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Barriers to effective patient care as experienced by nurses in primary healthcare clinics in African countries: a systematic review of qualitative studies

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Abstract

Background The essence of adopting the Alma-Ata Declaration (1978) was to ensure that essential and acceptable healthcare services are accessible to individuals and families in the community. However, existing literature points that various factors pose as barriers towards effective caring for patients by nurses in primary healthcare clinics. Identifying factors that pose as barriers in effective caring for patients can assist in using strategies that can help in improving the provision of healthcare services.

Methods A qualitative systematic review was conducted in accordance with the Joanna Briggs Institute's approach, including the search and selection, critical appraisal, data extraction and synthesis. An extensive literature search was undertaken to identify relevant qualitative research studies research with substantive findings that reflected nurses' challenges in PHC clinics, conducted in African countries from 2010 to 2024, in the following databases: CINAHL and Medline (through EBSCOhost), BioMed Central, ScienceDirect and Scopus (Elsevier), followed by a manual search in Google Scholar, and a citation search.

Results Following the data extraction and analysis of nine articles, three themes were identified: (1) Shortage of nurses; (2) High workloads for nurses; and (3) Shortage of medicines. A majority of articles were from South Africa ($n=7$).

Conclusions The identified barriers may be addressed at different healthcare system levels in various African countries to improve the provision of healthcare services.

Keywords Barriers, Caring, Patients, Primary health care, Nurses

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Background

Since 1978, the World Health Organisation (WHO) has championed primary health care (PHC), emphasizing principles of social justice, equity, solidarity, and participation [1]. Guided by these principles, PHC clinics strive for effective patient care through equitable service delivery, affordable access, empowerment, and sustainability [2]. While many countries, including those in Africa, have adopted the PHC model, challenges persist. For instance, in South Africa, despite efforts by the National Department of Health (NDoH), quality healthcare provision, especially in rural clinics, remains a significant issue [3]. The NDoH adopted PHC as a public strategy based on the belief that addressing people's basic needs first leads to better health outcomes [2]. PHC aims to address local needs comprehensively, focusing on communities as the unit of intervention [4]. It seeks to bring healthcare closer to communities, serving as the primary point of contact with the health system [5].

Several African countries have adopted innovative PHC approaches, such as Ethiopia's Health Extension Program, which deploys community health workers to deliver essential services, and Rwanda's community-based health insurance scheme to improve access and affordability [1]. Despite these advancements, the implementation of PHC across Africa remains uneven, with many countries facing significant challenges, including resource constraints, workforce shortages, inadequate infrastructure, and weak supply chains, all of which hinder the full realization of PHC goals [6]. Similarly, in South Africa, these systemic barriers continue to impede effective patient care in PHC clinics. These include nurse shortages, resource deficiencies, and inadequate support [6]. For example, personnel shortages, heavy workloads, and medication shortages impede effective care [7]. Additionally, factors like insufficient budget al. locations, low salaries, and lack of ambulances exacerbate the situation. Moreover, issues like poor motivation and inadequate supervision hinder guideline adherence among nurses [8]. These challenges result in unnecessary patient referrals and undermine the effectiveness of the PHC approach [9].

Similar challenges are observed in Nigeria, where nurses face obstacles such as work overload in delivering patient-centred care within the PHC framework [10]. In Botswana, a shortage of healthcare workers and other complex factors negatively impact rural PHC clinics [11]. Malawi's PHC system, although structured on the PHC model, suffers from resource misallocation, fragmented services, and staff shortages [12, 13]. Tanzania faces workforce shortages and operational weaknesses, impeding PHC effectiveness [14].

In many African countries, PHC clinics are led by nurses, who are pivotal in providing comprehensive services [15]. These nurses bear legal and moral responsibility for delivering quality care to patients [3]. Caring, intrinsic to nursing, remains fundamental, enabling nurses to understand patients' illnesses and their impact [16]. Governments' recognition and optimization of PHC services are crucial, especially in rural and remote areas with limited healthcare access.

