Mentoring programme on research supervision to enhance nurse educators' research supervision skills

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Background. The major challenge that nurse educators encounter is to teach and supervise research without proper supervision skills. The absence of proper guidelines for research supervision of undergraduates' research projects leads to confusion among research supervisors and students.
Objectives. To explore the strategies to enhance research supervision skills among nurse educators to develop a mentoring programme for research supervision. The objectives of this study included: (*i*) identifying nurse educators' strategies to enhance research supervision; and (*ii*) developing a mentoring programme on research supervision (MPRS) to enhance nurse educators' research supervision skills.
Methods. A qualitative, exploratory descriptive research design was used to allow the researchers to collect rich and detailed data that describe the participants' realities in their own words. Data were collected through focus group discussions from 27 nurse educators who were selected purposively from four nursing campuses across two South African provinces. Computer-aided qualitative data analysis software (CAQDAS) (NVivo version 12) for thematic analysis was used to analyse data.
Results. The study revealed that assistance in research supervision, elevating research supervisors' knowledge in research, enhancing research supervisors' interest, and understanding the role as a supervisor in research were the main findings of the study. The results were used to develop an MPRS, highlighting three main components: access, plan and mentorship in progress.
Conclusion. The results revealed that providing assistance in research supervision through coaching could play a crucial role. An MPRS has been developed and will be piloted at a few institutions. The expected plan will involve targeted implementation, evaluation and refinement based on feedback from these initial sites, thereby ensuring that it meets the needs of nurse educators who supervise nursing research.
Keywords: mentoring programme; nurse educators; public nursing colleges; research supervision

Afr J Health Professions Educ 2025;17(2):e2522. https://doi.org/10.7196/AJHPE.2025.v17i2.2522

Undergraduate research forms an integral part of higher education, and a research project signifies a vital component of the undergraduate qualification.[1] Al-Muallem[2] states that in nursing, it has been identified that research has an effective impact on patient outcomes and lack of it has harmful effects. In addition, Cleary *et al.*[3] highlight that research in nursing is fundamental to driving evidence-based practice and achieving safe outcomes for patients. Therefore, research in nursing has been made a major force, and the evidence generated from research is constantly changing practice and health policies. It is therefore essential to develop and refine knowledge that nurses can initiate to improve clinical practice and promote quality outcomes.[4] However, Hadi and Muhammad[5] state that successful nursing research during training is determined by the quality of research supervision. Furthermore, Severinsson[6] asserts that supervision in nursing research is essential for ensuring high-quality research. This supervision involves contextualisation, evaluation and provision of recommendations, thereby playing a crucial role in enhancing the overall effectiveness of research in nursing.

The undergraduate education system in the USA has informed the higher education institutions to make research-based learning the standard in all levels of undergraduate learning.[7,8] Therefore, to achieve successful research-based learning, scholars have scrutinised academic staff supervision roles in supporting student learning in undergraduate research inquiry models, theses and gendered relationships in undergraduate thesis supervision.[8] Fowler[9] states that it is essential to support academic staff as research supervisors to enable them to supervise undergraduates successfully. Research supervision has advanced in the USA and UK and has played a role in fostering supervisory relationships – in turn enhancing good research production. However, in Australia, it has been reported that faculty members with <7 years' experience did not feel suitably equipped with sufficient knowledge and skills to supervise research.[9]

Similarly, in Namibia, undergraduate students are required to carry out research projects as part of the fulfilment of their degree requirements. However, students generally encounter several challenges during the research process. It has been observed that third-year undergraduate nursing students in Namibia struggle to write their research proposals; thus, their degree completion is delayed. One of the major challenges that students encounter in research is poor guidance from their supervisors. Students reported that supervisors would also portray lack of knowledge regarding supervision.[10] In Zimbabwe, research in undergraduate degrees is a core requirement for progression; however, the challenges associated with undergraduate research reported in Namibia are similar to those in Zimbabwe. It is reported that one of the major challenges that affects the way in which students conduct research projects is associated with supervisors. Most supervisors lack research experience, relevant research skills and research knowledge.[11]

