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Clinical nurses' perceptions of research in Gauteng Province, South Africa: a qualitative study

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Abstract

Background Nurses are expected to engage in research to inform evidence-based practice; however, research remains poorly integrated into routine clinical work for many. This study explored clinical nurses' perceptions of research to inform the development of a research capacity-building program in Gauteng Province, South Africa.

Methods A qualitative descriptive design was used. Data were collected through focus group discussions and individual interviews with 29 nurses from two public hospitals in Gauteng Province. Interviews were audio-recorded, transcribed verbatim, and analyzed using conventional content analysis.

Results Three themes emerged: [1] *Supportive Research Environment* - participants acknowledged hospital support through research permissions and opportunities to attend symposiums; [2] *Research as an Ivory Tower* - many viewed research as exclusive to academics, with some expressing fear or limited understanding of research processes; [3] *Barriers to Research Engagement* - participants cited factors such as staff shortages, lack of protected time for research, frequent ward rotations disrupting research interests, limited library access, and negativity from some managers and colleagues. One participant shared, "I wanted to do research in labor ward, but rotation moved me, so I lost the opportunity".

Conclusions Although nurses recognized the value of research, structural and individual barriers limit their participation. Strengthening research training within nursing education, improving access to research resources, and fostering a supportive organizational culture are essential to enhancing research engagement and promoting evidence-based nursing practice in South Africa.

Clinical trial number Not applicable.

Keywords Nursing research, Evidence-based practice, South Africa, Capacity building, Hospitals

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Introduction

Research is essential for strengthening health systems and improved health outcomes [1]. This is achieved through generation of knowledge that forms the scientific foundation of a profession [2]. The quality of care delivered to patients, families, and communities is informed by nursing research, whose effectiveness in promoting evidence-based practice depends on nurses' capacity to engage in rigorous research [3–5]. Apart from informing clinical practice, research is critical in the response to outbreaks through early description of the nature, extent, epidemiology, and prognosis of the outbreak, and informs the management of the affected patients [6]. The significant role of nursing research underscores the need for credible evidence that informs health care. Therefore, nurses are expected to have the capacity to conduct research to develop the nursing discipline.

The World Health Organization draft fourteenth general programme of work for 2025 to 2028 aims to strengthen research capacities in member states including African countries to accelerate progress in health [7]. Research capacity is defined as the ability to conduct research in a sustainable manner and specific to the context [4]. Similarly, the road map for strengthening nursing and midwifery in South Africa highlights the need to invest in nurse-led research aimed to develop nurse-led models of care [8]. The nurses are expected to actively participate in research activities as part of continuing professional development [9]. Greater support for research is essential to effectively address health challenges and expedite the progress of sustainable development goals in low-and middle-income countries.

Despite the high disease burden in Africa, there is a shortage of health workers and individuals skilled at clinical research [10, 11]. Most research in nursing is conducted by nurse academics who spend minimal time with patients [11–13] and the research focusses on issues related to administration and education. There are few clinical studies that focus on improvement of nursing practice [3]. The lack of capacity in research results in a waste of resources that are invested in research to inform and change healthcare practice. For example, Glasziou and Chalmers [14] estimated that \$170 billion is wasted annually through research that is not published, incomplete reporting, and flaws in the design. If the results of research are never made publicly accessible to other researchers or to end-users, they cannot contribute to knowledge that is required to improve health outcomes.

Building the capacity for research in Africa is expected to contribute to enhanced ownership of the research activities that target relevant topics, communication of the findings in a manner that is culturally acceptable and relevant. The recommendations may also resonate better and have better uptake among African policy makers

compared to research results produced by teams that are largely internationally led [1, 10, 15]. This study was conducted to explore clinical nurses' perceptions of research as part of a larger study that aimed to develop a research training program for the nurses in Gauteng province, South Africa [16].