While reviews have explored barriers and facilitators in PHC contexts, including the exploration of role implementation [17], teamwork and collaboration [18] and disease-specific barriers [19], they do not specifically address the systemic and contextual challenges nurses face in delivering effective patient care in PHC settings. This systematic review addresses a critical gap by identifying and synthesizing qualitative studies on the barriers to effective patient care specifically experienced by nurses in PHC clinics across African countries. Using qualitative studies provides an in-depth, contextual understanding of how systemic, resource, and practice-related factors influence patient outcomes in African settings, contributing insights not typically captured in broader or non-African-focused reviews, particularly as no qualitative review has been conducted regarding barriers to effective patient care as experienced by nurses in primary healthcare clinics in African countries [20]. By emphasizing the African PHC context, this review offers valuable evidence to inform interventions, policies, and training tailored to address the unique challenges faced by nurses in this region.

Methods

Methods and literature search

A systematic review was used, adopting a meta-aggregative approach, to review and integrate findings from qualitative studies, guided by the Joanna Briggs Institution [21]. A meta-aggregative approach according to Lachal et al. [22], amalgamate findings from individual studies in an impartial manner, furnishing a balanced and equitable and in-depth summary of the evidence as compared to reviews that include qualitative and mixed-methods studies.

For this review, the review question was: **"What are the barriers to effective patient care as experienced by nurses in PHC clinics in African countries?"** An extensive literature search was conducted in December 2024 with the assistance of the librarian. The search focused on qualitative studies relating to nurses' experiences while providing care to patients in PHC clinics in African countries between 2010 and 2024, published in English. The rationale for the time period (2010 and 2024) was to have a broad number of research studies with substantive findings that reflected nurses' challenges in PHC clinics in African countries. Articles that were not qualitative in nature - including conference papers, opinions, letters to editors-, articles that were not full text available, studies

conducted in hospital settings, or PHC services rendered by other healthcare professionals (such as doctors) or in non-African countries were excluded because they did not meet the eligibility criteria.

The literature search was conducted on the following databases: CINAHL and Medline (through EBSCOhost), BioMed Central, ScienceDirect and Scopus (Elsevier), followed by a manual search in Google Scholar, and a citation search. Keywords and search strings such as 'caring', 'primary health care' or 'barriers or factors', and 'nurses' and 'Africa' were used. The keywords were used to search for articles relating to nurses' experiences rendering PHC in Africa (see Table 1).

The screening and selection process were conducted by three authors (TVN, CD & WTHB) independently, and Mendeley Research Manager was used to manage the literature. The search and selection process results are depicted in the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow chart [23]. (see Fig. 1).

Quality appraisal

The quality of the nine qualitative studies included in the review was critically appraised using the Critical Appraisal Skills Programme (CASP) [24]. The CASP is the most commonly used tool for quality appraisals in health-related qualitative evidence syntheses, and is used to exclude studies deemed to be of lower quality [24]. The assessment of the nine studies encompassed evaluation across ten criteria: (1) Clarity of research aims, (2) Appropriateness of qualitative methodology, (3) Suitability of research design for the research objectives, (4) Adequacy of recruitment strategy aligned with research aims, (5) Appropriateness of data collection methods in addressing the research question, (6) Consideration of the researcher-participant relationship, (7) Ethical considerations, (8) Rigor of data analysis, (9) Clarity of findings presentation, and (10) Overall research value. Each question was awarded a point for 'yes' answers. Studies that scored 4 out of 10 points were regarded as being of low quality, and were therefore excluded. Those that scored 5–7 points were of moderate quality, and those that scored 8–10 points were considered to be of high quality. Studies with moderate and high-quality scores were included in the review.

Critical appraisal was conducted by two independent reviewers (TN and CD) who are conversant with the review method and process, and have clinical expertise in the nursing field. Any identified discrepancies and disagreements were resolved through a consensus discussion with a third reviewer (WTHB). All nine studies that were considered relevant were included in the review (see Supplementary file 1).

Data extraction process

A data extraction tool was designed by TVN based on the research topic. The three authors independently extracted and analysed the data from each study. The sources of information, year of publication, the country where the study was conducted, aim, and characteristics of the sample (number of participants, category of health professional, gender distribution) and the research methodological features) were extracted. During data extraction, findings explicitly targeting nurses were identified, categorized based on their relevance to nursing practice, and non-nurse-specific barriers were excluded to maintain a clear focus on the nursing perspective (see Table 2).

Synthesis of the findings

The Joanna Briggs Institution meta-aggregative approach was used to synthesise qualitative evidence [25]. This approach involves synthesizing qualitative studies by representing the findings, grouping them into categories, and further consolidating these categories into synthesized findings, and ultimately recommendations for practice and policy.

