeing, movement and relaxation, privacy, intimacy, and interpersonal relationships	Characteristics of facilities
Shinohara and Kataoka (2021) Japan	Prevalence and risk factors for hyperbilirubinemia among newborns from a low-risk birth setting using delayed cord clamping in Japan	To examine the occurrence of hyperbilirubinemia leading to jaundice and its associated risk factors among newborns born at a birth centre in Japan.	Newborns born at a specific birth centre in Japan (n= 1 211)	Quantitative, retrospective cohort	Among 1 211 neonates, 4.7% had high bilirubin levels; 1.8% required phototherapy. Risk factors included cephalohematoma (OR = 30.18), delayed meconium elimination (OR = 2.66), sibling phototherapy history (OR = 10.28), and primiparity (OR = 4.55).	Outcomes at birth centres/ safety Interventions used during labour and birth
Silva et al. (2015) Brazil	A risk model to predict probability of maternal intrapartum transfers from a free-standing birth centre: PROTRIP tool	To create a clinical model for evaluating the likelihood of intrapartum transfer in individuals admitted to a midwifery-led birth centre. This model utilised factors identified in a prior case-control study conducted by da Silva et al. (2012).	Data from the previous study included individuals (n=2 726) who gave birth at a specific freestanding birth centre in Sao Paulo, Brazil, between March 2002 and December 2009. The focus was on individuals who were transferred to the hospital. The overall transfer rate during this period was 4.1%.	Development of a model (based on quantitative data)	The researchers developed an online interface called PROTRIP, designed for clinicians in freestanding birth centres to assess women during labour. The tool focused on interactions between various variables, specifically the characteristics of individuals admitted to the birth centre. They highlighted the importance of identifying risk factors to predict which individuals will	Guidelines/ operational standards/ regulations

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					likely give birth in the birth centre. Despite initial classification as low risk, the study found that intrapartum transfer, a key decision point, is influenced by multiple factors beyond a single labour stage. Factors such as meconium-stained amniotic fluid, abnormalities in foetal heart rate, and the phase of labour during which issues arose could all impact the decision-making process for clinicians.	
Smythe et al. (2016) New Zealand	Midwifing the notion of a 'good' birth: a philosophical analysis	To explore factors that contributed to a positive birth experience	One individual chose birth centre care in New Zealand.	Qualitative, hermeneutic	The authors emphasised the importance of the birthing environment as one of the four essential elements contributing to a positive birthing experience. The concept of confidence in childbirth was intertwined with the trust and assurance that the chosen place of birth provided. In the study context, the birth centre became a crucial factor in creating a sense of safety, calmness, and support for the individual giving birth. The community's confidence in the birthing centre, the presence of familiar surroundings, and the trust in the facilities and midwives all contributed to the overall confidence and positive childbirth experience for the individual involved.	Clients' experiences/satisfaction with care
Smythe et al. (2014) New Zealand	Revealing tact within postnatal care	To investigate the nature of good postnatal care by employing a hermeneutic approach to unpack the concept of tact within a small, rural birth centre in New Zealand	Four focus groups with staff (midwives, nurses, and maternity assistants), totalling 11 participants, along with two individual interviews with other staff members and 10 clients at a rural birth centre in New Zealand	Qualitative, hermeneutic	Staff and clients at the birth centre identified 'tact' as assessing the situation, being aware of confidence or vulnerability, listening, asking and being mindful. It was also described as being aware that body language (e.g., a look) could convey care or lack of care. Giving space as opposed to being intrusive and being caring when needed were also regarded as being tactful. Participants mentioned an interplay between guiding and stepping back. Experiences of tact and respect enhanced trust	Clients' experiences/satisfaction with care

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					between the client and the midwife or other staff member.	
Snapp et al. (2020) USA	The experience of land and water birth within the American Association of Birth Centers Perinatal Data Registry, 2012-2017	To investigate the incidence and outcomes of water births in community settings (home or birth centre) in the United States.	American Association of Birth Centers Perinatal Data Registry (AABC PDR) records of individuals (n=38 556) who laboured at home or in birth centres. The researchers specifically focused on a subset of participants who had disclosed whether they had a water birth (n=26 684)	Quantitative, descriptive correlational	Individuals in the water birth group were less likely to use pain medication, have episiotomies, experience genital lacerations, or have postpartum haemorrhage. They had fewer complications, such as foetal heart rate abnormalities and prolonged labour. Neonates born in the water had lower rates of NICU admission and respiratory issues and fewer hospital transfers. Overall, water births were associated with reduced maternal and neonatal complications without significant differences in key outcomes like Apgar scores, neonatal death, or readmission rates. Cord avulsion was rare overall but occurred more frequently in the water birth group.	Outcomes at birth centres/safety Interventions used during labour and birth
Sperlich et al. (2017) USA	Where Do You Feel Safest? Demographic Factors and Place of Birth	The objective of this study was to determine if there were varying rates between white and black individuals regarding their preference for out-of-hospital settings as the safest option for giving birth. Additionally, the study aimed to explore if this preference is correlated with other socioeconomic indicators.	Nulliparous individuals (n=634) during their third trimester of pregnancy in Michigan.	Quantitative, cross-sectional (secondary analysis)	According to the study, both Black and White individuals expressed similar levels of feeling safe while giving birth in out-of-hospital settings, with rates of 11.5% and 13.1%, respectively. Only two sociodemographic indicators, namely poverty and education beyond high school, were significantly linked to feeling safest while giving birth out-of-hospital.	Choice, equity and access
Sprague et al. (2018) Canada	Outcomes for the first year of Ontario's Birth Center Demonstration Project	Part of a larger study that evaluated the first year of the operation of birth centres in Ontario. In this part of the study, the researchers reported	Individuals (n=495) who gave birth between January 31, 2014, and February 3, 2015, and started labour planning to give birth at one of two 2 birth centres in Ontario, compared with a matched cohort of midwifery	Mixed methods, Descriptive evaluation (matched cohort), focus groups; surveys	Among 495 individuals admitted to birth centres, 87.9% had spontaneous vaginal births, regardless of the eventual location, while 7.7% had caesarean births. The hospital transfer rate was 26.3%. In comparison to midwifery clients opting for hospital	Eligibility criteria for admission Outcomes at birth centres/safety Interventions used during labour and birth. Quality indicators

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
		on the evaluation of quality and safety.	clients who planned to give birth at hospitals (n=1 980) during the same time frame (1:4).		births, the birth centre group had notably lower intervention rates (including epidurals, labour augmentation, assisted vaginal births, and caesareans), even when accounting for previous caesarean birth and body mass index. Approximately 10% of birth centre clients had potential morbidity markers, but no short-term health impacts were observed up to 6 weeks postpartum. Birth centre care was associated with minimal interventions and adherence to national guidelines, ensuring safety.	
Stapleton et al. (2013) USA	Outcomes of care in birth centers: demonstration of a durable model	To examine the outcomes of birth centre care through intention-to-treat analysis	Low-risk pregnant individuals (n=15 574) who planned and were eligible for birth centre birth at the onset of labour. As of 2013, birth centres were licensed in 41 states, and 79 centres in 33 states participated in the study.	Quantitative, Prospective cohort study (descriptive statistics)	Results showed that 84% of eligible birth centre clients gave birth at the centre, with a relatively small percentage being transferred to a hospital before or during labour. Most births were spontaneous vaginal births, and there were few emergencies or transfers postpartum. No maternal deaths were reported, and foetal and neonatal mortality rates were comparable to other studies that reported on these outcomes in low-risk midwife-led client populations.	Eligibility criteria for admission Outcomes at birth centres/safety
Stephenson-Famy et al. (2018) USA	What are the risk factors associated with hospital birth among women planning to give birth in a birth center in Washington State?	To explore risk factors associated with hospital birth in planned out-of-hospital birth.	Low-risk pregnant individuals: (n=7 118) individuals who planned to give birth at birth centres in Washington state (the state had 18 birth centres in 9 counties)	Quantitative, Retrospective cohort	Out of 7 118 individuals who planned to give birth at birth centres, 7% (501) ended up giving birth in a hospital, while 93% gave birth at a birth centre. The most significant risk factors for hospital transfer were nulliparity, being over 40 years old, inadequate antenatal care, body mass index over 30, using government health insurance, and having hypertension.	Eligibility criteria for admission Outcomes at birth centres/safety
Stevens and Alonso (2021) International	Developing operational standards for midwifery centers	Development of evidence-based guidelines and standards.	Evidence-based standards and guidelines from the American Association of Birth Centres (USA), Midwifery Unity Network (UK/EU), World Health	Consensus method: e-Delphi	Existing evidence-based standards and guidelines were gathered and combined, duplicates were removed, and language was modified for global applicability, especially in low and	Guidelines/ operational standards/ regulations

