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Faculty of Health Sciences
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Department (Nursing)

FACTORS CONTRIBUTING TO NORMALIZATION OF DEVIANCE AMONG PERIOPERATIVE NURSES

by

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submitted in fulfilment of the requirements for the degree

MASTER IN NURSING SCIENCE

November 2023

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DECLARATION

I, **Sophia Mariza Cilliers**, Student Number: u[redacted] declare that **Factors Contributing to Normalization of Deviance among Perioperative Nurses in a Specific Private Hospital** is my own work and that all sources that have been used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted for any other degree at any other institution.

SM Cilliers
_____
Signed

25 November 2023
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Date

ABSTRACT

Introduction

Patient safety in the operating room remains a global concern and perioperative adverse events continue to occur at unacceptable rates. Unidentified factors in a specific operating room cause perioperative nurses to deviate from standard operational procedures. Gradual and steady disconnection from written procedures occur. With repetition and the absence of immediate effect on the patient's safety, these deviations become acceptable and normalized. If minor deviations are tolerated, it becomes the modus operandi. Normalization of deviance in the operating room is a reality and unsafe practice jeopardizes patient safety and adverse events occur. It was considered important to identify the contributing factors in the particular hospital.

Aim

This study aimed to explore and describe the factors that contribute to normalization of deviances among perioperative nurses in a private hospital in South Africa.

Research Design

Qualitative contextual, and descriptive study.

Methodology

Self-reported narrative guides were distributed to the total population of twenty perioperative nurses and nineteen shared their perceptions of contributing factors to normalization of deviance. Data were analysed using thematic analysis.

Findings

Three themes and twelve sub-themes were formulated. These themes and sub-themes explored and described the factors contributing to normalization of deviances in the operating room of a specific private hospital. The themes were related to governance, workplace culture and individual factors.

Conclusion

The contributing factors to normalization of deviance among perioperative nurses in this particular hospital were described. Normalization of deviance, or the routine violation of safety practices, in the operating room of a private hospital was a concern since a gradual increase of adverse events were observed. The contributing factors were unknown and were explored and described in this study as being related to governance, workplace culture and individual factors. As a result, strategic planning according to these factors could be planned to decreased error and adverse events in the surgical environment; a supportive and transparent relationship between management and staff members could be established and potential system weaknesses could be identified and addressed to benefit patients, perioperative staff, and the organisation.

Keywords

adverse events, normalization of deviance, patient safety, perioperative nurse

ACKNOWLEDGEMENTS

"And perhaps the most beautiful paradox of all is how a human soul is heartbreakingly fragile and unbreakably strong at the same time."

I thank Abba for being with me, in the very lows but also in the extremely highs.

At the end, it is only Your precious mercy that is enough for me.

My Dads, thanks for living this truth. I wish you were here.

I would hereby like to express my gratitude and thanks to the following people:

Prof Carin Maree, your knowledge regarding research and nursing is overwhelming, but you broke it open in small pieces, exposed it in such a way that I understood, but also left enough behind for me to explore and understand according to my own adversity. Thank you is such a small word. You are not only an amazing supervisor, but also an awe-inspiring role model.

Prof Isabel Coetzee-Prinsloo, your energy and passion for nursing are remarkable. You are an absolute extraordinary human being, and I felt the love shining from you from the first day I heard your voice. Your whole composition reflects kindness. I pray that your energy and passion are engraved in this study and the outcome thereof.

Tikka, thank you for loving me unconditionally. Your presence fulfils me.

JP, in your silence, I find my strength. Your gentleness comforts me.

AC, you taught me life is not fair. Your strength encourages me.

Juanè, your existence makes me believe in miracles. You are a miracle!

Sus-Patat, there are no words in the whole world that can describe you. Thanks for being the reflection of my soul. Always. Your ability to see the good is the one thing that kept me going throughout these past two years. Thank you for being. For the record – I loved you first!

Lollie, thanks for loving me the longest. If only I can become half the woman, you are.

Zetta, you are my inspiration. I wish you could see yourself through my eyes.

Verons, thank you for believing in me. You never doubted.

Anna, my “Mosadi”. Ngiyabonga kakhulu.

The **Hospital’s group Research Committee** granting ethical permission, the **Nurse Manager** granting institutional permission and the support of the **Unit Manager** of the operating room. Thank you for believing in me.

Every **Educator** who gave feedback and made recommendations regarding this study. Thank you for teaching me about research but much more about myself. Your remarks made a huge difference in my academical approach, but the way you did it, made an enormous impact on my life. Thank you for being gentle.

Neal Maree, thank you for doing the data transcripts.

Mrs. Cecilia van der Walt, thank you for helping me with the editing. Your expertise is highly appreciated.

Maureen Venter, for doing the final touches. Thank you for your time.

My **colleagues**, the **participants**, this study would not have been possible without you. Thank you for your very precious time and effort. Thank you for your honesty.

DEDICATION

I dedicate this dissertation to:

My Colleagues,

What a privilege to be a part of your team.

You are ….

The Brain
The Heartbeat
The Backbone
The Running Feet
The Extended Hands
of the Hospital!

Thank you for assisting me in creating a small window in our four walls, for the world to see and appreciate. I pray that Abba's light shines upon each and every one of you through this window, and that His light brings HOPE.

Your voices will forever be written up in Publications and Journals, your silent screams will be heard.

You are so BRAVE. You are so PASSIONATE. You make such a DIFFERENCE.
You make me so PROUD.

Thank you.
Sr Kraai

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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND

The operating room is described as an information-intensive environment with complicated technology managed by multidisciplinary team members who conduct high-risk interventions, and to maintain a safe perioperative environment for patients, is of utmost importance. Effective surgical and anaesthesia care are imperative for the prevention and treatment of infectious diseases, maternal diseases, neonatal diseases, non-communicable diseases, and injuries (Biccard 2021:22). Globally, an estimated 313 million patients undergo surgical procedures annually and on average, one surgical activity is done per ten people living in high-income countries (Meara, Leather, Hagander, Alkire, Alonso, Ameh, et al. 2015:569). The development of safe, essential and lifesaving surgical interventions remains a multifaceted priority worldwide (Biccard, Madiba, Kluyts, Munlemvo, Basenero, Gordon, et al. 2018:1589).

Even though surgery plays an essential part in the prevention of disease globally, the majority of health facilities in low-income countries do not have the capacity to deliver most basic surgical services (Funk, Weiser, Berry, Lipsitz, Merry, Enright, et al. 2010:1056; Rispel, Shisana, Dhai, Dudley, English, Grobler, et al. 2019:70).

The reduction of death and disability is guided by the “first, do no harm”, principle (Ugur, Kara, Yildirim & Akbal 2016:593). Patient harm associated with surgical activity is recognized in high income as well as low and middle-income countries. In 2018, the annual global mortality rate after major surgery fluctuated between 1% and 4%, resulting in the deaths of approximately 8 million patients. Double these figures, demonstrated postoperative complications (Dobson 2020:48). The burden of poor-quality care is evident in low and middle-income countries. One of five (20%) surgical patients in the Sub-Saharan African countries develop postoperative complications, and one out of ten (10%) of these patients die (Biccard 2021:23). Despite surgical patients in Africa being younger, with lower risk, having minor surgery, and having

fewer complications, their risk of dying postoperatively is double the global average. Biccard (2021:21) points out “that mortality following caesarean section in Africa is 50 times higher than that of high-income countries.”

Krishnan, Wheeler, Pimentel, Vacanti and Urman (2022:25) list the factors that underwrite safe surgical care for patients include teamwork, leadership, communication, organization, and education. Kim and Jeong (2021:1) state that “addressing incorrect surgical site/patient/procedure, retained surgical items, medication errors, bedsores, hypothermia, burns, inadequate emergency responses, and improperly reprocessing surgical devices” supports safe surgical care.

Complications, including healthcare-associated infections, relate to impaired patient safety which commonly result in adverse events (Reeves & Torkington 2021:20). High risk health-care environments, such as the operating room, are susceptible to these iatrogenic sentinel events (Kim & Jeong 2021:1). The classification of adverse events is based on the severity of the postoperative outcome and the intrusiveness of additional interventions required, often resulting in permanent or severe temporary medical injuries or death (Krishnan, et al. 2022:25).

Adverse events have potentially devastating outcomes, violate the patient’s safety, and intensify medico-legal liabilities (World Health Organization (WHO) 2019:2). Half of all adverse events in hospitalized patients can be related back to the operating room and at least half of these cases in which surgery led to harm are considered to have been preventable (McMullan, Urwin, Sunderland & Westbrook 2020:306; McMullan, Urwin, Gates, Sunderland & Westbrook 2021:2; Haughen, Søfteland, Almeland, Sevdalis, Vonen, Eide, et al. 2015:821).

In 2007-2008, the World Health Organization initiated the second “Patient Safety Challenge” regarding the prevalence of surgical adverse events (WHO 2009:1). The “WHO Guidelines for Safe Surgery 2009” was conducted and published for the standardization and improvement of safe practice in operating rooms worldwide (Goldenberg & Elterman 2020:1369).

The South African Nursing Council, standard operational procedures and policies developed from evidence of randomized controlled trials, clinical observations, and

translational research (Reeves & Torkington 2021:21) guarantee intraoperative patient safety and achieve an optimum degree of order in the operating room (Eskola, Roos, Mccormack, Slater, Hahtela & Suominen 2016:725; Manghani 2011:36; Bruckenthal & Simpson 2016:21).

Despite this solid foundation of standards to prevent adverse events, the adherence to it is abysmal (Loftus, Dexter & Robinson 2018:1134; Goldenberg & Elterman 2020:1369). In South Africa, an average of 93% of omissions that lead to adverse events was due to the ignorance of guidelines and protocols (Klopper 2021: [n.p]). The effect of substandard practices and the tolerance thereof can cause harm to many patients (Bali 2021:173; Samlal 2018:72). Ahmed (2019:4) emphasises that "OR nursing is a high-risk profession, and the smallest of errors, omissions or mistakes can lead to serious harm to both patient and staff".

On one level violation of patient safety resumes regardless the worldwide implementation and standardization of operational procedures (Zahiri, Stromberg, Skupsky, Knepp, Folstein, Silverman, et al. 2011:55). As opposed to that, the implementation of the WHO checklist indicated substantial improvements in surgical outcomes (Haugen, et al. 2015:821). By strengthening surgical nursing, improvement of basic perioperative measures and the practising of standard operational procedures, postoperative adverse events are limited or prevented (Seidelman & Anderson 2021:913; Goldenberg & Elterman 2020:1369; Etherington, Wu, Cheng-Boivin, Larrington & Boet 2019:1252). Hence, it is mandatory for perioperative nurses to understand laws, regulations, and professional guidelines (Bali 2021:176) and adhere to it (Seidelman & Anderson 2021:922; Prielipp, Magro, Morell & Brull 2010:1502; Singh, Biswal, Koushal & Dhaliwal 2022 :1).

Two types of medical errors were identified by the patient safety movement. Firstly, human mistakes (acts of commission or active errors). These are errors that arise when something wrong or harmful is done to patients. Secondly, system errors (acts of omissions or latent errors) which occur when a person intentionally or unintentionally fails to do the correct thing (Kalisch, Landstorm & Hinshaw 2009:1510; Harvey & Sotardi 2017:1572; Klopper 2021: [n.p]). Standard operational procedures,

policies, professional guidelines, and standards are implemented to reduce latent errors which predispose active errors (Banja 2010:1).

One of the aspects contributing to errors in the operating room is normalization of deviance (Everson, Wilbanks & Boust 2020:365). Vaughan (1996) described normalization of deviance as "a phenomenon in which people and teams diverge from accepted levels of standard performance until a newly acquired way of performance becomes an accepted norm" (Wright, Polivka & Clark 2022:116). Prielipp, et al. (2010:1499) describe it as "normalization of deviance breaks the safety culture, substituting a slippery slope of tolerating more and more errors and accepting more and more risk, always in the interest of efficiency and on-time schedules."

Efficiency and productivity are the two main reasons for drifting to unsafe boundaries as illustrated by Rasmussen's (1997) theory (Reid 2014:45; Banja 2010:8; Wright, et al. 2022:121). Although shortcuts might appear to help staff to be more efficient, they become seductive, and the possibility of unacceptable risks and unsafe practice are provoked in the system, process, or workflow (Reid 2014:45; Zahiri, et al. 2011:55). Deviation might happen over the years (Banja 2010:3). The absence of immediate adverse events might influence the perioperative nurse's perception of risk, and changes might become the norm (Price & Williams 2018:1; Banja 2010:2), and eventually, harm or adverse events accrue.

The perioperative nurse needs to be aware of the possibility of normalization of deviance to reduce patient harm and improve the safety of the patient (Price & Williams 2018:1; Perneger 2005:1). Zahiri, et al. (2011:55) state that by recognizing specific factors or patterns of behaviour that lead to adverse patient outcomes, strategies can be developed further to mitigate patient harm, whether it relates to safety practices or the actual execution of the procedure itself.

The perioperative systemic shortcomings and factors that lead to the normalization of deviances need to be explored, because the deviate modus operandi has a stealth nature and is a primary indication of medical errors and adverse events (Wright, et al. 2022:117; Banja 2010:1).

1.2 PROBLEM STATEMENT

An estimated 7 million patients present with postoperative complications annually, of which 50% are related to the operating room and many are considered preventable (Krishnan, et al. 2022:25; Jung, Elfassy, Jüni & Grantcharov 2019:2380; McMullan, et al. 2020:306). Normalization of deviance is a phenomenon in which unacceptable practices or standards become acceptable; deviant behaviour is repeated without negative results and becomes the norm. It can also be explained as the tolerance of lower standards due to the continuing acceptance of deviant behaviour. To create a perfect perioperative nurse is impossible, but to focus on factors that cause deviation is the beginning of improvement and can only occur in an open and transparent environment where safety culture prevails (Price & Williams 2018:2; Wright, et al. 2022:117; Tucker & Edmondson 2003:55; Bail, Willis, Henderson, Blackman, Verrall & Roderick 2021:393). Adverse events of all patients in a local private hospital indicated a slight incline of 2,75 per 1000 paid patient days in 2021 to 3,63 per 1000 paid patient days in 2022 (Patient Safety Scorecard 2021-2022).

Despite many mechanisms in place to enhance the safety of the patient, the operating room is characterized by an intrinsic complexity (Wright, Polivka, Odom-Forren & Christian 2021:172; Siirala, Peltonen, Lundgrén-Laine, Salanterä & Junttila 2016:806). This high-pressure and very demanding working environment increases the likelihood of adverse events (Ahmed 2019:2; McMullan, et al. 2020:306; Gutierres, Santos, Peiter, Menegon, Sebold & Erdmann 2018:2776; Kim & Jeong 2021:1).

Perioperative nurses are under considerable strain (Kim & Jeong 2021:6; Alfredsdottir & Bjorndottir 2007:35) and though surgical interventions involve team effort (Van de Ruit & Bosk 2021:4; Ellsworth & Iverson 2006:214; Kim & Jeong 2021:8) the safety of the patient remains the responsibility of the perioperative nurse (Gutierres, et al. 2018:2776; Alfredsdottir & Bjorndottir 2007:33; Van de Ruit & Bosk 2021:31).

Although standard operational procedures are the backbone of care in surgery, the perioperative nurses' personal and environmental characteristics are recognized to be critical indicators of quality perioperative patient care (Sillero-Sillero & Zabalegui 2019:2; Bai, Su & Zheng 2021:3707; Davrieux, Palermo, Serra, Houghton, Acquafresca, Finger, et al. 2019:1423), which might contribute to human fallibility. The

problem of human fallibility can be related to the person or the system. Adverse events are not the result of a single event but rather a series of failures (Ball & Griffiths 2018:1; Zahiri, et al. 2011:59) and studies attempt to move away from individual victim-blaming for deviance to suggestions that the problem requires a system and organizational approach (Bail, et al. 2021:393; Price & Williams 2018:2).

Prof Hennie Klopper (2021: [n.p]) stresses that "… same situations cause staff members to become inheritors, rather than instigators of adverse events", which might present as deviance to become the norm.

Unfortunately, normalization of deviance tends to become a reality in the operating room (Wright 2019:54; Wright, et al. 2022:119). Rasmussen's (1997) theory of migration to boundaries stipulates efficiency and productivity as the two main reasons for drifting to unsafe boundaries (Reid 2014:45; Prielipp, et al. 2010:1499; Banja 2010:8; Wright, et al. 2022:121). Deviation is unintentionally and rarely intended harm (Banja 2010:8), but as pointed out by Wright, et al. (2021:173), "deviant behavior of perioperative personnel was reported a substantial cause of error in the OR." Associated factors identified by Wright (2019:54) were "generalized complacency, complacency related to length of experience, social pressures, and negative acculturation."

The researcher, clinical training specialist of an operating room, noted the rise in adverse events as indicated by the hospital's patient safety scorecard (2021-2022). Half of all adverse events in hospitalized patients can be related back to the operating room and at least half of these events are considered preventable (Dobson 2020:47; McMullan, et al. 2020:306; McMullan, et al. 2021:2). The importance of the adherence to laws, regulations, and professional guidelines has been emphasized (Seidelman & Anderson 2021:922; Prielipp, et al. 2010:1502; Singh, et al. 2022:1). Normalization of deviance in operating rooms is a reality. The factors that contribute to normalization of deviance in the operating room of this specific private hospital is unknown, and by noting the stealth nature of normalization of deviance and the devastating effect it has on the safety of the patient, the aim of this study thus is to explore these factors.

1.3 RESEARCH QUESTION AND AIM

1.3.1 Research question

The research question was as follows: Which factors contribute to the normalization of deviance among perioperative nurses in a private hospital in South Africa?

1.3.2 Research aim

The research aim was to explore and describe the factors that contribute to the normalization of deviance among perioperative nurses in a private hospital in South Africa.

1.4 DEFINITIONS OF KEY TERMS USED IN THIS STUDY

1.4.1 Adverse events

“Any unintended event caused by medical teams during surgical procedure and unrelated to patients’ underlying conditions that led to potential or actual physical harm” (Jung, et al 2019:2389). For the purposes of this current study potential adverse events in this specific operating room included incorrect surgical site/patient/ procedure, retained surgical items, medication errors, injury to nerves and/or blood vessels due to wrong positioning, electrical and chemical burns, faulty equipment, and infection.

1.4.2 Contributing factors

“Contributing factors can be defined as something that is partly responsible for a development or phenomenon” (Collinsdictionary.com). Factors contributing to unsafe patient activities include “the safety management system, subjective norms, perceived behavior control, and behavior intention” as suggested by Kim and Jeong (2021:8). For the purposes of this current study these factors were unknown.

1.4.3 Normalization of deviance

"Normalization of deviance is a phenomenon in which people and teams diverge from accepted levels of standard performance until a newly acquired way of performance becomes an accepted norm" (Wright, et al. 2022:116). For purposes of this current study normalization of deviance referred to the habits of perioperative nurses of the specific operating room, who deviated from written protocols, guidelines, or procedures by making slight changes or taking shortcuts. When error, harm, and adverse events might not have occurred immediately, these deviances became the norm.

1.4.4 Patient safety

Patient safety is to "prevent and reduce risks, errors and harm that occur to patients during provision of health care" (WHO 2019:2). For purposes of this study this definition was accepted and applied as the responsibility of the perioperative nurse to ensure the safety of the patient.

1.4.5 Perioperative period

The perioperative period can be divided into three stages, which include the pre-operative stage, the intra-operative stage, and the postoperative stage (Davrieux, et al. 2019:1424). For purposes of this study the perioperative period starts once the patient enters the pre-operative receiving area and was handed over to the perioperative nurse. It ends as soon as the patient was postoperatively handed back to the ward staff.

1.5 CONTEXT / SETTING

The study was conducted in the operating room complex of a selected private hospital in South Africa. The complex consisted of the following areas: a preoperative receiving area with five fully equipped stations; six fully operational theatres (four are laminar

flow and two are aircon theatres); and a recovery room consisting of five adult stations and two pediatric stations (one station is equipped with a ventilator).

Table 1.1 depicts the total number of perioperative nurses working in the collective theatre complex, including their positions and registration status (Hospital staff off duties 2022).

Table 1.1 Summary of staff members working in the theatre complex

Position	Registration Status	Number
Unit manager	Registered nurse	1
Clinical training specialist	Registered nurse	1
Scrub nurses	Registered nurse	6
Anesthetic nurses	Registered nurse	2
	Enrolled nurse	2
Circulating nurses	Auxiliary nurse	7
Recovery room nurses	Registered nurse	4
	Total	**23**

Table 1.2 provided a summary of the total number of surgical interventions in the different disciplines over a period of 12 months in the specific private hospital's operating room (Hospital Surgical Interventions 2018-2019).

Table 1.2 Summary of surgical interventions in different disciplines for a period of 12 months

Discipline	Number of patients
General surgery	2102
Orthopedics	1929
Gynecology	1113
Obstetrics	833
Ear, nose and throat	513
Urology	648
Mouth and jaw	368
Neurological	152
Total	**7658**

1.6 ASSUMPTIONS

Following an interpretivist approach, the study had the following assumptions:

1.6.1 Ontological assumptions

“Ontology is concerned with the existential conditions related to material, social, cultural and political contexts” (Ejnavarzala 2019:94). The ontological assumption of this study indicated that all the perioperative nurses working in the specific context had a first-hand experience of practices and habits in the theatre complex and were therefore the best sources to share it during the study.

1.6.2 Epistemological assumption

Ejnavazala (2019:94) defines epistemology as dealing with theories of knowledge. The goal of this study was to gain a deeper understanding of the factors contributing to normalization of deviance among perioperative nurses. Perioperative nurses are unit-specific trained and qualified and their expertise regarding the phenomenon under study is of utmost importance. By sharing their perceptions in their own words, the researcher was able to explore and define the factors leading them to make small changes to standard operational procedures.

1.6.3 Methodological assumption

Gaining a deeper understanding of the day-to-day activities of the perioperative nurse contributed to the outcome of factors that had implications for the nursing in practice of the specific operating room. Detailed experiences of perioperative nurses were gathered by the researcher by using self-reported narrative guides, posing open-ended, descriptive, and non-directional questions (Annexure B2). By means of this methodological approach, a first-hand experience of the perioperative nurse was obtained; hence the methodological assumption was that all their answers were honest and truthful.

1.7 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY

Exploring and describing the perioperative shortcomings were crucial, as the occurrence of adverse events are a certainty. Perioperative nurses drift unintentionally to unsafe boundaries. If the factors causing this phenomenon are known, preventative strategies and strategic planning can assist in eliminating error and adverse events. By focusing on the environmental conditions in which perioperative nurses perform their duties, a higher level of importance on safety beliefs, values, attitudes, and the safety of each patient might be emphasized. Standardisation and the correct application of standard operational procedures might be initiated to facilitate the training of new staff members to empower them to defend safety standards. By acknowledging and understanding the experiences of the perioperative nurses, a supportive and transparent relationship between management and staff members might occur and potential system weaknesses and failures might be identified and addressed.

1.8 THEORETICAL MODELS

Rasmussen's (Morrison & Wears 2022:128) migration towards boundaries of safety theoretical model and Reason's Swiss Cheese Model (Stein & Heiss 2015:278) are major contributors to the understanding of normalization of deviances among perioperative nurses and the devastating consequences that can occur.

Rasmussen's migration towards an unsafe boundary model

This model, proposed by scientist Jens Rasmussen, describes the behaviour of people and the impact of small changes they make in their daily work procedures. Self-organizing and the adaptive features of complex systems cause error because the activities of individuals constantly adopting to maintain cognitive control, can cause failure. These factor-induced variations allow people to discover an effort gradient that often reconciles with an efficiency-gradient. With repetition, these deviations in standard operational procedures can result in a systematic migration towards the boundary of functionally acceptable performance as well as the boundary of safety

failures. The instant the unsafe boundary is crossed, an error or failure may occur (Morrison & Wears 2022:128).

The operating room is a complex system. Specific factors within the operating room phenomena generate practical drift of the perioperative nurse to boundaries of acceptable performances. With repetition, they unintentionally drift to unsafe boundaries. Adverse events and negative patient surgical outcomes occur whenever the unsafe boundary is crossed.

Reason's Swiss Cheese Model

This model, proposed by psychologist James Reason, explains the failure of numerous system barriers to block errors. An ideal system is comparable to a stack of slices of Swiss cheese. The holes are considered the opportunities for a process to fail, and each slice represents a "defence layer". Defects in working procedures are signified by the holes which allow errors to pass through, and each layer would work as a defence against potential error impacting the outcome. If continuous errors occur and align, the layers of defence will not be abundant, and adverse events will occur (Stein & Heiss2015:278).

1.9 DELINEATIONS

The proposed study was conducted in an operating room complex of a selected private hospital in South Africa and not in any other unit or ward of the said hospital. The focus of the study was on the daily activities and habits of perioperative nurses, exploring and describing the factors that lead to deviation from standard operational procedures.

1.10 METHODOLOGY

A qualitative contextual, and descriptive research design was chosen, derived from an interpretivist paradigm where the focus is on meaning derived from a group's norms, beliefs and perceptions (Polit & Beck 2020).

In this study all the perioperative nurses of the particular hospital met the inclusion criteria and were invited to participate, since the total number was too small to only select a portion, and it was manageable to include all. The implication of including the total population was that the maximum data could be collected from the relevant persons. A self-reported narrative guide (View Annexure B2), containing eight open-ended, descriptive, and non-directional questions was followed and nineteen perioperative nurses participated. The questions focused on the unknown phenomenon, factors that contribute to normalization of deviance, as experienced by perioperative nurses with varying qualifications and job descriptions. Thematic analysis as identified and described by Braun and Clarke (2006), was used to analyse verbatim transcripts.

By means of this study these factors were explored and defined. These factors have a direct impact on patient safety issues in this particular operating room. By identifying these factors, changes and quality improvements in the practice setting are a possibility and strategic planning to improve system weaknesses and failures can be suggested. The design and methods are discussed in detail in Chapter 3.

1.11 ETHICAL CONSIDERATIONS

Ethical approval for this study was obtained from the Ethics Committee of the Faculty of Health Sciences, University of Pretoria [Ethics Reference No.:212/2023] (View Annexure A1). The Institutional Ethical Committee granted approval [Ethics Reference REC 251015-048] (View Annexure A2), the Nursing Manager of the hospital and the Unit Manager of the operating room all granted permission. Regardless of these approvals, the entire research process adhered to the Belmont ethical principles and guidelines to protect the human rights of the participants as the human subjects of research (Polit & Beck 2020:62).

The first Belmont report principle is the principle of beneficence. Beneficence refers to the researcher's responsibility to promote the participants' welfare and safety (Health and Human Services [HHS] 1979: [n.p]). The beneficence principle includes two specific research aspects: (1) participants' right to freedom from harm and discomfort and (2) participants' right to protection from exploitation (Polit & Beck 2020:63).

Prior to conducting this study, the researcher investigated the potential risks and benefits involving the research participants.

One possible risk included privacy breach as harm (HHS 1979: [n.p]). Privacy involves a combination of legal rights and technical measures that allow individuals to control who has access to their personal information and how that information is used (Anabo, Elexpuru-Albizuri & Villardón 2018:144). To address and mitigate privacy-related forms of harm, Anabo, et al. (2019:144) suggested three approaches. They suggested that the participants' data and responses are kept anonymous, researchers must focus on the storage of original copies and lastly, strive to exhaust all measures to protect the participants' identity, by guaranteeing confidentiality.

In the current study no personal information appeared on the self-reported narrative guide (View Annexure B2) and the answers of the participants were typed verbatim (View Annexure B6) by an independent person, who also provided each participant with a pseudo number. Transcripts were typed to reduce the risk of the researcher identifying them through their handwriting. Participants remained anonymous throughout the research process.

Secondly, each participant sealed their own envelope after completion of the self-reported narrative guide and deposited it into a one-way box (View Annexure B4). After two weeks, the box was sealed and was sent to the supervisor who received the sealed box that contained nineteen sealed envelopes (View Annexure B5). The original copies have been stored on the premises of the University of Pretoria for 15 years. All the information provided by the participants through their study involvement is protected; therefore they are safe from exploitation.

Lastly, the confidentiality of the participants and of the hospital in which the study was performed were guaranteed. No personal nor institutional information appears in the study.

The possibility of a positive influence on the environment in which the perioperative nurse performed their duties was an expected outcome. By exploring the factors that contribute to normalization of deviances, potential patient safety issues, system weaknesses and failure in this specific operating room were identified and addressed.

The risks and benefits appeared in the informed consent document (View Annexure B1) of this study.

The second protective principle is known as respect for human dignity. “Respect for persons requires that subjects, to the degree that they are capable, be given the opportunity to choose what shall or shall not happen to them” (HHS 1979: [n.p]). Informed consent (View Annexure B1) was conducted from each perioperative nurse and contained the adequate information regarding the research procedure, the purpose of the study, risks and anticipated benefits, and a statement granting them the opportunity to ask questions and to withdraw at any time from the research were included. Full disclosure means the researcher assured that all the participants understood the information by presenting the information in an organised and understandable manner. Each participant was earmarked sufficient time to make informed decisions. Voluntary participation was required, and no unjustifiable pressure was imposed to participate. The informed consent was signed before participation.