Methods

Design

The study employed a qualitative descriptive design. This approach falls within the paradigm of naturalistic inquiry, which assumes that reality is subjective and varies from one individual to another. In this design, the researcher plays an active role in understanding the nature of the phenomenon under investigation. The approach was considered appropriate because it focuses on exploring the “who,” “what,” and “where” of events or experiences, particularly in relation to phenomena that are poorly understood [17, 18].

Research setting

The study was conducted at two public hospitals in Tshwane, one of the five districts in Gauteng Province in South Africa. The province has the highest population, 13.4 million and Tshwane is the third populous district, accounting for 24% of the total population in the province [19–21]. One hospital, referred to as Hospital A in this paper, is a tertiary academic hospital with 800 approved beds. The other hospital (Hospital B) is a district hospital with 240 approved beds [22].

Participants

The population comprised nurses working at the two hospitals. In South Africa, the National Qualification Framework (NQF) classifies nursing qualifications across various levels as follows: Certificate (18 months, Level 6), Diploma (three years, Level 7), Bachelor of Nursing (four years, Level 8), Postgraduate Diploma (one year, Level 8), Master's Degree (two years, Level 9), and Doctor of Philosophy (PhD) (three to four years, Level 10). Notably, Levels 9 and 10 are research-based qualifications. The nurses are categorized into six professional categories: Registered Auxiliary Nurse (certificate), Registered General Nurse (Diploma), Registered Professional Nurse (Bachelor's degree), Nurse Specialist (Postgraduate diploma), Advanced Specialist Nurse (Master's degree), and those with Doctorate degree [8]. At the time of the study, there were 1,600 and 300 nurses at Hospital A and B respectively.

Convenience sampling was used to identify the participants. Initially, a pragmatic sample size of 20 participants was determined based on the amount of data that was expected to be collected. However, data collection continued until data saturation was achieved with 26

participants. Three more interviews were conducted to confirm the saturation. Therefore, twenty-nine participants ($n=29$) participated in the study. Of the 29 nurses interviewed, 28 identified as female and one as male; ethnicity and first language were not collected, although all participants self-reported proficiency in English, the language of the interview.

Data collection

The proposed study was presented to nurse managers at the two hospitals during their weekly meetings to create awareness about the study. In addition, the first author visited different wards to brief nurses about the study. To avoid disrupting the services in their respective wards, the nurses that expressed willingness to participate in the study were invited for either focus group discussion or face to face interview through the nurse managers. The participants received permission from their line managers to attend either the focus group discussion or individual interview. Before the interviews, the first author repeated the information about the study and requested the participants to provide written consent. One focus group discussion was conducted in a meeting room of a ward. The rest of the focus group discussions and interviews were conducted in boardrooms within the hospital at the most convenient time for the participants. A semi-structured interview guide, developed for this study, was used for the interviews (Appendix 1). The interviews were conducted in English and audiotaped with permission from the participants. Later, the interviews were transcribed verbatim for analysis.

Data analysis

The data were analysed manually guided by the steps of conventional content analysis as described by Hsieh and Shannon [23]. The analysis involved reading and re-reading the transcripts to achieve immersion and become thoroughly familiar with the data. Each transcript was examined word by word to identify codes, with key thoughts or concepts highlighted using participants' exact words. During this process, notes were taken to capture initial impressions and reflections. The codes identified formed the initial coding scheme. These codes were subsequently grouped into categories based on conceptual similarities. The categories were then further refined and consolidated into a smaller number of broader categories. Each overarching category was clearly defined, and illustrative excerpts from participants were selected from the data to support the findings during reporting.

Ethical considerations

The study was approved by the Faculty of Health Sciences Research Ethics Committee of the University of

Pretoria (reference number: 123/2023). The protocol was registered with the National Health Research Database in South Africa (reference number GP_202305_032). The study also received approval from the Gauteng Province Department of Health authorities. Furthermore, permission to conduct the study at the two hospitals was sought from the authorities at each hospital. The participants were provided with information sheet and those that expressed willingness to participate in the study were requested to provide written informed consent. During the focus group discussions and individual interviews, the participants were requested to use pseudonyms of their choice to ensure anonymity.