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
			Organization, International Childbirth Initiative, and White Ribbon Alliance		middle-income countries. This resulted in a list of 52 midwifery centre standards aimed at providing accessible, respectful, woman-centred, and community-engaged maternal healthcare integrated within the overall healthcare system. These standards were reviewed and piloted in eight low- and middle-income countries. A consensus was reached on a final list of 43 standards.	
Stevens et al. (2012) USA	Description of a successful collaborative birth center practice among midwives and an obstetrician	To describe a successful collaborative care model followed in a specific birth centre, the model emphasises cooperation between obstetricians-gynaecologists, midwives, and clients to reach the common goal of safe care and positive experiences.	A freestanding birth centre in the USA: Reading Birth and Women's Center	Case study report/description	The Reading Birth and Women's Center in Pennsylvania, established in 1987, operated successfully as a collaborative practice between midwives and an obstetrician, focusing on mutual respect, clear communication, and acknowledging midwives' expertise. With 87% of 921 total births attended by midwives, the practice highlighted evidence-based care, financial stability, and empowering client decision-making. Moreover, it served as an educational platform for medical residents, midwifery students, and other healthcare professionals.	Characteristics of facilities Collaboration between birth centres and their referral networks Outcomes at birth centres/safety
Stone (2012) Germany	Making physiological birth possible: birth at a free-standing birth centre in Berlin	To explore and describe the approach midwives demonstrated during birth assistance at a freestanding birth centre	Midwives involved in birth centre care: five midwives were interviewed, and nine births were observed	Qualitative, grounded theory, which included semi-structured expert interviews and participant observation	The researchers found that midwives had to re-learn birth assistance to adapt to the out-of-hospital environment. They used subjective and objective criteria to develop their approach and to make physiological birth possible.	Characteristics/ experiences of birth centre care providers
Stone et al. (2022) Germany	"Putting the baby back in the body": the re-embodiment of pregnancy to enhance safety in a free-standing birth center	To investigate perceptions of risk and safety during pregnancy and birth among midwives and their clients at a freestanding birth centre in Germany	Midwives who worked at a freestanding birth centre in Germany and 27 of their clients (>18 years old)	Qualitative, participant observation and interviews	The findings highlighted the complex interplay between medical technology, maternal perceptions, and the role of midwives. It emphasised the importance of 'embodied' awareness and positive connections between pregnant individuals and their unborn babies, facilitated by midwives, ensuring a healthier pregnancy and birth experience.	Women's experiences/ satisfaction with care Characteristics/ experiences of birth centre care providers

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Suto et al. (2015) Japan	Prevalence of perineal lacerations in women giving birth at midwife-led birth centers in Japan: a retrospective descriptive study	To investigate the prevalence of perineal lacerations among pregnant recipients of care at midwife-led birth centres in Tokyo, Japan, between January 1, 2008, and June 30, 2011	Birth individuals who met eligibility criteria and received care between January 1, 2008, and June 30, 2011, at 3 midwife-led birth centres in Tokyo, Japan (n=1 521).	Quantitative, retrospective, descriptive	Among 1 521 birth centre clients, intact perineum rates were 49.5% when nulliparous and 69.9% when multiparous. First-degree lacerations occurred in 36.7% of nulliparous and 27.1% of multiparous individuals, while second-degree lacerations occurred in 13.5% of nulliparous and 3.0% of multiparous individuals. Only one multiparous individual experienced a third-degree laceration (0.1%). Factors such as older age (35 years or older), the hands-and-knee position, using a birthing chair, and waterbirth increased the risk of perineal lacerations in both nulliparous and multiparous individuals.	Outcomes at birth centres/safety Eligibility criteria for admission
Thornton et al. (2017) USA	Cesarean outcomes in US birth centers and collaborating hospitals: a cohort comparison	To isolate the birth setting from other risk factors to assess the effect of birth centre care on the caesarean section rate.	Data from 79 US birth centres in 43 states between 2006 and 2011 (78% of American Association of Birth Centers birth centres participated).	Quantitative, Retrospective cohorts (secondary data)	The odds of caesarean section were decreased by 37% in the birth centre cohort and there was a low overall caesarean rate of less than 5% in both cohorts. Secondary outcomes such as newborn mortality or permanent morbidity did not differ significantly between the two settings. There were more cases of newborn grunting or transient tachypnoea of the newborn and required ventilation lasting less than 10 minutes in the birth centre cohort. Fewer septic workups were done in birth centres, but postpartum haemorrhage occurred more frequently in the birth centre cohort. Breastfeeding at discharge was significantly more frequent in birth centres.	Eligibility criteria for admission Outcomes at birth centres/safety
Tilden et al. (2017) USA	Vaginal birth after cesarean: neonatal outcomes and United States birth setting	To analyse and compare outcomes of neonates born via vaginal birth after caesarean section (VBAC) in various settings, including birth centres.	All singleton, term, vertex, non-anomalous, live-born neonates born by VBAC in USA hospitals and out-of-hospital settings between 2007 and 2010 (n=1 138 813)	Quantitative, Retrospective cohort	Among 1 138 813 USA individuals with previous caesarean sections, 9.65% opted for VBAC, mostly in hospitals. Home VBACs increased slightly. Out-of-hospital VBAC births showed higher neonatal morbidity (seizures, low Apgar scores), especially with no prior vaginal	Eligibility criteria for admission Outcomes at birth centres/safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					birth history. Newborn death risk was also found to be higher, but the difference was not statistically significant.	
Turkmani et al. (2023) International	Exploring networks of care in implementing midwife-led birthing centres in low- and middle-income countries: a scoping review	To assess the feasibility of implementing a Network of Care framework to map challenges, barriers, and enablers in establishing and operating midwife-led birthing centres in low-to-middle-income countries, with a particular emphasis on the four domains of the Network of Care: 1) agreement and enabling environment, 2) operational standards, 3) quality, efficiency, and responsibility, 4) learning and adaptation, to determine its effectiveness in improving maternal and newborn health outcomes.	The review included studies from various countries, with a focus on low-to-middle-income countries, and half of the studies (n = 20) were specifically from Brazil and South Africa, while the others covered an additional 10 countries (40 relevant studies published between January 2012 and February 2022 were included),	Scoping review	The study systematically evaluated the challenges and enablers of midwife-led birthing centres using a Network of Care framework across low-to-middle-income countries. It covered four domains: 1) Agreement and enabling environment, focusing on policy, financing, affordability, and service utilization; 2) Operational standards, examining referral systems, monitoring and evaluation, supplies, infrastructure, and workforce competence; 3) Quality, efficiency, and responsibility, addressing coordination of care, benchmarking, and evidence-based clinical guidance; and 4) Learning and adaptation, emphasising client-centeredness, flexibility, extending reach, and innovative approaches. The findings underscored the importance of supportive policies, financial accessibility, responsive services, effective referral systems, competent workforces, coordination, and client-centred care for successful midwife-led birthing centre implementation.	Guidelines/ operational standards/ regulations Characteristics of facilities Choice, equity, and access
Wallace (2019) Bangladesh and Philippines	Using a birth center model of care to improve reproductive outcomes in informal settlements-a case study	To focus on three case studies to describe the effectiveness and advantages of the birth centre model of care in low-resource settings, particularly in urban informal settlements.	Birth centres in informal settlements, specifically the BRAC Delivery Center (BDC) and BRAC Maternity Center (BMC) in Bangladesh, the PAANAKAN Birthing Facility in Paranaque City, and Mercy in Action in The Philippines. These centres were operated by non-governmental organisations.	Qualitative, Case studies	Case Studies: 1. The Manoshi Program (Bangladesh): Manoshi birth centres significantly improved maternal health knowledge and outcomes in informal settlements. Institutional birth rates increased from 15% to 59% in project areas. Over 80% of individuals could safely give birth in their community under Manoshi midwives' care. Manoshi's referral system ensured timely access to higher-level facilities if needed.	Characteristics of facilities Choice/equity of access