The final principle contained in the Belmont report is the principle of justice, which pertains to participants’ right to fair treatment and their right to privacy (HHS 1979: [n.p]; Anabo, et al. 2018:146). The selection of participants desired for this study was guided by the research question and total population sampling was done. The implication of including the total population was that representative data could be gathered from the perioperative nurses, and no one was excluded.

The right to privacy also falls under the principle of justice (Polit & Beck 2020:65). All shared information will be kept in strictest confidence. The right to privacy often involves procedures for anonymity and confidentiality (Anabo, et al. 2018:147). The researcher cannot connect the participants to their data; therefore, the participants’ data are completely anonymous. Identifying data is not available and protected for 15 years. Confidentiality of the participants and the institution alike were provided.

1.12 TRUSTWORTHINESS

Lincoln and Guba’s quality criteria were applied in this qualitative research study to ensure trustworthiness (Polit & Beck 2020:276).

In addressing credibility, the researcher strived to demonstrate that the true version of the phenomenon under study was being presented. To allow transferability, the researcher provided sufficient detail of the context of the fieldwork for readers to decide whether the prevailing environment is similar to another familiar situation, and whether the findings can justifiably be applied to other settings. Dependability is reflected in the ability of the researcher to enable a future investigator to repeat the study. Confirmability was reached through necessary steps and demonstrations that the findings emerged from the data and were not her own predispositions. Authenticity was extended by the researcher's ability to portray the full and deep meaning of the phenomenon and increased readers' understanding.

Credibility

One of the key criteria of trustworthiness is that of internal validity in which the researcher seeks to ensure that the study explores what it intended to explore. Lincoln and Guba argued that credibility is a very important aspect in establishing trustworthiness (Polit & Beck 2020:276). Shenton (2004:64) explained credibility as how close the researcher's findings are to the reality or phenomenon under study.

Using a qualitative, contextual, and descriptive design was the most suitable research method and the aim of the researcher was to stay close to the participants' experiences in the operating room context. Credibility prevailed, because the data received directly reflected the terminology used in the initial research question (View Annexure B6).

Nowell, Noris, White and Moules (2017:3) define credibility as the truth value of how outsiders will understand the research findings. Participants completed a self-reported narrative guide (View Annexure B2). Participants' data were typed verbatim and studied by the researcher. The researcher read and re-read the data, analysed it, and revised the concepts accordingly. Through the process of thematic analysis, themes and sub-themes emerged from the participants' original feedback. The findings of this study reflected the true value of the data received.

Triangulation refers to the use of different referents to draw conclusions regarding the phenomenon under study, whereas person triangulation involves the collection of data from different types or levels of people (Polit, & Beck 2020:280). The selection of participants desired for this study were guided by the research question, and total population sampling was done. All the perioperative nurses of a specific private hospital were invited to take part in this study. The implication of including the total population was that representative data could be collected from the perioperative nurses. The participants had different qualifications and job descriptions in the operating room; therefore, multiple perspectives on the phenomenon were enhanced and the extent and consistence of the factors that contribute to normalization of deviance were proven.

Another aspect to enhance credibility is to ensure honesty in participants when they contribute data (Shenton 2004:66). Participation was voluntary and the data-collecting instrument as well as the process of data collection ensured confidentiality. The participants offered an honest and true reflection of their experiences within the operating room (View Annexure B6).

Guba and Lincoln (1985) suggested another strategy to enhance credibility, which includes prolonged engagement within the adequate scope of data coverage (Polit & Beck 2020:288). The researcher had prolonged engagement and understood the context and the dynamics well, which contributed to trustworthiness, but also increased the risk for biasness. As a qualified perioperative nurse, with 25 years of experience and being a clinical training specialist, it was important for the researcher to acknowledge her role in the research process. Being the educator as well as partial managerial, it was important to understand the self in creation of knowledge, judgements, practices, and beliefs and the impact thereof needed to be self-monitored and to bracket her own opinions as a deliberate part of the research process. The researcher was concerned about the phenomenon of the study as was motivated to explore and describe the factors that contribute to normalization of deviance in this specific operating room. Transparency and clarity are of utmost importance to the researcher. The researcher therefore did a literature review for better understanding of the phenomenon and could clarify her positionality in relation to what was being studied. Frequent debriefing sessions took place between the researcher and her

supervisors. Through these discussions, the vision of the researcher widened as they shared their expertise and perceptions. Alternative approaches were discussed, and they served as sounding boards for the researcher.

Transferability

A second factor for trustworthiness is transferability which implies that the results of the research study can be applicable to similar situations or individuals (Polit & Beck 2020:283). Although the findings of this study were specific to a small number of individuals in a particular environment, the knowledge obtained in this study was relevant to the experiences of perioperative nurses. Investigators who conduct research in another context can use certain concepts.

Transferability relies on the researcher's thick descriptions and if rich enough to portray circumstances that can be applicable in others' situations (Polit & Beck 2020:283; Shenton 2004:70). The researcher described the research method and time frames for the collection of data and the number of participants involved in the fieldwork to be understood within the context of the particular characteristics and geographical area in which the fieldwork was carried out.

Dependability

Dependability refers to "the stability (reliability) of data over time and over conditions" (Polit & Beck 2020:277). To address the dependability issues, the process of the study was reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results.

An audit trail described the research steps transparently, from the start of the research project to the development and reporting of the findings. The research design and its implementation were described and executed on a strategic level and was fully described in Chapter 5. The operational details of data gathering and what was done in the field were fully discussed in Chapter 3.

Confirmability

Confirmability refers to “the objectivity of the data” (Polit & Beck 2020:288). Thick and contextualized interpretations derived from the data received. The researcher incorporated theoretical, methodological, and analytical choices throughout the study as indicated by Nowell, et al. (2017:3), to demonstrate how and why conclusions were drawn. Braun and Clarke (2006) identified and described six phases in the analytical process (Polit & Beck 2020:262). Through following these steps, the findings made by the researcher reflected the perioperative nurses’ experiences and any observer will be able to trace the course of the research step-by-step.

Authenticity

“Authenticity emerges in a report when it conveys the feeling tone of participants’ lives as they are lived” (Polit & Beck 2020:277). This study enabled readers to understand the daily activities and habits of perioperative nurses and the challenges they face. Authenticity has been proven due to the credibility of this study and that the research being done contributes to the field.

1.13 LAYOUTS OF CHAPTERS

This section looks into a brief outline and description of the different chapters that are included in this research report.

Chapter 1

An overview of the study is provided, including a description of the ethical considerations and trustworthiness of the study.

Chapter 2

The literature regarding the operating room, perioperative nurses, safe surgery, legal requirements, and unsafe surgery are described. The contributing theoretical models are explained as well as the description and application of a conceptual framework.

Chapter 3

The research design and methodology are explained.

Chapter 4

Data analysis with the results are presented in themes and sub-themes. This chapter is prepared as an article for publication in the Journal of Advanced Nursing.

Chapter 5

The findings are concluded, and important findings are summarised. Limitations to the current study are detailed and recommendations are outlined.

1.14 SUMMARY

Chapter 1 presented an introduction and current background in relation to this research study. The research question and aim were distinguished. The effect normalization of deviance among perioperative nurses has on the safety of the surgical patient, was emphasized; hence the significance of the study to explore and identify factors contributing to normalization of deviance in the perioperative setting. In Chapter 2, the existing literature will be reviewed, analysed, and explored in terms of factors contributing to the safety of the surgical patient and the outcomes thereof.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 1 presented an introduction to the literature and background regarding this study. The research question and aim were distinguished and the effect of normalization of deviance among perioperative nurses on the safety of the surgical patient has been emphasized. The significance of the study to explore and identify factors contributing to normalization of deviance in the perioperative setting has been identified.

Chapter 2 reflects the content of the literature review conducted for the study. Polit and Beck (2020:90) describes a literature review as "a written summary of the state of evidence on a research problem". The purpose of a literature review is to express what is already known of a topic and to offer the reader a knowledge-based summary of the phenomenon under study (Polit & Beck 2020:90).

The literature review describes the operating room, perioperative nurse, safe surgery, legal requirements, and unsafe surgery. These aspects influence the outcome of the surgical patient.

2.2 SURGERY

"Surgery is medical treatment in which someone's body is cut open so that a doctor can repair, remove, or replace a diseased or damaged part" (Collinsdictionary.com). Stories have been told that as from 3000BC, Egyptian surgeons immobilized fractures, excising tumors, and suture wounds with linen thread and the oldest known surgical amputation was carried out 31 000 years ago (Roberts, 2022:472). In 1735 the world's first successful appendicectomy was performed on an 11-year-old boy (Meljnikov, Radojcić, Grebeldinger & Radojcić 2009:489). The longest surgery of all time was a 103-hour procedure, in which 20 surgeons separated conjoined twins (Rahman 2016:[n.p.]).

The world's first human-to-human heart transplant was performed on 3 December 1967 by Dr Christiaan Barnard and a heart transplant remains worldwide the most expensive surgical procedure (Brink & Hassoulas 2009:31).

These are all facts or maybe fiction. One aspect that remained unchanged throughout this period was that whenever surgery was performed, it involved a patient. Today, the operating room doors are opening, a patient is being wheeled in and the doors are closed silently behind. For the following minutes or maybe hours to come, it is not the surgeon, no matter how skilful or famous, nor the anaesthetist, no matter how experienced or educated, or the perioperative nurse, no matter how efficient or productive, that matters. For this surgical team, time stands still and what mattered 31 000 years ago, matters now: our patient (Williams 2015:1).

2.3 THE OPERATING ROOM

The operating room is a unit in a hospital with sufficient structural elements to provide safe and optimal conditions for surgical interventions (Bali 2021:176). Diagnostic or therapeutic surgical procedures, either elective or emergency, are performed under general, regional, sedative, or local anaesthetics in various surgical disciplines (Gutierres, et al. 2018:2776). The specialized infrastructure, high precision technologies and various surgical equipment contribute to the complexity of this unit (Samuel & Reed 2021:595).

Essential aspects of an operating room include the infrastructure of the facility, human resources, surgical innovations, and equipment. Dell and Kahn (2018:4) stated that operating room density is an indicator of the provision of surgical care, and in another article (Dell & Kahn 2018:543) estimated that high-income countries have 14 operating rooms per 100 000 people, upper middle-income countries have approximately 4 operating rooms per 100 000 people and low-income counties have 1 operating room per 100 000 people.

Although surgical care is essential for the reduction of mortality and morbidity from surgical conditions, access to an operating room is out of reach for billions of people worldwide (Dell & Kahn 2018:541). "Access is worst in low-income and lower-middle-income countries, where nine out of ten people cannot access basic surgical care"

(Meara, et al. 2015:569). According to Biccard (2021:21) a functional healthcare system requires the ability to have 5,000 surgical procedures being done annually in an operating room per 100 000 population. The volume of surgery fluctuates from 356 cases per 100 000 in low-income countries to 11 150 cases per 100 000 in high-income countries. Dell and Kahn (2018:3) reported 544 hospitals in South Africa and 1,969 functional operating rooms. Medical resources are divided into public and private sectors and an overall operating room density of 3,59 per 100 000 people is demonstrated. Dell, Kahn, and Klopper (2018:20) confirmed that, among the estimated 60 million South Africans, only 16% can afford health insurance, which disposes results of 12,2 operating rooms per 100 000 insured population versus the1,95 per 100 000 uninsured population. This indicates that the private sector has sources similar to high income countries and the public resources are comparable to the lower middle-income countries.

The reality is that with absence of surgical care, easily treatable illnesses become diseases with high fatality rates and millions of lives are lost from conditions needing surgical care (Funk, et al. 2010:1055; Meara, et al. 2015:571).

2.4 THE PERIOPERATIVE NURSE

Perioperative nurses are registered according to their qualification at the South African Nursing Council (Singh & Mathuray 2018:132). In the clinical environment different roles and responsibilities and the scope of their practice determine the position of the nurse. These positions or job descriptions are categorized as follows:

Recovery room nurse:

- Care for the patient post-surgery prior to transfer out of the operating room.
- Have the knowledge of anaesthetic agents and their various stages of recovery.
- Is aware of, and able to effectively manage any anaesthetic-related problems.
- Practise standard precautions and maintain risk management principles.
- Manage emergency situations or post-operative complications.
- Protect the patient and prevent medico-legal incidents.

Anaesthetic nurse:

- Create a safe anaesthetic environment for administration of all types of anaesthetics.
- Assist the anaesthetist during induction.
- Control and supply anaesthetic equipment and the medicine / drugs as required.
- Prevent medico-legal incidents.
- Provide comfort and safety to the patient.

Circulating nurse:

- Prepare the theatre according to the individual patient's need and specific discipline.
- Have all relevant equipment and supplies available, ready, and checked.
- Assist the surgical team proficiently.
- Promote patient safety throughout the surgical procedure and avoid potential injury.
- Follow aseptic principles.
- Carry out all the unsterile duties of the scrub nurse.
- Enhance patient safety and prevent harm.

Scrub nurse:

- In association with the circulating nurse, prepare the theatre according to the patient and discipline requirements.
- Handle instruments and supplies safely and competently.
- Anticipate and meet the surgeon's requirements.
- Control swabs, instruments, needles, and blades.
- Maintain sterile principles.
- Control the non-sterile members of the team.
- Protect the patient from medico-legal incidents and harm.
- Accurately complete all relevant documentation.
- Foresee a thorough pre- and post-operative handover to ensure the continuity of patient care.

These nurses are present in all the phases of the perioperative period of the surgical patient and their key role is to ensure patient-centred nursing care and positive patient outcomes (Gutierres, et al. 2018:2776; Witczak, Rypicz, Karniej, Mynarska, Kubielas, Uchmanowicz 2021:2).

Since the operating room is a specialized environment, multidisciplinary teamwork, possession of knowledge, demonstration of competencies and the strict adherence to standards and guidelines of practice are only a few characteristics of these nurses (Eskola, et al. 2016:725). Expertise concerning aseptic and sterile techniques, preparation of anaesthesia and surgical environment, maintenance of complex medical equipment, availability of stock, high technology demands, and the provision of sterile supplies are shared responsibilities. The standard of perioperative nursing practice is dependent on variables that include environmental factors, surgical services, patient acuity, and staffing resources (Williams 2015:15).

Perioperative nurses, essential members of the surgical team, follow evidence-based practices and use their specialized skills, knowledge, and expertise to ensure patient-centred nursing care throughout surgery (Alfredsdottir & Bjornsdottir 2007:35). They demand high standards among themselves and prevent surgical complications among vulnerable patients undergoing surgery; a positive outcome is their core aim (Alfredsdottir & Bjornsdottir 2007:31; Farley 2022:18). Nurses play a crucial role in patient care, and “as nurses are the health personnel group which has most contact with patients, they have great importance in creating the patient safety culture” (Arli 2022:2).

Considering their working area that is complex, dynamic, and technology-rich, perioperative nurses are under substantial strain (Alfredsdottir & Bjornsdottir 2007:36). Main threats to patient safety include increased speed and productivity, constant concentration, lack of control of circumstances due to rapid changes in patient status and conditions, staffing and organization of work (Everson, et al. 2020:370).

2.5 SAFE SURGERY

Patient safety is defined as “a framework of organized activities that creates cultures, processes, procedures, behaviours, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make error less likely and reduce its impact when it does occur” (WHO 2021:1). Safe surgery is therefore the prevention and reduction of harm and adverse events in the perioperative period of the patient, and health organisations are responsible for ensuring the safety of patients to whom treatment and care services are provided (Ugur, et al. 2016:593).

In January 2014, Jim Kim, President of the World Bank, expressed the importance of surgery and the inseparable and essential role it plays in the health care system. He emphasizes that millions of people are healthier and more productive after surgery. Affordable and safe surgical care lessens premature death and disability, it enhances prosperity, economic growth and capacity, and provides continuous development (Meara, et al. 2015:570).

“Even the most straightforward procedure involves dozens of critical steps, each with the opportunity for failure and the potential for injury to patients, from identifying the patient and the operative site correctly, to providing appropriate sterilization of equipment, to following the multiple steps involved in safe administration of anaesthesia, to orchestrating the operation” (WHO 2009:3).

The Systems Engineering Initiative for Patient Safety (SEIPS) classifies system components into tasks or objectives, people, equipment and technologies, physical environment, and organisation (Herman, Jaruzel, Lawton, Tobin, Reves, Catchpole & Alfred 2021:730).

A. Tasks or objectives

The WHO (2009:9) safe surgery guidelines support 10 basic tasks and essential objectives to improve patient safety in any surgical case, namely that the team will:

1. Operate on the correct patient and the correct side;

2. Use methods known to prevent harm from administration of anaesthetics, while protecting the patient from pain;
3. Recognize and effectively prepare for life-threatening loss of airway or respiratory function;
4. Recognize and effectively prepare for risk of high blood loss;
5. Avoid inducing an allergic or adverse drug reaction for which the patient is known to be at significant risk;
6. Consistently use methods known to minimize the risk of surgical infection;
7. Prevent inadvertent retention of instruments and sponges in surgical wounds;
8. Secure and accurately identify all surgical specimens;
9. Effectively communicate and exchange critical information for the safe conduct of the operation; and added to this
10. Hospitals and public health systems will establish routine surveillance of surgical capacity, volume, and results.

B. People

Skills, training, expertise, decision-making, and teamwork of the multidisciplinary team members contribute to safe surgery. According to WHO (2009:3) the most important assets of operating teams are the knowledge and experience of all team members. The environment in which care takes place, and the context in which care is developed, requires scientific evidence and theoretical foundations (Gutierres, et al. 2018:2776). Alfredsdottir and Bjornsdottir (2007:30) described important factors in patient safety as experience, good communication, different responsibilities in teams, and pro-active identification of circumstances that can lead to error.

C. Equipment and technology

The continuous maintenance and control of equipment according to legal service records is of utmost importance. The Emergence Care Research Institute, an evidence-based practice centre by a United States agency for healthcare research and quality, conducts independent medical device evaluations. Consequently, the original equipment manufacturer guidelines are followed for the maintenance of

equipment. Performing surgical procedures requires technical and cognitive skills from the operating staff (McMullan, et al. 2020:307). The high-technology equipment requires sufficient and maintained in-service training, to create a scientific evidence-based environment for the surgical patient.

D. Physical environment

Space, layout, storage, lighting, and noise signify the physical environment of the operating room. According to the National Health Act, 2003 (ACT NO.61 OF 2003), the operating room complex requires a high level of compliance regarding regulation R158 of 1980, and environmental control is done on a daily base (South African Government, 1980). Dell & Kahn (2018:6) indicated that an infrastructure alone is not enough; running water, availability of oxygen, theatre-related equipment and staff are examples of essential components of a functional operating room.

E. Organisation

Herman, et al. (2021:741) identified the organizational factors that improve patient safety as efficient staffing, a positive workplace culture, continuous learning, adequate resources, and acceptable demands. Kim and Jeong (2021:2) suggested “safety training, participation in safety policy, management supervision, communication, and feedback” to be important factors in this matter. Standardisation of surgical processes by strict adherence to laws, regulations and operational procedures or guidelines are vital for safe surgery (Eskola, et al. 2016:725; Haugen, et al. 2015:827).

2.6 THE LEGISLATIVE FRAMEWORK THAT REGULATES NURSING

Nursing is an essential part of the healthcare system and prevents, promotes, maintains, and restores health. Holistic patient care requires knowledge and competencies striving for ethical and legal principles. Nurses pledge their roles and responsibilities in accordance with legislation and nursing professional bodies (Cahn 2022:274).

South African legislation assenting with patient safety is the Constitution of the Republic of South Africa, the National Health Act (Act 61 of 2003) and the Nursing Act (Act 33 of 2005). The South African Nursing Council (SANC) underwrites public protection by accentuating professional standards. Acts and procedures of nurses are decided on by the Regulations Relating to the Scope of the Practice (Singh & Mathuray 2018:132). Together with this framework that regulates the nursing profession in South Africa, standard operational procedures, and policies are developed from evidence of randomized controlled trial, clinical observations, and translational research (Reeves & Torkington 2021:21).

The Constitution of the Republic of South Africa

According to Singh and Mathuray (2018:132) the Bill of Rights of the Constitution (Chapter 2) underwrites important principles to the ethics of nursing. These principles include beneficence, non-maleficence, autonomy, and justice. The Bill of Rights embodies economic, social, civil, and political rights.

- Beneficence associates the right to life (section11), access to health care (section 27) and access to information (section 2).
- Non-maleficence includes safe environment (section 24), not to be treated in a cruel, inhumane, or degrading manner (section 12), not to be subjected to medical or scientific experiments without legal consent (section 12).
- Autonomy reflects through the right to bodily and psychological integrity (section 12), dignity (section 10), privacy (section 14) and life (section 11).
- Justice and fairness predispose in the right to equal treatment and non-discrimination (Section 9) and the right to lawful, reasonable, and procedurally fair administrative treatment (section 33).

The Constitutional rights and ethical principles are the foundation for nurses, patients and for the South African Nursing Council.

The National Health Act, 2003 (Act 61 of 2003)

The National Health Act promotes and improves South Africa's health-care delivery, including nursing care, the rights of the health users and the roles and responsibilities of the health-care providers (Singh & Mathuray 2018:133). This Act combines the South African health system to promote and improve health care delivery for those seeking health services as well as the rights and duties of the health-care institutions. Public as well as private health institution's function is subject to the regulations of the National Health Act, 2003 (South African Government, 2003).

The Nursing Act, 2005 (Act 33 of 2005)

"…regulate the nursing profession and to provide for matters connected therewith" – The Nursing Act, 2005 (Act 33 of 2005).

Nurses are trained according to their nursing profession. The Nursing Act provides the foundation and practice requirements of a nurse. All nurses in South Africa are bound through their profession (scope of practice) to legal and ethical guidelines stipulating comprehensive and effective nursing care to all citizens (South African Government, 2005).

The Nursing Act supports the existence of the South African Nursing Council. The statutory body for South African nurses, was established in 1944 and is legally recognised by Parliament. The South African Nursing Council exists as a legal entity and manages the activities and related issues to the nursing profession but remains accountable to government.

Public protection is maintained by professional values and behaviour, and by the continuous improvement of knowledge and skills of nurse practitioners.

Hospital-specific standard operational procedures and policies

Standard operational procedures are defined by Manghani (2011:36) as "detailed, written instructions to achieve uniformity of the performance of a specific function". It is a written guideline specifying who does what and when, or the way to conduct an

activity or a process according to the company's standards including legal, ethical, and regulatory requirements.

It is essential for perioperative nurses to understand their legal rights and the implications for them to practice, their legal responsibilities integral with the expanding demands of their clinical roles.

2.7 UNSAFE SURGERY

Surgery is an essential component of healthcare, yet an estimated five billion people worldwide are unable to access safe surgical treatment and 94% of them are from low- and middle-income countries (Biccard, et al. 2018:1589). Furthermore, millions of people suffer injuries or die due to unsafe and poor-quality health care. The global mortality rate ranges between 0,5% and 5% after major surgery and an estimated seven million patients have major complications postoperative (Krishnan, et al. 2022:25).

In 2015, two-thirds of the worldwide maternal deaths occurred in sub-Saharan Africa. Maternal mortality ratio is estimated to be more than double the global average of 546 maternal deaths per 100 000 livebirths and the neonatal mortality rate is also highest in sub-Saharan Africa (28 per 1000 livebirths) compared to the global average of 19 per 1000 livebirths (Bishop, Dyer, Maswime, Rodseth, van Dyk, Kluyts, et al. 2019:513). Caesarean mortality postoperatively was estimated to be 5,43 mothers per 1000 operations. African mothers are at least 50 times more likely to die after caesarean delivery compared to mothers in high-income countries (Biccard 2021:21).

The consequences of poor-quality surgical care bias in patient safety risks, the lack of evidence-based care, the misuse of inadequate care, absence of patient-centred care, postponements, inefficiency, unfairness, financial diffidence, complicity, and dishonesty (Rispel, Shisana, Dhai, Dudley, English, Grobler, et al. 2019:70).

Postoperative complications lessen life quality and expectancy and raise healthcare costs, and regardless of many prevention policies and standard operation procedures, the safety of the patient remains globally a continuing problem (WHO 2009:2). The operating room is a complex and high-risk environment where

potentially devastating mistakes may happen (Zahiri, et al. 2011:55; McMullan, et al. 2020:306), such as adverse events and malpractice.

An adverse event can be defined as “all unexpected and harmful experiences that a patient encounters because of being in the care of a medical professional or system because high quality, evidence-based medical care was not delivered during hospitalization. The harmful outcomes may be realized immediately, delayed for days or months, or even delayed many years” (James 2013:122). Approximately 50% of all adverse events in hospitalized patients are related to the operating room and 50% of these events are deemed preventable (Jung, et al. 2019:2380; Krishnan, et al. 2022:25).

James (2013:123) divided the cause of preventable adverse events in health care facilities into the following classifications:

- Errors of commission: these errors occur when an action harms a patient because it was the wrong action, or it was an accurate action but performed incorrectly.
- Errors of omission: When a patient needs optimal health care, and the action therefore is not performed at all.
- Errors of communication: These errors are caused by incorrect or the absence of communication between healthcare workers or between healthcare workers and the patient.
- Errors of context: These errors occur when the patient’s unique restrictions are not considered.
- Diagnostic errors: These errors include wrong treatment, delayed treatment, or ineffective treatment.

Adverse events have been categorized by Jung, et al (2019:2389) into 7 types. These categories include cognitive, behavioural, expertise or technical skill, tissue injury, equipment, or medication, environmental or organizational, and patient-related events. They suggested that the severity of adverse events is grounded on the significance of the postoperative outcome, or the intrusiveness if further interventions were required.

There are two models of causation of human error, namely the person approach and the system approach. The person approach, also called active error (acts of commission), focuses on human mistakes made by frontline staff members who work directly with the patient. The effect of the error is felt instantly, and the individual is blamed for forgetfulness, inattention, or moral failure. Latent errors (acts of omission) are system-based errors. This includes ineffective policies, procedures, inadequate staffing, extreme workload, or faulty equipment. Latent errors allow and support active errors (Harvey & Sotardi 2017:1572; Alfredsdottir & Bjornsdottir 2007.30).

Advanced technology, direct intervention in human life, and a unit with high-level patient concentration prompt the surgical environment to be a high-risk area for adverse events. These adverse events can be wrong site surgery, incorrect patient / procedure, retained surgical items, faulty equipment or medical devices, pressure ulcers, electrical or chemical burns, medication errors, hypothermia, physical injuries or falls, infection, anaesthesia-related events, and nerve- / blood-vessel injuries (Zahiri, et al. 2011:56; Kim & Jeong 2021:1; Ugur, et al 2016:593).

Everson, et al. (2020:370) stated that “deviation from standards of care that result in patient injury is considered malpractice”. Nurses, part of health-care professionals, that harm a patient may be held legally responsible for their role in medical malpractice. Samlal (2018:1) explained that the legislation framework regulating the nursing profession in South Africa stipulates that if skills, competencies, or knowledge of nurses cause them to fail in exercising optimal nursing care, they might face malpractice litigation.

South Africa’s Government liability for medical negligence in 2021 added up to R100 billion and an average of 93% of omissions that led to adverse events was due to the ignorance of guidelines and protocols (Klopper 2021: [n.p]).

2.8 FACTORS CONTRIBUTING TO UNSAFE SURGERY

Preventable surgical complications globally have a direct influence on the safety of the surgical patient. In 2009 the World Health Organization (WHO 2009:2) identified four major factors that play an essential role in this aspect. Firstly, the absence of safe, accessible, and affordable surgical care. Secondly, the scarceness of basic data and

statistics regarding surgical procedures. Thirdly, the abysmal appliance of safety practices and procedures, and lastly, the complexity of the operating room that manifest within and across the patient, procedure, equipment, and surgical team.

The burden of poor-quality care is felt more in low- and middle-income countries, and the surgical patient in Africa is twice as likely to die post-operatively, compared to the global average. Rispel, et al. (2019:70) recognized poverty, suboptimal governance, resource limitations, as well as lack of, or insufficient accountability" as factors that contribute to this phenomenon.

Biccard, et al. (2018:1589) pointed out additional obstacles such as low volumes of hospital procedures, and lack of hospital beds, and operating theatres all of which are directly influenced by the geographical location of the hospital and availability of trained staff.

Technical as well as non-technical competencies are essential for surgical success. Teamwork, leadership, communication, organization, and education are described to be important aspects regarding patient safety (Krishnan, et al. 2022:25). The operating room is characterized by interdisciplinary practices, diverse and complex medical equipment, high-precision technology, vulnerable patients, time pressures, and extremely high tension.

Although teamwork is of utmost importance, strong dependence on the individual performance of professionals does occur (Gutierres, et al. 2018:2776). Hence both individual and organizational factors play an enormous role, given that social behaviours result from their interaction (Kim & Jeong 2021:2).

Errors can be divided into person-related or system-related errors. System-related errors are failures in safety barriers of an organization and are influenced by environmental conditions. Systematic factors include the safety management of an organization, the safety policy and participation thereof, safety training, supervision, effective communication, and feedback. A modified model of the theory of planned behaviour explains that excessive work demands, and job complexity influence the physical and cognitive abilities of health-care workers directly. Their capabilities to engage in safety management are suppressed, and errors occur (Kim & Jeong 2021:7). Thus, uncontrollable environmental factors have a direct effect on the

perioperative nurses' ability to control patient safety management activities (Alfredsdottir & Bjornsdottir 2007:36).