Ethical considerations

Ethical clearance was deemed unnecessary for this review, as it solely relied on published articles as data sources and did not involve human participants. Unlike primary researchers, the reviewers abstained from

Table 1 Key words per database

Database	Keywords
EBSCOhost (CINAHL and MEDLINE)	patient care AND (barriers or obstacles or challenges) AND (primary health care or primary care or public health care or community care) AND nurse AND Africa Limiters: English, full-text
BioMed Central	patient care AND (barriers or obstacles or challenges) AND (primary health care or primary care or public health care or community care) AND nurse AND Africa
Scopus (Elsevier)	patient AND care AND (barriers OR obstacles OR challenges) AND (primary AND health AND care OR primary AND care OR public AND health AND care OR community AND care) AND nurse AND africa Limiters: countries in Africa
ScienceDirect	patient care AND (barriers or obstacles or challenges) AND (primary health care or primary care or public health care or community care) AND nurse AND Africa Limiters: 2010–2024

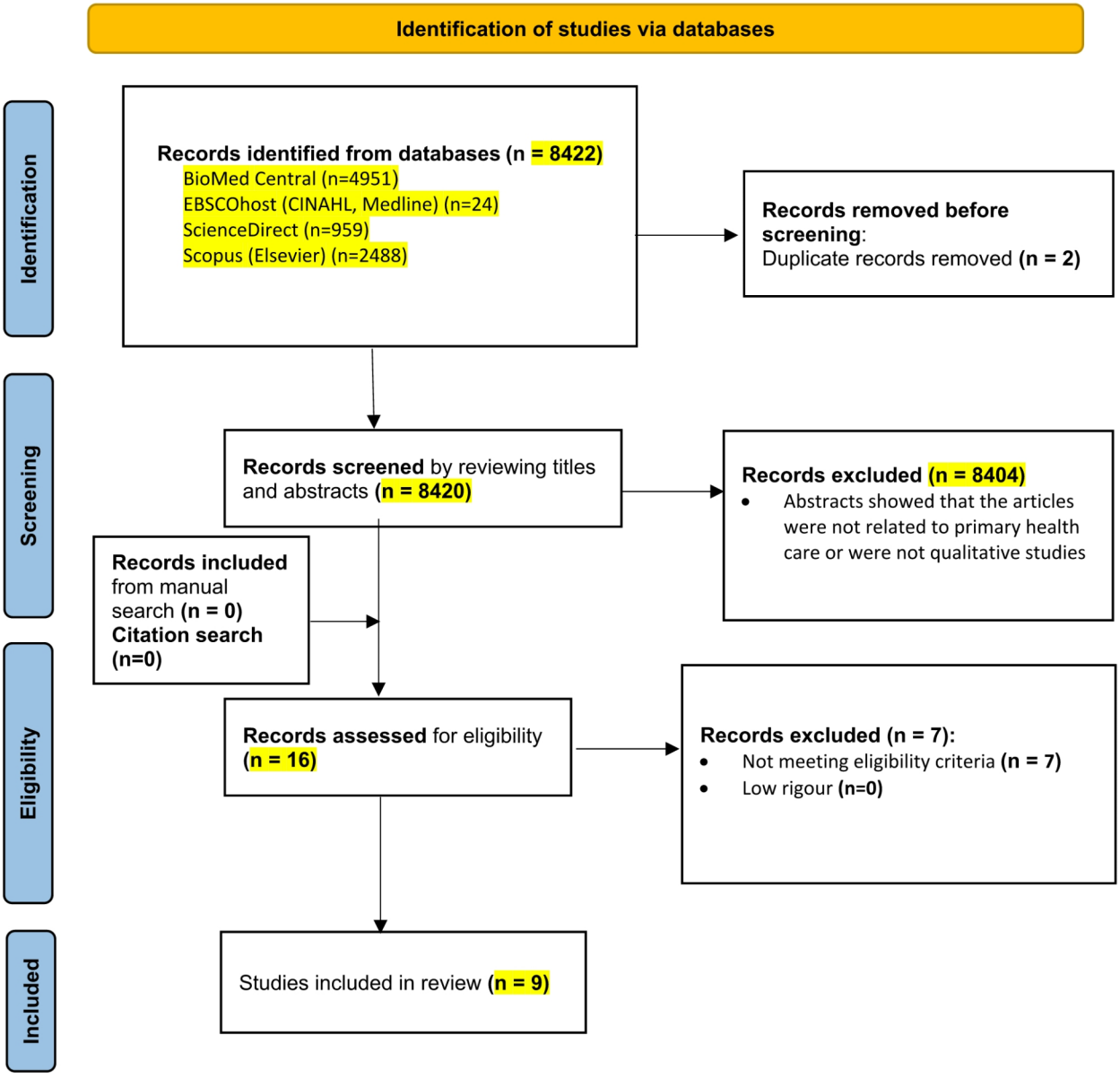

Fig. 1 The PRISMA flowchart of the search and selection of articles. (Adapted from: Page, McKenzie, Bossuyt, Boutron, Hoffmann & Mulrow, 2021)