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					<p>2. PAANAKAN Birthing Facility (Philippines): The PAANAKAN birth centre in Paranaque City successfully reduced home births from 92% to a lower rate. Community-based interventions, including education and location-based services, contributed to the facility's success.</p> <p>3. Mercy in Action (Philippines): Mercy in Action's birth centres achieved a high rate of prenatal care (94%) and vaginal births (95%). Only 2% of newborns required transfer to higher-level facilities due to complications, indicating effective management of complications at the birth centre. The organisation's emphasis on respectful maternity care led to successful outcomes and established it as a model for teaching respectful care practices.</p>	
Walsh and Downe (2004) International	Outcomes of free-standing, midwife-led birth centers: a structured review	To evaluate and summarise evidence regarding freestanding birth centres that existed when the review was published.	Studies that reported outcomes of care at freestanding midwife-led birth centres. Out of 122 identified studies, only five met the inclusion criteria.	Quantitative, Structured review (no meta-analysis)	Five studies from an initial pool of 122 focused on clinical outcomes in the birth centre/midwifery-led units or those staffed by doctors and midwives between 1986 and 2000 in the USA, UK, and Germany. These non-randomised studies showed birth centres had higher rates of normal vaginal births (4.8% to 13.3% increase) and lower caesarean section rates (1% to 8% decrease) compared with hospitals. Episiotomy rates were consistently lower in birth centres (13.9% to 39.1% decrease), and both settings had high rates (>90%) of newborns remaining with mothers, with a slight birth centre advantage (0.8% to 3.6% difference). Intrapartum transfer rates ranged from 14.6% to 22%, mainly due to failure to progress in labour. Limited data on perinatal mortality suggested a	Outcomes at birth centres/safety

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Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					potential advantage for birth centres, but the non-randomised study designs impacted the reliability of observed outcomes.	
Walsh (2006) UK	'Nesting' and 'matrescence' as distinctive features of a free-standing birth centre in the UK	To explore birth practices in a freestanding birth centre in terms of culture, beliefs, and values.	Clients, midwives, and maternity care assistants at a freestanding birth centre in the midlands of England.	Qualitative, ethnographic	Clients reported choosing birth centre care based on the non-clinical, homelike, relaxed environment with friendly staff and recommendations from friends. They reported that their general practitioners (GPs) would advise against it based on perceived risk. Themes emerged around the importance of 'environmental, organisational, and emotional ambience' when choosing their birth space. This was linked to the concept of 'nesting'. Relating to care during labour, participants appreciated being cared for by their midwives in a motherly way.	Characteristics of facilities Choice/equity of access Clients' experiences/satisfaction with care
Wax et al. (2010) USA	Maternal and newborn morbidity by birth facility among selected United States 2006 low-risk births	To evaluate and compare outcomes of births that occurred in USA hospitals, freestanding birth centres and at home in 2006.	Low-risk individuals (excluding multiple gestations, preterm births <37 weeks, smokers, pregestational or gestational diabetes, chronic hypertension, hypertensive disorders of pregnancy, or previous caesarean) who gave birth in the USA in 2006 (n=745 690).	Quantitative, population-based cohort	Out of 745 690 births that met the inclusion criteria, 733 143 (97.0%) took place in hospitals, 4 661 (0.6%) in birth centres, and 7,427 (0.9%) at home. Certified nurse midwives attended 51 555 in-hospital births, 2,067 in birth centres, and 1 786 at home. Home births, with 75.4% attended by physicians or midwives, were mostly planned. Individuals who gave birth at home or in birth centres were typically older, multiparous, and white, with less education and later prenatal care registration. Home births had higher rates of low 5-minute Apgar scores but lower rates of chorioamnionitis, foetal intolerance of labour, meconium-stained liquor, neonatal assisted ventilation, NICU admission, and low birthweight (<2500g) compared with hospital births.	Eligibility criteria for admission Outcomes at birth centres/safety

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
Way et al. (2022) USA	Out-of-hospital births and infant mortality in the United States: Effect measure modification by rural maternal residence	To evaluate the effect of birth setting and urban versus rural location on newborn mortality.	Live newborns (n=25 210 263) born in the United States during 2010–2017	Quantitative, Population-based cohort study	In rural areas, most births (97.8%) took place in hospitals, with a small percentage occurring in birth centres (0.5%) or at home (1.5%). In urban areas, hospital births were even more common (98.6%), with a slightly higher percentage of planned home births (0.7%). After adjusting for various factors such as maternal demographics and high-risk pregnancy markers, the newborn mortality rate was higher for out-of-hospital births compared with hospital births, particularly for rural planned home births and rural birth centre births. The risk of newborn mortality was higher in rural areas for out-of-hospital births.	Outcomes at birth centres/safety
Welch et al. (2022) USA	We are not asking permission to save our own lives: Black-led birth centers to address health inequities	To address the disparities in maternal health outcomes by focusing on Black-led birth centres, like Birth Detroit, and highlighting the importance of culturally affirming care, ultimately combating institutional racism in maternal healthcare.	One part of the study involved participants who identified with various roles in maternal and child health. Some participants had multiple roles. Specifically, 14 participants were in administrative positions, 3 were involved in advocacy and policy work, 9 were practitioners, and 1 was a researcher. The second part was an online community survey to which 391 responses were received.	Qualitative and iterative, focusing on refining the Birth Detroit model with a strong emphasis on community engagement.	Interviewees emphasised the need for innovative approaches because existing models do not improve health outcomes for birthing individuals and children. The subsequent community survey, with 391 respondents (39% from Detroit), reinforced the support for midwives, doulas, and birth centres in the community, especially among Black residents. The survey highlighted the importance of providers who follow evidence-based practices, respect gender and sexual identity, and treat birthing individuals as partners in care.	Choice/equity of access
Winter et al. (2022) Germany	Planned place of birth-impact of psychopathological risk factors on the choice of birthplace and its postpartum effect on psychological adaption: an exploratory study	To identify psychological risk factors that influence individuals' choice of birthplace and to evaluate the effect of birthplace on psychological adaptation after giving birth.	Individuals (n=177) in the third trimester of pregnancy (from the 29th week) with sufficient knowledge of the German language. Participants were allocated to three major groups: in obstetric units (n=121), in freestanding midwifery units (n=42), and out-of-hospital births (n=14).	Quantitative, prospective surveys	Among 177 participants (average age 29, 35 weeks gestation), planned births occurred at the hospital (68.4%), freestanding midwifery unit (23.7%), or home (7.9%). Primiparas preferred hospitals, while multiparas favoured freestanding midwifery units and home births. Psychopathological factors like prenatal distress and childhood trauma were assessed. Primiparity, prenatal distress, and childhood trauma	Choice/equity of access Women's experiences/satisfaction with care

Annexure U: Summaries of included articles

Author (year) and country	Title	Purpose	Population & sample	Type of study/methods	Outcomes/findings	Themes
					<p>predicted hospital births. Overall, birth experience scores were similar, but out-of-hospital groups had better emotional adaptation during birth, and home birth participants were less disappointed than hospital births. Postpartum psychological adaption showed no significant differences in depressive symptoms, but out-of-hospital groups experienced greater relief from birth anxiety symptoms compared with hospitals.</p>	

Annexure V: Discussion guide for focus group discussion

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan; Prof. Mariatha Yazbek

Institution: University of Pretoria

Participants in this part of the study: The population for the focus groups will include couples or individuals who received birth centre care during the six weeks prior to the focus group discussion. Three birth centres in different geographical locations will be selected and midwives at these facilities will be asked to recruit four couples or individuals each. To avoid bias the midwives will be asked to recruit the first four women or couples who birthed six weeks before. If a woman or couple are not willing to participate the midwife can ask the next woman or couple. These couples or individuals should have planned to give birth at the birth centres and should have spent at least four hours at the birth centres during labour. Transfers due to complications will not be excluded since referral and backup is an important aspect of birth centre care. For the focus groups the researcher will exclude the birth centre which she is employed at. Participants in the focus groups would have to be able to communicate in English.

Procedure: Data collection from couples who received birth centre care will be conducted through synchronous, online, semi-structured focus groups. The researcher will conduct the focus groups and an assistant will keep notes. There will be three central questions: “what was important to you about the care you received at birth centre when it comes to the facility, equipment and the staff?”; “what made you feel safe and supported and what did not?”; and “would you recommend birth centre care to your friends and family and why?”. The researcher will probe for more discussion if important comments or questions arise. The focus groups will be recorded with permission from the participants. Field notes will be taken to report observations such as participant interaction (GrønkJær, Curtis, de Crespigny & Delmar, 2011:16). Data will be transcribed verbatim for analysis.