The specialised infrastructure, equipment requirements, high nurse ratio and the need for intensive support services engender the operating room a very expensive unit (Samuel & Reed 2021:595). Furthermore, the operating room can be described as the financial hub and can generate up to 65% of a hospital's profit margin. Steep operating costs and the role of revenue generator can place excessive pressure on perioperative nurses (James 2013:122). Wright, et al. (2021:173) stated that productivity pressure appears to be a universal force in the operating room while Prielipp, et al. (2020:1499) argued that economic productivity compels the perioperative nurse to cascade down the slippery slope of do more with less or faster rather than better.

Production pressure has a negative impact on patient safety. Everson, et al. (2020:365) explained the relation between the occurrence of unsafe work practice versus increased production pressure. Increasing efficiency, output, or continued productivity to increase monetary gain mostly result at the expense of patient safety (Everson, et al. 2020:368). Production pressure has an increasing tolerance for shortcuts that allow increased performance, temporary violation of safety rules during periods of high workload, and circumvention or shunting of safety barriers (Morrison & Wears 2022:127).

One way to achieve optimal patient safety is through the implementation of policies, guidelines, and standards. These policies are meant to reduce latent errors which persuade active errors. Over time, policy efficiency deteriorates through a process known as practical drifting. Practical drifting is the slow and steady disconnecting of practice from written procedures (Harvey & Sotardi 2017:1572). A primary cause of practical drift is accepting deviant behaviour over time, also referred to as normalization of deviance. Normalization of deviance is a phenomenon in which unacceptable practices or standards become acceptable, as deviant behaviour is repeated without negative results, and becomes the norm (Harvey & Sotardi 2017:1572).

It can also be explained as the tolerance of lower standards due to continuing acceptance of deviant behaviour. Deviation from standard safety practices can offer advantages such as efficiency, productivity, and cost savings but over time these

shortcuts become the norm. Lower standards in safety practices increase the possibility of errors and adverse events in the operating room (Wright, et al. 2021:172; Wright, et al. 2022:117). The possibilities of errors or adverse events accumulate: “1% of fault may cause 100% of failure” (Bai et al 2021:3707).

The factors that contribute to normalization of deviance among perioperative nurses of a specific private hospital were unknown. The possibility of adverse events due to this phenomenon is a reality. The aim of this study was to explore and describe these specific factors.

2.9 THEORETICAL AND CONCEPTUAL MODELS EXPLAINING NORMALIZATION OF DEVIANCE

Rasmussen’s (Morrison & Wears 2022:128) migration towards boundaries of safety theoretical model and Reason’s Swiss cheese model (Stein & Heiss 2015:278) are major contributors to the understanding of normalization of deviance among perioperative nurses and the devastating consequences that can result.

Rasmussen’s migration towards an unsafe boundary model

Normalization of deviance aligns with the scientist Jens Rasmussen’s theory of migration to boundaries. Specific factors within the operating room phenomena generate practical drift of the perioperative nurse to boundaries of acceptable performances and time pressures on employees and encourage adaptation to the workplace environment (Wright, et al. 2022:116). These factor-induced variations allow the perioperative nurse to discover an effort gradient that often reconciles with an efficiency-gradient. With repetition, these deviations in standard operational procedures can result in a systematic migration towards the boundary of functionally acceptable performance. When the drift becomes more frequent and accepted, it holds the potential of projecting outside the boundary of safe practice. The instant the unsafe boundary is crossed, an adverse event may occur (Morrison & Wears 2022:128).

The concepts of production pressure and normalization of deviance have a mutual influence on each other in which the presence of one increased or caused the occurrence of the other (Everson, et al. 2020:368). Normalization of deviance is routine violation of safety practices bending the rules to be more productive or efficient, it is habitual and tolerated by management (Reid 2014:45). These acts represent latent as well as active failure and most adverse events are associated with combined active and latent error (ElBardissi, Wiegmann, Dearani, Daly, Sundt III 2007:1413). Nurses are involved in these activities and are in key positions to recognize and respond so as to restore safe practice (Morath 2011:2).

Reason's Swiss cheese model

The Swiss cheese model, proposed by psychologist James Reason, explains the failure of numerous system barriers to block errors. An ideal system is comparable to a stack of slices of Swiss cheese. The holes are considered the opportunities for a process to fail, and each slice represents a so-called defense layer. Defects in working procedures are signified by the holes which allow errors to pass through, and each layer would work as a defense against potential error impacting the outcome. If continuous errors occur and align, the layers of defense will not be abundant, and adverse events will occur (Stein & Heiss 2015:278).

Medical errors have multi-factorial causes and place patients at great risk of harm (Stein & Heiss 2015:278). Reason explains that errors within most complex systems such as an operating room, are caused by a breakdown or absence of safety barriers. The preferred strategy suggested by Reason is to prevent an error from occurring or prevent the error from causing harm through the application of multiple steps that function as a safety net.

Because human performance is shaped by the context in which it occurs, the focus shifts to system accountability instead of individual failure (ElBardissi, et al. 2007:1413). Reason proposed the image of "Swiss cheese" to explain problematic processes that cause these errors. Four levels or barriers are modelled as a series of layers, like slices of Swiss cheese with each slice being an opportunity to stop an error. These levels are divided into organizational influences, unsafe supervision,

preconditions to unsafe acts, and unsafe acts and are used to understand the underlying causal factors that lead to an adverse event or incident. The human factors analysis classification system classifies the human factors that are signified by each level, and which represent the holes in the cheese (ElBardissi, et al. 2007:1413).

Table 2.1 provides a summary of the human factors analysis classification system (ElBardissi, et al. 2007:1413).

Table 2.1 Summary of the human factors analysis classification system

Organizational influences	
1. Climate	Organizational policy, command structure, and culture.
2. Process	Reflection of organizational vision in operations, procedures, and oversight.
3. Resource management	Management of organizational vision through human, monetary, and other resources.
Unsafe supervision	
4. Inadequate supervision	Management of staff and resources through training, guidance, and leadership.
5. Problem correction	Managers know and allow wrongdoing of individuals, equipment, training, or other safety areas.
6. Inappropriate operations	Management of risks and operational tempo.
Preconditions to unsafe acts	
7. Environmental factors	Divided into technological and physical environment.
8. Adverse mental states	Psychological and / or mental conditions, such as exhaustion, negative attitudes, and improper motivation that result in slack performances.
9. Adverse physiological states	Medical and /or physiological conditions affecting performances.
10. Physical or mental limitations	Disabilities such as poor vision, unskillful, and lack of knowledge or other physical or mental illnesses that affect performance.
11. Teamwork	Teamwork issues such as communication and coordination.
12. Personal readiness	Personal activities required to perform optimally at work.
Unsafe acts	
13. Decision errors	Thinking errors that manifest as badly executed procedures, improper choices, and the misinterpretation of information.
14. Skill-based errors	Errors in practical expertise appear as breakdown in visual patterns, forgotten intentions and omitted items during a procedure.
15. Perceptual errors	These errors occur when the sensory input is misinterpreted or misjudged.
16. Routine violations	Bending the rules – these violations are habitual and are often tolerated by management.
17. Exceptional violation	These violations are not typical of the individual and management does not approve of it.

Each barrier contains its unintended weaknesses. These debilities are inconsistent and open or close randomly whether the holes line up an opportunity for an accident or a harmful event occurs. Holes that occur in unsafe acts and sometimes in the precondition's levels represent active failure by actively performed work and are directly involved or linked to an adverse event. These holes change actively throughout the day as errors are made, caught, and corrected.

In contrast, latent failure or error occurs in the other levels and often goes undetected for days, months, years or longer. Latent holes do not close or disappear quickly and may result in adverse events if many deficiencies are present. Most adverse events are associated with combined active and latent error. In other words, different defect human factors from the four levels align and predispose in harmful events (ElBardissi, et al. 2007:1413).

Stein and Heiss (2015:279) indicated poor communication to be the most common cause for both active and latent adverse events. They added that since poor communication is the result of an individual's behaviour, the failure is an active failure. If it is the result of an organizational culture that does not promote openness or healthy interrelationships, this represents a latent failure.

The conceptual framework that underpinned the study is illustrated on the next page.

Conceptual framework

Figure 2.1 demonstrates the effect of normalization of deviance on the safety of the patient, as interpreted in this study.

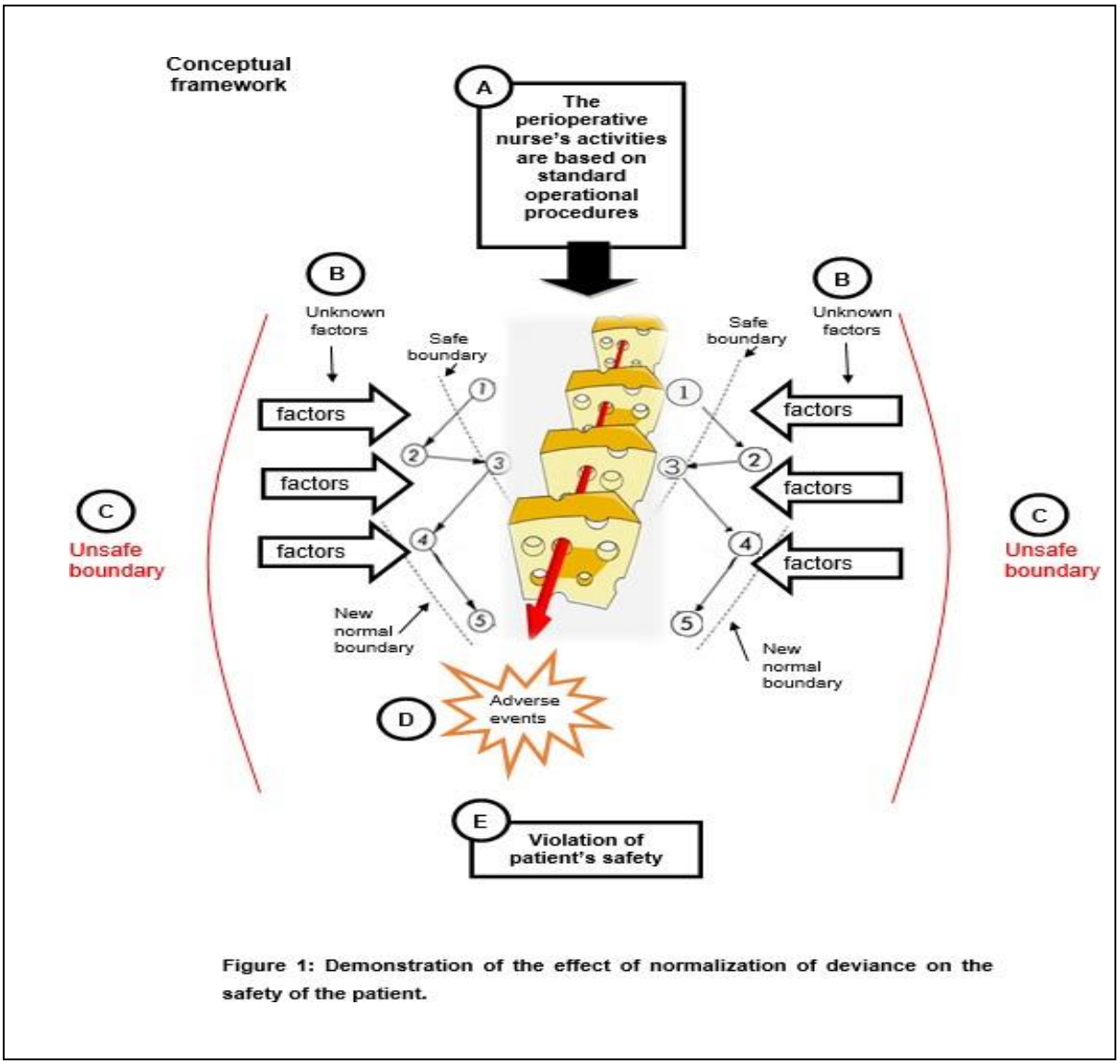

Figure 2.1: Conceptual framework of normalization of deviance

The symbols used in Figure 1 represent the following:

(A) Perioperative nurses' activities are based on standard operational procedures.

(B) The goal of this study is to explore and describe unknown factors.

(C) Constant drifting due to the influence of unknown factors leads to gradual erosion of safety standards, and day-to-day activities of the perioperative nurse move closer to the unsafe boundary.

(D) The accumulation of error, with lesser defence of prevention result in adverse events.

(E) The violation of patients' safety occurs.

(1) The safe practice and good patient outcome result from standard operational procedures being followed.

(2) Unknown factors trigger the perioperative nurse to drift outside the safe boundary.

(3) No error occurs, and corrective action can happen.

(4) The unknown factors predispose continuous drifting, and the perioperative nurse moves closer to the unsafe boundary.

(5) Extrication of practice from written procedures becomes the new normal, and normalization of deviance occurs.

The application thereof is explained in the following section.

In a hospital the perioperative nurses are trained according to the regulations of the South African Nursing Council (The Nursing Act 33 of 2005), company-and hospital-related guidelines. The activities of these perioperative nurses should be based on standard operational procedures. Although they should be competent, they tend to make slight changes in their work procedures, which can be described as practical drifting. As Rasmussen's model implies (Reid 2014:45; Banja 2010:8; Wright, et al. 2022:121; Klopper 2021: [n.p]), at first, they drift to efficiency boundaries and with repetition these deviations become acceptable and then they become the norm. This process is defined as normalization of deviance. In the Hospital under study, drifting towards and crossing over unsafe boundaries are a reality. An incline in adverse events was detected the previous year (Patient Safety Scorecard 2021-2022).

Reason's model explains the effect of defects in working procedures. Latent errors

pass through the layers of defence and predispose in active error or adverse events. Error is unavoidable but having a system in place preventing it from occurring and resolving it when it does occur, patient safety will prevail (Goldenberg & Elterman 2020:1371). In this study, the specific factors that contribute to normalization of deviance among perioperative nurses in the private hospital of relevance in this study, were not known and therefore had to be explored and described.

2.10 SUMMARY

This chapter discussed the literature review conducted on factors that influence the outcome of the surgical patient. The operating room and perioperative nurses' roles and responsibilities were considered. The indications for safe surgery were defined and the contributing factors were identified and discussed. The legislative framework that regulates the nursing profession in South Africa was discussed. Unsafe surgery arising into adverse events and malpractice were defined and the known factors contributing thereto, were described.

Normalization of deviance was explained through the application of a conceptual framework which includes Rasmussen's migration towards boundaries of safety theoretical model and Reason's Swiss cheese model.

CHAPTER 3
RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

Chapter 2 discussed the literature review conducted for the study. This chapter covers the research design and methods applied in this study.

3.2 RESEARCH DESIGN

A research design is a plan chosen by a researcher presenting the framework of research methods used to collect data (Polit & Beck 2020:34), and a comprehensive plan for acquiring answers to the research question/s. Akhtar (2016:69) suggested that the researcher includes the followings features in the research design namely: the sources and information relevant to the research problem, a strategy on data collection and data analysis, time, and cost budgets relevant to the phenomenon under study. A qualitative contextual, and descriptive design was seen as the most appropriate design in this study because the research question signifies factors that contribute to normalization of deviance among perioperative nurses in a private hospital in South Africa. By using this framework of research method to collect data, the unknown phenomenon will be explored and described.

3.2.1 Qualitative contextual design

Qualitative research is the study of experiences, in a comprehensive and holistic manner through the collection of rich narrative materials using a flexible research design (Polit & Beck 2020:396). It aims to answer questions of how, why, and what of a phenomenon and attempts to discover the perspectives of the subjects that involves the research question (Haven & Van Grootel 2019:232). Busetto, Wick and Gumbinger (2020:2) emphasise that the goal of qualitative research is to develop a broad understanding of a phenomenon as it occurs, assembled by individuals in their own setting and is characterised by flexibility, openness, and responsivity to the context. The phenomenon under study was normalization of deviance among individuals

(perioperative nurses) in their own setting, which related to the operating room of a specific private hospital.

Flexibility refers to the iterative process of sampling, data collection, analysis, and interpretation (Haven & Van Grootel 2019:234) and implies the possibility of the researcher going back to the field to sample new participants if saturation has not been reached. Busetto, et al. (2020:2) explained flexibility as an invaluable asset in which new insights may lead to necessary changes in the research question or the research design. Twenty perioperative nurses were invited to take part in this study, the number of participants in the sample was not fixed in advance and the process of data collection ended after no new relevant information was found. The data of nineteen participants were analysed and saturation achieved.

According to Haven and Van Grootel (2019:234) qualitative research embraces subjectivity and researchers are mostly part of the data analysis process in generating findings from data. Furthermore, they explain the importance of transparency throughout and the acknowledgment of performed prejudices and biases revealing an openness and responsivity to the context regarding the interpretation of the subject. For this reason, all decisions that were made and all the stages in the data analysis process were well-documented as explained in Section 3.3.6 Data analysis.

Qualitative research methodically generates knowledge through a systematic approach to induction and deduction; thus solidifies the arch of knowledge (Sale & Thielke 2018:129). Nursing presence in all the perioperative phases is considered a dominant factor of change for the transformation of the culture of safety in the operating room. The results of this study were fundamental to validate scientific enterprise, enhanced transparent and supportive relationship among management and perioperative staff members, and identified system weaknesses and failures.

Busetto, et al. (2020:1) explained qualitative research as a process of collecting, analysing, and interpreting the participants' words as opposed to numerical data. In this study the participants' words were used to explore and define factors that contribute to normalization of deviance in the specific operating room.

3.2.1.1 Activities in qualitative research

Qualitative researchers use an emergent design (Polit & Beck 2020:161); therefore, major activities are flexible, and the flow of these activities cannot be shown precisely. To obtain a richly detailed understanding of a particular topic based on first-hand experiences, qualitative researchers frequently examine and interpret data and make decisions with regard to how to proceed based on what has been revealed (Polit & Beck 2020:36; Busetto, et al. 2020:20).

In this study the researcher identified a problem. The patient adverse events rate in a specific hospital showed an incline of 2,75 per 1000 paid patient days in 2021 to 3,63 per 1000 paid patient days in 2022 (Patient Safety Scorecard 2021-2022). Half of all adverse events in hospitalized patients could be related to the operating room and at least half of these cases in which surgery led to harm were considered preventable. One of the aspects contributing to errors in the operating room is normalization of deviance (Everson, et al. 2020:365). The selected participants (perioperative nurses) in this study had first-hand experience of practices and habits in the specific operating room and were considered to be sources of rich data to explore factors that contribute to normalization of deviance among themselves in their natural setting (the specific operating room).

3.2.1.2 Natural settings

Qualitative research wishes to provide meaning of experiences or phenomena by following data as they emerge (Sale & Thielke 2018:129). According to Busetto, et al. (2020:1) it refers to the study of disposition of a phenomenon, including the characteristics, different appearances, the context in which it appears and the perspective from which it is perceived.

The natural setting in this study included the characteristics and appearances of an operating room of a specific private hospital.

3.2.1.3 Researcher as key data-collection instrument

In qualitative studies, researchers are involved in the entire research process. The researcher and the phenomenon under study are interactively linked and findings are mutually created within the context of the situation (Sale & Thielke 2018:129). Maguire and Delahunt (2017:3351) described the qualitative researcher as the research instrument that gives through their perspective meaning to certain circumstances in a context. The outcome depends on the researcher's ability to understand, describe, and interpret experiences.

Hence, all ethical issues were addressed, acknowledging the role and positionality of the researcher, a trained perioperative nurse, with twenty-five years of experience and familiar with the setting. Mechanisms were introduced to minimise bias or influence the findings of the study, which are discussed in Chapter 1 as part of ethical considerations.

3.2.1.4 Researcher's focus on participants' perceptions

Qualitative methods allow the researcher to study in-depth issues by posing open-ended questions and permitting participants to tell their own stories. The narrative approach includes the stories of human experiences and is collected from individuals or small groups. These stories become the raw data (Butina 2015:190).

Self-report data involves direct verbal reporting by the participants via an interview or a questionnaire (Polit & Beck 2020:182). Data for this study were collected through a self-reported narrative guide; therefore the researcher focused solely on the participants' perceptions, and the possibility of power imbalances were prevented. No personal information appeared on the self-reported narrative guides and by analysing the data from typed documents, confidentiality and privacy of the participants were maintained.

The study was planned, data collection strategies were developed, and data were gathered and analysed. Dissemination of the findings are discussed in Section 3.3.6 Data Analysis.

3.2.2 Descriptive design

A descriptive design is used when a description is needed that focusses on the details of what, where, when, and why of an event or experience that frequently occurs in a specific area (Polit & Beck 2020:382). The purpose of this study was to explore and describe the factors contributing to normalization of deviance among perioperative nurses, which then could be used to develop tailor-made strategies to correct the practices.

3.3 RESEARCH METHODS

Research methods are the specific procedures or techniques used to identify, select, process, and analyse information relevant to the research question (Polit & Beck 2020:6). Busetto, et al. (2020:3) agreed by stating that the research method must be based on the research question, and by critical assessment, be determined to what extent the chosen method can provide answers. The choice of method was based on the research question that needed to be answered.

The research question of this study was as follows: Which factors contribute to the normalization of deviance among perioperative nurses in a private hospital in South Africa? The methods applied was the use of self-reported narratives, which are described in the following section in terms of the population, sample, data collection, data analysis, and trustworthiness. The ethical considerations are discussed in Chapter 1, and the findings are discussed in Chapter 4.

3.3.1 Population and sampling

Polit and Beck (2020:141) define population as the entire group of interest and distinguish between target population and accessible population. The target population was the sum of cases about which the researcher would like to discover meaning and uncover realities. The target population included all nurses working in the operating room of the particular private hospital.

The accessible population is the part of the target population that is reachable to the researcher (Polit & Beck 2020:141; Etikan, Musa & Alkassim 2016:1). In this study,

the accessible population is the perioperative nurses of a specific private hospital who complied with the inclusion criteria.

Sampling is the selection of a subset of the population of interest in a research study. The primary goal of sampling is to create a representative sample, one in which the smaller group (sample) accurately represents the characteristics of the larger group (population) (Polit & Beck 2020:141; Etikan, et al. 2016:1). Due to the small size of the population, the decision was not to take a sample but to use total population sampling.

Total population sampling is a type of purposive sampling where the whole population that meets the criteria are included (Etikan, et al. 2016:3). In this study all the perioperative nurses of the particular hospital met the inclusion criteria and were invited to participate in the study and give their inputs pertaining factors contributing to normalization of deviance. The implication of including the total population was that the maximum data could be collected from the relevant persons.

The inclusion criteria were as follows: to participate in this study, they had to be full-time employees of the specific hospital group, have had experience of six months or longer in the specific operating room, be registered at the South African Nursing Council, be older than 18 years and able to understand and write in English. All the participants met these criteria.

At a staff meeting, the researcher explained the purpose of the study and invited all the perioperative nurses of the specific private hospital to take part in the study. A total of twenty participants were invited and nineteen participated voluntarily and signed informed consent forms (View Annexure B1).

3.3.2 Data collection instrument

A self-reported narrative guide is defined by Polit and Beck (2020:147) as a document that contains questions, and these questions are filled in by the participants themselves. In this study the self-reported narrative guide (View Annexure B2)

contained eight open-ended, descriptive and non-directional questions. These questions focused on the unknown phenomenon, factors that contribute to normalization of deviance, as experienced by perioperative nurses with different qualifications and job descriptions. Peer language was used for simplicity and gave the participant the freedom to tell their own story.

The advantages of self-reported narrative guides are described by Polit and Beck (2020:148) as less costly and beneficial for geographically dispersed samples, it evokes a greater sense of privacy and leads to more openness and self-disclosure. The participant is in control and may decide to pause, reread a question, or think about an answer. Self-reported narrative guides provide the option of anonymity, an important aspect when information regarding opinions or sensitive matters is involved.

The self-reported narrative guide (View Annexure B2) was divided into two sections. Section A included demographic questions to ensure that the participant met the inclusion criteria. No personal information appeared on the self-reported narrative guide and enough space was given to the participants for rich, full, and descriptive answers.

Section B was sub-divided into four sections each containing a brief description and two questions. An introduction was given to explain the term normalization of deviance. The reality of normalization of deviance among the participants themselves as well as that of their colleagues was initiated by the first two questions.

Question 1 asked whether the participant had ever experienced a situation in which they needed to make a slight change to a specific working procedure. Question 2 asked whether the participant had ever noticed a colleague taking shortcuts. These two questions were posed regarding realization of normalization of deviance in this specific operating room.

An explanation was given of human fallibility. It explained that individual blaming was not the core aspect of this study, rather the factors and/or situations within the system that led to normalization of deviance. The system was divided into different categories. In question 3 the participants were asked to identify and describe any factors that may lead to small changes in working procedures. It included personal as well as colleagues' behaviour. In question 4, the specific situations were asked that will lead

to deviation. A brief paragraph followed, explaining the importance of honest feedback and that the participants' expertise could be used to identify systematic shortcomings.

The factors and the situations that lead to shortcuts could be identified and described in the subsequent two questions. Question 5 and question 6 supported these aspects and indicated suggestions on how the factors or situations that lead to shortcuts can be altered or limited.

An explanation was given to error and adverse events. The aim of the study was explained in terms of identifying the factors that lead to normalization of deviance; surgical nursing can be strengthened and the environment in which they work can be managed. Question 7 and question 8 dealt with current mechanisms in which participants feel safe to report deviance or any suggestions of mechanisms in which they will feel safe to report. The last two questions provided current mechanisms in place as well as suggested mechanisms in which they feel or will feel safe to report deviances.

Lastly, the narrative guide ended with a note of thanks to the participants for their participation in this study.

3.3.3 Pilot testing

The necessity of doing pilot testing of the narrative self-reported guide was to identify questions that might be difficult to understand or ambiguous to prevent misinterpretations (Polit & Beck 2020:394). The researcher could also determine the actual time it took the participant to complete the guide.

A perioperative nurse of the specific operating room under study volunteers to be the pilot participant. On a pre-arranged date, 22 August 2023, the researcher explained

the purpose of the study and the data collection process. The pilot participant received the hard copies in two different envelopes marked as A - personal information and informed consent (View Annexure B1) and B - self-reported narrative guide (View Annexure B2). The researcher asked the participant to complete both documents. After completion, the researcher and the participant discussed the self-reported narrative guide to identify difficult or ambiguous questions. The pilot participant understood all the questions and gave well-defined and appropriate answers. No changes were made to the self-reported narrative guide. The pilot participant's response was not included in the study.

3.3.4 Data collection

Although data collection is the precise, systematic gathering of information relevant to the research purpose or objectives of the study (Polit & Beck 2020:381), Busetto, et al. (2020:2) explained the characteristics of qualitative research are flexible, open, and responsive to the context in which it takes place and that the steps of data collection and analysis differ from the separate and consecutive steps of quantitative research.

In this study, data was collected by means of a self-reported narrative guide (Annexure B2). Structured self-report methods are used when researchers know what information they need to obtain and frame appropriate questions from it (Polit & Beck 2020:147).

A meeting was held in the tearoom of the operating room of the specific private hospital on 23 August 2023 from 06h45 to 07h45, which was the pre-approved date. The researcher welcomed the participants and explained the purpose of the study and the data collection process. The participants were provided with a hard copy of Annexure B1 (personal information and informed consent) and Annexure B2 (self-reported narrative guide) and two envelopes. The researcher explained the importance of Annexure B1 and informed the participants that their personal information was needed for informed consent. The researcher explained that their participation in the study was entirely voluntary, that they could refuse to participate or stop at any time without stating any reason for doing so. Annexure B2 was also explained by the researcher.

Their privacy and confidentiality were emphasised as well as how it would be ensured. The researcher asked the participants to answer the questions honestly and to explain themselves in full. The researcher explained that their answers would assist the researcher in gaining a deeper understanding of their experiences pertaining to normalization of deviance in the operating room, and that it would contribute to recommendations to address the factors that have implications on the nursing practice in this specific operating room.

The two documents were placed in the two respective envelopes (View Annexure B3). The envelopes containing Annexure B1 (personal information and informed consent), were marked on the outside with an “A”, whereas the envelopes containing Annexure B2 (self-reported narrative guide), were marked on the outside with a “B”. The researcher explained the follow-up instructions. The participants were granted the opportunity to ask questions.

Two sealed boxes with one-way access were placed in the unit manager’s office (View Annexure B3). The boxes were marked separately A and B. A period of two weeks (23 August 2023 – 06 September 2023) was allowed for the participants to complete the self-report in their own time, and after completion the participants had to deposit the documents, sealed in envelopes, in the specific allocated boxes (View Annexure B4). On 06 September 2023 at 08h00, the researcher collected the sealed boxes and sent it to the supervisor at the University of Pretoria (View Annexure B5). Under her supervision the boxes were opened. Nineteen sealed envelopes in box A - participant’s information and informed consent (View Annexure B1) and nineteen sealed envelopes in box B - self-reported narrative guides (View Annexure B2) were received (View Annexure B5).