Trustworthiness of the study

Rigour was achieved through measures that ensure trustworthiness namely credibility, transferability, dependability, and confirmability [17, 24]. Spatial and personal triangulation were applied to achieve credibility. Spatial triangulation entails collection of data on the same phenomenon from multiple sites. Personal triangulation refers to collection of data from different types and levels of people [24]. In this study, data were collected from different cadres of nurses at two hospitals. Transferability was achieved by providing sufficient study details. Dependability and confirmability were enhanced by establishing an audit trail describing the procedures and processes. In addition, reflexivity was employed to ensure the transparency and quality of the study [24, 25]. In this study, reflexivity was ensured by documenting and keeping memos and field notes about interpersonal dynamics and critical decisions made throughout the study.

Results

Demographic profile of the participants

The demographic profile of the participants is presented in terms of gender, age, academic qualifications, further studies, years of experience and attendance at any research-related courses. Most participants were female nurses ($n=28$), and a majority were aged over 40 years ($n=21$). A summary of the demographic profile of the participants is presented Table 1 below.

Themes and sub-themes

For the participants in this study, data analysis resulted in three themes related to their perceptions of research namely (a) Supportive research environment (b) Research as an ivory tower (c) Barriers to research engagement.

Theme 1: supportive research environment

The participants' data related to the theme, supportive research environment, showed that the two hospitals supported research by providing permission for studies.

Table 1 Demographic profile of the participants

Variable	Focus Group Discussion 1 (n=7)	Focus Group Discussion 2 (n=9)	Focus Group Discussion 3 (n=10)	Individual interviews (n=3)
Gender				
Male			1	
Female	7	9	9	3
Other				
Age (Years)				
21–30	1	3		1
31–40	1		1	
41–50	3	4	1	2
51–60	2	2	7	
61–70			1	
Qualification				
Certificate	1			
Diploma	4	6	1	2
Bachelor's degree	2	3	5	1
Masters degree			4	
Pursuing another degree				
Yes	1	2	1	
No	6	7	9	3
Years of experience				
1–5	3	2	1	1
6–10				
More than 10	4	7	9	2
Attended courses in research?				
Yes	1	3	8	
No	6	6	2	3

They also appreciated the hospitals support for their exposure to research conferences.

Sub-theme: permission for research

In the theme, supportive research environment, some nurses acknowledged the support that the hospitals provided in terms of permission for research. However, other nurses were not sure of the support that the hospital provided. A nurse in one focus group discussion said,

I think management is supporting the research. Reason being, there are external people who come here to collect data and they are given permission. Even internal staff members, when they do want to collect data, permission is granted. Even now as we are seated, permission is granted on your side which really means that to you, we are permitted, and we are supported. (Participant J)

Similarly, participants in the other focus group discussions said,

I think they do allow because there were some of errr, people who come to work, at postnatal and do the research. So, they come with a form, and then they sign, they ask questions. (Participant K)

I think the hospital encourages research because they have never declined anything to collect data and telling someone that you are not. As long as you have ethical clearance from your university. (Participant I)

However, participants from one hospital were not sure of the hospital support as expressed by the following participants,

People from outside, yes, they ask for permission. And they allow. But us, the staff, I'm not sure, I haven't heard. (Participant R)

Yes, I want to say something, uuuh, regarding the management, if they, if they support the research. I think, errr most of us have not been exposed... therefore we do not know anything about the support we can get. (Participant S)

Sub-theme: exposure to research symposium

In the theme, Supportive research environment, the nurses appreciated the hospital support for their exposure to research conferences. They considered the symposium informative, an eye opener and they wanted to be part of the research activities as expressed by two nurses in one focus group discussion,

We attended the research symposium as a group. It was very informative because it was a whole lot of programs. (Participant D).