Ethical principles: Ethical research means following the principles of respect for persons; beneficence; and justice throughout the entire process. Respect for persons’ mandates for participation to be voluntary with no coercion of any kind. Human beings have the right to autonomy and self-determination. During this phase of the study, participants in the focus group sessions will have the right to withdraw at any point during the study without obligation to offer an explanation. Focus groups will be held online, and participants will be informed that all sessions will be recorded with their permission for further analysis. Participants will have the right to refuse to answer any of the questions. There will be no interventions and no suspected physical risks.

Annexure W: Example of focus group transcript

Focus group with three recent birth centre clients (birth centre 1: Gauteng)

Date of the focus group:

Moderator: OK, let me see. Good afternoon, everyone. My name is M. Can everybody hear me?

Participant A: Yes.

Participant NH: Yes, we can.

Moderator: Welcome. I'm assisting CJS. I'll just be doing the moderation. As you probably know, she's doing her PhD in nursing and she's developing accreditation criteria for midwife-led birth centres in South Africa. And the reason we speaking to you is just because you birthed at birth centres with midwives and we just wanna ask a few questions, have a discussion on your experiences. And I'm just gonna turn on my camera so you can just see me there. Yeah, there's no right or wrong answers. Nothing you said to will be connected to your name. It will be anonymous. So your midwife or the place you birth will not know anything about what you said. So please feel free to be open and honest, whether it's positive or negative experiences, it doesn't matter. We just want to hear how you experience it. Just to break the ice a little, let's introduce ourselves. Just tell us a little bit about yourselves before we start with the research discussion.

Participant A: OK. Shall I start?

Moderator: Yeah, sure.

Participant A: OK, my name is A and I'm a mom of three little girls and my youngest is 7 weeks old. So.

Moderator: Oh wow.

Participant A: And.

Moderator: So very small still.

Participant A: Yeah, I had to do a lot of planning to get on to this meeting

Moderator: I I can only imagine welcome A. Thank you so much for joining us.

Participant A: Thank you.

Moderator: NH. Hello

Participant NH: OK. I'll go. Hi, everyone. I wish I'm literally 14 days, 15 days away from giving birth to my son. So I'm literally still in my pyjamas because life was so rough last night.

Moderator: Oh wow.

Participant NH: Umm but yeah, yeah I it's my first baby. So I'm figuring out with my partner as we go.

Moderator: Mm-hmm.

Participant NH: And he's been super supportive and he literally just got back to work today because his paternity leave was 14 days. So yeah, it's me and the little bub for a little while until I get some help. So that's me.

Moderator: Oh well oh thank you. Thanks for joining us. And then who SE my pronouncing that right?

Moderator: Can you hear us?

Moderator: I'm not sure if SE can hear us if you if you've got disconnected, maybe just a try to reconnect. I don't know if you can see CJS if she's in.

CJS: Right. I'll. I'll just do a WhatsApp chat with her quickly.

Moderator: OK. Well, thank you ladies for joining us.

Moderator: Is everybody comfortable? Do you want to get a glass of water or anything? Please just get something if you need anything. Otherwise I'll probably start in the next two minutes or so.

Participant A: OK.

Participant NH: Thank you. I think I'm comfortable for now.

Participant A: Me too.

Moderator: OK.

Participant A: Thank you.

Moderator: Okay. So the first question I'm gonna ask is what was and was it a NH that said you haven't birthed yet?

Participant NH: Oh no I just birthed so sorry my English isn't number one.

Moderator: No, no, no, I I.

Participant NH: 14 days ago I gave birth.

Moderator: OK, now I got that. Sorry. I was just so it was A. Saying she's she's you waiting for the baby to come still.

Participant A: No I gave birth seven weeks ago.

Moderator: Uh, you also. OK, so both of you gave birth already.

Participant NH: Yeah.

Participant A: Yeah.

Moderator: OK, So what was it that was important to you about the care you received at the birth center? In general.

Participant NH: Umm, I think I'll go first this time.

Moderator: OK.

Participant NH: I think for me, what was important was just getting that one-on-one care. I think when you go to public institutions or even private institutions like hospitals, what my experience has been because my mother is a nurse in the ICU. I noticed that as much as you get specialized care in the sense that you are treated for whatever it is that you're going into hospital for, it isn't personal. So you don't develop a relationship with your caregiver.

Moderator: OK.

Participant NH: A personal relationship. When I say personally, I don't mean too deep, but in the sense that they know who you are, they know your your history. They know your partner. You can kind of send the messages at anytime of the day and they'll respond.

Moderator: OK.

Participant NH: I felt that at a birth center with a midwife, I would get that specialized care that you you're not going to find that a hospital. And for me it was very important to be able to just communicate with my midwife at any point and then have that experience go into my my labour room as well.

Moderator: OK, so I'm hearing you say you wanted that one-on-one experience and someone that you can contact whenever you needed to. So it's more personalized.

Participant NH: Yes, correct. Yeah.

Moderator: And A, what was it that was important to you?

Participant A: OK for me then it was also that personal interaction. And also I wanted it to be an experience. I didn't want it to just be where I'm going and I'm having my baby and that is it. I wanted it to be a wonderful experience where I feel like.

Participant A: Like, it's not just pushing out a baby, basically.

Moderator: Umm, so it's more, OK...

Participant A: And also I wanted the freedom to be able to do what my body is telling me to do at that time. Like I know my my, my sisters have given birth and my cousins and they've just all. Like for them it was just like you go to the hospital the doctor tells you what to do and you do it and that is it. Whereas with the midwife, I felt like they were. Listen to what you want and.

Moderator: Mmm

Participant A: And you can listen to your body and what your body is telling you to do at what time.

Moderator: So it's like you felt more in control there?

Participant A: Yes, and like, the freedom to believe that you need to do as your body directs you.

Moderator: OK, I hear you. And and what do you feel was important when it comes to the equipment at the birth centre?

Participant A: So for me, because I gave birth twice at a [another birth centre] with midwives about they had an ICU unit in case of emergency. So when I went to the birth centre this time I was a bit sceptical because I felt like in case of an emergency...what is the in case you know? And then my midwife reassured me and we made our plans and our arrangements that in case of an emergency, what would we do and how would we plan out things and she she she knowing that she already had a plan like she has her backup doctors on call and all of that, so that at least gave me some comfort to know that.

Moderator: OK. And and did you feel that they had all the equipment that they needed for whatever might have happened?

Participant A: Umm for a general natural uncomplicated birth, yes, I think they had everything that was necessary.

Moderator: OK.

Participant A: And yes.

Moderator: And and to you, NH? What was important to you about the equipment they had at the birth centre?

Participant NH: No, that's a very interesting question because I was just trying not to have the hospital experience. So anything that looked, smelled sounded like a hospital. I didn't want it, so I wasn't very, which is very odd, but I wasn't very cognizant of the equipment and I think it's also because I was like 7 centimetres dilated at the time. So all I wanted was for me to birth healthily and normally. So I, to be honest, like I can't really. I can't give you a clear answer there because I I wasn't really paying attention to that. Yeah. Yeah, true.

Moderator: Yes, you were actually almost not wanting too much hospitalized equipment and that sort of feel. I see what you're saying.

Participant NH: Exactly.

Moderator: And A, you mentioned that, uh, the midwife puts you at ease that if something went wrong, she had backup doctors. Do you think she would have had to refer you there for if any other equipment was necessary? And do you think it everything would have, you know, flowed easily if that was the case, if there was a need for that?

Participant A: Yes, I do think so because uh, she had when we spoke about. So she made sure that I go and see her backup doctor 1st and at at the hospital where he practices, and then she showed me the route and the distance in if in case of an emergency, how we would get there and the options where the like. If the how she would call an ambulance if necessary. Otherwise we would drive the if necessary. So I in case of an emergency. Yeah, she...It was.

Moderator: OK. And and what was important to you? Uh, both of you. When it comes to the staff at the birth centre.

Participant A: For me, I think just someone warm and caring and who's willing to listen to you. Yeah. To put you at ease because obviously you are not in a good state at that time.

Moderator: Umm. And, NH. What was important to you when it comes specifically to the staff at the birth centre?

Participant NH: I'm obviously not trying to make this a anti hospital conversation, but for me what was very, very important was kind of like what A was saying just to have warmth surrounding me, my partner and my child as I was delivering. But also there is a there's a certain quality that I find with midwives and maybe it's experience or I'm not sure passion. But what I found was with my midwife and what differentiated her from other midwives that I had encountered was her specialized knowledge. But also she had a real passion for her job. And so that was what I was looking for.