To prevent the researcher from recognizing a participant’s handwriting and therefore be able to identify who wrote what, the answers of the participants were typed verbatim (View Annexure B6) by an independent person and checked for accuracy by the supervisor. This was done to ensure anonymity of the participants. Nineteen transcribed files marked as Participant 01 up to Participant 19 were emailed to the researcher on 24 September 2023 for data analysis.

3.3.5 Data analysis

Thematic analysis is the process of identifying themes in qualitative data and has implications in terms of the credibility of the research process (Maguire & Delahunt 2017:3352). Both Polit and Beck (2020:262) as well as Maguire and Delahunt (2017:3352) described it as a method rather than a methodology and highlighted flexibility as an advantage. The researcher's skill will enable her to understand, describe and interpret experiences and perceptions and to uncover the meaning of particular circumstances and contexts. The goal of thematic analysis is to interpret data and identify themes to address the research aim and answer the research question (Maguire & Delahunt 2017:3353).

Braun and Clarke (2006) identified and described six phases in the analytic process (Polit & Beck 2020:262). In this study, these six phases were used to interpret the data. In the following section the process is discussed in detail. The findings are reflected in Chapter 4 in the format of an article.

Step 1: Familiarisation

A thorough overview of all the data is important (Maguire & Delahunt 2017:3355). The first step was to get to know the data by reading and re-reading the transcripts. In Microsoft Word, the data was tabled according to the questions. The researcher read through the answers of the participants to become familiar with it. The tables are attached as Annexure B7.

Step 2: Coding.

In this step data is organised in a significant and systematic way as suggested by Maguire and Delahunt (2017:3355). The researcher's concern was captured in the research question and the data was analysed accordingly to find an answer for the question. Initially, the researcher worked through printed copies of each transcript with a pen and highlighter.

Line-by-line coding was done for each participant's transcript per question, focusing on the content of the response. Codes were written in the margin as they emerged. New codes were added to allow a thorough overview of the main points that occurred

throughout all the participants' answers.

The codes were grouped on a Microsoft Word spread sheet (see Annexure B8 for initial coding).

Step 3: Generating themes

A theme is a general subject of topics, ideas, and patterns of meaning that are repeatedly mentioned in the transcripts (Maguire & Delahunt 2017:3356). The researcher in association with the supervisor combined several codes into single themes to be focused and provide clarity.

Three themes and fourteen sub-themes were identified, and are described in detail in Chapter 4. In brief, they can be summarized as follows:

Theme 1: Governance factors

The aspects grouped in this theme were shortage of staff, scheduling of work hours and standby, daily workload and responsibilities, and equipment, instruments, stock, and resources.

Theme 2: Workplace culture factors

This theme included topics such as unit pressure, communication, management style, colleagues' attitudes and actions, ward staff attitudes and actions, and the concept of 'time is money'.

Theme 3: Individual and internal factors

These factors were personal and included physical and emotional state, and lack of competencies.

Step 4: Reviewing themes

During this phase the preliminary themes that were identified in Step 3, were reviewed, and modified (Maguire & Delahunt 2017:3358). In collaboration with the supervisors the themes and sub-themes were discussed, and consensus was reached on the final themes and sub-themes.

The final themes were coherent and supported by the data. Some of the aspects

mentioned in a theme did not relate to the study and were eliminated. Some of the aspects were divided and re-named. Three themes with twelve sub-themes were identified:

Theme 1: Governance factors

1.1 Shortage of staff

1.2 Scheduling of work hours and standby

1.3 Daily workload and responsibilities

1.4 Equipment, instruments, stock, and resources.

Theme 2: Workplace culture factors

2.1 Unit pressure

2.2 Communication

2.3 Management style

2.4 Staff behaviour

2.5 Staff training

2.6 Doctors' attitudes and actions

2.7 Time management

Theme 3: Individual factors

3.1 Physical and emotional state

The identified themes made sense, were supported by the data, did not overlap, were useful and accurate, and a representation of the data was received.

Step 5: Defining and naming themes

This was the final modification of the themes and aimed to differentiate what each theme was about (Maguire & Delahunt 2017:33511).

Three themes with twelve sub-themes were identified and a final thematic map (View Annexure B9) illustrated the relationships between the themes. This involved the formulation and description of each theme with sub-themes and were true reflections of the data. A literature control was done. The themes and sub-themes were fully defined and discussed extensively in Chapter 4.

Step 6: Producing the report

A report was presented in an article format to share the results of this study (View Chapter 4).

3.4 ETHICAL CONSIDERATIONS

Ethical approval for this study was obtained from the Ethics Committee of the Faculty of Health Sciences, University of Pretoria. The Belmont Report is divided into three primary ethical principles, namely: beneficence, respect for human dignity, and justice (Polit & Beck 2020:62).

The entire research process adhered to the Belmont ethical principles which were discussed extensively in Section 1.11 Ethical principles.

3.5 TRUSTWORTHINESS

Lincoln and Guba's quality criteria were applied in this qualitative research study to inaugurate trustworthiness (Polit & Beck 2020:276). The credibility, dependability, confirmability, transferability, and authenticity of this study are discussed extensively in Section 1.12 Trustworthiness.

3.6 SUMMARY

This chapter describes the research design and methods used in this study.

Chapter 4 discusses the data analysis and interpretation with reference to the literature review and will be presented as an article and written according to the author's guidelines of the Journal of Advanced Nursing (View Annexure C).

CHAPTER 4
ARTICLE

4.1 INTRODUCTION

Chapter 3 described the research design and methods applied in this study. This chapter presented an article and was written according to the author's guidelines of the Journal of Advanced Nursing (View Annexure C). As it is written in article format, some information related to the background and methods might be seen as repetitive. The format of the chapter is also different from the other chapters as it is written according to the author guidelines.

Title. Factors contributing to normalization of deviance among perioperative nurses: A qualitative, contextual and descriptive study

Abstract

Aim: This study aimed to explore and describe the factors that contribute to normalization of deviances among perioperative nurses in a private hospital in South Africa.

Background: Perioperative nurses deviated from standard operational procedures. With repetition and the absence of immediate effect on the patient's safety, these deviations became acceptable practice. If minor deviations are tolerated, it becomes the modus operandi. Normalization of deviance in the operating room jeopardizes patient safety. It was considered important to identify the contributing factors in the particular hospital.

Design: Qualitative, contextual and descriptive study.

Methods: Self-reported narrative guides were distributed to the total population of twenty perioperative nurses and nineteen shared their perceptions of contributing factors to normalization of deviance. Data were analysed using thematic analysis.

Results: Three themes and twelve sub-themes were generated. These themes and sub-themes described the factors contributing to normalization of deviances in the operating room of the specific private hospital. The themes were related to governance, workplace culture and individual factors.

Conclusion: The contributing factors to normalization of deviance among perioperative nurses in this particular hospital were described.

Impact: Normalization of deviance, or the routine violation of safety practices, in the operating room of a private hospital was a concern since a gradual increase of adverse events were observed. The contributing factors were unknown and were explored and described in this study as being related to governance, workplace culture and individual factors. As a result, preventative strategies, and strategic planning according to these factors could be planned to eliminate error and adverse events in the surgical environment; a supportive and transparent relationship between management and staff members could be established and potential system weaknesses could be identified and addressed to benefit patients, perioperative staff, and the organisation.

Patient or Public Contribution: There was no patient or public contribution in the conduct of this study.

Keywords: adverse events, normalization of deviance, patient safety, perioperative nurse

Contribution to the wider global community:

- The stealth nature of normalization of deviance within the operating room needs to be acknowledged by perioperative nurses. Complacent attitudes and substandard practices cause harm to many patients. By increased awareness of the devastating affect or repercussions of taking

shortcuts, a positive change within them can be a dominant factor in the transformation of the culture of safety in the operating room.

- Normalization of deviance is habitual and increases routine violation of safety practices, therefore preventative strategies and strategic planning can be done to prevent system failures. These system changes can be beneficial to the patient, the perioperative nurse, and the organisation.
- A supportive and transparent relationship between management and the perioperative nurse can reduce the possibility of unacceptable risks and unsafe practice to bring about a safe surgical environment wherein standard operational procedures are followed and defended.

Protocol registration: Ethical approval is obtained from the Research Ethics Committee, Faculty of Health Sciences, University of Pretoria, protocol number 212/2023.

1. INTRODUCTION

The operating room is described as an information-intensive environment with complicated technology managed by multidisciplinary team members who conduct high-risk interventions, and to maintain a safe perioperative environment for patients, are of utmost importance (Kim & Jeong 2021:1). Although effective surgical and anaesthesia care are imperative for the prevention and treatment of infectious diseases, maternal diseases, neonatal diseases, non-communicable diseases, and injuries, the vulnerability of the surgical patient will remain a shifting landscape in decades to come (Everson, Wilbanks & Boust 2020:370).

Despite many mechanisms in place to enhance the safety of the patient, the operating room is characterized by an intrinsic complexity (Wright, Polivka, Odom-Forren & Christian 2021:172), and this high-pressure and very demanding working environment increases the likelihood of adverse events (Gutierres, Santos, Peiter, Menegon, Sebold & Erdmann 2018:2776; Kim & Jeong 2021:1). In 2018, the annual global mortality rate after major surgery fluctuated between 1% and 4%, resulting in the deaths of approximately 8 million patients. Twice these figures demonstrated postoperative complications. Half of all adverse events in hospitalized patients can be related back to the operating room and at least half of these cases in which surgery led to harm are considered preventable (McMullan, Urwin, Gates, Sunderland & Westbrook 2021:2).

One of the aspects contributing to errors in the operating room is normalization of deviance (Everson, et al. 2020:365). Shortcuts often help staff to be more efficient, become seductive, and the possibility of unacceptable risks and unsafe practice are provoked in the system, process, or workflow (Reid 2014:45; Zahiri, Stromberg, Skupsy, Knepp, Folstein, Siverman, et al. 2011:55). Deviation might happen over the years and the opposite of Murphy's Law is relevant because, things that can go wrong, normally do not. The absence of immediate adverse events influences the perioperative nurse's perception of risk, and changes might become the norm (Price & Williams 2018:1), and eventually, harm or adverse events accrue.

2. BACKGROUND

Perioperative nurses are under considerable strain (Alfredsdottir & Bjorndottir 2007:35) and though surgical interventions involve team effort (Kim & Jeong 2021:8) the safety of the patient remains the responsibility of the perioperative nurse (Gutierres, et al. 2018:2776; Alfredsdottir & Bjorndottir 2007:33). According to Krishnan, Wheeler, Pimentel, Vacanti and Urman (2022:25) factors that underwrite safe surgical care for patients include teamwork, leadership, communication, organization, and education. Kim and Jeong (2021:1) state that "addressing incorrect surgical site/patient/procedure, retained surgical items, medication errors, bedsores, hypothermia, burns, inadequate emergency responses, and improperly reprocessing surgical devices" support safe surgical care. These complications, including healthcare-associated infections, relate to impaired patient safety which commonly result in adverse events. High-risk health care environments, such as the operating room, are susceptible to these iatrogenic sentinel events (Kim & Jeong 2021:1).

Adverse events have potentially devastating outcomes, violate the patient's safety, and intensify medico-legal liabilities. The South African Nursing Council, standard operational procedures and policies developed from evidence of randomized controlled trials, clinical observations, and translational research (Reeves & Torkington 2021:21) guarantee intraoperative patient safety and achieve an optimum degree of order in the operating room (Eskola, Roos, Mccormack, Slater, Hahtela & Suominen 2016:725). Despite this solid foundation of standards to prevent adverse events, the adherence to it is abysmal (Goldenberg & Elterman 2020:1369). In South Africa an average of 93% of omissions that lead to adverse events was due to the ignorance of guidelines and protocols (Klopper 2021: [n.p]). The effect of substandard practices and

the tolerance thereof can cause harm to many patients (Samlal 2018:72).

Although standard operational procedures are the backbone of care in surgery, the perioperative nurses' personal and environmental characteristics are recognized to be critical indicators for quality perioperative patient care (Sillero-Sillero & Zabalegui 2019:2), which might contribute to human fallibility. The problem of human fallibility can be related to the person or the system. Adverse events are not the result of a single event but rather a series of failures (Zahiri, et al. 2011:59) and studies attempt to move away from individual victims blaming for deviance to suggestions that the problem requires a system and organizational approach (Price & Williams 2018:2). Prof Hennie Klopper (2021: [n.p]) wrote "same situations cause staff members to become inheritors, rather than instigators of adverse events", which might present as deviance to become the norm.

Normalization of deviance is routine violation of safety practices, bending the rules to be more productive or efficient, it is habitual and are tolerated by management (Reid 2014:45). These acts represent latent as well as active failure and most adverse events are associated with combined active and latent error (ElBardissi, Wiegmann, Dearani, Daly, Sundt III 2007:1413). Nurses are gatekeepers to recognize and respond to restore safe practice if they are present at the defining moments when deviance occurs (Morath 2011:2). Consequently, organisations find it challenging to maintain a focus on safety and to continue to adhere to safety standards for extended periods of time. This study is a powerful reminder of the riskiness of the operating room activities.

3. THE STUDY

Research aim

This study aimed to explore and describe the factors that contribute to normalization of deviances among perioperative nurses in a private hospital in South Africa.

Research question

The research question was as follows: Which factors contribute to normalization of deviance among perioperative nurses in a private hospital in South Africa?

4. RESEARCH METHODS

Design

A qualitative, contextual and descriptive design was seen as the most appropriate design in this study because the research question signifies factors that contribute to normalization of deviance among perioperative nurses in a private hospital in South Africa. Qualitative research is the study of experiences, in a comprehensive and holistic manner through the collection of rich narrative materials using a flexible research design (Polit & Beck 2020:396). It aims to answer questions of how, why, and what of a phenomenon and attempts to discover the perspectives of the subjects, which involves the research question (Haven & Van Grootel 2019:232). Busetto, Wick and Gumbinger (2020:2) emphasise that the goal of qualitative research is to develop a broad understanding of a phenomenon as it occurs, assembled by individuals in their own setting and is characterised by flexibility, openness, and responsivity to the context. The phenomenon under study was normalization of deviance among individuals (perioperative nurses) in their own setting which related to the operating room of a specific private hospital.

Theoretical framework

Rasmussen's (Morrison & Wears 2022:128) migration towards boundaries of safety theoretical model and Reason's Swiss cheese model (Stein & Heiss 2015:278), are major contributors to the understanding of normalization of deviances among perioperative nurses and the devastating consequences that can result therefrom.

Normalization of deviance aligns with the scientist Jens Rasmussen's theory of migration to boundaries. Specific factors within the operating room phenomena generate practical drift of the perioperative nurse to boundaries of acceptable performances and time pressures on employees, encourage adaptation to the workplace environment (Wright, Polivka & Clark 2022:116). These factor-induced variations allow the perioperative nurse to discover an effort gradient that often

reconciles with an efficiency-gradient. With repetition, these deviations in standard operational procedures can result in a systematic migration towards the boundary of functionally acceptable performance. When the drift becomes more frequent and accepted, it holds the potential of projecting outside the boundary of safe practice. The instant the unsafe boundary is crossed, an adverse event may occur (Morrison & Wears al. 2022:128).

The Swiss cheese model, proposed by psychologist James Reason, explains the failure of numerous system barriers to block errors. An ideal system is comparable to a stack of slices of Swiss cheese. The holes are considered the opportunities for a process to fail, and each slice represents a so-called defence layer. Defects in working procedures are signified by the holes which allow errors to pass through, and each layer would work as a defence against potential error impacting the outcome. If continuous errors occur and align, the layers of defence will not be abundant, and adverse events will occur (Stein & Heiss 2015:278).

Medical errors have multi-factorial causes and place patients at significant risk of harm (Stein & Heiss 2015:278). Reason, points out that errors within most complex systems such as an operating room, are caused by a breakdown or absence of safety barriers. The preferred strategy suggested by Reason is to prevent an error from occurring or prevent the error from causing harm by applying multiple steps that function as a safety net.

Because human performance is shaped by the context in which it occurs, the focus shifts to system accountability instead of individual failure (ElBardissi, et al. 2007:1413). Reason proposed the image of Swiss cheese to explain problematic processes that cause these errors. Four levels or barriers are modelled as a series of layers, like slices of Swiss cheese, with each slice being an opportunity to stop an error. These levels are divided into organizational influences, unsafe supervision, preconditions to unsafe acts, and unsafe acts, and are used to understand the underlying casual factors that lead to an adverse event or incident.

Conceptual framework

Figure 1 demonstrates the effect of normalization of deviance on the safety of the patient as interpreted in this study.

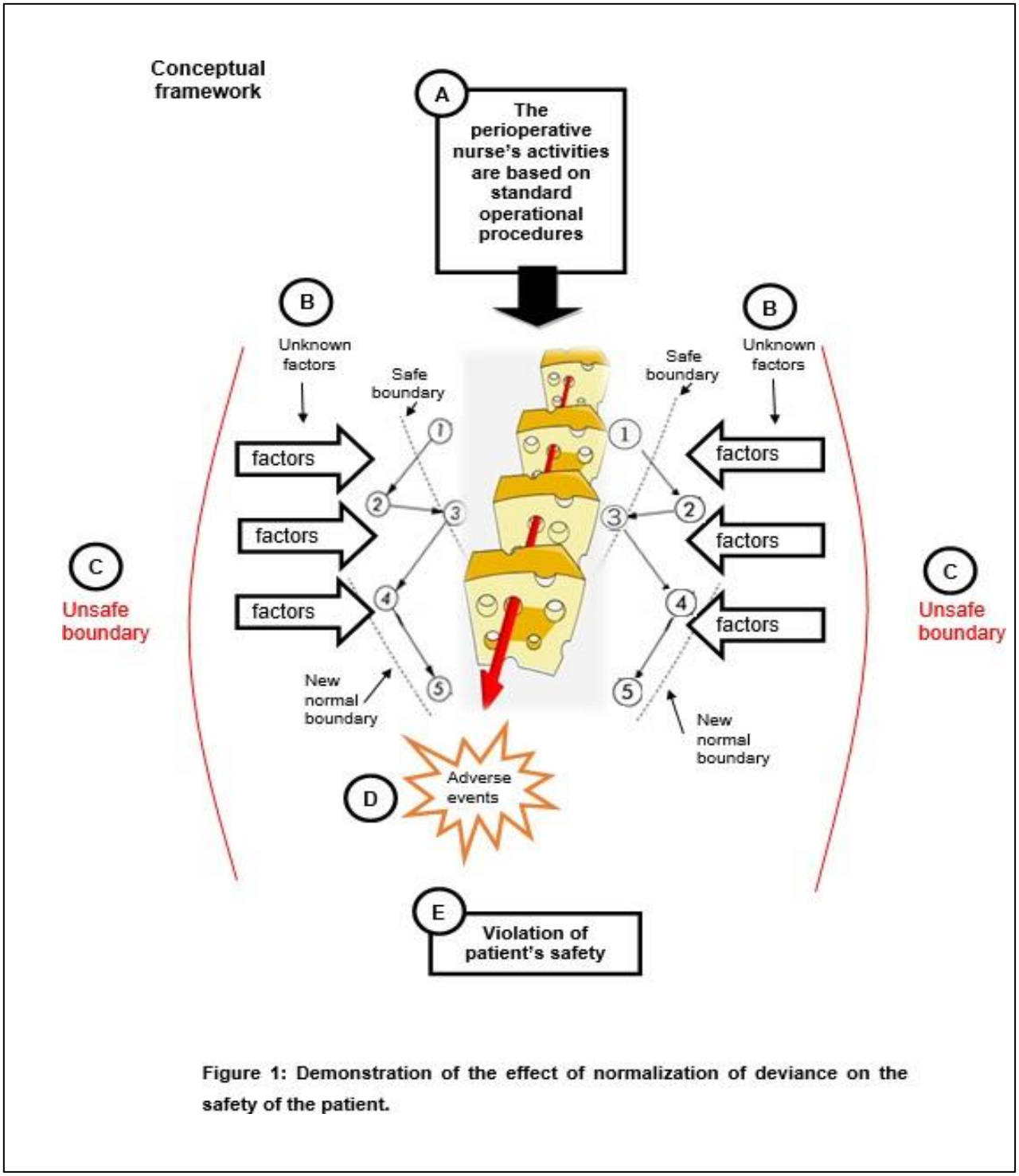

Figure 1: Conceptual framework of normalization of deviance

The symbols used in Figure 1 represent the following:

(A) Perioperative nurses' activities are based on standard operational procedures.

(B) The goal of this study is to explore and describe unknown factors.

(C) Constant drifting due to the influence of unknown factors leads to gradual erosion of safety standards, and day-to-day activities of the perioperative nurse move closer to the unsafe boundary.

(D) The accumulation of error, with lesser defence of prevention, results in adverse events.

(E) The violation of patients' safety occurs.

(1) Safe practice and good patient outcome result from standard operational procedures being followed.

(2) Unknown factors trigger the perioperative nurse to drift outside the safe boundary.

(3) No error occurs, and corrective action can happen.

(4) The unknown factors predispose continuous drifting, and the perioperative nurse moves closer to the unsafe boundary.

(5) Extrication of practice from written procedures becomes the new normal and normalization of deviance occurs.

The application thereof is explained in the subsequent section.

In a hospital the perioperative nurses are trained according to the regulations of the South African Nursing Council's (The Nursing Act 33 of 2005), company- and hospital-related guidelines. The activities of these perioperative nurses should be based on standard operational procedures. Although they should be competent, they tend to make slight changes in their work procedures, which can be described as practical drifting. As Rasmussen's model implies (Wright, et al. 2022:121), at first, they drift to

efficiency boundaries and with repetition these deviations become acceptable and then they become the norm. This process is defined as normalization of deviance. In this Hospital under study, drifting towards and crossing over unsafe boundaries is a reality. An incline in adverse events was detected the previous year (Patient Safety Scorecard 2021-2022).

Reason's model explains the effect of defects in working procedures. Latent errors pass through the layers of defence and predispose in active error or adverse events. Error is unavoidable, but having a system in place preventing it from occurring and resolving it when it does occur, patient safety prevails (Goldenberg & Elterman 2020:1371). In this study, the specific factors that contribute to normalization of deviance among perioperative nurses in the private hospital of relevance in this study, were not known and therefore had to be explored and described.

Study settings and recruitment

The study was conducted in the operating room complex of a selected private hospital in South Africa.

Inclusion criteria

The inclusion criteria were as follows: to participate in this study, they had to be full-time employees of the specific hospital group, to have had experience of six months or longer in the specific operating room, to have being registered at the South African Nursing Council, and to have been older than 18 years and able to understand and write English.

Sample

Sampling is the selection of a subset of the population of interest in a research study (Etikan, Musa & Alkassim 2016:1). Total population sampling is a type of purposive sampling of which the entire population that meet the criteria are included (Etikan, et al. 2016:3), and was used in this study due to the small population. In this study all the perioperative nurses of the particular hospital met the inclusion criteria and were invited to participate in the study. A total of twenty participants were invited and nineteen participated voluntarily and signed informed consent (View Annexure B1).

Pilot testing

A perioperative nurse of the specific operating room volunteered to be the pilot participant. She understood all the questions and gave well-defined and appropriate answers. No changes were made to the self-reported narrative guide. The pilot participant did not participate in the study.

Data collection

The data were collected by means of a self-reported narrative guide (View Annexure B2). Peer language was used for simplicity and granted the participant the freedom of telling their own story. The self-reported narrative guide was divided into two sections. Section A included demographic questions to ensure that the participant met the inclusion criteria. Section B was sub-divided into four sections each containing a brief description and two questions. No personal information appeared on the self-reported narrative guide and enough space was given to the participants to provide rich, full, and descriptive answers.

A total of twenty participants were invited and nineteen participated voluntarily and signed informed consent forms (View Annexure B1). In the allocated period of two weeks, nineteen participants completed the self-reported narrative guides in their own time and deposited the sealed envelopes in the one-way boxes, which were delivered to the supervisor.

To prevent the researcher to recognize the handwriting and identify the authors of the responses, the participants' answers were typed verbatim by an independent person. The typed responses were checked by the supervisor to be a true reflection of the participants' versions. Nineteen transcribed files marked as Participant 01 up to Participant 19 were emailed to the researcher for data analysis.

Data analysis

Data were analysed by means of thematic analysis. The goal of thematic analysis is to interpret data and identify themes with the view to addressing the research aim and answering the research questions (Maguire & Delahunt 2017:3353). Braun and Clarke (2006) identified and described six phases in the analytical process, which were applied in this study as follows:

Step 1: Familiarisation

The first step was to get to know the data by reading and re-reading the transcripts. A thorough overview of all the data is important (Maguire & Delahunt 2017:3355). The researcher read the answers of the participants to become familiarized with it.

Step 2: Coding

In this step data was organised in a significant and systematic way as suggested by Maguire and Delahunt (2017:3355). The researcher analysed the data accordingly with the research question in mind. Initially, the researcher worked through the printed copies of each transcript with a pen and highlighter, doing line-by-line coding. New codes were added to allow a thorough overview of the main points that recurred. On a Microsoft Word spread sheet, the codes with similar meaning were grouped.

Step 3: Generating themes

A theme is a general subject of topics, ideas, and patterns of meaning that are repeatedly mentioned in the transcripts (Maguire & Delahunt 2017:3356). The researcher in association with the supervisor combined several codes into single themes because they described the data for the purpose of the study. Three themes and fourteen sub-themes were identified.

Step 4: Reviewing themes

During this phase, the preliminary themes that were identified in Step 3, were reviewed, and modified (Maguire & Delahunt 2017:3358). In collaboration with the co-supervisor the themes and sub-themes were discussed, and consensus was reached on the final themes and sub-themes. The identified themes and sub-themes made sense, were supported by the data, did not overlap, and were useful and accurate.

Step 5: Defining and naming themes

This was the final modification of the themes and aims to differentiate what each theme was about (Maguire & Delahunt 2017:33511). Three themes with twelve sub-themes were identified and a final thematic map (View Annexure B9) illustrated the relationships between the themes. This phase involved the formulation and description of each theme with sub-themes and were true reflections of the data. A literature control was done.

Step 6: Producing the report

A report was presented to share the results of this study.

Ethical considerations

Ethical approval for this study was obtained from the University and Institutional Ethics Committees (View Annexure A1 and Annexure A2). In addition to these approvals, the entire research process adhered to the Belmont ethical principles and guidelines to protect the human rights of the participants as the human subjects of research (Polit & Beck 2020:62).

The first Belmont report principle is the principle of beneficence, which refers to the researcher's responsibility to promote the participants' welfare and safety (Health and Human Services [HHS] 1979: [n.p]). The beneficence principle includes two specific research aspects: (1) participants' right to freedom from harm and discomfort and (2) participants' right to protection from exploitation (Polit & Beck 202:63). Prior to conducting this study, the researcher investigated the potential risks and benefits to the research participants. There was no harm foreseen in the study.

The possibility of a positive influence on the environment in which the perioperative nurse performed her duties was an expected outcome. By exploring the factors that contribute to normalization of deviances, potential patient safety issues, system weaknesses and failures in this specific operating room were identified and addressed. The risks and benefits appeared in the informed consent document of this study.

The second protective principle is known as respect for human dignity. "Respect for persons requires that subjects, to the degree that they are capable, be given the opportunity to choose what shall or shall not happen to them" (HHS 1979: [n.p]). Informed consent was received from each perioperative nurse and contained the adequate information regarding the research procedure, the purpose of the study, risks and anticipated benefits, and a statement granting them the opportunity of asking questions and of withdrawing at any time from the research without negative consequences were included. Full disclosure meant the researcher assured that all the participants understood the information by presenting the information in an organised and understandable manner. Each participant was earmarked sufficient time to make informed decisions. Voluntary participation was required, and no

unjustifiable pressure was imposed on them to participate. The informed consent form was signed prior to participation.

The final principle contained in the Belmont report is the principle of justice, which pertains to participants' right to fair treatment and their right to privacy (HHS 1979: [n.p]; Anabo, et al. 2018:146). The selection of participants desired for this study was guided by the research question, and total population sampling was done. The implication of including the total population was that representative data could be gathered from the perioperative nurses, and no one was excluded.

The right to privacy also resorts under the principle of justice (Polit & Beck 2020:65). Privacy involves a combination of legal rights and technical measures that allow individuals to control who has access to their personal information and how that information is used, and to address and mitigate privacy-related forms of harm, three approaches were suggested (Anabo, Elexpuru-Albizuri & Villardón 2018:144). These authors suggested that the participants' data and responses be kept anonymous; researchers need to focus on the storage of original copies; and lastly strive to exhaust all measures to protect the participants' identity by guaranteeing confidentiality.

In the current study no personal information appeared on the self-reported narrative guide. Each participant sealed their own envelope with the completed self-report and deposited it into a one-way box. After two weeks the sealed box was delivered to the supervisor. She arranged for the written narratives of the participants to be typed verbatim by an independent person to prevent the researcher from recognition of the handwriting and identification of the participant. Each participant's response had a number only and the participants therefore remained anonymous.

The original copies are stored on the premises of the University for 15 years. All the information provided by the participants through their study involvement is protected; therefore, they are safe from exploitation. The confidentiality of the participants and of the hospital in which the study was performed was guaranteed. No personal nor institutional information appears in the study.

Validity and reliability

Lincoln and Guba's quality criteria were applied in this qualitative research study to ensure trustworthiness (Polit & Beck 2020:276).