... it was so interesting to get new information of what is happening in the nursing whatever topic which they will present, like an eye opener, you realize, oh, are these things really happening? So, it was so informative in such a way that you have that also desire to say, I wish to be part of this. (Participant A)

Theme 2: research as an ivory tower

The theme refers to participants' fear of research and their perception of research as an activity that is undertaken either by academics or for academic purposes. One participant admitted that nurses are reluctant, they are afraid of research,

It's just that some of us we are reluctant, as much as we speak about this.... people got that fear of research. (Participant J)

The fear of research was attributed to limitations in the curriculum used to train some nurses, which does not provide opportunities for them to conduct research.

The curriculum that is being implemented now, does not allow other people to go and do research so what we need mostly is information for us to be doing research. (Participant G)

They also reported that the researchers from the University engage senior nurses only as expressed by some of the participants during the focus group discussion,

They came, people from Pretoria, or in the university, but mostly, they do with the sisters. As nurses, they, they don't do with us. They do research with errr... with our RNs. (Participant 7)

The participants also reported that they conduct research for academic purpose. This was expressed by nurses in the second and third focus group discussions,

My experience with regard to research is that we do it for the sake of having masters and PhD as well. (Participant A)

I think you need to identify an accredited institution so that you can get admitted for an accredited qualification. (Participant P)

Theme 3: barriers to research engagement

The participants' reports related to the theme, barriers to research engagement, included factors that affected their experience of research in the respective hospitals. In this theme, the data refer to the participants' individual- and organization-related factors.

Sub-theme: individual related factors

In the theme, barriers to research engagement, the nurses admitted that they lacked understanding of research. Although they cited examples of research projects conducted in the wards, they did not regard these projects as a form of scientific inquiry.

Participants 3 and 7 expressed differences in the understanding of research during one of the focus group discussions.

We do, we do audits. Maybe it is research, we might have missed it, but we do them on a monthly basis. (Participant 3)

However, Participant 7 expressed understanding of research,

We do the research about those things, because the concern is that why do mothers, eh, deliver at home, while we have the clinics around, we have the hospital around, can't they just go to the nearest and deliver there? Those are some of the questions and research that we do. We want to know the reasons why they don't go to the nearest hospital and deliver at home. (Participant 7)

Sub-theme: organization-related factors

In the theme, barriers to research engagement, the participants reported factors related to their respective hospitals that hindered their engagement in research. Participants identified the following organization-related factors: frequent nurse rotations; staff shortages resulting in limited time for research and long working hours; negativity from colleagues, including managers; lack of funding; a tedious scholarship application and research approval process; lack of feedback from researchers; and limited access to a library. One participant indicated that moving her to another ward disturbed her research interests and plan,

Uuumm, I've got two years of experience here. When I came, I was very keen with the labor department. But then because of the rotation I never had to work there. So I felt like it was a little bit of a barrier to me that I was not really exposed to the area that I wanted to do research on. (Participant 6)

Some participants reported about negative attitude of the managers towards research, long working hours which made it difficult for them to do research. In addition, negative attitude from colleagues demotivated others from doing research.

Some of the managers will not understand, depending on the person you are reporting to, does really value that thing or not, so that's where you find that we all have challenges (Participant E)

I think the barriers are there due to long working hours, hecticness of the unit where you are working, and also negativity from the colleagues because once you come say, you are doing research it's like you are boring people. That negativity also could just

flip their mind and demotivate others from doing research. (Participant 5)

Although participants acknowledged that the hospital supported some of them to attend research conferences, they reported a lack of follow-up by the hospital to ensure that researchers who conduct studies at the hospital disseminate their findings. This deprives nurses of the opportunity to learn about research.

There are a lot of people that come to our hospital to conduct research, but they don't come back to give us feedback. (Participant 2)

In addition, the nurses reported being unable to write a research proposal due to lack of access to a library - particularly the university library, as noted by Participant B.,

You can't get any access to any university or the library to get information because you're not yet registered.