Participant NH: And what I realized is that. Umm. As cause also just background, she births like 4 kids per week or something crazy like that. And for me, what was important was for her to power through the fatigue almost in a way, and prioritize the the child that was being born in that moment. And so I think maybe professionalism. Paired with warmth and and passion is what I was looking for.

Moderator: OK, so I heard both of you saying that personal experience and just warmth and then also professionalism and experience and someone who's who's done this many times before and is experienced in what they doing.

Participant NH: Yes, yes, correct.

Moderator: I'm just going to check. SE are you there?

Participant SE: Yeah, I'm here. I'm here. Hi. Sorry just now my connection was bad, but I've been listening. Thanks.

Moderator: No, no, no problem. Welcome to the group. My name is M.

Participant SE: Yeah.

Moderator: If you just wanna quickly introduce yourself and then I'll fill you in on what you've missed.

Participant SE: Yeah. OK. My name is SE, so I used the birthing Center for the first time about three weeks ago. Other than that, I was always at a hospital. So yeah, I I would say that my experience at the birthing centre was way better and this was my sixth child.

Moderator: Wow. Oh thank thanks for joining us earlier and sorry I mispronounced your name there.

Participant SE: No, it's fine. Yeah. So basically like my story I am. The reason I. Like my experience at the hospital and I always felt afraid to go in. I would literally stand outside the hospital until I was maybe literally dying and then go in. So because of the treatment that you get, you know. Provincial hospital.

Moderator: You're. So what I was just, I was just asking the other ladies what it is that makes makes them feel. Or what's important to them about the care they receive at at the birth centre. If you. If you would like to just tell us briefly what's important to you about the care at the birth centre?

Participant SE: Well, this time around, unfortunately, when I was four months, I lost my husband. When I was four months pregnant.

Moderator: I'm so sorry to hear that.

Participant SE: So when I was...It's after that, I said. There's no way I'm still gonna go get a bad treatment. I have to provincial hospital and go through that alone...That no, I would

prefer to go to a midwife for a birthing centre. And to be honest with you, it was...even though it was such an emotional time, it was such a beautiful experience because the team they actually like, you know, they become like your family, you know? So it's like it's it's I birthed with him and I was with people that really and truly cared for me. And that made a huge difference. Umm, whereas I thought if I went into another scenario I I don't think emotionally even I would have been able to handle it.

Moderator: And the I think you also echoing what the other two said about them. You know just that support and that emotional connection and having a people that are there for you, what was important to you about the stuff and the equipment they have available?

Participant SE: Well this I was actually quite amazed because uh, when I was when I first went in, OK, it was just my midwife. But once you hit seven centimetres, I was so surprised because it was not only the midwife that there was the doula, there was the nurse on hand. The doctor if in case of an emergency, was also there, which I couldn't believe because I thought that they, I didn't know. There's gonna be a nurse as well as you know, the doctor. That's on call for emergency was all day, all present and if there was an emergency, your doctor was already there. The hospital was already available. Everything is in place.

Moderator: Mmm

Participant SE: Uh, the midwife. Also she she continuously, sends your results to the hospital and to the...So at one stage they actually wanted to transfer me and you don't feel like as if it's a train smash because you can see this communication that's going around and they always communicating with you...but eventually I pulled through at the birthing centre.

Moderator: OK. So you felt that, you know, you were you, they had everything they needed to assist you.

Participant SE: Yeah, definitely. Definitely they did.

Moderator: OK.

Participant SE: I didn't feel afraid or anything there. When it came to that.

Moderator: And you actually starting to answer my next question. I want to ask you what, if anything, made you feel safe and supported at the birth centre?

Participant SE: I think you know, for me, having this experience in the hospital and at the birthing centre, for me communication is very important. You go into usually the hospital and they don't even talk to you, and if there's something, so everybody's just looking at you and nobody is really saying anything. And when you ask also they just keep quiet. And I feel that that is so. To also let us know is everything OK and you know all of that, I always felt. And we just have to go in. We just have to keep quiet. We just have to accept what they say in the hospitals. And through it, you know whereas it was so nice just to have some communication, some care.

Moderator: So you felt you were informed of of what was going on.

Participant SE: Yeah, definitely. Like for me, even some of the things that they used to do while you giving birth and put you on the monitors and test the same test that I didn't even know what it was before. But yeah, at the same time, they will explain everything, why they're doing it, why they're putting that, what's happening. Or why they think they need to transfer you. You know what I'm saying? It makes.

Moderator: Yes, I hear you.

Participant SE: And makes you feel safe as well because people are informing you and you know, OK, I can be calm. I can. I know they got this. Yeah.

Moderator: OK. So yeah, you know what's going on then you're not left in the dark. A, I think you wanted to add something.

Annexure X: Questionnaire for written narratives from birth centre clients



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
Department of Nursing Science

We are conducting a research study on the experiences of couples who received birth centre care, and we would like to invite you to participate by completing the following questionnaire.

The questionnaire consists of three central questions that we would like you to answer (you are welcome to complete it on a separate document):

- 1.) What was important to you about the care you received at the birth centre when it comes to the facility, equipment, and staff?

- 2.) What made you feel safe and supported during your time at the birth centre, and what did not?

- 3.) Would you recommend birth centre care to your friends and family, and why?

Please answer each question as thoroughly as possible. If you have any additional comments or questions, please feel free to include them in the space provided.

Your participation in this study is voluntary, and all information you provide will be kept confidential. If you would like to participate, please respond to this email indicating your willingness to complete the questionnaire.

Thank you for your time and participation.
Sincerely,

Christél Jordaan-Schlebusch

Mrs C Jordaan-Schlebusch
E-Mail: christel.jordaan-schlebusch@tuks.co.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Department of Nursing Science
Lefapha la Disaense tsa Maphelo
Kgoro ya Disaense tsa Booki

Annexure Y: Sample of stakeholder analysis

Stakeholder Role	Contact Person	Phone/Email/Website/Address	Impact	Influence	What is important to the stakeholder?	How could the stakeholder contribute to the project?	How could the stakeholder block the project?	Strategy for engaging the stakeholder
Midwife Specialist	Name removed for anonymity	Removed for anonymity	High	High	Developing high-quality standards for midwifery care	Provide expert knowledge on midwifery care and standards	Lack of engagement and support	Collaborate on research and sharing of resources
South African Nursing Council (SANC) representative	Name removed for anonymity	Removed for anonymity	High	High	Regulating Nursing and Midwifery in South Africa and ensuring the safety of the public who receive nursing and midwifery care	Give input to make sure the accreditation criteria align with Nursing and Midwifery regulations	Lack of engagement and support	Email and telephonic engagement
Consultant - Obstetrics and Gynaecology, Maternal and Fetal Medicine	Name removed for anonymity	Removed for anonymity	Medium	Medium	Ensuring the project aligns with clinical and medical standards	Offer medical expertise and advice on clinical and medical aspects of the project	Lack of buy-in and support from other stakeholders	Provide opportunities for collaboration and information-sharing on project objectives
Independent Midwife and founder of a birth centre in the country	Name removed for anonymity	Removed for anonymity	Medium	Medium	Ensuring that the project aligns with the needs of independent midwives and their clients	Provide insights on the unique challenges and needs	Resistance to change or new standards	Provide opportunities for collaboration and

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Stakeholder Analysis Matrix - www.tools4dev.org.



Stakeholder Role	Contact Person	Phone/Email/Website/Address	Impact	Influence	What is important to the stakeholder?	How could the stakeholder contribute to the project?	How could the stakeholder block the project?	Strategy for engaging the stakeholder
						of independent midwives		dialogue on project goals and objectives
Chairperson of Private Practicing Midwives' Alliance of Gauteng and Founder of a birth centre	Name removed for anonymity	Removed for anonymity	Medium	Medium	Ensuring that the project aligns with the needs of private midwives and their clients	Provide insights on the unique challenges and needs of private midwives	Resistance to change or new standards	Provide opportunities for collaboration and dialogue on project goals and objectives
Independent Midwife and Founder of a birth centre	Name removed for anonymity	Removed for anonymity	Medium	Low	Ensuring that the project aligns with the needs of independent midwives	Provide insights on the unique challenges and needs of independent midwives	Lack of engagement and support	Provide opportunities for collaboration and information-sharing on project objectives
Independent Midwife with More Than 40 Years Experience	Name removed for anonymity	Removed for anonymity	Medium	High	Ensuring that the project aligns with the needs of experienced midwives and their clients	Provide insights on the unique challenges and needs of experienced midwives	Resistance to change or new standards	Provide opportunities for collaboration and dialogue on project goals and objectives
Phd in Midwifery. Works part-time at a birth centre	Name removed for anonymity	Removed for anonymity	Medium	Low	Ensuring that the project aligns with the needs of	Provide expert knowledge on	Resistance to change or new standards	Collaborate on research and sharing of resources

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Annexure Z: Nominal Group Technique (NGT) guideline

STUDY TITLE: “DEVELOPMENT OF ACCREDITATION CRITERIA FOR MIDWIFE-LED BIRTH CENTRES IN SOUTH AFRICA”

Principal Investigators: Christél Jordaan; Prof. Mariatha Yazbek; Prof. Carin Maree

Institution: University of Pretoria

Participants in this part of the study: The nominal group technique (NGT) will be applied in a group of 6-12 participants to prioritise quality measures and logistical prerequisites to be included in the accreditation criteria.