gathering deeply personal, sensitive, or confidential information from participants. Nevertheless, the authors adhered to three guiding principles: informed subjectivity and reflexivity, purposefully informed selective inclusivity, and audience-appropriate transparency [26].

In practicing informed subjectivity, the reviewers discerned the interpretive epistemological orientation that aligned with the review's purpose and their research competence. As emphasized by Suri [26], ethical considerations in interpretive systematic reviews revolve around authentically representing the experiences and perspectives of diverse groups, particularly those underrepresented in the literature. The reviewers actively engaged with diverse viewpoints and scrutinized how individual narratives regarding the reviewed phenomenon corroborated, contradicted, or enriched one another [26].

Multiple databases were systematically searched, and only peer-reviewed published research from the academic community was included [26]. The reviewers allocated adequate time to scrutinize the retrieved sources, rephrased the information, and integrated it with their own insights [27]. Individual-level data from each original study included in this review were accessed and utilized for synthesis. To uphold integrity [28], proper referencing of all articles was ensured.

Table 2 Data extraction of studies ($n=9$)

Source/study	Year of publication	Country where the study was conducted	Number of participants	Gender	Aim	Research design and methodology	Main findings
Dassah, E., Aldersey, H.M., McColl, M.A. & Davinson, C.	2019	Ghana	7 General Nurses 3 Community Health Nurses (4 Medical Assistants, 1 Medical Doctor)	8 males 7 females	To explore the perspectives of healthcare providers in delivering PHC services to persons with physical disabilities in rural Ghana.	Descriptive, qualitative approach. In-depth interviews.	Limited availability of drugs and medical equipment, as well as limited healthcare providers.
Lateef, A. & Mhlongo, E.M.	2021	Nigeria	35 nurses	7 males 28 females	To explore the factors that influence PCC utilisation in PHC facilities in Nigeria.	Qualitative, exploratory and descriptive design. In-depth, individual interviews.	Inadequate management support, work overload, time constraints and poor nurses' accountability were barriers to caring for patients.
Makhado, L., Davhana-Maselesele, M. & Farley, J.E.	2018	South Africa	24 nurses	7 males 17 females	To explore and describe barriers to treatment guideline adherence among nurses initiating and managing ART and anti-TB treatment in Kwazulu-Natal (KZN) and North West (NW) provinces.	Qualitative, exploratory and descriptive design. Semi-structured focus group discussions.	Lack of agreement with guidelines, poor motivation, resistance to change and organisational factors.
Mathibe, M.D., Hendricks, S.J.H. & Bergh, A.	2015	South Africa	35 clinicians (nurses and doctors)	Not specified	To explore clinician perceptions and patient experiences of the integration of ART in PHC clinics.	Qualitative, exploratory and descriptive design. Self-administered questionnaire with open-ended questions.	Workload, staff development and support for integration affected clinicians' performance and viewpoints. Delays, poor patient care and patient dissatisfaction were viewed as negative aspects of integration.
Meintjes, K.F.	2018	South Africa	18 PHC specialised nurses	Females	To explore and describe the experiences of PHC nurses in managing children with atopic eczema in a district of Gauteng.	Qualitative, exploratory, descriptive and contextual design. $n=$ FGD $n=4$ individual interviews.	Treatment challenges - difficult assessment and diagnosis, drug management and limited treatment protocols.
Nemathaga, M., Maputle, M.S., Makhado, L. & Mashau, N.S.	2024	South Africa	20 PHC specialised nurses	5 males 15 females	To explore the experiences of nurses in managing epilepsy in the selected rural communities of Limpopo and Mpumalanga	Qualitative, exploratory, descriptive and contextual design. Individual interviews	Experiences of nurses during management of epilepsy; inadequate training in management of epilepsy; insufficient supply of antiepileptic drugs and late presentation to local clinics
Nesengani, T.V., Downing, C., Poggenpoel, M. & Stein, C.	2019	South Africa	8 PHC specialised nurses	Females	To explore and describe nurses' experiences of caring for patients in public health clinics in Ekurhuleni.	Qualitative, exploratory, descriptive and contextual design. In-depth, individual interviews.	Disempowering experiences resulting from public health clinic system challenges, identified as disenabling effective caring for patients.
Shihundla, R.C., Lebese, R.T. & Maputle, M.S.	2016	South Africa	10 Nurses	Not specified	To investigate and describe the effects of increased nurses' workload on the quality of documentation on patient information at PHC facilities in Vhembe District, Limpopo Province.	Explorative, descriptive and contextual design. In-depth, face-to-face interviews.	PHC facilities encountered several effects due to increased nurses' workload.