As research supervision is a global phenomenon, it has been highlighted within the South African (SA) context that research supervisors encounter challenges with supervision. This has been evidenced in the study by Roets and Bhembe[12] in one of the SA public nursing colleges, which indicates that nurse educators who have recently entered the higher education sphere and are not in possession of a Master's or a doctoral degree, lack research backgrounds. These nurse educators reported lack of research supervision skills. Furthermore, the study conducted by Seekoe[13] reveals that in SA, 11 nursing colleges indicated that they did not have mentoring programmes on research supervision, resulting in the lack of such supervision. Hence, the purpose of the study was to explore the strategies to enhance research supervision skills among nurse educators to develop a mentoring programme for research supervision.

Methodology

Research design

A qualitative, exploratory descriptive research design was used to gain an in-depth understanding of a complex phenomenon by exploring participants' perceptions and meanings regarding research supervision. This research design enabled a rich exploration of the challenges, needs and expectations of the participants, and was responsive and relevant to participants' real-world experiences, aiding in the development of a mentoring programme on research supervision (MPRS).

Study setting

The study was conducted at four nursing institutions located in two SA provinces. These campuses were purposively selected because research was conducted as a module and a project. Therefore, nurse educators working in these institutions would be able to provide relevant data regarding research supervision.

Study population

The study population comprised ~138 nurse educators currently working at the selected nursing campuses. The inclusion criteria required at least 2 years of teaching experience and active involvement in supervising research projects. The exclusion criteria included having <2 years of teaching experience and no exposure to research supervision.

Study sample

The data saturation determined the sample size of the study. The focus groups consisted of three groups of 7 participants each and one group of 6 participants. The researcher reached data saturation on the fourth focus group. Therefore, the sample size for the study after data saturation comprised 27 nurse educators who were employed in the study institutions.

Sampling method

Nurse educators who participated in the study were chosen by purposive sampling. The main goal of using purposive sampling was to identify the individuals best suited to assist in answering the research questions. The study involved nurse educators employed in the nursing institutions chosen for the study and those who were actively involved in research supervision of undergraduate students. The researcher selected these nurse educators because they were in an ideal position to provide relevant data, as their knowledge and first-hand experiences made them valuable informants who provided rich, contextually grounded information within the phenomenon studied.

Data collection guide

The researchers developed the focus group discussion guide in English, based on the study's objectives. Section A inquired about the participants' demographic data, while section B consisted of leading questions to explore an in-depth understanding of participants' perceptions and meanings regarding research supervision.

Data collection

Data were collected through focus group discussions. Polit and Beck[14] state that focus group sessions are planned discussions that take advantage of group dynamics for accessing rich information in an economical manner. All principles of data collection were applied throughout the process. The focus groups comprised three groups of 7 and one group of 6 nurse educators. Data were collected in English using a focus group discussion guide that was developed from the objectives of the study. This was done to ensure uniformity during the data collection process. No names of the institutions and participants were mentioned. Instead, they were given codes, e.g. for the first campus to be selected, code A was given; for the second institution, code B was given. Participant codes included, e.g. P1 for the first participant in each institution, P2 for the second participant. The digital recorder was used with the participants' permission and the researcher took field notes to ensure that data, such as facial expressions, which could not be recorded, were also captured. Data collection was smoothly conducted within 2 months and each focus group discussion session lasted for 58 minutes.

Data analysis

Data analysis began immediately after the first focus group discussion. Therefore, data analysis was done concurrently with data collection and the write-up process. The researcher transcribed raw data verbatim from the digital recorder. Computer-aided qualitative data analysis software ((CAQDAS), NVivo version 12 (NVivo, USA)) for thematic analysis was used to analyse transcribed data. It presents effective features to assist the researchers to analyse large amounts of data and uncover the underlying themes faster and accurately. CAQDAS programs do not, however, replace the need for a human researcher; they assist the researcher by offering tools and features to organise and structure the data collected.[15] The researcher applied Braun and Clarke's[16] four steps for thematic analysis by using NVivo version 12: creating a coding framework; coding data; analysing data; and interpreting data. Data were presented in themes and sub-themes. Raw and transcribed data were kept safely in the researcher's USB and will be kept for 5 years.