Discussion

The aim of the study was to explore clinical nurses' perception of research. The findings showed that the nurses appreciated hospital support for research which included granting permission for research and providing support for conference attendance. However, they perceived research as an ivory tower, that it is only done by academics or for academic purposes. Furthermore, they identified individual- and organisation-related barriers to research engagement. The individual-related factors were limited understanding of research and fear of research. The organisation-related factors were: frequent nurse rotations; staff shortages resulting in limited time for research and long working hours; negativity from colleagues, including managers; lack of funding; a tedious scholarship application and research approval process; lack of feedback from researchers; and limited access to a library.

Supportive research environment

The study has helped us to understand the current research experiences of the nurses as a starting point for behaviour change to promote research engagement. The findings showed the nurses acknowledged the support from the hospital although some participants were not sure of the hospital support. A supportive environment, referred to as a cultural context that values research, was identified as one of the enablers of research participation in previous research by Wenke [26]. Contrary to our findings, a study that was conducted in Nigeria reported that nurses experienced poor institutional support [27]. In addition, some studies that were conducted in Australia,

Indonesia and Thailand observed that researchers experienced challenges in soliciting ethics and site approval. Processes that are complex and time-consuming delay the commencement and completion of the research project [28–30]. A possible explanation of this finding is that the study was conducted at teaching hospitals that are close to a research-intensive university. Therefore, the two hospitals are actively engaged in research collaborations with the university.

Research as an ivory tower

The participants perceived research as an important activity to improve patient care and valued their exposure to research dissemination conferences. Positive beliefs about the consequences of research are some of the motivators for research engagement [26]. However, some participants expressed fear of research and perceived research as an ivory tower, that it is only done by academics or for academic purposes. Although they cited examples of change projects in their wards, this was not considered a form of scientific inquiry. Fear of research or poor attitude towards research have been reported in the previously cited studies [26, 27, 31]. As an example, a study by Wenke [26] reported that the participants felt overwhelmed of nervousness or intimidation in undertaking research. They were also afraid of getting it wrong. This confirms earlier assertions that undergraduate training does not adequately prepare the nurses for research during clinical practice [31]. In the present study, most participants had Diploma and Bachelor's degree as their highest qualification. Therefore, the findings suggest the need to strengthen the research component in the undergraduate nursing curriculum. The hospitals should build on nurses' positive beliefs about research to encourage them to conduct research.

Barriers to research engagement

The participants reported limited understanding of research. Taken together, the participants' statements reveal a pervasive uncertainty about what counts as research. When routine ward audits are not framed as scholarly inquiry, nurses may undervalue their own contributions and hesitate to pursue more formal studies. Explicitly clarifying the continuum from everyday data collection to rigorous research - accompanied by targeted education on study design, ethics, and dissemination - could empower frontline nurses to see themselves as capable investigators and active knowledge-producers.

Frequent nurse rotations; staff shortages resulting in limited time for research and long working hours; negativity from colleagues, including managers; lack of funding; a tedious scholarship application and research approval process; lack of feedback from researchers; and limited access to a library were identified as barriers to

research engagement. Most of these challenges have been reported in the previously cited studies [11, 26, 27]. However, nurses' rotation was associated with loss of skilled nurses which compromised the quality of nursing care in Malawi [32]. Collectively, these organisational constraints create an ecosystem in which research is viewed as optional - or even burdensome - rather than an integral part of clinical practice. Streamlining administrative pathways, protecting research time, and institutionalising feedback mechanisms are therefore critical first steps toward embedding a sustainable research culture. We also propose a parsimonious approach through the lens of a behaviour change wheel framework [33].