One of the key criteria of trustworthiness is to ensure that their study explores what it intended to explore. Lincoln and Guba argued that credibility is a particularly important aspect in establishing trustworthiness (Polit & Beck 2020:276). Shenton (2004:64) explained credibility as how close the researcher's findings are to the reality or phenomenon under study. Nowell, Noris, White and Moules (2017:3) define credibility as the truth value of how outsiders will understand the research findings.

Using a qualitative, descriptive and contextual design was the most suitable research method and the aim of the researcher was to stay close to the participants' experiences in the operating room context. Credibility prevailed, because the data received directly reflected the terminology used in the initial research question.

Triangulation refers to the use of different referents to draw conclusions regarding the phenomenon under study, whereas person triangulation involves the collection of data from diverse types or levels of people (Polit, & Beck 2020:280). The selection of participants desired for this study was guided by the research question, and total population sampling was done. All the perioperative nurses of a specific private hospital were invited to participate in this study. The implication of including the total population was that representative data could be collected from the perioperative nurses. The participants had different qualifications and job descriptions in the operating room; hence multiple perspectives on the phenomenon were enhanced and the extent and consistency of the factors that contribute to normalization of deviance were proven.

Another aspect to enhance credibility is to ensure honesty in participants when they contribute data (Shenton 2004:66). Participation was voluntary and the data collecting instrument as well as the process of data collection ensured confidentiality. The participants offered an honest and true reflection of their experiences within the operating room.

Guba and Lincoln (1985) suggested yet another strategy to enhance credibility, which includes prolonged engagement within the adequate scope of data coverage (Polit & Beck 2020:288). The researcher had prolonged engagement and understood the context and the dynamics well, which contributed to trustworthiness, but also increased the risk of bias. As a qualified perioperative nurse, with 25 years of experience and being a clinical training specialist, it was important for the researcher to

acknowledge her role in the research process. Being the educator as well as partial managerial, it was important to understand the self in creation of knowledge, judgements, practices, and beliefs and the impact thereof needed to be self-monitored and to bracket her own opinions as a deliberate part of the research process.

The researcher was concerned about the phenomenon of the study as was motivated, to explore and describe the factors that contribute to normalization of deviance in this specific operating room. Transparency and clarity are of utmost importance to the researcher. The researcher therefore did a literature review for better understanding of the phenomenon and could clarify her positionality in relation to what was being studied. Frequent debriefing sessions took place between the researcher and her supervisors. Through these discussions, the vision of the researcher widened as they brought to bear their expertise and perceptions. Alternative approaches were discussed, and they served as sounding boards for the researcher. Furthermore, strategies were put in place to obtain anonymity of the participants (see discussion related to ethical considerations) to enhance honesty from the participants.

Transferability

A second factor for trustworthiness is transferability, which implies that the results of the research study can be applicable to similar situations or individuals (Polit & Beck 2020:283). Although the findings of this study were specific to a small number of individuals in a particular environment, the knowledge obtained in this study is relevant to the experiences of perioperative nurses. Investigators who conduct research in another context can use certain concepts.

Transferability relies on the researcher's thick descriptions- and if rich enough -to portray circumstances that can be applicable to others' situations (Polit & Beck 2020:283; Shenton 2004:70). The researcher described the research method and timeframes for the collection of data and the number of participants involved in the fieldwork to be understood within the context of the particular characteristics and geographical area in which the fieldwork was conducted.

Dependability

Dependability refers to the stability of data over time and conditions (Polit & Beck 2020:277). To address the dependability issues, the process of the study was reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results. An audit trail described the research steps transparently, from

conception of the research project through the development and reporting of the findings.

Confirmability

Confirmability refers to the objectivity of the data (Polit & Beck 2020:288). Thick and contextualized interpretations derived from the data received. The researcher incorporated theoretical, methodological, and analytical choices throughout the study, as indicated by Nowell, et al. (2017:3), to demonstrate how and why conclusions were drawn. Braun and Clarke (2006) identified and described six phases in the analytical process (Polit & Beck 2020:262). Through following these steps, the findings made by the researcher reflected the perioperative nurses' experiences and any observer will be able to trace the course of the research step-by-step.

Authenticity

"Authenticity emerges in a report when it conveys the feeling tone of participants' lives as they are lived" (Polit & Beck 2020:277). This study enabled readers to understand the daily activities and habits of perioperative nurses and the challenges they face. Authenticity has been proven due to the credibility of this study and that the research being done contributes to the field.

5 FINDINGS

The themes and sub-themes describe the factors contributing to normalization of deviances in the operating room of a specific private hospital.

THEME 1: GOVERNANCE FACTORS

Participants were of opinion that the hospital and unit management could address the factors identified as contributing to normalization of deviance, namely: shortages of staff, scheduling of workhours and standby, workload as well as equipment, instruments, stock, and resources. For optimal exposure of the received responses, staff management, efficient staffing and adequate resources will be the sub-themes that are defined under governance factors.

1.1 SHORTAGE OF STAFF

Participants reported the shortage of qualified and experienced staff as a key contributing factor, and motivated it as follow:

(P6) "it is easy to make small changes at the workplace when we have a shortage of staff and when a lot is required from you."

(P14)" Shortage of staff due to staff booking off sick."

1.2 SCHEDULING OF WORK HOURS AND STANDBY

Participants referred to the monthly hours schedule (off duties) and stated that "long hours", "night staff imbalances", "staff-patient ratio over weekends" and "no rest day during the week" are contributing factors.

(P02) "the long hours that we work, makes us not want to work efficiently and with exhausted mind we bond to make changes."

(P16) "working ±16hours per day and expected to fully function the following 12-16 hours, it is psychological draining and "it definitely" leads to shortcuts in the operating system setup."

1.3 DAILY WORKLOAD AND RESPONSIBILITIES

Participants asserted the workload and the allocation of it to be unfair and that it resulted in the deviation of working procedures. The allocation of staff, in different disciplines and distinct roles or responsibilities, is done on a daily basis according to electronic bookings. Surgeons are allocated in different theatres and time slots. Bookings are cold cases and exclude emergency cases. Emergency cases are booked randomly.

(P05) "Growing list and staff not allocated properly lead to mistakes and work being rushed off."

(P10) "Sometimes there is only one sister allocated to a theatre and she must scrub alone, and then the doctors rush because it takes longer to set up for a procedure and they push patients in before the sister is ready."

1.4 EQUIPMENT, INSTRUMENTS, STOCK AND RESOURCES

Some of the participants explained that the shortage of instruments, equipment and stock are factors that lead to deviance. Instruments need to be decontaminated and sterilized between patients. The turnover time between cases is extremely quick and the correct process of decontamination and sterilization is time-consuming.

Specialized and discipline-related equipment is used. Equipment failure causes frustration and time delay and creates the possibility of an adverse event.

Stock availability and control have huge financial implications. The formulary products may change often. These changes have a significant impact on the charging of stock resulting in over- and under-charging. It also contributes to friction between the surgeons, nurses, and stock controllers.

(P12) "Shortage of instruments leads to shortcuts thus it affects the health and safety of patients"

(P15) "Instruments that are not properly sterilised."

(P17) "Sometimes when the equipment malfunctions during a procedure."

(P13) "Stock changes and shortages as well as rude stock controllers – not get the help you need when you need it."

THEME 2: WORKPLACE CULTURE FACTORS

Participants indicated factors in the workplace culture such as unit pressure, communication, management style, attitude, and actions of team members as well as time management as being the main factors contributing to normalization of deviance in the operating room.

2.1 UNIT PRESSURE

Participants indicated that they are under severe pressure to perform. The complexity of the operating room, short, and fast cases, long lists, and emergency cases were mentioned by the participants to enhance the already high-performance pressure.

(P01) "Surgeon's putting pressure on staff to work more quicker, this led to staff not following procedures."

(P03) "They [surgeons] tend to exert a certain pressure on the theatre staff and sometimes even shout saying we are wasting time" and *"and when they get to the operating room, she finds the doctor already gave the patient drugs to sleep. Now the surgeon is waiting for her to finish her preparations. She ended up taking shortcut when scrubbing and did not use the proper scrubbing technique, because she wanted to catch up."*

(P09) "Cleaning staff half-mopping the theatre that is due to anaesthetist been too much in a hurry."

2.2 COMMUNICATION

(P16) "wish/try to learn Afrikaans quicker so that I will not struggle with verifying procedures written in Afrikaans (informed consent and confirmation of procedures)" and "Using of international language among the multidisciplinary team will limit errors and risks and improve patient's safety in the operating room."

Others mentioned that a lack of communication in specific situations can cause patient harm.

(P19) "Patient forget to tell the doctor before the procedure that he or she has a dangerous condition for anaesthetics. Doctors do not always communicate with staff or each other about the risks of a patient and then not all the necessary preparations were followed."

2.3 MANAGEMENT STYLE

Participants experienced and mentioned a deficiency in management support within the unit. Some participants asserted the lack of communication between themselves and the unit manager and experienced favouritism and non-involvement as critical issues. Although the managerial role and responsibility are focused on administrative duties, participants expressed her involvement in the clinical facet as important.

(P17) "Ensure that doctors do not bully staff or take their side before she heard the nurse's side." and *"Even if you report or complain, nothing or little is done about the situation."*

(P19) "Management are allowing doctors to work over weekends with elective cases, not enough staff for real emergencies" and *"Management is always trying to please the doctors."*

2.4 STAFF BEHAVIOUR

Participants indicated they saw and adopted incorrect behaviour from colleagues.

(P01) "Influence from fellow colleagues, seeing your colleague doing it wrong and you adopting the same thing."

Participants specified that colleagues being late on duty increases the possibility of taking shortcuts.

(P06) "When theatre staff get to work late, they don't have enough time to check the equipment and when the doctor starts operating you will find out you are missing some of the equipment that you should have had in the theatre."

Absenteeism, sick leave, and smokers leaving the operating room frequently have been identified as factors that lead to deviation.

(P19) "There is no time to check the theatre and all the stock and sets and be sure you are ready for a list of 14 patients and cases, and the next minute you are told someone is off sick and you are working alone."

2.5 STAFF TRAINING

Participants mentioned that a lack in competencies and / or adequate training was also a critical factor that contributed to the deviation in standard operational procedures. The operating room is a specialized unit and incompetent, unexperienced, unqualified colleagues are causing frustration, and increase pressure on their peers. The necessity for training is noticeably clear. Experience is time related.

(P04) "Not enough qualified staff. One floor nurse must also help the anaesthetist at night, counting instruments and swabs. Not enough attention to detail: too much pressure on all of us" and "Training lack."

(P08) "I think staffing is a problem especially scrub nurses are very limited, and they are not experienced."

(P11) "Not enough qualified nurses, then the pressure is much more."

2.6 DOCTORS' ATTITUDES AND ACTIONS

According to the participants doctors' attitudes and actions were reported to be an enormous factor in the daily activities of perioperative nurses and unfortunately accounted for more normalization of deviances in working procedures.

The participants described the attitudes and actions of the doctors as follows:

(P03) "even shout saying that we are wasting time, so because no ones like to be shouted at, we now try to move in the speed of the surgeons such that some procedures are skipped."

(P04) "Abusive surgeons, talking and screaming to you and don't give you time to do things properly."

(P10) "Doctors that are in a hurry and rush you to work faster. They push patients into the theatre before the sister is ready to scrub for procedure, sometimes still in recovery when they push the patient in."

(P15) "Doctors that are pushing a patient inside theatre even if it is not cleaned thoroughly the cleaners must go because the doctor is there with the patient."

(P18) "Doctors putting staff under pressure and getting impatient with staff."

2.7 TIME MANAGEMENT

Participants agreed that time management is another main factor contributing to normalization of deviance. Efficiency and productivity increase the possibility of unacceptable risks and with the absence of immediate adverse events, it becomes the norm.

(P11) "I think everybody working in theatre, one taking shortcuts to save time. Everything is about time. I observed a colleague cleaning the laryngoscope blade in the bucket of Synthol water. Not in Endozime. I asked him about it, and he admitted it is to save time."

These shortcuts provoke unsafe practice in the system, process, or workflow and are manipulated by the doctors as well.

(P19) "Doctors that are in a hurry and force us to make changes to suit them to save time."

Time, money, and productivity are interrelated, and these deviations are often overlooked by management.

(P13) "Opening two theatres with only one anaesthetist doctor and 4 nurses on duty. Staff is forced to work with inadequate number and management does nothing to change the situation and explains it by saying it only happens once in a while."

THEME 3: INDIVIDUAL FACTORS

The participants concurred that physical and emotional state also contributed to normalization of deviance.

3.1 PHYSICAL EXHAUSTION

Fatigue and exhaustion were identified as factors contributing to deviances.

(P01) "Limited number of employees and the long, extra working hours and standby's lead to fatigue which cause the staff not to be competent anymore" and *"so if you have to decide between doing it correctly but taking long/doing it wrong (shortcut) but you will be finished soon then you take the wrong (shortcut) one."*

(P02) "The long hours that we work, makes us not want to work efficiently and with an exhausted mind we are bond to make changes."

(P05) "No person can focus fully from 07h00-23h00. Staff are over tired" and *"list continuing well into the night, already exhausted staff must stay on and then be on call and again at work the next day."*

(P09) "You work more than hours expected with no off during the week and become on-standby on weekends while you work more than one theatre a day, at the end of the day you become exhausted physically and mentally. That leads to short cuts or small changes in procedure performance.

6. DISCUSSION

Normalization of deviance in operating rooms is a reality. The factors that contribute to normalization of deviance in the operating room of this specific private hospital were unknown, and by noting the stealth nature of normalization of deviance and the devastating effect it has on the safety of the patient, the aim of this study was to explore and describe these factors. Therefore, all the indicated factors were considered. Governance, workplace culture and individual factors were found to enhance the phenomenon of normalization of deviance among these perioperative nurses. Participants in this study expressed the shortage of qualified, skilled, and experienced perioperative nurses and unbalanced staff-patient ratio, as a factor. Herman, Jaruzel, Lawton, Tobin, Reves, Catchpole and Alfred (2021:741), recommended efficient staffing, positive workplace culture, continuous learning, adequate resources, and acceptable demands as factors to enhance patient safety. Participants reported the long working hours, night staff imbalances, insufficient staff-patient ratios over weekends and no rest day during the week, to be contributing factors to this phenomenon. The shortage of discipline specific instrumentation and equipment were

mentioned, and the constant changes in and availability of stock caused frustration and time-delays and created the possibility of adverse events.

The data gave insight into what these perioperative nurses see as workplace culture factors and identified unit pressure, communication, management style, attitudes, and actions of team members as well as time management under this theme. Eskola, et al. (2016:726) define the workplace culture as the way things are done in the unit, “It includes shared structures, routines, rules and norms that serve to guide and constrain behaviour in work communities.” They also stated, “In health care, workplace culture qualifies people’s work and care for their patients by reflecting a microsystem level of culture in which most of the care is delivered and experienced.” The complexity of the operating room, expeditious cases, long lists, and the unpredictability of emergency cases were mentioned by the participants and enhanced the already high-performance pressure. Considering their working area that is complex, dynamic, and technology-rich, perioperative nurses are under substantial strain (Alfredsdottir & Bjornsdottir 2007:36). Language barriers were identified as a huge factor that contributed to error and the lack in communication caused patient harm. The importance of good and effective communication was prioritized by the participants as they recommended English, the international language, to be used in all the daily activities involving patient care. Krishnan, et al. (2022:25) emphasise that factors that underwrite safe surgical care for patients include teamwork, leadership, communication, organization and education. Etherington, Wu, Cheng-Boivin, Larrington and Boet (2019:1252) are of the opinion that the root of surgical adverse events can often be found in communication failures. Participants experienced and mentioned a deficiency in management support within the unit. Some participants asserted the lack of communication between themselves and the unit manager and experienced favouritism and non-involvement as critical issues. Although the managerial role and responsibility are focused on administrative duties, participants expressed her involvement in the clinical facet as important. In the operating room, the nurse manager or unit manager needs problem-solving strategies, stress and conflict management skills, knowledge of financial implications, quality assurance and the ability to manage stock and materials. The nurse manager’s decisions directly influence patient safety, the care coordination, the flow of tasks and health care

workers' daily well-being (Siirala, Peltonen, Lundgrén-Laine, Salanterä & Junttila 2016:807).

A complacent attitude among the participants was identified. Not only did participants observe colleagues taking shortcuts but agreed on personal deviation as well. Absenteeism, sick leave, and smokers often taking smoke breaks, were identified, and increased the pressure on peers which leads to shortcuts. Late-coming was an issue often raised. It has a direct influence on the preparation of the theatres. Attitudes relate to the perioperative nurse's ability to value the standard operational procedures and follow them (Pelzang & Hutchinson 2018:2). Competency can be clarified according to knowledge, skills, and attitude. Knowledge (ability to recognize and understand) and skills (ability to perform clinical tasks correctly) are directly influenced by training and experiences in the surgical area. Attitude (ability to value strategies and to follow them) is also a key factor (Pelzang & Hutchinson 2018:2). The absence of these factors indicated frustration and increased pressure on their peers. Doctors are seen as clients in the private sector. The pressure they put on perioperative staff was obvious. Their attitudes are mostly explained as abusive, rude, shouting, screaming, ready to fight, and in a hurry, which negatively influences the perioperative nurses' ability to work according to the correct principles and procedures.

Time, money, and productivity are interrelated and were identified by the participants as an enormous factor, forcing them to make changes to procedures, and these deviations are often overlooked by management. Efficiency and productivity are the two main reasons for drifting to unsafe boundaries as illustrated by Rasmussen's (1997) theory (Reid 2014:45; Wright, et al. 2022:121). Shortcuts often help staff to be more efficient, become seductive, and the possibility of unacceptable risks and unsafe practice are provoked in the system, process, or workflow (Reid 2014:45; Zahiri, et al. 2011:55). The concepts of production pressure and normalization of deviance "have a reciprocal relationship in which the presence of the one increased or caused the occurrence of the other" (Everson, et al. 2020:368). Normalization of deviance is routine violation of safety practices, "bending the rules" to be more productive or efficient, it is habitual and is tolerated by management (Reid 2014:45). Considering the findings of this study, the above defined themes, and sub-themes, had a direct influence on the physical and psychological state of perioperative nurses.

Fatigue, tiredness, and exhaustion were identified as factors contributing to deviances. Psychological aspects such as depression and burnout were mentioned by the participants. Perioperative nurses are present in all the phases of the perioperative period of the surgical patient and their key role is to ensure patient-centred nursing care and positive patient outcomes (Gutierres, et al. 2018:2776). Since the operating room is a specialized environment, multidisciplinary teamwork, possession of knowledge, demonstration of competencies and the strict adherence to standards and guidelines of practice are only a few characteristics of these nurses (Eskola, et al. 2016:725). Expertise concerning aseptic and sterile techniques, preparation of anaesthesia and surgical environment, maintenance of complex medical equipment, availability of stock, high technology demands, and the provision of sterile supplies are shared responsibilities. The standard of perioperative nursing practice is dependent on variables that include, environmental factors, surgical services, patient acuity, and staffing resources (Williams 2015:15). Considering their working area that is complex, dynamic, and technology-rich, perioperative nurses are under substantial strain (Alfredsdottir & Bjornsdottir 2007:36). Main threats to the safety of patients include increased speed and productivity, constant concentration, lack of control of circumstances due to rapid changes in patient status and conditions, staffing and organization of work.

6.1 STRENGTHS AND LIMITATIONS

The author is a trained perioperative nurse, with nurse management and education qualifications, and is familiar with the operating room settings. A strength of this study derives from the author's insider perspective and knowledge which allowed a nuanced appreciation. Because anonymity prevailed, participants were honest and expressed themselves in full. All the study participants experienced normalization of deviance in the operating room settings, either personally or observed from colleagues. Factors contributing to this phenomenon have been explored and defined and unforeseen, areas in which deviation mostly appear were identified. These areas are all defined as medical legal aspects and taking shortcuts in these standard operational procedures can result in patient harm or adverse events.

A limitation of this study is the absence of multi-disciplinary team members' experiences regarding this phenomenon. The contribution of multi-disciplinary team members regarding preventative strategies and strategic planning to eliminate error and adverse events in the surgical environment could therefore be a reasonable approach in further studies. Insider positionality carries a risk of researcher bias and assumptions influencing the research. This was acknowledged and mitigated through reflexive processing by the author. This study was performed at one private hospital in South Africa, and focused on factors that contribute to normalization of deviance among perioperative nurses. The findings therefore need to be interpreted in this context to assess transferability to other contexts.

7. CONCLUSION

The factors that contribute to normalization of deviances among perioperative nurses in the particular private hospital were described. Normalization of deviance, or the routine violation of safety practices, in the operating room of a private hospital was a concern since a gradual increase of adverse events were observed. The contributing factors were unknown and were explored and described in this study as being related to governance, workplace culture and individual factors. As a result, preventative strategies, and strategic planning according to these factors could be planned to eliminate error and adverse events in the surgical environment; a supportive and transparent relationship between management and staff members could be established and potential system weaknesses could be identified and addressed to benefit patients, perioperative staff, and the organisation.

AUTHOR CONTRIBUTION

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE*): (1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; (2) drafting the article or revising it critically for important intellectual content.

As primary investigator, the researcher were part of conception and design, and was responsible for data collection, analysis and interpretation, as well as drafting of the article.

As study supervisor, Professor Carin Maree, and co-supervisor Professor Isabel Coetzee-Prinsloo, contributed to conception and design, critical revision and supervision.

ACKNOWLEDGEMENT

I am grateful to all my colleagues for participating in this study. Also, the private hospital group and hospital for their permission and support in conducting this study.

CONFLICT OF INTEREST STATEMENT

No conflict of interest has been declared by the author.

PEER REVIEW

The peer review history for this article is available at

DATA AVAILABLE STATEMENT

The author elects not to share data. Research data is not shared, but is available on request for a specific purpose.

FUNDING STATEMENT

No financial support was received for this study.

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https://orchid.org./0009-0008-4131-5937

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CHAPTER 5

FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Normalization of deviance, or the routine violation of safety practices, in the operating room of a private hospital was a concern as a gradual increase of adverse events were observed. The contributing factors were unknown and were explored and described as being related to governance, workplace culture and individual factors. The data analysis and findings were discussed in Chapter 4. As a result, preventative strategies, and strategic planning according to these factors could be planned to eliminate error and adverse events in the surgical environment; a supportive and transparent relationship between management and staff members could be established and potential system weaknesses could be identified and addressed to benefit patients, perioperative staff, and the organisation. This chapter briefly describes the findings and limitations of the study, identifies, and suggests strategies to enhance the safety of the surgical patient and makes recommendations for further research. The researcher's personal reflection on her research journey is included.

5.2 AIM

The aim of the study was to explore and describe factors that contribute to normalization of deviances among perioperative nurses in a particular private hospital in South Africa.

5.3 PERIOPERATIVE NURSES' RESPONSES

In this study all the perioperative nurses of the particular hospital met the inclusion criteria and were invited to participate in the study and give their inputs pertaining factors contributing to normalization of deviance. The implication of including the total population was that the maximum data could be collected from the relevant persons.

At a staff meeting, the researcher explained the purpose of the study and invited all the perioperative nurses of the specific private hospital to participate in the study.

A total of twenty participants were invited and nineteen participated voluntarily and signed informed consent forms (View Annexure B1). Self-reported guides were conducted and nineteen perioperative nurses with different qualifications and job descriptions shared their experiences on this unknown phenomenon, the factors that contribute to normalization of deviance in the specific operating room. The answers of the participants were typed verbatim (View Annexure B6) by an independent person. Nineteen transcribed files marked as Participant 01 up to Participant 19 were emailed to the researcher. The thematic analysis method was used to analyse the data, from which three themes, and twelve sub-themes emerged. Table 5.1 provides a summary of the themes and sub-themes of this study.

Table 5.1 Summary of the findings

Theme	Sub-themes
1. Governance factors	1.1 Shortage of staff
	1.2 Scheduling of work hours and standby
	1.3 Daily workload and responsibilities
	1.4 Equipment, instruments, stock and resources
2. Workplace culture factors	2.1 Unit pressure
	2.2 Communication
	2.3 Management style
	2.4 Staff behaviour
	2.5 Staff training
	2.6 Doctors' attitudes and actions
	2.7 Time management
3. Individual factors	3.1 Physical exhaustion

5.3.1 Theme 1: Governance factors

The first theme represented governance factors and included four sub-themes: *the shortage of staff*, *scheduling of work hours and standby*, *daily workload and responsibilities*, and *equipment, instruments, stock, and resources*.

Shortage of staff – For a surgical intervention to take place, the roles and responsibilities in the operating room are divided and three perioperative nurses with different job descriptions fulfil these roles. In situations where there is a shortage of

staff, two staff members would work in the operating theatre and need to fulfil their specific duties as well as the additional responsibilities of the absent staff member. For example, the anaesthetic nurse needs to assist the anaesthetist as well as the scrub nurse, because there is not a circulator allocated in that operating room. Shortage of staff increases the pressure inside the operating room and staff prioritize between important and less important; thus shortcuts or deviances occur.

Scheduling of work hours and standby – The pace in the operating room is extremely fast. Moving an anaesthetised patient from the table to their bed, lifting extremities for skin preparation to be done, preparing instruments of which one set can weigh up to twenty-five kilograms, pushing equipment in and out of the operating room are only a few examples of the physical demands perioperative nurses experience not to mention the emotional and cognitive demands after a long list or a twelve-hour shift. Some lists continue after 19h00 and although there are two staff members on nightshift, the nurses scheduled on standby need to finish the list, sometimes continuing until 23h00 or even later. As mentioned by the participants, they are mostly scheduled to work the following day. In some cases, the standby nurses will be called out during the night and are also scheduled for dayshift the same day. On weekends the perioperative nurses are on standby and can be called out any time, day, or night. They are not allocated a rest day before or after a weekend's standby; thus, it happens that they work continuously for twelve to fourteen days without a delegated rest day. This causes physical, cognitive, and emotional exhaustion that results in shortcuts of working procedures.

Daily workload and responsibilities - For three staff members to do a theatre list of five and more cases is challenging. Theatre preparation is done before the list starts and it is important to note that each nurse prepares according to their role and responsibility. Additional cases added to the list or emergency cases increase pressure on the staff because although preparation is needed, the time allocated for it is not sufficient. Also, important to realise is that a surgical event, big or small, has the same workload. In other words, the same activities need to be done for every case, it is only the time-period in which these activities take place that differs. Shorter cases are more strenuous than longer cases.

Equipment, instruments, stock, and resources – In circumstances where equipment is broken, the possibility is that an adverse event can occur. Not only can it harm the patient, but it causes frustration and time delays. Instruments need to be decontaminated and sterilised between each operation. The turnover time between patients is extremely fast and the process of decontamination and sterilization is time-consuming. A shortage of instruments leads to shortcuts in these working procedures and the usage of unsterile or contaminated instruments occurs. Stock that is unavailable or on back-order is a huge frustration and causes much conflict inside the operating room.

5.3.2 Theme 2: Workplace culture

In theme 2, the workplace culture, seven subthemes were identified.

Unit pressure – Perioperative nurses are under substantial strain and responded that they are under severe pressure to perform. This environment-induced pressure on perioperative nurses appeared to be a universal force to do more with less or faster rather than better.

Communication – Language barriers were identified as a huge factor that contributes to deviations and error. Insufficient communication between nurses, doctors, ward staff, the patient, and management can cause potential harmful situations.

Management style – An unsupportive and opaque relationship regarding a certain manager was reported. Favouritism and unfairness were mentioned and the difficulty reporting any discrepancies and managerial disinterest reflected substantially, allowing deviance to persist.

Staff behaviour – Absenteeism, sick leave, and smokers often taking smoke breaks increased the pressure on peers which lead to shortcuts. Negative attitudes towards the unit and late coming were identified, both related to the complacent attitude that was identified among the participants.

Staff training - incompetent, unexperienced, unqualified colleagues are causing frustration, and increase pressure on their peers. The necessity for training is

noticeably clear. Participants mentioned their need for more advanced and unit-specific training.

Doctors' attitudes and actions – Doctors are seen as clients in the private sector. The pressure they put on perioperative nurses was often mentioned in the transcripts. The doctors' attitudes are mostly explained as abusive, rude, shouting, screaming, ready to fight, and in a hurry. This hostile approach from their side forces staff members to take short cuts.

Informed consent is part of the surgeon's responsibility. The patient is admitted with the informed consent letter from the surgeon's consulting rooms. Confirmation of informed consent takes place in the ward with preoperative preparation. In reported cases the ward staff cannot read the handwriting or wrongly spell the procedure written by the surgeon. Some practitioners prefer to write in Afrikaans, which is not understood by all. This adds to the frustration of the ward personnel and has a direct effect on the operating room. In most of these cases the operating room team will wait for the patient, creating frustration and anger.

Time management – time, money, and productivity are interrelated. Pressure to perform quicker and not waste the doctors' time, was identified, and mentioned by most of the participants as a factor that will cause them to take shortcuts. This aspect is not only tolerated by management, but a participant also mentioned that a surgeon will enforce shortcuts because of him being in a hurry.

5.3.3 Theme 3: Individual factors

Theme 3, individual and internal factors, was classified into one sub-theme.
Physical and emotional state – Fatigue, tiredness, and exhaustion were identified as factors that contribute to deviances. Psychological aspects such as depression and burnout were mentioned.