Table 2 (continued)

Source/study	Year of publication	Country where the study was conducted	Number of participants	Gender	Aim	Research design and methodology	Main findings
Tshililo, A.R., Mangena-Netshikweta, L., Nemathaga, L.H. & Maluleke, M.	2019	South Africa	12 PHC specialised nurses	Not specified	To explore PHC nurses' challenges regarding the integration of HIV and AIDS services into PHC.	Qualitative, descriptive, exploratory and contextual. In-depth, individual interviews.	Challenges related to healthcare recipients (refusal of HIV testing, non-adherence to the scheduled appointments) and challenges related to service delivery (high workload related to service integration, insufficient consulting rooms and an inadequate number of staff members).

Measures to ensure rigouR

To ensure investigator triangulation, the study's design and implementation involved three reviewers, a measure aimed at bolstering the integrity and rigor in interpreting the findings [20]. The reviewers meticulously selected databases to facilitate comprehensive data collection, employed transparent and reproducible search strategies, and provided thorough documentation of the search methods [29]. Recognizing the potential limitations of relying on a single source, the reviewers conducted searches across multiple databases and citations. Transparency and reproducibility were maintained by meticulously documenting all steps undertaken during the search and selection process. Additionally, rigor was reinforced through the triangulation of reviewers' interpretations [20].

Results

Search and selection results

The literature search in the electronic databases yielded 3 023 articles, with two duplicates excluded. Following the screening of titles and abstracts, 3 006 articles were eliminated for not meeting the inclusion criteria. The manual and citation search did not yield any new study. Of the 15 articles assessed in full text, only nine met the inclusion criteria, and after undergoing critical appraisal, all nine were included in the review (see Fig. 1).

Nine ($N=9$) articles were included in the review, and all were qualitative, exploratory, descriptive and contextual studies. These comprised six studies employing in-depth individual interviews [7, 10, 30–32, 34]. One study utilized focus group interviews [8], another combined focus group discussion with in-depth individual interviews [32], while a different one employed a self-administered questionnaire featuring open-ended questions along with four focus group interviews [9] (refer to Table 3). Among these, seven articles concentrated on nurses within PHC settings [7, 8, 10, 31–34], one targeted a variety of category nurses (PHC specialised and general nurses) and a doctor [9], and another addressed general nurses, community health nurses, and medical assistants [29]. All investigations were carried out in PHC clinics, with seven conducted in South Africa, one in Ghana, and one in Nigeria.

Thematic presentation of data

Three themes were derived from the extracted data: Theme 1: Shortage of nurses; Theme 2: High workloads for nurses; and Theme 3: Shortage of medicines (see Table 3).

The three themes are discussed as follows:

Table 3 Description of the thematic analyses

Themes	Access category	Descriptive texts
Theme 1: Shortage of nurses	(Dassah, Aldersey, McColl & Davison, 2019); (Lateef & Mhlongo, 2021); (Makhado, Davhana-Maselesele & Farley, 2018); (Mathibe, Hendricks & Bergh, 2015); (Nesengani, Downing, Poggenpoel & Stein, 2019) and (Tshililo, Mangena-Netshikweta, Nemathaga & Maluleke, 2019).	*'increase the number of personnel', 'shortage of nursing staff', 'young nurse who just graduated work alone', 'we are two nurses who struggle to serve the community',*
Theme 2: High workloads for nurses	(Dassah, Aldersey, McColl & Davison, 2019); (Makhado, Davhana-Maselesele & Farley, 2018); (Nesengani, Downing, Poggenpoel & Stein, 2019); (Shihundla, Lebese & Maputle, 2016) and (Tshililo, Mangena-Netshikweta, Nemathaga & Maluleke, 2019).	*'workload is high', 'too much workload', 'high amount of work', 'extremely exhausting', 'excessive workload', 'the work is too much', 'workload is bulky', 'we are busy', 'very large number of patients', increased activities', 'always busy', 'push queues', 'unmanageable responsibilities', 'we usually have high workload'.*
Theme 3: Shortage of medicines and other essential resources	(Dassah, Aldersey, McColl & Davison, 2019); (Meintjes, 2018); (Nesengani, Downing, Poggenpoel & Stein, 2019); Nemathaga et al., 2024.	*'there are no tablets', 'you don't have equipment and drugs', 'we can't get antibiotics', 'unable to provide treatment', 'we run out of medical supplies' 'the drugs can be out of stock'.*