Ethical considerations

The researcher obtained approval from the study institution's College of Human Sciences, Research and Ethics Committee (ref. no. Rec-240816-052), from the Department of Health Research Data Base Committee (ref. no. KZ_202101_013) and from the nursing institutions under study before the data collection. The participants were requested to sign the consent forms prior to their voluntary participation. Privacy was maintained by using private venues with limited access during the discussions. The researcher also maintained anonymity by identifying participants using codes, e.g. P1 was given to the first participant in each institution, P2 was given to the second participant. The principles that were also taken into consideration during the study included: beneficence and non-maleficence, confidentiality, privacy, justice and fidelity.

Results

The participants were coded as AP1 - AP7 for institution A, BP1 - BP7 for institution B, CP1 - CP6 for institution C, and DP1 - DP7 for institution D. The first alphabets in each code represent the campus codes, P stands for participant and the number stands for the number allocated to each participant during group discussions. Table 1 presents the summarised demographic data for the participants. The findings revealed that most participants were black females and had >10 years' working experience as nurse educators. Thirteen of the participants had Bachelor's degrees, one had a Diploma in Nursing Education and only 12 had Master's degrees in Nursing Science. The findings are supported by Roets and Bhembe,[12] who state that most nurse educators who are entering the higher education sphere are not in possession of a Master's or a doctoral degree.

Presentation and discussion of sub-themes

Theme 1: Strategies to enhance research supervision

Sub-theme: Assistance in research supervision

The majority of the participants mentioned that assistance in research supervision by means of coaching would play a crucial role. Coaching was cited as one of the strategies to influence research supervision:

'I think if there is somebody who is an expert who understands research better, in such a way that they coach others because, like I said, here in our institution, the requirement is only nurse education.' (DP3)

'Coaching or mentoring of supervisors is very important, coming together with the set guidelines on research supervision.' (BP5)

'A dated guideline is important that can be given to everyone, so we can read and review it, and it would coach us in how we can do this research supervision with the students.' (CP4)

Sub-theme: Elevating research supervisors' knowledge in research

The participants proposed suggestions based on the provision of research workshops. Some participants voiced that elevating knowledge in research can be through provision of workshops to the nurse educators to equip them with more research knowledge. This was attested by the participants who raised the following:

'I just wanted to say, as nurse educators, we should have more research workshops for us, so we can be more familiar with how the whole research process takes place, and how the supervision has to take place.' (CP4)

'It has been mentioned in fact that there must be like seminars or workshops of the novice researchers also updating all the lecturers of this research so that really we feel confident into what we are saying to our students.' (AP2)

Sub-theme: Enhancing research supervisors' interest

Despite the need for coaching and workshops on research supervision to assist and elevate knowledge of research supervisors, it emerged from the