5.4 RECOMMENDATIONS MADE BY PARTICIPANTS TO ELIMINATE NORMALIZATION OF DEVIANCE

The participants made the following recommendations to eliminate normalization of deviance. The researcher perceived these recommendations from the transcripts received. Questions 6, 7 and 8 of the self-reported narrative guides (View Annexure B2 for the questions and Annexure B7 for the data).

THEME 1: Governance factors

1.1 Shortage of qualified, experienced, and skilled nurses

- Balance theatre teams according to their qualifications, skills, and experiences.
- Support and promote unit-specific and advanced training.
- Develop staff according to their personal needs.
- Financial support for further training needs.
- Promote learning opportunities by involving doctors in their specialized disciplines.

1.2 Scheduling of work hours and standby

- The monthly hours schedule must be revised. Long hours, night staff imbalances, and the staff-patient ratio over weekends must be a focus.
- The personal circumstances of nurses must be taken into consideration.
- The first three sub-themes of governance factors had a direct influence on the physical and emotional state of the perioperative nurses. Fatigue, tiredness, and exhaustion played a crucial role in deviation. Days off in the week must be scheduled, especially before and after a standby weekend.
- Previous statistics can be a good indicator of the activities in the operating room. The monthly hours schedule must be planned according to these statistics.
- Be human and supportive. Long lists, specific disciplines, and the actions and attitudes of doctors have a direct effect on the physical and emotional state of the perioperative nurses.

1.3 Daily workload and responsibilities

- Tea breaks and lunchtime must be indicated on the list. This was mentioned by almost all the participants. Doctors leave the operating room after every case. They can use the restroom and have something to eat or drink. The perioperative nurses need to clean and prepare for the next patient. A definite tea and lunch break will give them the opportunity to refresh.
- Allocation of more staff on heavy list. It was often mentioned that only one scrub nurse on long lists cause deviation and severe pressure on the team. One participant recommends the allocation of two teams that can relieve the pressure.
- Ensuring that staff are fairly allocated. If your list had 18 cases the previous day, perhaps be allocated in a shorter list the following day.

1.4 Equipment, instruments, stock, and resources

- Complicated equipment and technology will always be a challenge. Daily checking and maintenance are of utmost importance. Reporting of broken equipment must be enforced. The cleaning and maintenance of the equipment remains the perioperative nurses' responsibility.
- Instruments: emphasis was placed on instruments and the lack thereof. Instruments are expensive. Day-to-day planning according to the lists and the availability of instruments can bring relief. Perioperative nurses must plan according to the availability of specific instruments in coordination with the central sterile supply department staff members. Involve staff members to identify the specific instruments that cause frustration.
- In the private sector stock and the changes regarding these products are a huge frustration and it causes confusion especially medication with generic replacements. Their names change frequently. Open communication is of utmost importance. Stock controllers must be helpful in this regard.
- Frequent in-service training. Representatives must spend more time inside the operating room, assisting with equipment. User-manual procedures need to be available and visible.

- Input from perioperative nurses to identify the crucial instruments that need to be budgeted for. The handling and taking care of instruments form part of their responsibilities.

THEME 2: Workplace culture factors

2.1 Unit pressure

Although the operating room is identified by its complexity and high-risk interventions, the perioperative nurse is trained to deliver high-quality patient care according to their skills and experiences throughout. The aim of this study was to identify factors that contribute to this substantial strain. Most participants acknowledged this pressure.

2.2 Communication

The most important aspect of communication is that a specific and clear message must be transferred. For effective communication it is important for everyone involved to understand the message. In the surgical journey of the patient, several role-players are involved. Firstly, the message from the surgeon to the patient. Thereafter, the message to admission and the wards. Thirdly, from the ward to the operating room and lastly, back from the operating room to the ward. Any break in this communication chain can cause disaster and harm to the patient.

2.2.1 Verbal communication

- All communication regarding patients must be standardized to English. Although this is standard procedure in the organisation, this aspect must be enforced, and any other language being used must be reported.
- Multidisciplinary team members must ensure effective communication. It is particularly important in planning and preparation.

- It is important to ensure that the receiver of the message understands it clearly and knows exactly what is expected.
- Verbal communication must be written. This will help the receiver of the message to relate back to the correct information and treatment.
- Doctors shouting and being rude. This aggressive style of communication needs to be addressed by the Hospital Manager.

2.2.2 Nonverbal communication

- Participants clearly indicated that the doctors' attitudes and actions had a direct influence on their behaviour. Impatience, abusiveness, bullying, and irritated. These are the nouns that the participants used to describe the doctors' nonverbal actions. Again, the Hospital Manager needs to address the doctors regarding this matter.
- Incident reports regarding doctors need to be taken seriously.

2.2.3 Written communication

- No other language can be used than English for any written communication.
- No abbreviations are allowed.
- A participant recommended that informed consent must be typed. Handwriting can cause confusion.
- The Hospital Manager needs to address doctors that use abbreviations and Afrikaans in the intraoperative document.
- Perioperative nurses need to comply with legal requirements of documentation.
- Unit managers of the wards need to assist in this matter of incomplete documentation and adhere to the strict preoperative preparation procedure of patients.
- Considering the frustration and huge effect it has on patient safety, incomplete or wrong written documents must be a focus area in the wards.

- Adherence to the WHO guidelines for safe surgery is non-negotiable. Perioperative nurses must apply the principles, and the doctors must assist in this matter.

2.3 Management style

- Open communication with staff. Some participants reported that they found it difficult to communicate with the unit manager. They asked for transparency.
- Anger management.
- No favouritism. Treat staff equally. Unit manager needs to consider individual needs and be fair.
- Improve listening skills. Be reasonable.
- Be involved in daily activities and lead by example. Help when operating rooms are busy.

2.4 Doctors' attitudes and actions

- Participants made the following suggestions.
    - Shorter lists. Elective cases till 17h00. Thereafter emergency cases. Limit elective cases over weekends.
    - Lists start at 07h30 or 08h00. It will give them time to prepare properly.
    - Doctors giving enough turnover time. There is a specific working procedure regarding the cleaning and prepping of the operating room between cases.
    - Enforce tea and lunch breaks.
    - Stop being always in a hurry. Being in a rush increases the pressure.
    - Involvement in training. Be supportive and willing to teach.
    - Abide by procedures and protocols.
    - Change abusive and aggressive attitudes.
    - The WHO guidelines for safe surgery include all the team members. Doctors need to be present and adhere to the guidelines.

THEME 3: Individual and internal factors

3.1 Physical and emotional state

Fatigue, tiredness, and exhaustion are related to a limited number of employees, long and strenuous hours, daily workloads, and responsibilities. Recommendations were given in theme 1.

5.5 RECOMMENDATIONS MADE BY THE RESEARCHER

Some striking findings of this study were the three factors that were not mentioned by the participants. Firstly, none of the participants' mentioned salaries or any beneficiary aspect that will increase or decrease deviances. Secondly, the role and influence of the hospital management are not clearly indicated and lastly, the participants blame someone or something else. Instead of taking the responsibly, this passing-the-buck attitude is unsettling. All surgical procedures are performed by multi-disciplinary team members, but the safety of the surgical patient remains the perioperative nurses' responsibility. None of the participants reported that change must start within themselves.

Based on the findings and the implications thereof, the researcher makes the following recommendations for practice, management, education, and further research.

5.5.1 Practice

The acknowledgment of normalization of deviance in this operating room was important. The factors that contribute to this phenomenon in the specific operating room were defined. Eight medical legal areas in which these deviances occurred were defined. These areas need immediate managerial attention. As perceived from the participants' descriptions the following aspects in which deviances predispose were identified:

- **WHO Checklist and call-out procedure**
  - The "WHO Guidelines for Safe Surgery 2009" was conducted and published for the standardization and improvement of safe practice in operating rooms worldwide (Goldenberg & Elterman 2020:1369).

- The WHO Surgical Safety Checklist is divided into three sections, to be completed at three separate times during the operative period:
- Sign In – To be completed before the induction of anesthesia, in the presence of all the members of the surgical team.
- Time Out – To be completed before skin incision, identifying the patient, the procedure, and the site involved.
- Sign Out – To be completed prior to the key members of the surgical team leaving the operating room. Whether the WHO checklist or call-out procedures are neglected, the possibility of operating the wrong procedure, wrong side, and wrong patient as well as life-threatening aspects such as allergies and medical conditions can be overlooked. The participants indicated that shortcuts in this procedure often occurred.

- **Sterile principles**
  - The perioperative nurse is responsible and accountable for instruments, supplies and other equipment that will be used during surgery. The focus is to protect the patient from infection and the transmission of micro-organisms. Adherence to sterile principles and acceptable practices is non-negotiable (Willaims 2015:21). Deviances in the standard operational procedures of surgical scrub, opening of sterile stock and instrumentation, skin preparation and draping were noted by the participants.
  - Any break in sterile principles leads to the possibility of transfer of microorganisms or cross-contamination. The participants reported that deviation regularly appeared in these procedures.

- **Counting of instruments and swabs**
  - The aim of counting instruments, swabs, and needles during surgical procedures is to ensure adequate control. It is a standardised procedure conducted by two people, the scrub nurse, and the circulator (Williams 2015:50).
  - Retained surgical items are a huge medical-legal hazard. Perioperative nurses need to be competent in the handling and counting of swabs, needles, blades, and instruments procedure and principles. The participants indicated the occurrence of deviancy in this standard operational procedure.

- **Incomplete documentation and handover**
  - All relevant documentation must be completed accurately, and continuity of patient care must be ensured by giving a thorough hand-over to the Recovery Staff (Williams 2015:9).
  - Incomplete recordkeeping is a medical legal risk. The participants explained the situations which lead to deviance and shortcuts in this procedure.
- **Lesser observations done in recovery room**
  - Staff in the recovery room must ensure the safe recovery of the anaesthetised patient and only transfer the patient back to the ward once they have regained consciousness (Williams 2015:35).
  - One of the responsibilities of the recovery staff member is to have adequate knowledge of anaesthetic agents and the management of emergency procedures. The recovery room nurse must always act in the best interest of the patient (Williams 2015:37). Participants gave reasons and explained the situations in which deviances in this procedure would occur.
- **Handling and labelling of specimen**
  - According to the Human Tissue Act 65/1983, the registered nurse has a legal obligation to ensure the correct handling and taking care of specimens. Both the scrub nurse and circulating nurse have certain duties in the processing of specimens (Williams 2015:40).
  - According to Williams (2015:40) the handling and care of specimen is an overly sensitive and extremely important procedure. “It reflects upon not only the safety of the patient but also the efficiency of the operating room.”
  - The incorrect handling of specimens was often mentioned by the participants.
- **Preparation of theatre**
  - Requirements for a scrub person include preparation for the case and list as well as the preferences of the surgeon. The circulating nurse’s responsibilities include the preparation of a safe and clean environment, preventing medico-legal hazards and necessary precautions of injury to patient and staff. Anaesthetic nurses prepare a safe anaesthetic environment for the

- administration of all types of anaesthesia (Williams 2015:17). Nine participants recall the lack of preparation due to late coming of colleagues, additions on lists, emergency cases, attitudes, and actions of doctors as well as colleagues and shortage of staff.
- Preparedness in all areas is one of the most important responsibilities of the perioperative nurse. Not only for handling unpredicted complications but also to be focused and present in the operating room. The participants mentioned the shortcuts being taken in the daily checking and preparation of the theatres.

- **Infection prevention**

  - Perioperative nurses' primary concern is to provide a safe and clean environment for their surgical patients and colleagues. Optimal conditions for the prevention of infection need to prevail. Perioperative nurses are "responsible for ensuring that practices aimed at the prevention of contamination are diligently carried out and controlled" (Williams 2015:15). Shortcuts and the deviation from infection prevention standard operational procedures were frequently mentioned and explained by the participants.
  - The safety of the patient is the highest priority. An efficient and productive operating room system will be one in which a midway is created by management, involving, and encouraging multi-disciplinary team members to actively parting in redesigning the conditions of the operating room environment. One in which perioperative nurses can perform their duties according to standard operational procedures, doctors can perform surgical interventions in a safe environment, all role players can be financially sustained and most importantly, patients experience good surgical outcomes, and medical errors or adverse events are absent or very limited. Hence all the multi- disciplinary team members need to be involved in conducting preventative strategies and strategic planning to enhance the safety of the surgical patient.
  - A supportive and transparent relationship between management and the perioperative nurses could be established with a system in which perioperative nurses can report and communicate, one in which they feel safe. Their expertise could be useful in identifying potential system weaknesses to benefit

the patients and the organisation, and in creating a safe surgical environment in which to work. Time is money. All the activities of the surgical team are based on the principle of “first, do not harm.” Therefore, if efficiency and productivity are identified factors, the system must provide effective strategies in which safe practice can prevail.

- Feedback to the doctors is a necessity. Making them aware of normalization of deviance as well as the factors contributing to this phenomenon is recommended. The effect of their attitudes and actions on the perioperative nurses must be emphasized. It is also important to understand their frustrations regarding the operating room system and staff members. Their input and recommendations are of utmost importance.
- The complexity and unforeseen changes, patient uniqueness and emergency situations will always be a challenge in the operating room. It is worth investigating the systems or schedules of other operating rooms.
- It is clear that the unit manager plays an essential role. Making the unit manager aware of these recommendations can improve the relationship between both parties. Perioperative nurses must acknowledge and understand the role of the unit manager.
- The complacent attitude of the perioperative nurses is an extremely serious factor to consider. Firstly, the results of this study must be discussed with them. Normalization of deviance and its devastating effect on patient safety must be illustrated. Secondly, they need to understand whenever abysmal adherence to standard operational procedures occurs, they will be held responsible according to their scope of practice. Thirdly, they need to understand that change needs to start within themselves. It will be essential to explain to them that absenteeism, sick leave, and smoking time increase the pressure on their peers, and being late for work is unacceptable. Although they recommend individual needs, they need to understand that being late has a destructive effect on the preparation of the operating room and increases the pressure on their colleagues. Both the importance of their attitudes and actions and the effect thereof on their colleagues need to be discussed.

5.5.2 Education

- Standard operational procedures must be adhered to, especially in the areas in which deviation already occurred. Early detection of practical drifting is extremely important. Managerial and educational role players to be part of the daily activities of the perioperative nurses.
- The lack of unit-specific courses in the operating room setup needs to be an important and urgent issue. Knowledge is power. Perioperative nurses must receive optimal education in their specific field of knowledge, to be able to defend standard operational procedures.
- Continuous personal development must be unit-specific.
- Training must be standardised and realistic and in accordance with standard operational procedures.
- Appropriate planning and adherence to the training schedule need to be enforced by management. Financial planning to sustain appropriate training strategies is extremely important.
- Protocols that indicate distinct roles and responsibilities within the operating room must be revised to ensure a balance and fairness between them.
- Ensure open communication or a strategy wherein the perioperative nurses can report any training related issues.

5.5.3 Further research

Further research should be conducted on the following topic:

- Quantitative research includes all the operating rooms of this specific hospital group exploring factors that contribute to normalization of deviances.
- Managerial and education strategies to prevent normalization of deviances among perioperative nurses.
- Managerial and education strategies involving multi-disciplinary members to prevent normalization of deviance in the surgical environment.

5.6 LIMITATIONS

This study was limited to the operating room of one private hospital of a specific hospital group. This hospital does not reflect the organization and performance of operating room nursing universally. In addition, the qualitative research design does not warrant generalization to all operating room nursing. Studies with a larger number of participants in larger hospitals might provide similar or different findings.

5.7 CONCLUSION

This chapter concluded the study, briefly described the findings and limitations of the study, presented the strategies to improve the environment of professional practice in the operating room, and made recommendations for further research.

PERSONAL REFLECTION

After this rollercoaster two years, I realized that only few understand the discipline and dedication it takes to do a master's degree. The knowledge I gained evoked an urge in me to have more. It provided fulfilment but also a hunger.

To do this study in the operating room I'm currently working in was a big dream that came true. Reading my colleagues' transcripts made me very emotional, it almost felt wrong. Their vulnerability was so honest and true. When I close my eyes, I can imagine them doing their utmost best.

I also realized that to be the best we need to be able to identify areas in which we can improve. I also realized that life depends on the lenses you look through. Some people can see this as negative results, but for me this is the beginning of a new chapter.

Perioperative nurses are dedicated to advocate for their patients. By exploring these factors, we acknowledged our shortcomings but are excited to see the contribution it makes to strengthen surgical nursing.

It was and will always be a major honour to be a student at the University of Pretoria. My supervisor and co-supervisor, thank you for believing in me.

For now, today, I am thankful. But I need more. To continue with my PhD will be an absolute privilege and honour.

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Annexure A
Ethical Approval

Annexure A1

Ethical Approval of Faculty of Health Sciences Research Ethics Committee of the University of Pretoria

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

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.

Faculty of Health Sciences **Research Ethics Committee**

8 June 2023

Approval Certificate
New Application

Dear SM Cilliers

Ethics Reference No.: 212/2023
Title: Factors contributing to normalization of deviance among perioperative nurses

The **New Application** as supported by documents received between 2023-04-26 and 2023-05-31 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-05-31 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2024-06-08.
- Please remember to use your protocol number (212/2023) 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 3084
Email: deepeka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

Annexure A2

Ethical Approval from the Institutional Ethics Committee

[redacted] Group [redacted]

National Health Research Ethics Committee registration: **REC 251015-048**

REF: [redacted]-PR-25072023/01

Date: 21 August 2023

Dear Ms Cilliers

RE: PERMISSION TO CONDUCT RESEARCH AT [redacted]

Title of study: Factors contributing to normalization of deviance among perioperative nurses in a specific private hospital group

The [redacted] Research Ethics Committee [redacted] HREC) hereby grant permission for you to conduct your above-titled research study at the abovementioned hospitals under the following conditions:

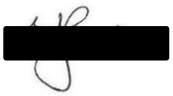
1. No direct reference may be made to [redacted] its subsidiaries or any of its facilities or institutions in the research report or any publications thereafter. The Company and its facilities, patients and staff must be de-identified in the study, and remain so for any other studies which may utilise this information. Any abstracts submitted or presentations given which will utilise the results of any research done in a [redacted] facility, must comply with the same conditions.
2. If patient or institutional confidentiality is breached [redacted] is entitled to withdraw this permission immediately. The Company reserves the right to take legal action against you, should [redacted] feel that this is warranted.
3. An electronic copy of the research report or compiled results, in the case of a clinical trial, must be submitted to [redacted] HREC on completion of the project or trial. This copy of the research report, and any publications which may develop from it will be placed on the Company's Gateway research page for reference purposes. The researcher is required to make these documents available in PDF format.
4. Research being done for educational purposes must be completed within the time allotted by the higher education institution. If the research is being done in an individual capacity by an employee of the life Group, the research must be conducted within one year of permission being given by the [redacted] HREC, OR must be completed in the proposed time period specified in the approved proposal. Permission may be withdrawn if the research extends beyond the approved time period.
5. Six to 12 months after receiving permission/ethics clearance from [redacted] HREC to conduct a research study at [redacted] facilities, it is mandatory for the researchers to report on the progress of their study by completing a monitoring and evaluation form which is accessible on the research website at https://www.[redacted].za/career[redacted]earning/research-and-human-research-ethics-committee/. The completed form must be returned to Research@[redacted].za.
6. [redacted] will not take responsibility for any unforeseen circumstances within its institutions which may materially change the context and potential outcomes of a student's research. Should this occur, the student will be required to approach their Higher Learning institution for guidance around alternatives.
7. [redacted] will not be liable for any costs incurred during or related to this study.

Reg. no.: [redacted]

8. In cases where a researcher is found to be guilty of misconduct, or in contravention of any national or international legislation or [redacted] policies or guidelines, permission to continue with the research will be withdrawn immediately pending investigation. In the case of student research, the higher education institution under which the researcher is registered will be notified. In the case of a clinical trial, The South African Health Products Regulatory Authority (SAHPRA) will be notified, as well as the trial sponsor and any other necessary parties.

Yours sincerely,

Dr [redacted]
Chairperson
[redacted]**HREC**



Prof [redacted]
Research Specialist

On behalf of [redacted]**REC**

ACKNOWLEDGEMENT OF CONDITIONS FOR INSTITUTIONAL PERMISSION
(Please complete and sign the conditions below and return to
Research@[redacted].za)

Approval date: 21 August 2023

Name of PI: **Sophia Mariza Cilliers**

I, Sophia. M. Cilliers (PI) of the study titled [[redacted] PR-25072023/01] **(Factors contributing to normalization of deviance among perioperative nurses in a specific private hospital group),** do hereby agree to the following conditions:

1. The submission of an annual progress report by myself on the data collection activities of the study within 12 months of receiving institutional permission to conduct this study at [redacted] facilities. The onus for submission of the annual report by the stipulated date rests on myself.

2. Submission of the relevant request to [redacted]REC in the event of any amendments to the study for approval by [redacted]REC prior to any partial or full implementation thereof.

3. Submission of the relevant request to [redacted]REC in the event of any extension to the study for approval by [redacted]REC prior to the implementation thereof.

4. Immediate submission of the relevant report to [redacted]REC in the event of any unanticipated problems, serious incidents or adverse events.

5. Immediate discontinuation of the study in the event of any serious unanticipated problems, serious incidents or serious adverse events.

6. Immediate submission of a report to [redacted]REC in the event of the unexpected closure/discontinuation of the study (for example, de-registration of the PI).

7. Immediate submission of a report to [redacted]REC in the event of study deviations, violations and/or exceptions

8. Acknowledgement that the study could be subjected to passive and/or active monitoring without prior notice at the discretion of [redacted]REC.

Signed: SM Cilliers Date: 21/08/23

Annexure B

Data collection process

Annexure B1

Participant’s information and informed consent

Annexure B1

PARTICIPANT'S INFORMATION & INFORMED CONSENT

STUDY TITLE:

Factors contributing to normalization of deviance among perioperative nurses in a specific private hospital

Researcher: SM Cilliers

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: +27 (82) [redacted]

Afterhours number: +27 (82) 7[redacted]0

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION:

				:
Day	**month**	**year**		**Time**

Dear Prospective Participant

Dear Mr. / Mrs. .....

Sophia Mariza Cilliers

1) INTRODUCTION

You are invited to volunteer for a research study. I am doing research for a MNur Degree purpose at the University of Pretoria. The information in this document is to help you to decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about all the procedures involved.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study is to explore factors causing perioperative nurses to take shortcuts from the standard operational procedures. By identifying these factors, the conditions in which perioperative nurses perform their duty can be redesigned and safe, high-quality perioperative patient care with less error will occur.

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

At a staff meeting in the operating room complex, the researcher will explain the purpose of the study and invite all perioperative nurses to be part. On a pre-approved date, in cooperation with the Unit Manager of this operating room, you will be provided with (A) a hard copy of Annexure B1– Participant's information and informed consent, and (B) The self-reported narrative guide (Annexure B2). Both these documents will be in separate envelopes. The researcher will explain the follow-up instructions. Two sealed boxes, marked separately A and B, will be for safety and privacy aspects, located in the Unit Manager's office. After completion the envelopes needed to be sealed and deposited in the boxes. A period of two weeks for completion will be allowed.

4) POSSIBLE RISKS AND DISCOMFORTS INVOLVED

There are no medical risks associated with the study.

5) POSSIBLE BENEFITS OF THIS STUDY

Although you may not benefit directly, the study results may help to identify factors which cause you to take shortcuts. By identifying these factors, the conditions in which you perform your duty can be redesigned and safe, high-quality perioperative patient care with less error can occur.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Your participation in this trial is entirely voluntary and you can refuse to participate or stop at any time without stating any reason.

8) ETHICS APPROVAL

This Protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been granted by that committee (Ethics Reference no:212/2023). Ethical approval was granted by the Institutional National Health Research Ethics Committee ([redacted]HREC-PR-25072023/01).

9) INFORMATION

If you have any questions concerning this study, you should contact:

Kraai Cilliers Cell: +27 (82) 759 6872

10) CONFIDENTIALITY

All information obtained during this study will be regarded as confidential. Each participant that is taking part will be provided with an alphanumeric coded number e.g. A001. This will ensure confidentiality of information so collected. The original self-reported narrative guides will be sent in the sealed box to Prof C Maree at the University of Pretoria. Under her supervision your answers will be typed. The typed answers will be used for data analysis. The original copies will be saved on the premises of the University of Pretoria for 15 years. Therefore, the results can be published or presented in such a fashion that participants remain unidentifiable.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I have also received, read, and understood the above written information about the study.
- I have had adequate time to ask questions and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed, and presented in the reporting of results.
- I understand that I will not be penalized in any way should I wish to discontinue with the study and that withdrawal will not affect me.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

Participant's name	Date
Participant's signature	Date
Researcher's name	Date
Researcher's signature	Date

Annexure B2

Self-reported narrative guide

Sophia Mariza Cilliers

Annexure B2

SELF-REPORTED NARRATIVE GUIDE

Instructions for participation:

1. **Complete Annexure B1, Participant's information, and informed consent, and seal it in the provided envelope marked A.**
2. **Complete Annexure B2, Self-reported narrative guide, and seal it in the provided envelope marked B. Do not write your name on this document.**
3. **Fill in all the questions.**
4. **A maximum of two weeks will be allowed for the completion of these documents.**
5. **After completion deposit both in separate boxes marked A and B in the UM's office.**

Section A:

Please answer YES or NO.

	Demographic Questions:	**Responses:**
1.	Are you a full-time employee?	
2.	Are you working 6 months or longer in this specific operating room?	
3.	Are you registered at the South African Nursing Council?	
4.	Are you older than 18 years?	
5.	Are you English speaking?	

Section B:

The operating room is described as an information-intensive environment with complicated technology and is managed by multidisciplinary team members who conduct high-risk interventions. Despite the many mechanisms in place to enhance the safety of the patient and though surgical interventions involve teamwork, a safe perioperative environment remains the responsibility of you, the perioperative nurse. Adverse events or incidents have potentially devastating outcomes, violate the patient's safety, and intensify medical-legal liabilities.

One of the aspects contributing to errors in the operating room is normalization of deviance. This means you make small changes in your work procedures and after a while these changes become the norm. Deviance means you are not working precisely as the procedure indicates but bend the rules a little bit. You take a shortcut for some reason, sometimes unintentionally, and you do not intend any harm.

Please give full descriptions and explanations according to your experience as a perioperative nurse in [redacted] Theatre.

Question 1:

Describe situations where you need to make small changes to working procedures in the operating room. Please describe the situation and the changes you made.

Question 2:

Have you ever noticed a colleague making small changes or taking shortcuts in specific working procedures? Please explain the changes you observed.

The factors and situations that trigger you to make these small changes is unknown. Human fallibility can be related to the person or the system. This study and the outcome of it focus on the system. Individual blaming for deviance is not the core, but rather which factors lead you to take shortcuts. The system can be divided into different categories.

A. Your tasks within your role and responsibilities.

In this category your personal issues and the environment in which you work matters.

B. People.

The skills, training, expertise, decision-making, behaviour, and teamwork of all your colleagues. This part also includes our clients for example doctors and patients.

C. Equipment, technologies, or external services.

This is the equipment that you use, high technological skills that are required and external resources.

D. Physical environment.

This part will be the discipline or theatre that you are allocated to work in and the operating room as a unit.

E. Organisation.

This part includes staffing (off duties, allocations, etc.), culture, learning, resources and demands.

Question 3:

Please identify and describe factors that lead you to make small changes in work procedures.

Question 4:

Another focus of this study is to identify specific circumstances in the operating room, that will lead you to make small changes to working procedures. Please identify these circumstances and describe them in full.

Perioperative systematic shortcomings need to be explored. You, the nurse, is present in all the perioperative phases and are a dominant factor for change and transformation in the safety culture of the surgical patient. By identifying these factors that lead to normalization of deviance the environment in which you perform your duties can be managed. Your honesty and expertise are of utmost importance. Myself, as the Researcher, under the supervision of my Supervisor and Co-supervisor of the University of Pretoria, will keep your guides and answers strictly confident.

Question 5:

Anonymity is very important, and your answers will not be personalised in any way. Please describe any matters or factors regarding your role as a perioperative nurse in [redacted] Theatre, that you would like to change. These changes need to focus on factors or circumstances in the operating room setup, that will increase the safety of patients and help you to work strictly according to policies and procedures.

Question 6:

Your opinion and expertise in the operating room is very important. Please make suggestions on how these factors or situations can be changed or limited.

Half of all adverse events in hospitalized patients can be related back to the operating room and at least half of these events are considered preventable. Operating room nursing is a high-risk profession. The smallest error or mistake can seriously harm the patient. By strengthening surgical nursing through managing the environment in which you work, adverse events or incidents can be limited or prevented.

Question 7:

Please explain and describe current procedures or mechanisms in your working environment in which you feel safe to report factors, circumstances or situations that lead you to take shortcuts.

Question 8:

Please make suggestions of a mechanism in which you will feel safe to report factors, circumstances or situations that lead you to take shortcuts.

Thank you for taking part in this study.

Your time and participation are highly appreciated.