Venues for the NGT sessions: The NGT session will be conducted online in Microsoft teams.

Procedure:

An experienced facilitator will conduct the NGTs. The researcher will make notes and observe. The nominal group technique will be applied in the following steps as described by Harvey and Holmes (2012:191):

- 1.) The topic and purpose of the NGT session will be explained. The group facilitator will briefly explain the background and importance of the development of accreditation criteria for midwife-led birth centres in South Africa. The question will be asked: “what are the important aspects that should be included in accreditation criteria for midwife-led birth centres in South Africa that will lead to good outcomes and positive experiences for women and newborns?”
- 2.) Participants will have 10 minutes to generate and write down their ideas.
- 3.) Participants will share their ideas one-by-one until all their ideas have been reported. The researcher will write down the ideas.
- 4.) The group will have the opportunity to discuss and clarify all the ideas that have been recorded.
- 5.) Group members will vote which ideas should be included and which ideas can be excluded.

Ethical principles: Ethical research means following the principles of respect for persons; beneficence; and justice throughout the entire process. Respect for persons’ mandates for participation to be voluntary with no coercion of any kind. Human beings have the right to autonomy and self-determination. During this phase of the study, participants in the NGT sessions will have the right to withdraw at any point during the study without obligation to offer an explanation. Stakeholders will be requested to give their time to attend the NGT sessions and evaluate the accreditation criteria.

Annexure AA: NGT invitation email

Dear [Expert's Name],

I hope this email finds you well. I am writing to invite you as an expert to participate in an online session that aims to generate accreditation criteria for freestanding midwife-led birth centres in South Africa. Your expertise and perspective would greatly contribute to the success of this endeavour. The session will be conducted online via Microsoft Teams and is expected to last for approximately 1-2 hours.

The session will involve a structured process to generate and prioritize aspects to be included in accreditation criteria for freestanding midwife-led birth centres. It will provide an opportunity for experts like yourself to share insights, collaborate with peers, and collectively contribute to these criteria.

If you are available and interested in participating, kindly choose all time and date options on the Doodle invitation that suits you. We will schedule the meeting during the time and date that suits the most participants. <https://doodle.com/meeting/participate/id/ax1VKZBb>

To provide you with more details about the session and ensure your informed participation, I have attached an information and consent document. This document outlines the purpose of the session, the specific objectives we aim to achieve, and the guidelines for participation. It also covers any potential risks or benefits associated with the session. We kindly request you to review, sign and return this document if you agree to participate.

If you have any questions or require further information, please do not hesitate to reach out to me at christel.jordaan-schlebusch@tuks.co.za

Thank you for your time, and I hope to hear from you soon.

Warm regards,

Christél Jordaan-Schlebusch

PhD student
University of Pretoria
Department of Nursing Science

Annexure AB: Invitation email for e-Delphi

Dear [Expert's name],

I hope this message finds you well. I wanted to express my appreciation for your willingness to contribute to the e-Delphi phase of our research project.

I am pleased to inform you that we have completed the initial draft of the **accreditation criteria for freestanding midwife-led birth centres in South Africa**, which is a result of the online NGT session, insights from our scoping review, and feedback from recent birth centre clients. We value your expertise in further refining this draft.

To proceed, we have attached the consent form for this study phase. Kindly review and sign it to provide your official consent. Additionally, we have created a Google Forms questionnaire detailing the accreditation criteria, which we kindly request you to complete by the end of September. Your responses are crucial in shaping the criteria. The form takes approximately 30 minutes to complete.

https://docs.google.com/forms/d/e/1FAIpQLScra91gyMG32sg6uF-F59nG34qpW5pQAEH7w1hIvKsajpzDaQ/viewform?usp=sf_link

Should you have any questions or require clarification, please feel free to email me directly at christel.jordaan-schlebusch@tuks.co.za. The questionnaire includes a comments section for additional input or suggestions.

Once again, thank you for your commitment to our research. Your expertise is integral to its success, and we look forward to your input.

Warm regards,

Christél Jordaan-Schlebusch

PhD student
University of Pretoria
Department of Nursing Science

Annexure AC: Google Forms draft of accreditation criteria used during round 1 of e-Delphi

9/29/23, 3:32 PM

Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

Welcome to the initial draft of our Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa. We're pleased to introduce this document as a significant step in establishing criteria that encourage excellence and quality at these facilities nationwide. This draft has been developed with insights from experts and recent birth centre clients, and confirmed with a scoping review outlining potential criteria that facilities might adopt to enhance their operational standards and uphold positive outcomes.

At this stage, we recognise that these criteria are a work in progress, and we invite your invaluable feedback and input. Your perspectives are vital for refining these criteria, ensuring they align with the diverse needs and viewpoints of stakeholders involved in care at freestanding birth centres. Through this collaborative process, we aim to create a comprehensive set of criteria that reflect the highest standards and practice that suits the context of midwifery and maternity care in South Africa. It's important to emphasize that participation in this accreditation process will be optional. Nonetheless, we hope that embracing these criteria will empower midwives who own or are employed at birth centres to operate at their utmost potential, while striving for openness, responsibility, and ongoing improvement. If possible, we would like in future to endeavour on a route to establish a formal accreditation process based on these criteria.

We appreciate your time and commitment to assist us in shaping this accreditation criteria document. Thank you for your participation, and we eagerly anticipate your contributions.

INSTRUCTIONS:

Kindly complete the background section. Thereafter, please indicate the level of importance for each aspect of the drafted accreditation criteria by selecting a value on a scale of 0 to 5. A rating of "0" signifies that the aspect is irrelevant or not important for inclusion, while a rating of "5" indicates that the aspect is imperative and must be included in the criteria.

There will be an opportunity for comments at the end.

The survey may take 20 - 30 minutes to complete.

Yours sincerely,

Christél Jordaan-Schlebusch

<https://docs.google.com/forms/d/1IKFouTIP9hI535Ad18EzLBeEqDlcp7Z4BkWdYrs-mLc/edit>

1/24

University of Pretoria

Background information

1. What is your main profession?

Mark only one oval.

- Midwife
- Obstetrician
- Neonatal nurse
- Pediatrician
- Family physician
- Registered nurse
- Other: _____

2. What best describes your current role?

Mark only one oval.

- Working as a private practitioner
- Working at a public clinic or district hospital
- Working at a tertiary or academic hospital
- Full time academic at a college or university
- Specialist consultant
- Working for municipal, provincial or national government health department
- Full time researcher
- Other: _____

3. How many years of experience do you have in your main profession?

Mark only one oval.

- Under 2 years
- 2 - 5 years
- 6 - 10 years
- 11 - 20 years
- More than 20 years
- Other: _____

4. Which of the following applies to you? Choose all that apply.

Tick all that apply.

- I opened my own freestanding birth centre or have been on the board of directors
- As a midwife I have practiced at a freestanding birth centre
- As a private obstetrician I have been backup for women who planned to give birth at a freestanding birth centres
- As a pediatrician I have taken over the care of neonates who were born at a freestanding birth centre
- As an obstetrician or pediatrician I have worked at a referral hospital for a birth centre
- I have input in policy development related to midwife-led care and/or freestanding birth centres at a government department
- As an academic or researcher I have experience in the development of guidelines or policies
- Other: _____

Draft of Accreditation criteria for freestanding midwife-led birth centres in South Africa

Please indicate the level of importance for each aspect of the drafted accreditation criteria by selecting a value on a scale of 0 to 5. A rating of "0" signifies that the aspect is irrelevant or not important for inclusion, while a rating of "5" indicates that the aspect is imperative and must be included in the criteria. There is a comment section at the end of the questionnaire.