Table 1. Participants' demographic data

Province	Institution and focus group	Code	Gender	Race	Highest nursing qualification	Experience as nurse educators, years
1	Institution A, focus group 1	AP1	Female	Black	BCur Nursing Education, Administration and Community Health	22
		AP2	Female	Black	BCur Nursing Education and Administration	12
		AP3	Female	Black	MCur Nursing Science (Public Health)	15
		AP4	Female	Black	BCur Nursing Education	8
		AP5	Female	Black	MCur Nursing Science (Nursing Education)	8
		AP6	Female	Black	MCur Community Health Nursing Science	15
		AP7	Female	Black	BCur Nursing Education	11
	Institution B, focus group 2	BP1	Female	Black	MCur Nursing Science (Nursing Education)	7
		BP2	Female	Black	BCur Nursing Education, Administration and Community Health	22
		BP3	Female	Black	BCur Nursing Education and Administration	16
		BP4	Female	Black	MTech Nursing Administration	26
		BP5	Female	Black	MCur Nursing (Community Health)	19
		BP6	Female	Black	BCur Nursing Education	23
		BP7	Female	Black	Diploma Nursing Education	7
	Institution C, focus group 3	CP1	Female	Black	BCur Nursing Education and Administration	27
		CP2	Female	Black	BCur Nursing Education and Administration	14
		CP3	Female	Black	MTech Nursing (Primary Health Care)	13
		CP4	Female	Black	BCur Nursing Education	13
		CP5	Female	Black	MCur Nursing (Public Health)	15
		CP6	Female	Black	MCur Nursing (Nursing Education)	17
2	Institution D, focus group 4	DP1	Female	Black	BCur Nursing Education, Administration and Community Health	7
		DP2	Female	Black	BCur Nursing Education	14
		DP3	Male	Black	Diploma Nursing Education	7
		DP4	Female	Black	BCur Nursing Education and Administration	2
		DP5	Female	Black	MCur Nursing (Public Health)	14
		DP6	Male	Black	MCur Nursing Science (Community Health)	7
		DP7	Male	Black	MCur Nursing Science (Nursing Education)	2

The participants (P) were coded as AP1 - AP7 for institution A, BP1 - BP7 for institution B, CP1 - CP6 for institution C, and DP1 - DP7 for institution D.

findings that enhancing research supervisors' interest is also a crucial aspect for research supervision. According to a participant:

> 'I'm thinking of, we need to be motivated, because you've got this mindset of hating research. So, I think you need to be motivated to love it, and then definitely, we're going to produce good students.' (BP5)

Some participants mentioned that research supervision skills are also determined by supervisors' interest in research. Therefore, it emerged from the data source that instead of having many supervisors in one group, supervisors should rather take turns, whereby those who are not supervising during that period should supervise in the next round/period. This notion was supported by one participant:

> 'Yah, I support what other speakers have said, you know, because when we are so many we also make confusion with the supervision of the group, we also make confusion because you will find that we have clashing ideas.' (AP1)

Sub-theme: Understanding the role of a supervisor in research

It emerged from a data source that the supervisor should be sufficiently familiar with their role in the provision of research supervision and should gain that familiarity before agreeing to act as a supervisor. The participants commented that the research supervisors should know their roles to empower the students with the knowledge, provide support and encourage them to proceed with their research projects. Participants referred to the following:

> 'I still believe that, yah, that research supervisors cannot and are not going to supervise research perfectly, if she does not understand her role or task.' (DP6)
>
> 'I don't want to lie, if the research supervisor knows, as Participant 2 stated earlier, workshops are needed and will give supervisors understanding of their role and they will supervise very well after that.' (AP4)

Discussion

The aim of this study was to explore the strategies to enhance research supervision skills among nurse educators to develop a mentoring programme for research supervision. The strategies that were identified to enhance research supervision skills included: assistance in research supervision, elevating research supervisors' knowledge in research, enhancing research supervisors' interest, and understanding the role of a supervisor in research.

The findings revealed that the mentor must assist in research. Supervision by providing guidance is necessary. According to *Deutscher Bundesverband* Coaching,[17] mentor-supervisor coaching is a professional relationship that assists people to produce extraordinary results in their lives. Through coaching, a mentor and mentee deepen their abilities to enhance the quality of their lives. This also involves ensuring that everything that is implemented is researched. Assistance in research supervision through coaching has been identified as the main strong point. The findings are supported by Bozer and Jones,[18] who describe coaching as a one-on-one custom-tailored, learning and development intervention that uses a collaborative, reflective, goal-focused relationship to achieve professional outcomes that are valued by the coach. Coaching would also play a role in elevating research supervisors' knowledge of research. In addition, elevating research knowledge can be by means of provision of workshops to the nurse educators who are involved in research supervision. Similarly, Agricola *et al.*[19] comment that supervisors' knowledge of research helps them to identify sections of the research that students find difficult; these sections can be included in written manuals. However, Van Schaik *et al.*[20] state that institutions generally do not make sufficient effort to share or mobilise research knowledge. Therefore, Murarane za *et al.*[21] assert that it is important that research supervisors should be trained through workshops to provide guidance in research supervision.