Sophia Mariza Cilliers

Annexure B3

Photos of envelopes containing

Annexure B1

(participant's information and informed consent)

and

Annexure B2

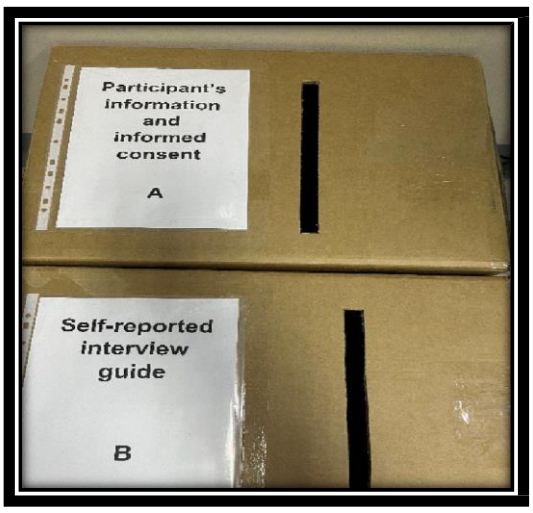
(self-reported narrative guide)

and the

depositing boxes

Annexure B3

Photos of envelopes containing Annexure B1 (participant's information and informed consent) and Annexure B2 (self-reported narrative guide) and the depositing boxes

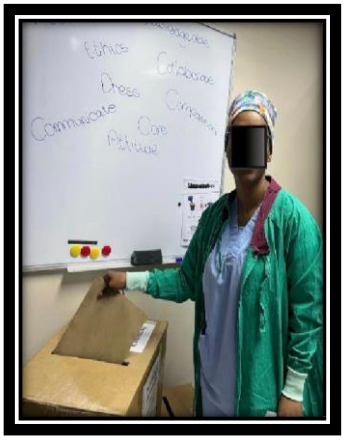


Annexure B4

Photos of participants depositing their sealed envelopes into the depositing boxes

Annexure B4

Photos of participants depositing their sealed envelopes into the depositing boxes



Annexure B5

Photos of sealed boxes received by supervisor containing the sealed envelopes

Annexure B5

Photos of sealed boxes received by supervisor containing the sealed envelopes

Annexure B6

An example of a verbatim transcript

Annexure B6

An example of a verbatim transcript

Data transcribed: Participant 19

Question 1: Have you ever experienced a situation where you needed to make a small change to a specific working procedure?
When I am scrubbing alone on a theatre list, lots of changes are occurring in my daily routine, due to time between cases. I do not have enough time to hand over the patient properly to recovery, I do not have time to record all my notes on the theatre form and write in my specimens and check every sticker of the patient on all the forms and specimens. Sometimes I am still handing over the previous patient, then the next patient is on the theatre table. I have very limited time to check the consent and procedure and check if all my stock and sets are sterile and correct. It has happened before that the patient was already asleep when I return from recovery in previous patient, I could not check if it is the correct patient for the correct procedure. Not enough staff and doctors being in a hurry.
Question 2: Have you ever noticed a colleague making small changes or taking shortcuts in specific working procedures?
I have witnessed colleagues not soaking instruments properly in Cidex solution for at least 5 minutes and not every part of the instrument was submerged in the solution. This mean it is not completely sterile for use, but there is no time now to wait another 5 minutes because the doctor is waiting for the instrument. So, it is taken out and used before the 5 minutes. Theatres are also not always prepared with correct cleaning solutions and water so that the same instruments can be washed properly between cases before returned to the Cidex solution for use by the next patient. Instruments are washed with hand soap or just rinsed with water before putting it in the Cidex for the next patient. All because of saving time and not being on time to prepare a theatre properly before a list.
Question 3: Can you identify and describe any factors that may lead you or your colleagues to make small changes in work procedures?
Main Factors are the doctors that are in a hurry and force us to make changes to suit them to save time. Not enough staff due to people being sick or on leave or training, and you are alone and do not have enough time to do everything correctly. Incompetent staff, especially from the ward, causes a lot of changes to be made in theatre. Moast of the time the ward staff do not know the medical condition the patient have or the implication of the medical condition of a patient on the procedure in theatre. The training of nurses is very below standard. Risk factors are not identified in the ward in advance by staff for example Scoline apnee, or the reason. Why all jewellery that needs to be removed before theatre causes burns. Some patients are also not taking responsibility for their own safety and do not want to co-operate when told remove something for their own safety, that cause a risk and dely.

Question 4: Are there specific situations that will lead you to deviate? Please describe these situations.
Over a weekend on call there were a long case in the one theatre. While this case is due, there was an emergency c-section needed at the same time. The same anaesthetist had to work at the same time in two theatres, because there was no other doctor available to help. Patient Forget to tell the doctor before the procedure that he or she has a dangerous condition for anaesthetics. Only remembers it on the table or not at all, or the patient eat or drink before the case ad vomits in theatre. Doctors do not always communicate with the staff or each other the risks of a patient and then not all the necessary preparations were followed for that risk in theatre. No time to see the patient before the case or before theatre to prepare for the correct site of wand or positioning, especially if it is a very big patient. Theatre lists do not always provide enough information for correct preparation, and all of this causes delay and then changes happen because of not enough time to do the correct thing for every patient. Doctors handwriting is causing not correct consent on procedures before the case, do not want to ask the doctor the correct spelling of something for every case,
Question 5: Do you understand that you will not get in any trouble or that your answers will not be personalised in any way?
Most problems in theatre for me is the doctors. They are making life difficult for me because management is always trying to please the doctor and forgetting that it does not always work for the staff. Theatre lists cannot start at 07^{00} in the morning if you only arrive at work at 06:45. There is no time to check the theatre and all the stock and sets and be sure you are ~~at~~ ready for a list of 14 patient and cases, and the next minute you are told someone is off sick and you are working alone. Management is allowing doctors to work ~~every~~ over weekend with elective cases, not enough staff for real emergencies. Some doctors do not want to work with other doctors then a second team must be organised to accommodate doctors ~~un~~. I cannot work a weekend call and then be expected to work the next 5 days after a call weekend without a day off. Tiredness causes changes.
Question 6: Do you have any suggestions on how these factors or situations can be changed or limited?
More competent scrubbing staff. Enough to cover all the theatres and all weekends. Staff that get time to work in only one discipline at a time. New staff cannot learn all the doctors' hands at once. We are not enough to allocate some people with only certain doctors. Expected to do everything for all the different surgeons. Competent staff in the wards and supporting staff. Doctors must abide by procedures and protocols. Not allowed to pressure staff to rush and make changes to suit them. More support of management to staff ~~over~~ after hours and over weekends.
Question 7:

Is there any procedure or mechanism in your current working environment in which you feel safe to report any form of deviance?
I feel save to report any ward staff that are incompetent, I can report SSD mistakes and I can write an incident regarding any preventative mistake regarding people that make mistakes, but it doesn't mean that the people will be educated, talked to or the [unreadable] or charged, especially if it involves a doctor. Many reports and incidents have been written by me complaining about incompetent ward staff and the fact that there is ~~an~~ no SSD manager but the problems regarding doctors and management does not change.
Question 8: Do you have any suggestions of a mechanism in which you will feel safe to report any deviance?
I feel that theatre lists should not be over booked. Theatres ~~sa~~ should not start at 07^{00} if staff only arrives at 06:45 at work. It's not saved for patients to have 16 theatre cases on a list and staff are rushed between cases all day long for 12 hours and longer. Mistakes will happen. Patients should be managed better in the ward, especially before theatre. All factors that make a procedure in theatre a risk should be identified and prevented before theatre by competent staff and doctors communicating about patient risk factors better before theatre.

Annexure B7

Summarised tables of responses to questions

Annexure B7: Summarised tables of responses to questions

Question 1

Table 1 provides a summary of the transcripts of question 1. Participants 01-19 were indicated in the first column. In the second column, the first question supported the reality as to whether shortcuts appeared in the participants' own behaviour. The third column indicated their example or reason.

Table 1 Summary of the transcripts of question 1

Participant	Question 1: Purpose – does deviance appear in participant her/himself	Reason or example
01	Yes /sometimes	Anaesthetist in hurry/ WHO checklist / Call out
02	Yes	Counting swabs & help with anaesthesia. Can't see swabs
03	Yes / during busy days	Receiving of Patient – not checking documents correctly
04	Yes / Night duty	Only RN & ENA on night duty – need more hands
05	Yes / Recovery room busy days	Allocation – Recovery Room RN works in theatre. Less observations on stable patients
06	Yes	Call out done surgeon not in theatre.
07	Yes / Night duty	No Anaesthetist – airway not protected
08	Seldom	No access to working procedures
09		To start procedure while entire team is in the theatre
10	Yes	Time out done – staff keep on talking. Scrub nurse does not scrub 3min.
11	Yes / Theatre list with 10 patients	Preparation done before long list – opening of all stock
12	Yes / Sometimes	Skin bruises / diathermy burns / safety precautions
13	Yes / operating two theatres	Changing suction tube / check drugs given / call out only nurses present / two theatres one Anaesthetist – management approve
14	Yes	
15	Yes / Scrub nurses	Late on duty not prepared
16	Preparation not done / Yes	Prepare beforehand / check documentation
17	Yes	Patient asleep / start scrubbing not to waste time
18	Yes	Pressure / long hours – into night / not proper preparation
19	Yes / Scrub alone	No time to hand over / record of notes not done / specimen / next patient in theatre asleep / Dr in hurry

Question 2

The second question revealed the appearance of normalization of deviance among the participant's colleagues. The reason or example was stipulated in column three. Table 2 provides a summary of the transcripts of question 2.

Table 2 Summary of the transcripts of question 2

Participant	Question 2: Purpose – does deviance appear in colleagues	Reason or example
01	Yes / Few	Skin preparation. Specimen not identified after receiving.
02	Yes	Skin preparation – contaminated area first
03	Yes / ENT list – fast cases	ENT list fast – scrub nurse not giving over properly/ Anaesthetist in hurry. Surgeon waiting.
04	Yes / fast cases	Preparation and sterility impaired
05	Yes / from theatre to recovery room	Not handling over to recovery room – rush back / Dr's keep pushing
06	Yes / sometimes	Hanging of swabs / counting of instruments
07	Yes / Night duty	One nurse as circulator and on anaesthesia
08	Yes / most workers	Do not properly prepare/ run between cases for stock
09	Yes	Cleaning of theatre half – Anaesthetist in hurry
10	Yes	Do not leave instruments in Cidex for 5min / do not do call out
11	Yes / most of scrub nurses and nurses	Cleaning laryngoscope blade only in Synthol water / save time / skin preparation not right
12	Yes / entire team	Labelling of specimen
13	Yes	Not confirming with patient – Dr irritated / use abbreviations / surgeon edit consent without explaining to patient
14	Yes / Scrub nurse alone on list no tea / lunch	Anaesthetist push in theatre not ready / washed
15	Yes / Scrub nurses	Do not count all the instruments
16	Yes	Incomplete paperwork
17	Yes / Scrub nurse not in theatre / patient asleep	No call out done / patient asleep / start scrubbing
18	Yes / emergency cases	Long working hours / tiredness
19	Yes / all trying to save time	Cidex not 5 min / instruments not totally emerged/ no time dr in hurry / theatre preparation not good/ all to save time

Question 3

The purpose of this question was to identify the factors contributing to deviations. The factors were identified and described. Table 3 provides a summary of the transcripts of question 3.

Table 3 Summary of the transcripts of question 3

Participant	Question 3: Purpose – identify the factors that lead to normalization of deviance
01	Shortage of staff / fatigue. Influence from colleagues – adopt to wrong. Dr's pressure. If you have to decide between doing it correctly but taking long / rather, do it wrong and fast
02	Colleagues' attitudes. Personal preference in disciplines. Long hours / fatigue. Colleagues not team players – lazy. Lack in concentration
03	Doctors pressure / shout wasting time/ try to move in the speed of the surgeon, such that some procedures are skipped. Patients late / not prepared need to move fast.
04	Shortage of qualified staff. Off duties – night imbalances. Pressure. Doctors' attitudes – abusive. Responsibilities too much. Training lacks. Time is money. Wea re not all the same.
05	Work overload. Shortage of staff. Colleagues' attitudes. Staff booked off sick. Shouted at if not doing miracles. Unexpected / emergency cases – extended lists. Off duties
06	Shortage of staff. It is easy to make changes. Doctors in a hurry / pressure. Scrub nurse to recovery room do not discard sharps.
07	Pressure from colleagues. Pressure from doctors.
08	Colleagues' attitudes. Shortage of staff – scrub nurses no experience. Culture differences. Lack in mutual respect.
09	Off duties / allocations unfair. Long hours cause fatigue mentally and physically. No tea / lunch breaks. Working in different theatres.
10	Doctors that are in a hurry and rush you to work faster. Doctors pushing in the patient and scrub nurse not ready or still giving over in recovery room
11	We are under severe pressure. Time is money. Being on standby, long hours – no rest day / lose focus. Qualified nurses not enough – cause more pressure. No scheduled tea / lunch breaks
12	Pressure and the working environment. Unexpecting factors. Instruments, equipment, and resources not enough.
13	Long lists. Fatigue. Doctors' attitude / rude. Stock controllers' attitude. Stock changes / shortage. Off duties. Allocations show favouritism.
14	Patients / doctors / staff not on time. Preparation delays. Unexpected changes.
15	Education / training. Equipment not in working order. Lack in preparation.
16	Allocations / off duties put one to pressure that leads to shortcuts. Skills / training of new staff not standardised. Different doctors' preferences.
17	One scrub nurse long list – fatigue. Unpredictable list. Additions made- pressure. Equipment malfunction. Colleagues' skills / experiences not adequate
18	Training / in service training equipment. Skilled / experienced lack in. Allocations according to skills.
19	Doctor in a hurry and force us to make changes / staff sick / leave / training. Incompetency of ward staff. Bad communication. Patient not informed.

Question 4

The situations that lead to shortcuts were identified and described by the participants in question 4. Table 4 provides a summary of the transcripts of question 4.

Table 4 Summary of the transcripts of question 4

Participant	Question 4: Purpose – identify the situations that lead to normalization of deviance
01	Doctors putting staff under pressure to work quicker. Limited staff / long hours / standbys led to fatigue / overworked.
02	Preparation not done. Colleagues late. Attitude working with people who has bad attitude toward work and people.
03	Pressure / Anaesthetist do not allow enough time for putting monitor.
04	
05	Ridiculous long lists. Not enough Recovery room staff. Doctors' put pressure to finish. Patients are late / not admitted. Add on cases not good preparation.
06	Colleagues late for work. Changes in theatre list – not enough time allocated. Bad communication between wards and theatre
07	
08	Colleagues smoking. Unit manager favouring certain staff members. Problem solving not equal / discipline not equal.
09	Long lists. No tea / lunch breaks. One scrub nurse with no reliever.
10	Doctor rush. One scrub nurse – preparation take longer.
11	Shortage of trained nurses. Pressure on floor nurse / one scrub nurse. Night staff preparation incomplete.
12	Bad communication between doctors & patient / ward / theatre
13	Long lists – allocations consecutively – depressing and unfair. Doctors bully staff. Stock controllers unhelpful. Stock changes need to be communicated. Off duties / allocations not fair. All staff not treated equal.
14	Preparation of theatres not good. Colleagues late. Not enough staff to relieve each other.
15	Preparation of theatres not good. Equipment failure.
16	Doctors' preferences. Short staff / poor balancing of staff – Favouritism. Cultural and racial indifferences.
17	Not enough staff. Additions on list – no preparation time. Tired without break between patients.
18	Doctors putting staff under pressure and getting impatient with staff.
19	Working in two theatres over weekends. Communication between patient / doctor / theatre not good. Not enough time to see patient. Not enough info to prepare. Doctors handwriting not readable.

Question 5

The purpose of this question was to highlight the importance of honesty and the assurance of confidentiality and anonymity. Table 5 provides a summary of the transcripts of question 5.

Table 5 Summary of the transcripts of question

Participant	Question 5: Purpose – honesty / deviance in what area
01	Long list / training of new staff – needs more staff. True leaders in theatre / one RN take charge. Mutual respect between doctors & staff
02	Normal hours / at least be paid fair over time. Allocations to be fair. Discrimination among races, unfairness on skin colour, how we work or who works, the darker you are the harder you work
03	Doctors to be talked to – not putting us under pressure. Burnout of operating team. No off days.
04	More qualified staff at night.
05	No long lists. No person can focus fully from 07h00-23h00. Staff is tired. Elective cases till 17h00 then emergency cases.
06	Allocation of more staff to heavy lists.
07	
08	Theatre starting time 07h30 or 08h00. Tea / lunch breaks. Unit manager to lead by example. Promote learning and short courses will be appreciated.
09	
10	More trained staff to do the work.
11	More scrub nurses /nurses. Effective communication. Team talks before lists. Responsibilities to be identified. Time sensitive topic – I wish that we can stop being in such a rush.
12	All relevant instruments and machinery available.
13	All doctors consent to be typed – handwriting legible. Language barriers – English when talking about a patient.
14	Working out of Scope of Practice – ex tourniquets / catheter. Answering a doctor's personal phone while counting of instruments and swabs
15	Working out of Scope of Practice.
16	Language barrier – wishing to learn Afrikaans quicker.
17	Reduce fatigue / off duties to be addressed. Enough staff. Doctors not to bully staff. Management not taking Doctors' side before hearing side of staff member.
18	Staff must know their abilities.
19	Most of the problems for me is the doctors. Management please doctors. Theatre list that starts 07h00 and colleagues' sick. No time for preparation.

Question 6

This question was posed to identify suggestions that were made by the participants in how these factors or situations can be changed. Table 6 provides a summary of the transcripts of question 6.

Table 6 Summary of the transcripts of question 6

Participant	Question 6: Purpose – suggestions on how factors / situations can be changed
01	Doctors stop putting pressure on staff with long lists. Hire more staff to reduce fatigue.
02	Transparency. Fairness x3.
03	Better communication. More rest days – proper rest and be refreshed, we'll minimize forgetting some things or making mistakes.
04	
05	Staff to go on courses. Doctors ACLS / PALS training. Do not overworked staff. Well rested staff will perform faster and more effective.
06	Making sure that consent and what patient say is the same. Make sure the patient understands questions that is asked.
07	More night staff allocated.
08	Starting list 07h30/08h00. Even if you have to go home later, it will help you to prepare your theatre. Tea and lunch breaks. If unit manager can help in theatres rather than sitting in the office looking for problems resulting in resentment.
09	Fairly think all staff to be treated equally. Individual views need to be considered. Avoid burn-outs.
10	More trained staff.
11	Better working hours. More trained and qualified staff.
12	Report problems to management. They need to solve.
13	Doctors consent to be typed. Language must be standardized.
14	Doctors must put the catheter and apply the tourniquet.
15	Doctors must not put the patient to sleep before scrub nurse confirm with patient. Doctors need to mark the operating site. If consent is not correct, doctors must not rush us.
16	Patients to arrive earlier. Time pressure. Staff to get ready. Using international language among multidisciplinary team members.
17	Provide more staff. Long lists and no breaks. Ungrateful doctors and surgeons. Have a rest day in the week.
18	Make sure staff know their scope of practice. Know hospital policies and provide training.
19	More competent scrub nurses enough to cover theatres over weekends. New staff work in one discipline. Doctors not allowed to pressure staff to rush and to make changes to suit them. More support from management after hours and weekends.

Questions 7 & 8

The answers to these questions above were combined in this step because the researcher noticed repetitive answers. Table 7 provides a summary of the transcripts of questions 7 and 8.

Table 7 Summary of the transcripts of questions 7 and 8.

Participant	Question 7&8: Purpose – any procedure or mechanism current and suggestions
01	The truth – more understanding and more reasonable manager who is willing to listen to the employees' complaints.
02	
03	Operating room must be listened to. Long lists, allocate two teams. Doctors must have corresponding relationships.
04	Not save to report. Scared of victimization from surgeons. Training is good. Strict policies in place. We must adhere to.
05	Growing lists. Staff not allocated properly. Difficult to report to unit manager. Be shouted at. Management work on numbers
06	Doctors pushing patient into theatre before surgeon in hospital. Unit manager must listen to her staff. Reported instruments / machines fixed before list starts.
07	
08	Pressure scrub nurse. Doctors shouting time is wasted. Unit manager not covering but always looking for loopholes.
09	
10	Doctors always in a hurry and want to finish quickly.
11	Taking shortcuts to save time. Everything is about time. Understanding from management. Physical help when she can see it is busy.
12	Shortage of instruments lead to shortcuts. Safety precautions should be adhered to, staff need to be assertive.
13	Time is mostly used as an excuse. Not want to irritate the doctor. They will overreact and call you names. Overworked. Want to be liked by the doctors.
14	Enough working instruments. This will minimise the time of re-sterilization the sets for next procedure.
15	Instruments not properly sterilised. Doctors pushing patient inside theatre that is not cleaned yet
16	Short staffing / sick. Unfavourable working hours. Working 16 hours per day.
17	Even if you complain, nothing or little is done about the situation. Must have anonymous body where complaints are looked at without victimization.
18	Shortcuts can occur in an emergency / pressure situation
19	Incidents written CSSD manager / wards. Problems regarding doctors and management does not change. Theatre lists are overbooked. Lists need to start later. Communication needs to be better.

Annexure B8

Initial coding

ANNEXURE B8: INITIAL CODING

1. ***Deviance occurs personally.***
   Yes
   When:
   - Occasionally (P1, P12)
   - During busy days (P3, P5)
   - Night Duty (P4, P7)
   - Seldom (P8)
   - Long lists (P11)
   - Weekends (P13)
   - Scrub nurse alone on list (P19)
   - Anaesthetist in hurry (P4, P17)

2. ***Deviance occurs in Colleagues.***
   Yes
   When:
   - Fast Cases for ex ENT (P3, P4,)
   - From Theatre to RR (P5)
   - Night Duty (P7)
   - Scrub Nurse alone on list (P14, P15, P17)
   - Emergency Cases (P18)

3. ***FACTORS***
   - **Shortage of Staff** (P1, P4, P5, P6, P11, P14, P16, P17)
     a. Experienced /Qualified staff (P4, P8, P11)

   - **Colleagues**
     a. Influence from colleagues – adopt to wrong (P1)
     b. Attitudes (P2, P5)
     c. Absenteeism – Sick / Leave / Training (P5, P19)
     d. Peer Pressure (P7)
     e. Mutual Respect (P8,
     f. Skills, experience, training (P11, P16, P17)
     g. Arriving late (P2, P6, P14)
     h. Not Team players – lazy (P2)
     i. Smoking (P8)
     j. Cultural and Racial indifference (P16)

   - **Doctors**
     a. Pressure (P1, P3, P4, P5, P6, P7, P8, P10, P14, P17,
     b. Attitudes (P3, P8 – shout, P4 – abusive, P3, P6, P10, P14, P19 – hurry/rush, P13 – rude, P13 – irritated,
        P13 Bully, P17 – impatient, P4 - victimization
     c. Long Lists (P5, P9, P13, P14, P17)
     d. Late (P14)
     e. Preferences (P16)
     f. Informed Consent (P13 – change without pt consent, use abbreviations, handwriting not readable)

   - **Off Duties**
     a. Long hours (P1, P2, P5, P9, P11, P13, P14, P18)
     b. Night imbalance (P4)
     c. No off day (P3, P11, P14)
     d. Limited staff (P1)
     e. Unfair (P13)

   - **Physical State of Staff Member**
     a. Fatigue (P1, P2, P9, P13, P17)
     b. Exhaustion / Over worked (P1, P14)
     c. Tiredness (P17, P18)
     d. Depression (P13)
     e. Burnout (P3)

   - **Allocations**
     a. Personal preferences in disciplines (P),
     b. Unfair – working in different areas /theatres (P5, P9, P13, P16)
     c. Pressure (P16)

d. According to skills (P18)
e. Tea and Lunch Breaks (p9, P11, P14)
f. Workload (P5, P7, P9, P10, P19)

- **Training**
  a. Lack in training (P4, P15, P18)
  b. Inservice Training Equipment (P18)

- **Preparation of Patient in Ward**
  a. Patient late (P3, P5, P14, P19)
  b. Incompetency of ward staff (P19)
  c. Patients not prepared (P5, P19)
  d. Bad Communication, no co-operation (P19)
  e. Pt not informed (P19)

- **Unexpected / Emergency / Extended list / Add on** (P5, P6, P12, P14, P17)

- **Equipment** / **Instruments** (P8, P12, P14, P15, P17)

- **Time is Money** (P4, P11)
  Time is sensitive topic..I wish that we could stop being in such a rush – because that is…..mistakes. Everything is about TIME (P11) Taking shortcuts to save time! Time is mostly used as an excuse.

- **Unit Pressure** (P4, P11, P12)

- **Communication**
  a. OR – Wards (P6)
  b. Dr – Pt – Ward- OR (P12, P19)
  c. Stock (P13)
  d. Language barriers – English preferrable (P13, P16)

- **Management**
  a. Shouted at if not doing miracles (P5)
  b. Favouritism (P8, P13, P16)
  c. Drs not managed (P7, P13)
  d. Problem solving / discipline not equal (P8, P13)

- **Stock** / **Resources** (P12, P13)
  a. Stock Controllers attitude
  b. Stock Changes
  c. Stock Shortage

4. Deviance / Shortcut predispose in:

- WHO Checklist / Call out (P1, P6, P9, P10, P13, P17, P19)
- Counting of swabs / Instruments (P2, P6, P15, P14 -answering Dr's phone instead
- Recovery Room – less observations (P5)
- Sterile Principles
  a. Scrub time (P10)
  b. Opening of stock (P11, P16)
  c. Skin Prep & draping (P1, P2, P11)
  d. Sterility (P4, P10, P19 – Cidex 5min)
- Infection Prevention (P9, P11, P13)
- Documentation (P3, P16, P19)
- Incomplete handover from Theatre to RR (P3, P5, P19)
- Specimen (P1, P12, P19)
- Preparation (P2, P4, P8, P11, P14, P15, P17, P18, P19)
- Skin bruises, burns, safety precautions (P12)
- Drugs given (P13)

5. Recommendations

- **Staffing** (P1,
  a. Training list
  b. Long lists
  c. More trained staff (P1, P10, P11)

- **Leadership** (P1, P11 – Team talk / Responsibilities identified (P11)

- **Respect**
  a. Mutual respect between Drs and Nurses (P1, P13)
  b. Drs irritate, they will overreact and call you names like lazy (P13)

- **Off Duties**
  a. Normal Hours – paid fair overtime. Choice between banked or paid out. (P2)
  b. Off days (P3, P5, P10, P17, P19)- reduce fatigue.
  c. Unfavorable working hours (P16 – work 16 hours a day)

- **Allocation**
  a. Fair – Discrimination among races, unfairness on skin colour, how we work or who works…the darker you are, the harder you work (P2)
  b. More staff allocated to heavy lists (P6, P3)
  c. Better allocations for growing lists (P5)

- **Doctors**
  a. To be talked to – not put us under pressure (P3, P14 & P15 – out of Scope / Tourniquet, Bully (P6, P17)
  b. Long lists – no person can focus perfectly from 07h00-23h00 (P1, P5, P17, P19)
  c. Elective cases till 17h00 then emergency cases / Elective cases over weekends (P5, P19)
  d. Drs must sort their personal vendettas (P3, P19)
  e. Ungrateful Drs (P17)
  f. Always in a hurry (P10)

- **Theatre Time**
  a. Starting time 07h30 / 08h00 (P8, P19)
  b. Tea /Lunch Breaks (P8, P17)

- **Management**
  a. UM leads by example (P8)
  b. Promote learning short courses (P8)
  c. Not taking Dr's side before hearing nurses' side (P17)
  d. Management wants to please Dr's (P19
  e. Transparency (P2)
  f. Fairness / treated equally (P2, P9)
  g. Individual needs to be considered (P9)
  h. Solve problems (P12)
  i. Drs need to abide by protocols and procedures (P19)
  j. Support of management after hours and weekends (P19)
  k. A reasonable manager / UM who is willing to listen to employees' complaints (P1, P3, P5, P6 – difficult to report to UM, will be shouted at.
  l. UM not covering but always looking for loopholes (P8)
  m. Understanding from management. Physical help when she can see it is busy (P11)
  n. If report or complain nothing or little is done about the situation. Must have anonymous body where complaints … without victimization of anyone (P17)

- **Communication**
  a. Effective (P3, P11, P19)
  b. Language Barrier P16, P13, P16)

- **Equipment / Instruments**
  a. Installed and available (P12)
  b. Reported instruments / equipment fixed before theatre list starts (P6)
  c. Shortage leads to shortcuts (P12, P14)

- **Consent**
  a. Typed (P13 – handwriting unreadable)
  b. Make sure patient understand (P6)
  c. Consent to be right – Drs mark operation site (P15)

- **Colleagues**
  a. Know their abilities, report to person in charge if bullied (P13, P18)
  b. Want to be liked by Drs (P13)
  c. Sick / short of staff (P16)