1. Governance and Management: *Evidence of a governance and management structure, with a clear vision and mission, and evidence of compliance with legislation, including regulatory bodies, in accordance with South African laws and regulations.*

5. 1.1. Workplace policies and procedures must be documented:
- * Workplace policies and procedures related to healthcare, safety, and ethics.
 - * Relevant Acts and regulations
 - *Provide proof that staff members have read and acknowledge all policies and procedures.*

Mark only one oval.

0 1 2 3 4 5

Irrel Must be included

6. 1.2. A filing system and record-keeping practices that meets legal requirements must be overseen:
- *Provide a document that describes the filing system and record-keeping practices and how these are overseen (in line with legal requirements). This must include a protocol on handling clients' requests to obtain a copy of their records.*

(see: Protection of Personal Information Act, 2013)

Mark only one oval.

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Irrel Must be included

7. 1.3. A sound financial management system must be established:

- Name and describe the financial management system for the birth centre. The following may be relevant:

* Practice Management Software: If using software for financial management, ensure it complies with relevant industry standards and data protection regulations.

* Healthcare Pricing and Fee Guidelines: Consider guidelines set by the Board of Healthcare Funders (BHF) and other relevant bodies when setting fees for medical services.

* Patient Information Protection: The Protection of Personal Information Act (POPIA) regulates the collection, use, and protection of personal information, including patient data (Protection of Personal Information Act, 2013).

Mark only one oval.

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Irrel Must be included

8. 1.4. Health and safety protocols must be developed and implemented:
- Provide health and safety protocols and proof staff are aware of and are implementing these protocols:

* Evacuation Plan: Detail safe exit procedures and assembly points for emergencies.

* Security Measures: outline available security measures and response plans for security incidents.

* Bloodborne Pathogens: Manage occupational exposure with disposal guidelines and post-exposure protocols.

* Personal Protective Equipment (PPE): Specify PPE usage, care, and disposal when necessary.

* Injury Prevention: Teach proper body mechanics and ergonomics for safer work practices

Mark only one oval.

0 1 2 3 4 5

Irrel Must be included

9. 1.5. Evidence of a collaborative interprofessional approach with obstetricians, pediatrician's, and other relevant healthcare providers must be provided:

- Document evidence of collaboration and identify obstetricians, pediatricians, and other healthcare providers in the interprofessional team (preferably a written agreement)

Mark only one oval.

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Irrel Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

10. 1.6. Clear referral criteria to higher levels of care, along with referral pathways, must be established and documented. Hospital backup arrangements must be in place:

- Provide a document that clearly defines referral criteria and pathways to higher levels of care, as well as hospital backup arrangements.

Mark only one oval.

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Irrel Must be included

11. 1.7. Evidence of a reliable transfer system, including ambulance transport and handover documents and practices must be provided:

- Provide a protocol in which the transfer system is described, and ambulance transport and handover practices are outlined.

Mark only one oval.

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Irrel Must be included

2. Staffing and Qualifications

Staff protocols must be established, including clear staffing requirements and staff evaluation procedures.

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

12. 2.1 All staff must be registered with their respective regulatory bodies. There must be evidence of the birth centre's requirements in terms of the skills midwives should possess and the supervision of less experienced midwives:

- Provide:

* Evidence that all staff members are registered with their respective regulatory bodies (e.g., SANC for midwives) and provide proof thereof.

* When applicable, proof of advanced practice qualifications, as per the South African Nursing Council (SANC) requirement, must be provided (this requirement is currently under discussion)

* Clear documentation of the birth centre's prerequisites for midwives' skill sets and the guidance provided to junior midwives in need of supervision.

Mark only one oval.

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Irrel Must be included

13. 2.2 Staff-to-client ratio and care approach must be defined with a minimum of two midwives to be present at every birth:

- Provide a document in which:

* Midwife-to-client ratio and approach is outlined (e.g., team approach or caseload approach).

* The number of births/clients per midwife per month is specified.

* There is evidence that the presence of two midwives at every birth is ensured. If not, motivate.

Mark only one oval.

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Irrel Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

14. 2.3. Adequate support staff must be available depending on the size of the birth centre (e.g., cleaning staff, receptionist, accounting staff):

- Provide a document that outlines the necessary supporting staff levels and responsibilities. The number of staff members in relation to the size of the centre must be motivated:

* Cleaning Staff: Clearly define cleaning staff responsibilities, including maintaining a clean and sanitary birth centre. Detail cleaning schedules, areas of focus, and task frequency.

* Receptionist: Outline receptionist duties, such as client welcome, appointment scheduling, call management, and administrative tasks. Consider patient interaction and peak hours when determining staffing.

* Accounting Staff: Describe accounting staff functions, including billing, medical aid claims, financial recordkeeping, and other financial aspects.

Mark only one oval.

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Irrel Must be included

15. 2.4. Support persons of the woman's own choice (partner, family member or doula) during labour must be allowed and encouraged:

- Provide evidence that the use of a support person chosen by the woman (e.g., partner, family member, or doula) during labour is encouraged.

Mark only one oval.

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Irrel Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

16. 2.5. Evidence of a system for continuous professional development of staff must be available:

- Provide evidence of workshops, conferences, webinars, etc. attended during the past year and schedule for planned attendance during the following year.

Mark only one oval.

1 2 3 4 5

Irrel. Must be included

17. 2.6. Required protocols for staff training, including safety, emergency drills, maternal and newborn resuscitation updates, evidence-based care, and the midwifery model of care must be available:

- Provide protocols for and proof of staff training, including safety, emergency drills, maternal and newborn resuscitation, evidence-based care, and the midwifery model of care.

Mark only one oval.

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Irrel. Must be included

3. Physical Environment and Equipment

A safe environment must be ensured.

9/29/23, 3:32 PM

Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

18. 3.1. Evidence-based protocols must be in place to ensure that birth rooms offer a calming, comfortable, private and safe environment for labouring women and staff (aesthetically calming, adequately sized, fully equipped, and clean):

- Provide evidence-based guidelines for maintaining properly functioning beds, chairs, and other essential equipment to support efficient and seamless care during the birthing process.

Provide guidelines, supported by evidence, regarding the maintenance of clean and sanitized rooms to promote a safe birthing environment

Mark only one oval.

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Irrel. Must be included

19. 3.2. Establish a safe and legal protocol for managing medical and hazardous waste:

- Provide a protocol that describes the outlines the way in which medical and hazardous waste must be handled by birth centre staff including segregation, storage, and removal

Mark only one oval.

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Irrel. Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

20. 3.3. Sufficient physical space must be available for clients and staff, including ablution facilities and a kitchen. Proof of backup electricity (or equipment that can function without electricity) and access to clean water is essential:

- Provide proof of sufficient physical space for clients and staff, including ablution facilities and a kitchen.
- Provide proof of access to backup electricity or equipment that can function without electricity, as well as clean water to wash hands and flush toilets (in times of water restrictions or outages the woman should be aware that a water birth may not be an option)

Mark only one oval.

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Irrel. Must be provided

21. 3.4. A list of equipment that meets the highest safety and quality standards to ensure optimal care for mothers and newborns must be available. A schedule for regular inspections and servicing of all equipment is essential:
--> Provide a list of equipment that meets safety and quality standards, with a schedule for regular inspections and servicing.

Mark only one oval.

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Irrel. Must be included

22. 3.5. A list of required equipment for safe practice and emergencies must be available:

- * List all available equipment for safe practice and emergencies.
- * Describe equipment control procedures and name the person/s responsible for it e.g., senior midwife or administrator)

Mark only one oval.

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Irrel. Must be included

23. 3.6. Medication and consumable necessary for safe practice and the management of obstetric emergencies must be listed and accessible and must comply with regulations and legislation:

- * List accessible medication and consumables.
- * Describe stock control procedures and name the person/s responsible for it e.g., senior midwife or administrator)

Mark only one oval.

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Irrel. Must be included

4. Clinical Care

The program of care must reflect family-centred, respectful, and compassionate care for the mother and the newborn infant.

24. 4.1. Partnership with women must be promoted:

- *Provide the following:*

* **Proof of collective decision-making:** Maintain and provide an example of documented evidence showcasing joint decision-making efforts. This might include consent forms with both parties' signatures, birth plans, and detailed records of conversations between birth centre personnel and women discussing various aspects of their care.