Theme 1: shortage of nurses

Seven studies identified staff shortage in PHC clinics as a significant barrier to delivering quality healthcare services to patients. Dassah et al. [30] underscored that a limited number of healthcare providers in certain clinics and health centers hindered service provision, as the available staff could not adequately meet clients' needs. Moreover, despite the advantages of integrating HIV and AIDS services into PHC, Shihundla et al. [31] emphasized that an insufficient number of PHC staff, especially in rural areas, remained a persistent challenge hindering service integration. This insufficiency led to increased workload globally, affecting both primary and secondary healthcare facilities [31]. These findings align with Nesengani et al. [7], which discovered that the scarcity of nurses in public health clinics in Gauteng Province, South Africa, impeded effective patient care. Similarly, Mathibe et al. [9] noted the longstanding challenge of nurses, and consequently a skills shortage at the PHC level, as highlighted in the Gauteng Departmental Strategic Plan for 2003/4. Makhado et al. [8] also echoed that a dearth of nurses posed a significant hurdle in caring for TB/HIV patients.

Transcripts from the studies included in the systematic review are as follows:

> *"Shortage of nurses presents a major challenge in the provision of care to TB/HIV patients as this affects nurses going off duty, attending trainings, meetings, annual leave, maternity and sick leave, and these create challenges as patients will be attended to by any available nurse on duty" [8].*

> *"Two nurses work during the night [taking calls] are also expected to work during the day, which increases their working hours" [30].*

Theme 2: high workloads for nurses

Nurses' heavy workloads impede their capacity to deliver care in line with a caring philosophy, leading to essential tasks being left undone and compromising the quality and safety of patient care [7]. Among the nine studies, six noted that nurses in PHC clinics faced heightened workloads due to the daily integration of multiple PHC services, including the introduction of new programs. Shihundla et al. [31] highlighted a significant challenge of inadequate staff members at PHC facilities, exacerbating nurses' workload as they shoulder additional responsibilities. Additionally, studies indicated that nurses expressed frustrations with increased workloads, particularly during market days when transportation to the facility became more accessible for clients from nearby communities [30].

As per Makhado et al. [8], workload posed a major challenge in adhering to treatment guidelines among nurses in PHC clinics. Likewise, Lateef and Mhlongo [10] found that participants in their study identified excessive workload as a major obstacle to implementing patient-centred care in PHC settings. Several studies unveiled that persistent high staff workload predisposed nurses to exhaustion, burnout, stress-related ailments, and absenteeism [9]. Nesengani et al. [7] further indicated that nurses in understaffed PHC clinics often endured heightened emotional labor, leading to adverse psychological and physical health outcomes, increased sick leave, and poor staff retention. Similarly, Lateef and Mhlongo [10] discovered that nurses experienced severe physical and psychological stress due to the shortage of nursing staff in the PHC system. Below are examples of transcripts from the studies included in this systematic review:

> *"Workload is a major challenge when it comes to proper adherence to treatment guidelines, we don't have enough time and we don't have time to use the guidelines, hence the workload prevents us from adhering to treatment guidelines" [8].*

"Too much workload leading to unhappy patient[s] because now they have to wait longer. Reasons for high workload include staff shortages and increased activities such as counselling for new…and follow-up clients, examinations, routine investigations, amount of forms to be completed" [9].

"If there are too many things to be done…if you have a lot to do like you have over 50 clients and it's only you. If you have enough hands, you can easily practice patient-centred care. If we have facilities and if it is not that the work is so much that five people are supposed to do it and only one person is doing it, definitely if there is division of labour, definitely nurses will adopt the method" [10].