Despite the need for coaching and workshops on research supervision to assist and elevate knowledge of supervisors, it emerged from data sources that enhancing research supervisors' interest is also crucial for research supervision. The findings revealed that research supervision should not be done in groups, but rather in turns to allow each supervisor to develop an interest in the research. However, Maher and Say[22] state that having more than one supervisor was recommended in their study as the solution to ensuring effective supervision. More than one supervisor would guarantee different opinions and guidance, minimise supervision work and improve the quality of students' work. Furthermore, according to Igumbor *et al.*,[23] co-supervision advances interaction between the students and the supervisors, thus promoting interest in research supervision, and possibly reducing the risk of supervisory incompetence. Moreover, the research supervisors are expected to understand their role as part of enhancing their strategies on research supervision. The findings are supported by Rostami and Yousefi[24] who state that the research supervisor should assist the student with understanding the research processes. Therefore, the supervisor should be sufficiently familiar with the role to provide proper guidance. Furthermore, research supervisors should be highly competent in teaching, research and ethics.[25] Roets and Bhembe[12] concur that nurse educators should be involved in teaching and supervision of research projects and be fully equipped with enough and sound knowledge.

Development of the mentoring programme in research supervision

The researchers used the findings from the study and the existing in-depth literature to develop an MPRS that can be used in the workshops (Fig. 1).. The MPRS can be used institutionally as part of continuous professional development and could enhance research supervision skills, as it will encourage institutional members involved in research supervision to meet regularly to assist one another, thereby enhancing further understanding of the research process. The mentoring programme consists of six phases, each lasting one month. The programme also includes three main components: access, planning and ongoing mentoring. These components represent the processes that occur during each phase. The outlined processes will guide mentors in providing effective supervision to those being mentored in research. The programme offers clear direction at the start of the mentorship.

Conclusion

The study revealed that research supervisors do require assistance in the enhancement of their supervision skills. Workshops and written guidelines on research supervision were the main concerns of the majority of participants. Therefore, the developed MPRS is an interventional measure that would be utilised during the suggested workshops. It would also be used by individual institutions as part of continuing professional development. The MPRS should augment the supervision skills of research supervisors by providing them with structured guidance, resources and support to better mentor their students. By focusing on the development of the supervisors' and mentees' capacities, the programme aims to promote a more valuable

Phase 1 1st month	Phase 2 2nd month	Phase 3 3rd month	Phase 4 4th month	Phase 5 5th month	Phase 6 6th month
Access	**Plan**	**Mentorship in progress**			
• Building relationships • Orientation to the mentorship programme • Selection of the mentor and mentees • Ratification of credentials	• Specification of the roles of the mentor and mentees • Outlining the objectives of the MPRS • Identification of gaps and expectations of the MPRS	Discussion of the structure (research proposal) and contents (mini-dissertation)	Discussion of research proposals and dissertations (chosen by the mentor)	Critique of the research proposals and dissertations (chosen by the mentees)	• Question-and-answer session • Evaluation of the programme • Conclusion Transition to individual coaching

Fig. 1. The mentoring programme on research supervision. (MPRS = mentoring programme on research supervision.)

and collaborative research environment. This structured mentorship will improve supervisors' abilities to provide constructive feedback and foster the use of best practices in research supervision, ensuring enhanced academic outcomes and improved student research projects.

Data availability. Data are available in the institutional repository.

Declaration. None.

Acknowledgements. We would like to thank the participants who were willing to give of their time to be interviewed.

Author contributions. XLM wrote the initial protocol version, and organised the final version of the manuscript. NN edited and prepared the manuscript for final submission.

Funding. None.

Conflicts of interest. None.

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Received 9 August 2024; accepted 8 November 2024.