* **Collaborative care strategies:** Provide examples of individualized care plans that have been developed through a collaborative approach with women. These plans should mirror the women's desires, principles, and requirements. Documentation of these care plans can serve as substantiation of the partnership.

* **Uninterrupted assistance:** Present proof of ongoing support throughout the phases of pregnancy, childbirth, and the postpartum period. This may include documented records of prenatal care, virtual support (e-mail or WhatsApp), and one-on-one consultations.

Mark only one oval.

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Irrel Must be included

25. 4.2. Clear eligibility criteria for care in the birth centre must be outlined:

- *Provide clear eligibility criteria for birth centre admission that are in alignment with the midwives' scope of practice, SANC regulations, laws, and relevant national and international guidelines.*

Mark only one oval.

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Irrel Must be included

26. 4.3. Updated antenatal care protocols must be in place:

- Provide schedule of antenatal care and antenatal care records used. Include a list and schedule of special examinations and screening tests advised. Attach national or international guidelines that are followed.

Mark only one oval.

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Irrel Must be included

27. 4.4. Clear protocols for the monitoring, support, and management of a woman in labour must be defined:

- Provide a protocol for monitoring, supporting, and managing women in labour. Attach national or international guidelines that are followed.

Mark only one oval.

0 1 2 3 4 5

Irrel Must be included

28. 4.5. A set of criteria and a protocol for the safe management of water births must be available:

- Provide criteria and protocols for safe water births. Attach national or international guidelines that are followed.

Mark only one oval.

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Irrel Must be included

29. 4.6. A set of criteria and a comprehensive protocol that governs the utilisation of assisted birth methods must be in place. Assisted birth methods can only include a vacuum extraction (e.g., kiwi omnipuc) in an out-of-hospital setting:

- To ensure the judicious and appropriate use of assisted birth techniques, a set of criteria should be established. These criteria would:

* Specify circumstances under which assisted birth becomes a viable option (e.g., maternal health, foetal well-being, and the progress of labor)

* A guide for the midwife or referral healthcare practitioners in the implementation of assisted birth procedures: step-by-step instructions, safety measures, and decision-making processes to be followed when opting for assisted birth.

* Emphasize the importance of informed consent, clear communication with the birthing individual and their family, and the consideration of any potential risks or alternatives.

- If the practice's policy is for midwives not to perform assisted birth techniques, motivate and specify criteria for timeous referral in cases where the impending need for possible assisted birth arises.

Mark only one oval.

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Irrel Must be included

30. 4.7. A clear, evidence-based protocol for the routine management of the newborn at birth must be in place

Mark only one oval.

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Irrel Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

31. 4.8. A clear, evidence-based protocol for care of the woman and newborn during the post-natal period must be in place:

- *Provide a post-natal care policy that encompasses:*

- * Comprehensive guidance pertaining to the timing and regimen of regular examinations.
- * Identification of potential concerns warranting professional referral
- * Information regarding assistance with breastfeeding and support alternatives available.

Mark only one oval.

0 1 2 3 4 5

Irrel Must be included

32. 4.9. Clear protocols for the specific management of obstetric and paediatric (neonatal) emergencies must be defined:

- *Provide clear protocols for managing obstetric and neonatal emergencies, including but not limited to:*

- * Foetal distress
- * Maternal distress
- * Cord prolapse
- * Shoulder dystocia
- * Neonatal resuscitation & neonatal respiratory distress
- * Third- or fourth-degree perineal tear
- * Post-partum haemorrhage

- *Attach national or international guidelines/algorithms that are followed.*

Mark only one oval.

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Irrel Must be included

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Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

33. 4.10. Infection prevention and control guidelines must be implemented:

- *Provide infection prevention and control guidelines.*

Mark only one oval.

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Irrel. Must be included

34. 4.11. Record-keeping requirements must be specified and monitored (see quality improvement section):

- *Provide a policy that outlines record-keeping requirements for clinical care.*

Mark only one oval.

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Irrel. Must be included

35. 4.12. Proof that women and their families have access to accurate, comprehensive, and transparent information that empowers them to understand their options fully, assess potential risks and benefits, and make decisions that align with their unique needs and preferences:

- Provide a policy that outlines the types of information that will be provided to clients, the formats in which it will be presented, and the channels through which it will be communicated (e.g., information given during antenatal consultations or educational materials, workshops, or seminars)

- Provide proof that clients receive comprehensive information about the services (benefits, limitations, and potential risks); pricing and fees, including any additional costs or charges that may apply; terms and conditions governing the use of services; contractual obligations and rights of clients; privacy policies and data handling practices.

- Evidence of clients being provided with a checklist outlining the items required for childbirth should be supplied.

- Provide a policy or information regarding accessible communication channels that allow clients to easily reach out to their designated midwives. These channels may include, but are not limited to, telephonic contact for emergencies and time-sensitive issues, as well as options such as WhatsApp or email for general questions and non-urgent matters.

Mark only one oval.

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Irrel. Must be included

5. Quality Improvement

A continuous quality

improvement process must be implemented, including the aspects below

36. 5.1. Statistics of antenatal care and birth outcomes must be available for quality improvement and research purposes. Stats can be reported by the practice itself or be submitted to an independent midwife network once the process becomes available:

- Provide a statistics protocol that includes:

- * Proof that clients give permission for their data to be use for statistics purposes in accordance with POPIA (e.g., a consent form)
- * Specific Data Elements Collected: including but not limited to the number of antenatal visits, gestational age at the first visit, birth outcomes (e.g., type of birth, live births, stillbirths, preterm births, low birth weight, interventions used during childbirth)
- * Frequency of data collection and reporting: for example, monthly, quarterly, annually
- * Methods and tools used to collect birth centre statistics, ensuring consistency and accuracy. This may involve using standardized data forms or electronic health records.
- * Data analysis, interpretation, and communication: how data will be analysed and interpreted to identify trends, patterns, and areas for improvement in antenatal care and birth outcomes; and how the data will be communicated to staff and clients

Mark only one oval.

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Irrel. Must be included

9/29/23, 3:32 PM

Draft Accreditation Criteria for Freestanding Midwife-led Birth Centres in South Africa - Your Feedback Requested

37. 5.2. A protocol and schedule for ongoing audits of files and birth records (internal and external) must be in place to determine protocol adherence:

- Provide a protocol with regards to auditing of files specifying:

- * Frequency and scope: how often internal audits will be conducted and the scope of the audit, ensuring comprehensive review of patient files and birth records.
- * Criteria and metrics: defined criteria and metrics that will be used to assess adherence during the audits, providing a clear standard for evaluation.
- * Audit team composition: composition of the audit team, ensuring competent and impartial assessment.
- * External audits: how external audits will be conducted and the criteria for selecting external auditors, ensuring an objective evaluation from independent entities.
- * Documentation and communication: how audit findings will be documented, communicated, and shared with relevant stakeholders. It must outline the steps for follow-up actions and improvement plans to address any identified issues.

Mark only one oval.

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Irrel Must be included

38. 5.3. A client feedback system must be in place:

- *Provide a patient feedback protocol that describes:*

- * The mechanisms for collecting patient feedback, such as a survey, focus groups, or complaint registers.
- * The frequency of obtaining client feedback (e.g., after each antenatal visit, birth, or final post-natal visit).
- * How client will be analysed and used to identify areas for improvement.
- * The procedures for responding to client feedback and addressing any concerns or complaints.
- * How client feedback will be communicated to the healthcare team and used to enhance the quality of care provided.

Mark only one oval.

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Irrel: Must be included

39. 5.4. The birth centre must have established quality requirements for every facet of care, including records, equipment, team care review/audits, medication, and stock. Additionally, there should be a well-defined protocol for monitoring compliance and reviewing quality requirements:

- *Provide a protocol that describes how non-compliance with quality requirements will be identified and addressed, including any corrective and preventive actions.*

Mark only one oval.

0 1 2 3 4 5

Irrel: Must be included

Annexure AD: Confirmation of language editing

28 Van Wouw Street

Groenkloof

0181

28 March 2024

To whom it may concern

I hereby confirm that I have language edited the thesis with the title "Development of Accreditation Criteria for Freestanding Midwife-Led Birth Centres in South Africa" to be submitted by Christél Jordaan-Schlebusch for the degree Doctor of Philosophy in Nursing Science at the University of Pretoria.



Ingrid Swanepoel, BA, NDip (A&D), BTech (Language Practice)

Cell: 082 577 5044

Email: ingrid17a@gmail.com