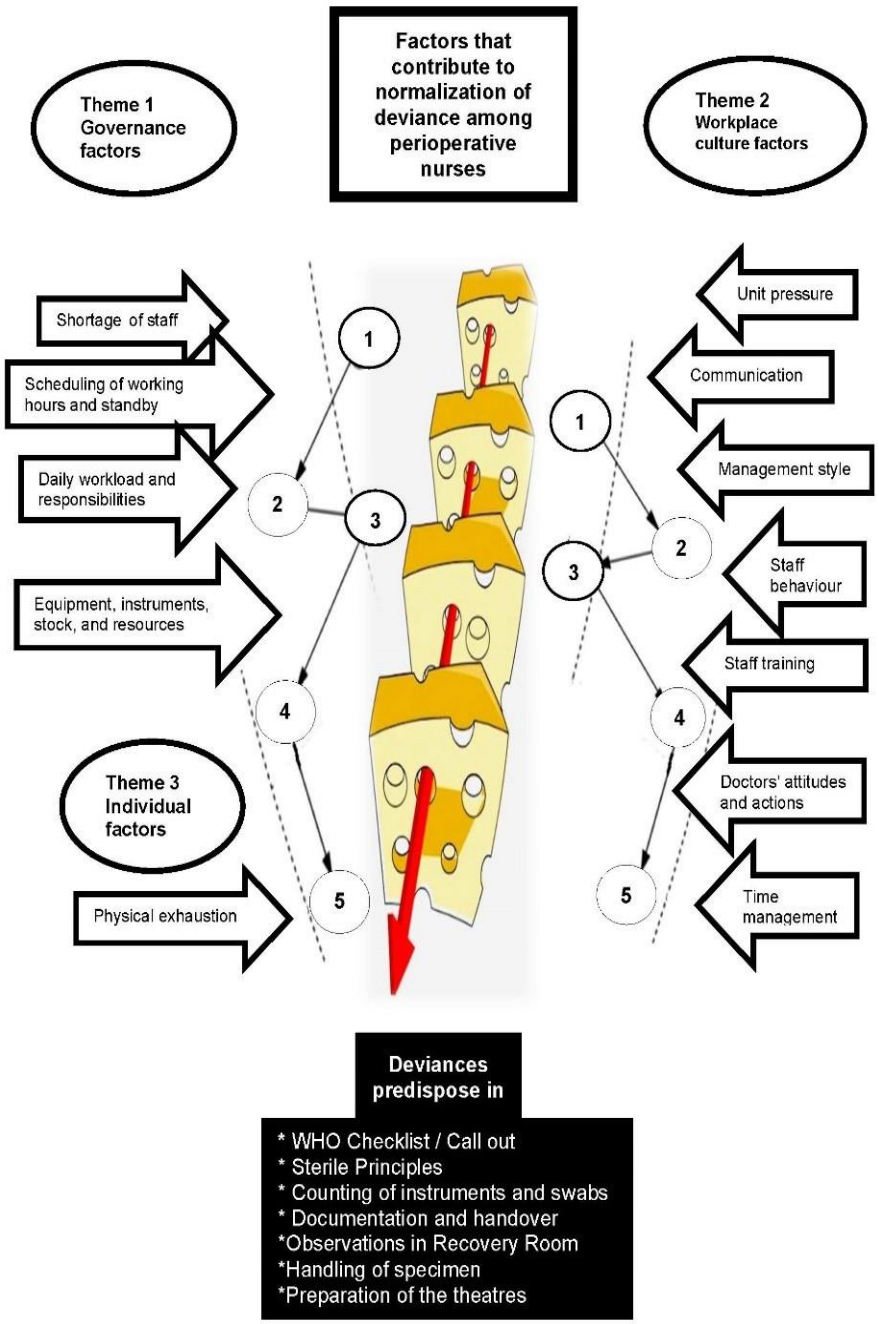
- **Training**
  a. Staff training (P5, P18)
  b. Dr's Training (P5)
  c. Staff know Scope of Practice / Hospital Policies (P18)
  d. New staff trained in one discipline (P19)

Annexure B9

Final thematic map

Annexure B9

FINAL THEMATIC MAP



Annexure C

Journal of Advanced Nursing Authors Guidelines

Annexure C

Journal of Advanced Nursing Authors Guidelines

Journal of Advanced Nursing **AUTHOR GUIDELINES**

February 2023

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b. Craft your title with great thought and care for readability and maximum search discoverability (see *Wiley's best practice SEO tips)*.

c. All submissions describing randomised clinical controlled trials are to include 'randomised controlled trial' in the title. Also make non-randomized and other types of studies that evaluate interventions clear in the title:

"Intervention effect of virtual reality technology for people with kinesiophobia: Meta-Analysis of Randomised Controlled Trials"

"**Audiovisual and printed technology to prevent childhood diarrhea: Clinical Trial**"

2. A **short running title**of less than 40 characters.
3. The full names of the **authors**(last name in CAPITALS) including institutional affiliations where the work was conducted (maximum of three per author) and a footnote for the author's present address if different from where the work was conducted.
4. **Corresponding author's**contact email address and telephone number.
5. If more than the stated number of references are included state why in the cover letter.
6. **Conflict of Interest Statement**
7. **Acknowledgments:** Acknowledgments, including all funding sources. The corresponding author is responsible for obtaining in writing permission for individual acknowledgements for those persons and their names to be included, for including the funding sources for all authors, and for the accuracy of funder designations. If in doubt, check the Open Funder Registryfor the correct nomenclature. Include information from all authors specifying any sources of funding (institutional, private and corporate financial support) for the work reported in their paper. Include the name of the funding organization(s) and the grant number. If there was no funding, use this wording: "This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors." (NB: this does not apply to protocols). Name any suppliers of materials and their location (town, state/county, country) included if appropriate. This information will be included in the published article.
8. **Twitter handles**for all authors and their affiliated school/university/organization if available; note these may not be included if a handle is not appropriate in a professional setting.
9. Confirm that any data utilised in the submitted manuscript have been lawfully acquired in accordance with The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity. State that the relevant fieldwork permission was obtained and list the permit numbers.

For all submissions with statistics, include the following in the title page: Include "b" **OR** "c":

a. The authors have checked to make sure that our submission conforms as applicable to the Journal's statistical guidelines *described here.*

b. The statistics were checked prior to submission by an expert statistician, and state their name and email address

OR

c. There is a statistician on the author team and state which author.

If you cannot state either "b" or "c" above have this done and submit your paper at a later time.

d. The author(s) affirm that the methods used in the data analyses are suitably applied to their data within their study design and context, and the statistical findings have been implemented and interpreted correctly.

e. The author(s) agrees to take responsibility for ensuring that the choice of statistical approach is appropriate and is conducted and interpreted correctly as a condition to submit to the Journal.

MAIN TEXT FILE
The Journal uses a double-blind peer review process. Ensure that all identifying information such as author names and affiliations, acknowledgements or explicit mentions of author institution in the text are on the title page and not in the main text file. **It is not possible to anonymize trial registration entries. Reviewers will be able to view who conducted the trial when making essential checks of the registration entry.**

For all article types except Brief Reports, Commentary, Letter to the Editor, and Editorial the main text file to include the following information and/or headers:

Repeat the *brief informative* ***title*** (maximum 20 words) you included on the title page.

ABSTRACT:

The abstract format for all article types is structured, except these article types do not include abstracts: Brief Report, Commentary, Letter to the Editor, and Editorial.

Structured Abstract Format

a. 300 words maximum.
b. No abbreviations.
c. Do not report p values, confidence intervals and other statistical parameters.

Include the Following Headers in Abstracts:

Aim(s) (of the paper, simply state **'To...'**)

Design

Methods

Data Sources** (Include search dates) ***for reviews only

Results

Conclusion

Implications for the profession and/or patient care

Impact (Addressing:)

- What problem did the study address?
- What were the main findings?
- Where and on whom will the research have an impact?

Reporting Method: State here that you have adhered to relevant EQUATOR guidelines and name the reporting method.

Patient or Public Contribution *(read more here)*: Include a paragraph that details how patients, service users, caregivers or members of the public were involved in your study. This does **not** include being a research participant. This may be the design or conduct of the study, analysis or interpretation of the data, or in the preparation of the manuscript.

OR include a statement at the end of the abstract titled "No Patient or Public Contribution". Your paper will be unsubmitted and returned to you if this section is not included.

Keywords (You will be able to choose keywords when you begin the submission process, and you can select up to ten).

What does this paper contribute to the wider global clinical community? Include one to three bullet points.

Trial and Protocol Registration: Include the following for papers that require **trial and protocol registration**:

- Include the name of the name of the trial register, the clinical trial registration number, and a link to the trial at the registration website.
- If there is a protocol that does not require registration, it must still be made accessible at: Open Science Framework (https://osf.io/) " or "Figshare (https://figshare.com/). Include the name of the website, the protocol number, and a link to the registration site.

MAIN TEXT HEADINGS

Find your **ARTICLE TYPE** below and use the relevant headings below in your main text file:

CLINICAL TRIAL, EMPIRICAL RESEARCH – QUANTITATIVE, article types:

1. Introduction
2. Background
3. The Study

- Aim(s),Objective, Research Question/Hypotheses
- Primary, Secondary, or Other Objectives (if applicable)

4. Methods/Methodology

- Design
- Study Setting and Sampling (including if appropriate justification of sample size and power)
- Inclusion and/or Exclusion Criteria
- Study interventions (if any)
- Fidelity of intervention (if any)
- Instrument with Validity and Reliability/ Data source
- Data collection Data Analysis
- Ethical Considerations

5. Results

- Characteristics of the sample

6. Discussion

- Strength and Limitations of the Work
- Recommendations for Further Research
- Implications for policy and practice

7. Conclusion

EMPIRICAL RESEARCH – QUALITATIVE article type:

1. Introduction
2. Background
3. The Study

- Aim(s)Objective(s), Research Question

4. Methods/Methodology

- Design
- Theoretical Framework
- Study Setting and Recruitment
- Inclusion and/or Exclusion Criteria
- Data collection
- Data Analysis
- Ethical Considerations
- Rigor and reflexivity

5. Findings

- Characteristics of participants

6. Discussion

- Strengths and Limitations of the Work

- Recommendations for Further Research
- Implications for policy and practice

7. Conclusion

EMPIRICAL RESEARCH MIXED METHODS article type: Use Quantitative and/or Qualitative Main Text headers.

CONCEPT Analysis article type:

1. Introduction
2. Background
3. Data Sources
4. Overview of the Concept
5. Discussion
6. Conclusion

DISCURSIVE Paper and **RESEARCH METHODOLOGY: DISCUSSION PAPER - METHODOLOGY** article types:

1. Introduction
2. Background
3. Data Sources
4. Overview of the Issue(s)
5. Findings
6. Discussion
7. Conclusion

REVIEW article types:

1. Introduction
2. The Review
3. Aim(s)
4. Methods/Methodology

- Design
- Search Methods
- Inclusion and/or Exclusion Criteria
- Search Outcome
- Quality Appraisal
- Data Abstraction
- Synthesis

5. Results/Findings
6. Discussion
7. Conclusion

4. SPECIAL SUBMISSIONS GUIDELINES

SPECIAL GUIDELINES FOR QUANTITATIVE INVERVENTION EVALUATIONS

GENERAL INFORMATION

- All clinical trials should be prospectively registered on a trial registration database recognised by WHO https://www.who.int/clinical-trials-registry-platform/network, and reported using the most appropriate reporting guideline (*EQUATOR network*).
- It is recommended that authors read the following editorials before submitting a manuscript evaluating an intervention (**Noyes 2018**, **Noyes 2021**). Also read the following information for guidance depending on the article type you are submitting.

a. Clinical Trials
The **ICMJE**defines a clinical trial as any research project that prospectively assigns people or a group of people to an intervention, with or without concurrent comparison or control groups, to study the relationship between a health-related intervention and a health outcome. Health-related interventions are those used to modify a biomedical or health-related outcome; examples include drugs, surgical procedures, devices, behavioral treatments, educational programs, dietary interventions, quality improvement interventions, and process-of-care changes. Health outcomes are any biomedical or health-related measures obtained in patients or participants, including pharmacokinetic measures and adverse events. Trials may be randomized or non-randomized.

b. Clinical Trial Registration
The Journal has signed up to the **All Trials Agreement**and requires that clinical trials are prospectively registered in a publicly accessible database recognised by WHO such as: **http://clinicaltrials.gov**/ and include clinical trial registration numbers in the title page for all papers that report their results and embedded trial sibling studies such as qualitative process evaluations. The journal requires that clinical trials, including feasibility and pilot studies are registered before the first site or participant is recruited* in a publicly accessible database recognised by WHO such as **http://clinicaltrials.gov/** and include clinical trial registration numbers in the *abstract* for all papers that report the protocol and their results.

* The ICMJE does not define the timing of first site or participant enrollment, but best practice dictates registration by the time of first site or participant consent depending on the trial design.

We also encourage the appropriate registration of all intervention studies including observational quasi-experimental clinical studies and studies that do not include clinical outcomes. Before preparing your paper, we recommend you read **Which studies should be registered on a clinical trials registry?** and **The Trials and Tribulations of Trial Registration and Reporting: Why are some nursing trials still slipping through the net?**

The following is essential for Clinical Trials; read and follow this carefully:

i. Authors must include a statement in the abstract if their trial is not eligible for trial registration and why. If the study is not appropriate for registration in a trials registry then use another suitable study registration site, for example, the **Center for Open Science.**

ii. If the trial is eligible for trial registration, the trial must be registered prospectively before the first participant is recruited and authors are asked to include the name of the trial register and the clinical trial registration number in the *abstract*.

iii. To check if your trial is eligible for registration, see these resources: **Which studies should**

be registered on a clinical trials registry? and **The Trials and Tribulations of Trial Registration and Reporting: Why are some nursing trials still slipping through the net?**

c. Feasibility *and Pilot Studies*

The UK National Institutes for Health Research defines **feasibility**and **pilot studies** as follows:

- A **feasibility study** asks whether something can be done, should we proceed with it, and if so, how. A feasibility study may or may not involve recruitment of sites and/or participants depending on the feasibility questions asked and the design.
- A **pilot study** asks the same questions and also has a specific design feature. In a pilot study a future study, or part of a future study, is conducted on a smaller scale. Pilot studies/trials will include recruitment of sites and/or participants depending on the design.
- As a subset of feasibility research, **pilot studies** may or may not be randomised. In a**randomised pilot** the future RCT design is first conducted on a smaller scale. This is intended to check that the study processes (e.g. recruitment, randomisation, treatment, follow-up assessments) all run smoothly. In some cases, this will be the first phase of the main study, and data from the pilot phase may contribute to the final analysis; this is referred to as an **internal** A **non-randomised pilot** has similar aims but without randomisation of participants (**Eldridge et al 2016**).

For all **QUANTITATIVE INVERVENTION EVALUATIONS**:

1. a. It is the author's responsibility to ensure that an accurate and appropriately reported manuscript is submitted.
   b. Submit a manuscript that meets all the requirements as outlined in the appropriate **CONSORT** guideline and **TIDier**checklist for the replication of interventions.
   c. Transparently report all the information required for peer review of the protocol or trial in the manuscript as indicated in throughout these guidelines.
   d. All submissions describing randomised clinical controlled trials are to include 'randomised controlled trial' in the title. Make non-randomized and other types of studies that evaluate interventions clear in the title.

SPECIAL GUIDELINES FOR SYSTEMATIC REVIEWS WITH OR WITHOUT META-ANALYSIS
Systematic reviews are valued submissions to the Journal. Follow these guidelines to ensure that the topic is appropriate, the methods are well described and applied, reporting guidelines are adhered to, and the findings are credible. Evaluate your submission as follows:

- The search is contemporary for the question.
- Cross check reporting against the relevant reporting guideline and provide substantial methodological information.
- All meta-analyses to be reviewed by a statistician prior to submission, or a statistician is a member of the author team.

Be alert for research fraud and misreporting/selective reporting in included trials in SRs

We ask authors and to be alert to the possibility of research fraud and misreporting or selective reporting in published trials that are included in systematic reviews. There is growing recognition of specific recurring features in trials (and systematic reviews) that were subsequently found to be fraudulent or selectively

reported or misrepresented outcomes. For a summary of what to look out for and how authors should respond in their manuscripts, please read the following article (**https://www.bmj.com/content/350/bmj.h2463) and** response **https://www.bmj.com/content/350/bmj.h2463/rr-3** and view the following webinars on research integrity in trials and systematic reviews (**https://community.cochrane.org/news/join-conversation-research-integrity-0**.)

We ask that authors report whether included and excluded trials were prospectively or retrospectively registered or not and the process for establishing the validity of trials and trial reports. The webinar by Lisa Parker at the following link ((**https://community.cochrane.org/news/join-conversation-research-integrity-0**) outlines some of the key things that systematic reviewers can look for that may raise concerns about the integrity/validity of a trial. Authors should report any concerns and how these concerns were handled.

Authors should also be alert to the possibility that retracted trials could inadvertently be included in systematic reviews. Retraction Watch maintains a database of retracted articles. There is not yet consensus as to what to do with trials that raise serious concerns about their integrity, and at present the key issue is to highlight any concerns, take reasonable steps to establish if the concerning trials make any difference to the results by undertaking sensitivity analyses, and reporting all issues transparently in the manuscript (Carlise et al 2013, Robertson et al 2015, Tovey et al 2015, George and Buyse 2015).

Following the approach of Cochrane, we recommend using the Cochrane risk of bias tool which has been adapted for different study designs (**https://epoc.cochrane.org/sites/epoc.cochrane.org/files/public/uploads/Resources-for-authors2017/suggested_risk_of_bias_criteria_for_epoc_reviews.pdf**), and applying GRADE to establish the certainty of the evidence (**https://www.gradeworkinggroup.org/**).

Inclusion of studies not available in English

Intervention effect reviews typically include all trials that meet the inclusion criteria. Some trials may have been included that are not available in English. The EiC has concerns about this practice as these trials cannot be verified if the Editor and peer reviewers cannot access the original trial. The authors cannot however unpick the entire meta-analysis so one way round this is to ask the authors to undertake an additional sub-group analysis by excluding the trials with no English translation to see if the results differ or not.

Systematic reviews and meta-analyses of interventions

- Registered in *PROSPERO* or other recognized registry such as *JBI* if reporting a health outcome.
- Systematic reviews and meta-analyses of interventions must conform to PRISMA reporting guidelines.
- Ensure that Item 20 of PRISMA (reporting outcomes and estimates of precision such as confidence intervals for all outcomes of interest) is not omitted.

- Consider that PRISMA is a reporting guideline and not a methods manual. Authors must cite a review design and an appropriate methods manual or citation (and not just cite the PRISMA reporting guideline). Where?
- Unless conducting a systematic review of systematic reviews, do not include systematic reviews in reviews. Unpick systematic reviews, and screen primary studies screened for inclusion in the review.
- Quantitative reviews must critically appraise included studies; it is an essential requirement.
- The Journal will carefully consider how a specific methodological limitation may impact the findings. The *Cochrane risk of bias tool* is the recommended tool for trials of interventions. The EPOC group provides guidance on its application and reporting.
- If applicable, report the assessment of each domain of quality for each tool and each study in *supporting information*
- If conducting a review without a meta-analysis do not use the terms 'qualitative synthesis' or 'narrative synthesis' to avoid confusion with qualitative synthesis methods of the same name. The preferred term is: 'Synthesis without meta-analysis'. Also check that the PRISMA flow diagram does not mention 'qualitative synthesis'.
- Use the new Synthesis without meta-analysis (SWiM) reporting guidelines and not the standard PRISMA checklist
- If following Cochrane methods apply GRADE and produce a summary of findings table.
- Reviews must include a PRISMA flow diagram.

Systematic reviews and meta-analyses of tools and instruments.

Must follow **COSMIN guidelines and standards**: **CO**nsensus-based **S**tandards for the selection of health **M**easurement **IN**struments.

Tables and Figures

Adhere to the guidelines for tables and figures in the *Article Types* chart.

SPECIAL GUIDELINES FOR SUBMISSIONS WITH STATISTICS

Design

State the study design clearly, for example, randomized controlled trial, intervention study (randomized or non-randomized), quasi-experimental study, systematic review, cross-sectional study, case-control study, ecological study, descriptive study, etc.

Describe in detail the design for the study being reported and you state clearly which parts of the study are exploratory or confirmatory. Recognize that hypothesis generating and hypothesis testing are different and be clear on which you are doing.

5. FILES TO SUBMIT SEPARATELY

If applicable, as separate documents:

- Trial Report
- Protocol
- Trial registration documentation
- Any relevant checklist, including completed *CONSORT* checklist, *EQUATOR network* or *JBI* checklists and registry.

It is not possible to anonymize the trial registration entry. Reviewers will be able to view who conducted the trial when making essential checks of the registration entry.

TABLES (each table complete with title and footnotes).

FIGURES AND SUPPORTING INFORMATION

Figures may be supplied separately or in the main text. Submit *supporting information* and appendices as separate files. **Click here** for Wiley's FAQs on supporting information.

Supporting Information

Supporting information are in addition to articles and do not count towards word, reference, and figure/table limits. Such material is published online only. This information is not essential to the article but provides greater depth and background. It is hosted online and appears without editing or typesetting. It may include tables, figures, videos, datasets, etc.

Note: if data, scripts, or other artifacts used to generate the analyses presented in the manuscript are available via a publicly available data repository, include a reference to the location of the material within their manuscript.

If you are submitting any manuscript other than a Discursive Paper, Editorial or Letter to the Editor, and are therefore providing a completed EQUATOR checklist with your submission, ensure that the file name indicates that it is a supplementary file (e.g. Supplementary File 1.docx), for the reference of our Production team. also check that your completed checklist includes the page numbers on which each item has been addressed. Submissions not conforming to these requirements will be returned to you for amendment prior to being sent for review. If you have any queries about the suitability of your checklist, contact the Editorial Office.

6. PEER REVIEW PROCESS

General Peer Review Process

Papers will only be sent to review if the Editor-in-Chief and/or the editorial office determines that the paper meets the appropriate quality, relevance, and submission requirements. This journal operates under a double-blind **peer review model**, and Transparent Peer Review is optional. Except where otherwise stated or in special circumstances, manuscripts are peer reviewed by at least two anonymous reviewers and an Associate, Guest, or other Editor (not Editor-in-Chief). Some papers will also undergo quantitative intervention or statistical pre-check before regular peer review either by Special Editors or in additional to the two anonymous reviewers.

Transparent Peer Review

The Journal of Advanced Nursing participates in peer review transparency, where the reviewer reports, author responses, and the editor's decision letters will be hosted on Publons and linked to from the published article in the case that the article is accepted. Authors have the opportunity to opt out during submission, and reviewers can choose to remain anonymous unless they would like to sign their report.

In-house submissions, i.e. papers authored by Editors or Editorial Board members of the title, will be sent to Editors unaffiliated with the author or institution and monitored carefully to ensure there is no peer review bias.

Wiley's policy on the confidentiality of the review process is **available here**.

Refer and Transfer Program

Wiley believes that no valuable research should go unshared. This journal participates in Wiley's **Refer & Transfer program**. If your manuscript is not accepted, you may receive a recommendation to transfer your manuscript to another suitable Wiley journal, either through a referral from the journal's editors or through our Transfer Desk Assistant. If peer reviews were done for your submission, they will travel with your paper if it is referred or transferred.

Guidelines on Publishing and Research Ethics in Journal Articles

The Journal requires that you include in the manuscript details IRB approvals, ethical treatment of human research participants, and gathering of informed consent, as appropriate. You will be expected to declare all *conflicts of interest*, or none, on submission. The Journal does not accept papers that include animal research participants. review Wiley's policies surrounding **human studies, animal studies, clinical trial registration, biosecurity, and research reporting guidelines**.

This journal follows the **core practices** of the **Committee on Publication Ethics (COPE)** and handles cases of research and publication misconduct accordingly.

This journal uses **iThenticate's CrossCheck** software to detect instances of overlapping and similar text in submitted manuscripts. Read **Wiley's Top 10 Publishing Ethics Tips for Authors** and **Wiley's Publication Ethics Guidelines**.

7. APPEALS AND COMPLAINTS

Any appeal against a decision on a manuscript should be filed within 28 days of notification of the decision. The appeal should be in the form of a letter addressed to the Editor-in-Chief and submitted to the ***JAN editorial office***. The letter should include clear and concise grounds for the appeal, including specific points of disagreement with the decision. The appeal will then be assessed by the JAN management team, led by the Editor-in-Chief, and informed by the reviewer assessments and subsequent editorial communications.

You will be informed of the outcome of the appeal within 28 days. The decision will be final.

8. AFTER ACCEPTANCE

First Look

After your paper is accepted, your files will be assessed by the editorial office to ensure they are ready for production. You may be contacted if any updates or final files are required. Otherwise, your paper will be sent to the production team.

Wiley Author Services

When an accepted article is received by Wiley's production team, the corresponding author will receive an email asking them to login or register with **Wiley Author Services**. You will be asked to sign a publication license at this point as well as pay for any applicable Open Access Article Publication Charges.

Copyright & Licensing

You may choose to publish under the terms of the journal's standard copyright agreement, or Open Access under the terms of a Creative Commons License.

Standard **re-use and licensing rights** vary by journal. Note that **certain funders** mandate a particular type of CC license be used. This journal uses the CC-BY/CC-BY-NC or CC-BY-NC-ND **Creative Commons License**.

Self-Archiving Definitions and Policies: Note that the journal's standard copyright agreement allows for **self-archiving** of different versions of the article under specific conditions.

Proofs

Authors will receive an e-mail notification with a link and instructions for accessing HTML page proofs online. Make sure that any renumbered tables, figures, or references match text citations and that figure legends correspond with text citations and actual figures. Proofs must be returned within 48 hours of receipt of the email.

Article Promotion Support

Wiley Editing Services offers professional video, design, and writing services to create shareable video abstracts, infographics, conference posters, lay summaries, and research news stories for your research – so you can help your research get the attention it deserves.

Author Name Change Policy

In cases where authors wish to change their name following publication, Wiley will update and republish the paper and redeliver the updated metadata to indexing services. Our editorial and production teams will use discretion in recognizing that name changes may be of a sensitive and private nature for various reasons including (but not limited to) alignment with gender identity, or as a result of marriage, divorce, or religious conversion. Accordingly, to protect the author's privacy, we will not publish a correction notice to the paper, and we will not notify co-authors of the change. Contact the journal's Editorial Office with their name change request.

Correction to authorship

In accordance with Wiley's **Best Practice Guidelines on Research Integrity and Publishing Ethics** and the **Committee on Publication Ethics**' guidance, *Journal of Advanced Nursing* will allow authors to correct authorship on a submitted, accepted, or published article if a valid reason exists to do so. All authors – including those to be added or removed – must agree to any proposed change. To request a change to the author list, complete the **Request for Changes to a Journal Article Author List Form** and contact either the journal's editorial or production office, depending on the status of the article. Authorship changes will not be considered without a fully completed Author Change form. [Correcting the authorship is different from changing an author's name; the relevant policy for that can be found in **Wiley's Best Practice Guidelines** under "Author name changes after publication."]

9. APPENDIX

Publication Charges

The Journal does not publish color figures in print. There is no charge for color figures online.

Page charges

There are no page charges. As described above, there are Article Publication Charges when authors choose Open Access.

Embedded Rich Media

This journal has the option for authors to embed rich media (i.e. video and audio) within their final article. Submit this material with the manuscript files online, using either the “Embedded Video” or “Embedded Audio” file designation. If the video/audio includes dialogue, include a transcript as a separate file. **The combined manuscript files, including video, audio, tables, figures, and text must not exceed 350 MB.** For full guidance on accepted file types and resolution see **here**.

Ensure each file is numbered (e.g. Video 1, Video 2, etc.) Place legends for the rich media files at the end of the article.

The content of the video is not to display overt product advertising. Educational presentations are encouraged.

Any narration is to be in English, if possible. Provide a typed transcript of any speech within the video/audio. Provide an English translation of any non-English speech in the transcript.

All embedded rich media will be subject to peer review. Editors reserve the right to request edits to rich media files as a condition of acceptance. Contributors are asked to be succinct, and the Editors reserve the right to require shorter video/audio duration. The video/audio must be high quality (both in content and visibility/audibility). The video/audio is to make a specific point; particularly by demonstrating the features described in the text of the manuscript.

Participant Consent: It is the responsibility of the corresponding author to seek informed consent from any identifiable participant in the rich media files. Masking a participant’s eyes, or excluded head and shoulders is not sufficient. Ensure that a **consent form** is provided for each participant.

Links to useful resources:

Literature Reviews
Moher D, Liberati A, Tetzlaff J, Altman DG, **The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement**. PLoS Med 6(7)

REPORTING GUIDELINES AND CHECKLISTS

EQUATOR Network Reporting Guidelines

Centre for Reviews and Dissemination

Cochrane Collaboration

The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)

Joanna Briggs Institute

National Institute for Health and Clinical Excellence

Social Care Institute for Excellence

RAMESES Publication Standards for Realist Syntheses

RAMESES Publication Standards for Meta-narrative Reviews

Reporting meta-ethnography

Guidelines for reporting noncomplex qualitative evidence syntheses

Rapid Evidence Assessment

Annexure D

Declaration of Editor

Annexure D

Declaration of Editor

20 November 2023

I Ms Cecilia van der Walt hereby declare that I took take of the editing of the dissertation of Ms SM Cilliers titled ***FACTORS CONTRIBUTING TO NORMALIZATION OF DEVIANCE AMONG PERIOPERATIVE NURSES IN A SPECIFIC PRIVATE HOSPITAL.***

MS CECILIA VAN DER WALT

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