Proposed by Michie [33], behaviour change wheel (BCW) provides guidance on interventions and policies required for behavioural change including research engagement. The approach is based on previous frameworks; therefore, it includes concepts that are considered important in behaviour change. The system comprises capability, opportunity, and motivation. Capability is the individual's psychological and physical capacity to engage in the desired activity. Opportunity comprises the factors that lie outside the individual that make the desired behaviour possible. Motivation refers to the brain processes that energize and direct behaviour. Using this approach, the two hospitals should consider implementing interventions aimed at building research capacity (knowledge and skills) through education and training. There is also a need for deliberate policies and guidelines to promote a culture that supports research. Lastly, Wenke [26] observed that enhancing motivating factors promotes research participation. Among other interventions, this can be achieved through identification of mentors to reinforce positive beliefs about research and negotiating with teaching institutions to allow the nurses have access to university facilities for research purpose.

Limitations

The scope of the study was restricted to two public and teaching hospitals which are close to a university. Therefore, the findings may not apply to private hospitals and hospitals that are not close to an institution of higher learning. In addition, most participants were nurse managers and their qualifications varied significantly. This may have influenced their knowledge and expectations about conducting research or understanding research. The nurse managers' views may not reflect the views of junior nurses. Further research could explore junior nurses' and private hospital nurses' experience of research.

Voluntary recruitment in predominantly female wards resulted in only one male participant and no data on ethnic or linguistic background. This imbalance reflects the feminisation of the profession in the study hospitals but

limits the transferability of findings to male nurses or those from different cultural or language groups. Future studies should use stratified or purposive sampling to recruit more male nurses, document ethnic and language identities, and, where feasible, offer interviews in multiple languages to explore how culture and language shape research engagement.

Recommendations

The findings have several implications for nursing education, practice, and research through the lens of the BCW framework [33]. First, *Capability* (Education and Training), there is a need to align undergraduate research modules with the National Strategic Direction for Nursing & Midwifery Education and Practice 2020/21–2025/26 [34]; make a compulsory mini-dissertation a registration requirement. Second, *Opportunity* (Enablement and Environmental Restructuring), ring-fence 0.2 FTE per nurse for research; create district-level clinical-academic hubs that guarantee library log-ins and statistical support. Third, *Motivation* (Incentivisation and Modelling), offer micro-grants up to R 200 000 (modelled on the South African Medical Research Council Self-Initiated Research scheme) [35]; recognise first-author publications in the Occupation-Specific Dispensation (OSD) pathway.

Policy and structural implications

Provincial Treasury "nursing research envelopes," staffing formulas that credit research hours 1:1 with clinical hours, and alignment with the South African Nursing Council (SANC) CPD framework [9] could normalise research as a core professional responsibility rather than an optional extra.

Future research agenda

Longitudinal studies should measure whether protected time, micro-grants, and CPD-linked incentives increase nurse-led publications and patient-care indicators over 3–5 years in resource-constrained South-African settings.

Conclusion

The study was undertaken to explore nurses' perceptions of research. The nurses expressed positive beliefs about research but also identified barriers to their engagement in research. These findings will inform strategies including training programs to enhance nurses' research capacity. Building capacity for nursing research will enable them to utilize available resources effectively, ultimately leading to evidence-based practices that influence change in clinical settings.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12912-025-03736-z>.

Supplementary Material 1

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Author contributions

RG and FM conceptualised the study. RG collected the data. RG, MK, and PM transcribed the interviews. RG and FM analysed the data. RG drafted the initial manuscript. All authors provided input on the draft and approved the final manuscript.

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Data availability

The data that support the findings of this study are not openly available due to reasons of sensitivity and are available from the corresponding author upon reasonable request. Data are located in controlled access data storage at the University of Pretoria.

Declarations

Ethics approval and consent to participate

The study adhered to the Declaration of Helsinki, and the Faculty of Health Sciences Research Ethics Committee of the University of Pretoria granted formal approval (reference number: 123/2023). The protocol was also registered with the National Health Research Database in South Africa (reference number GP_202305_032). The participants provided written consent to participate in the study.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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