"…you can find two clinical nurse practitioners consulting patients who are +/-100 per day" [31].

"The workload is high, if the government or the department can be able to increase the number of personnel, it would be very, very simple for us to integrate HIV service into PHC as well to render quality care to our clients" [32].

Theme 3: shortage of medicines

Six of the nine studies identified a shortage of medicines as a barrier to patient care by nurses in PHC clinics. Nesengani et al. [7] noted that medication shortages hindered nurses from prescribing necessary medications. Mathibe et al. [9] disclosed that resource gaps and unequal distribution of medication were common issues in ART services at PHC clinics and similar experiences were reported by Nemathaga et al. [34] when managing patients with epilepsy. Furthermore, Batten and Brackett [29] emphasized that the frequent absence of drugs in health facilities obstructed the delivery of healthcare services.

In a study conducted in Nigeria, Lateef and Mhlongo [10] reported that PHC facilities were inadequately equipped with– among others– medications for delivering high-quality healthcare services. This finding aligns with research conducted in Gauteng Province, South Africa, by Meintjies [33], which uncovered numerous challenges faced by nurses in PHC facilities regarding drug management for children with atopic eczema. These challenges included the unavailability of drug treatment, ineffective or insufficient quantities of available treatment, and limited treatment protocols to guide nurses. The following are examples of transcripts from the studies included in this systematic review:

"We don't have resources, you have to ask for resources from other clinics, which further hampers caring. Another thing, the issue of shortage of medication still makes caring a problem. We struggle with the shortage of various medications" [7].

"We can't get antibiotics for our clients with disabilities in here because there is a.
directive from the top.… Because of that clients who need them have to go to.
health centers or drugstores" [30].

"And then when it comes to medication, most of the creams that they use at the hospitals we don't have here at the clinic. We often don't have medicines we need, uhmm…and when we do, you can only give a limited amount" [33].

"is not easy because the drugs can be out of stock for a while and there is nothing we can do except refer them to pharmacies for purchase which is really unfair for the PLWE" (people living with epilepsy) [34].

Discussion

This review aimed to synthesise qualitative studies of barriers to effective patient care as experienced by nurses in PHC clinics in African countries. Three major themes were derived from data analysis, namely: a shortage of nurses, high workloads for nurses, and a shortage of medicines. The review highlights how the lack of nurses in PHC clinics impedes effective service provision, particularly in rural areas. A limited number of nurses restricts the capacity of clinics to meet patient needs. This finding aligns with Nkomazana et al. [11] study, underscoring that many African countries are grappling with severe shortages of healthcare workers, with PHC clinics bearing the brunt of this challenge. For instance, Botswana faces numerous contributing factors to healthcare worker shortages, including inequitable distribution and insufficient training opportunities [11]. Similarly, Malawi struggles with inadequate staffing levels, preventing the maintenance of a minimum standard of healthcare [13]. The shortage of staff poses significant challenges for nurses in delivering quality healthcare services, particularly managing patients with complex conditions like TB and HIV, impeding their ability to conduct comprehensive examinations, exclude opportunistic infections, and obtain proper patient histories [9].

Kamati et al. [35] identifies the nursing shortage in Namibia's public healthcare sector as a threat to providing quality healthcare, echoing the sentiment that human

resources are vital assets in healthcare systems [36]. Despite the Alma Ata Declaration's advocacy for PHC services [4], notes that over four decades later, challenges persist, including workforce availability, financing, system design, quality assurance, and patient safety. These findings mirror the global challenges outlined in systematic reviews, where nurse shortages are consistently linked to poor health outcomes, delayed care, and reduced patient satisfaction [37, 38].

The shortage of nurses is closely linked to increased workloads, which in turn exacerbates stress and the burden on remaining staff, amplifying the negative consequences for patient care. Nurses' heavy workloads emerge as a recurrent theme in the reviewed literature, supported by Matlala et al. [3], which reveals that PHC clinics in South Africa's North West Province face overwhelming patient volumes, exceeding national norms [3]. This issue is further exacerbated by South Africa's high unemployment rates and refugee populations, which strain the already resource-constrained public healthcare sector [6]. Several studies report that nurses are unable to adhere to treatment guidelines or deliver patient-centered care due to their overwhelming workloads. The transcripts offer stark examples of this issue, where nurses express frustration over long working hours. This overwhelming workload also leads to burnout, stress-related ailments, and increased absenteeism. A systematic review confirms that high workloads lead to adverse psychological and physical outcomes for nurses, including burnout and decreased job satisfaction [38]. In comparison, the review findings emphasize the compounded nature of workload issues in resource-poor settings– such as rural areas-where nurses are expected to perform multiple roles with insufficient support [12–14]. The lack of proper work-life balance, as seen in the experiences shared by the participants, is echoed in international studies, where nurses express feelings of frustration and stress due to similar systemic pressures [39].

The tension between high workloads and the ability to provide compassionate care, as highlighted in the participant quotes, demonstrates a critical gap in the ability of PHC nurses to maintain a caring philosophy in their practice, which was also highlighted in a Jordanian study [40].

The shortage of medicines is another key barrier impacting the delivery of quality care in PHC clinics. South Africa's healthcare system contends with limited resources, particularly medications, and a high burden of diseases, particularly in mental healthcare, exacerbating challenges such as medicine stock-outs and staff shortages [6, 40, 41]. The identified studies highlighted the unavailability of essential medications and the unequal distribution which obstructed the provision of high-quality care. The evidence indicates that drug shortages are a pervasive challenge not just in African PHC settings but globally [42]. However, the studies included in this review bring to light the particularly severe consequences of this issue in low-resource settings, where alternative sources of medication, such as referrals to nearby clinics or pharmacies, are not always feasible. This shortage creates a cascading effect on patient care, forcing nurses to make difficult decisions regarding which patients receive priority treatment based on available resources.

The barriers identified—nurse shortages, high workloads, and medication shortages—align with findings from a systematic scoping review on the concept of low-resource settings [43]. What distinguishes these studies is the emphasis on the interconnection between these factors. Nurse shortages exacerbate workloads, which in turn worsen medication shortages. Additionally, the emotional and physical toll on nurses, including burnout and staff retention issues, is a significant concern often overlooked in global reviews. The findings also suggest that tailored interventions, such as improving nurse retention and ensuring equitable medication distribution, are crucial for addressing these challenges in resource-poor settings. This is particularly critical as limited evidence exists on strategies to address the barriers and facilitate effective patient care in African PHC clinics. Consequently, further research is warranted to explore interventions that could enhance healthcare delivery and mitigate these challenges, ultimately improving health services in the African context. Moreover, increased investments in PHC across various countries can enhance healthcare accessibility for marginalized populations, thereby improving disease management and long-term patient care.

Limitations and strengthS

Despite conducting an extensive search across various databases, the authors faced limitations due to restricted access to certain subscription-based databases, which may have led to the inadvertent omission of relevant studies. A limitation of the review is that the included studies were sourced from predominantly three of the 54 African countries, affecting generalizability to a broader context.

The review demonstrates strengths in its comprehensive search strategy across multiple databases, rigorous critical appraisal of studies, focused inclusion criteria ensuring relevance, effective synthesis of key themes, and emphasis on contextual barriers in resource-constrained settings, offering actionable insights for improving PHC.

Implications of the results

Practice

The findings underscore the importance for PHC management to recognize that PHC services are ideally

situated to be accessible to community members. Consequently, healthcare services provided should be inclusive and acceptable to all individuals.

Policy

These findings could inform revisions to healthcare policies, guiding healthcare institutions to ensure the availability of functional equipment, an adequate supply of medicines, and a sufficient number of nurses in PHC clinics. Further, it is recommended that offering enhanced remuneration for nurses deployed to these PHC clinics could serve as an effective motivator, encouraging both current staff to continue working in these areas and attracting others to request postings to these regions. This is essential for enhancing healthcare delivery.

Future research

The results may also prompt various countries to invest in research aimed at developing models or strategies to enhance healthcare provision in PHC clinics, leading to improved outcomes for both nurses and patients. Additionally, given the limited qualitative research beyond South Africa, further investigation into this topic is warranted across other African countries.

Conclusion

Data extracted from the nine selected articles resulted in three major themes: (1) Shortage of nurses; (2) High workloads for nurses; and (3) Shortage of medicines. Despite being designed as the initial point of contact for individuals, families, and communities within the public healthcare system, the PHC approach encounters numerous challenges that hinder the provision of satisfactory healthcare services.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12912-025-02877-5.

Supplementary Material 1

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TN collected the data under supervision of CD and WTHB. TN prepared the manuscript while CD and WTHB reviewed it.

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Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate
No ethical approval was required for the systematic review as no human participants were involved.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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