International Journal of Africa Nursing Sciences 16 (2022) 100393

Contents lists available at ScienceDirect

International Journal of Africa Nursing Sciences

journal homepage: www.elsevier.com/locate/ijans

Nursing students' perceptions and experiences of utilising the nursing process at a university teaching hospital in Namibia

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ARTICLE INFO

Keywords:
Nursing process
Utilisation
Students
Experiences
Perceptions

ABSTRACT

Background: The appropriate utilisation of the nursing process, which is the scientific basis for the practice of nursing, can result in the provision of comprehensive and quality nursing care to patients. However, there is a major problem with utilisation of the nursing process. Utilisation of the nursing process depends on many factors, including knowledge and skills, which should ideally develop in nursing students during their nursing education. Few studies have assessed the utilisation of the nursing process among nursing students, thus the objective of this study was to explore and describe nursing students' perceptions and experiences of utilising the nursing process.
Methods: A qualitative exploratory descriptive research design was employed. Thirteen participants were purposefully sampled. Data were collected through in-depth interviews and data analysis was done thematically.
Findings: Six themes emerged: understanding the nursing process; utilisation of the nursing process; theory-practice gap and practice-theory gap; learning experience; barriers to use of the nursing process; and benefits of the nursing process. The students understood the nursing process from a theoretical perspective, but experienced poor utilisation creating a negative learning experience. However, the students still believed there were some positive outcomes in the learning and use of the nursing process.
Conclusion: The experiences and perceptions of nursing students regarding the utilisation of the nursing process showed that students have more theoretical than practical knowledge of the process. Their clinical experience is dominated by a theory/practice gap, leading to poor utilisation of the nursing process which negatively affects their learning experience. Despite these negative experiences, students perceived the nursing process as beneficial.

1. Introduction

The nursing process is a systematic problem-solving approach used in nursing care that incorporates five steps: assessment, diagnosis, planning, implementation and evaluation (Aserati et al., 2014). The process forms the scientific basis of nursing care and is expected to guide the practice of nursing in the provision of care to patients (Tadzong-Awasum & Dufashwenayesu, 2021; Osman, Ninnoni, & Anim, 2021). In nursing practice, the nursing process should be deliberately applied through critical thinking, clinical reasoning and decision making, with the goal of meeting the patients' health care needs (Keshk, Qalawa & Ibrahim, 2018; Lambie, Schwend, & Scholl, 2015).

Research into the nursing process is important for nursing practice on the African continent, given that it originated elsewhere. Evidence suggests a number of reasons for why the nursing process is necessary, the most important of which is that it is the basis of the professional status of nursing (Semachew, 2018). Through the use of the nursing process, nursing care is standardised, thereby improving the communication and continuity of care (Adraro & Mengistu, 2020; Agyeman-Yeboah, Korsah, & Okrah, 2017; Akhtar, Hussain, Afzal, & Gilani, 2018). When used effectively, the nursing process can allow for the provision of holistic quality nursing care and improve patient outcomes (Shewangizaw & Mersha, 2015; Shiferaw, Akalu, Wubetu, & Aynalem, 2020; Mondragón-Hernández & Sosa-Rosas, 2019; Adraro & Mengistu, 2020; Yilmaz, Sabanciogullari, & Aldemir, 2015; Wagoro & Rakuom, 2015). Furthermore, the nursing process provides a framework for critical thinking, problem solving and the development of knowledge (Hagos et al., 2014; Akhtar et al., 2018).

Despite its recognised significance to nursing practice, the nursing process remains underutilised in Sub-Saharan Africa (Baraki et al., 2017; Ojewole & Samole, 2017; Folami, Olowe, & Olugbade, 2019; Osman et al., 2021; Berman, Snyder, & Frandsen, 2016; Tadzong-Awasum &

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https://doi.org/10.1016/j.ijans.2021.100393
Received 22 September 2021; Received in revised form 1 November 2021; Accepted 12 December 2021
Available online 22 December 2021
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Dufashwenayesu, 2021; Miskir and Emishaw (2018)). Several reasons have been reported to be associated with this underutilisation, including a shortage of resources; a lack of adequate staff; and limited time (Agyeman-Yeboah, Korsah & Okrah, 2017; Adraro & Mengistu, 2020; Osman et al., 2021; Mwangi, Meng'anyi, & Mbugua, 2019). In addition, a lack of knowledge and skills among nurses have contributed to the poor implementation of the process (Hagos et al., 2014; Mutshatshi, Mothiba, & Mamogobo, 2020). There are also mixed opinions among nursing students and nurses regarding if the nursing process is useful for nursing care (Yilmaz et al., 2015; Mondragón-Hernández & Sosa-Rosas, 2019; Akhtar et al., 2018).

Existing research is focused largely on the use of the nursing process in clinical practice, rather than on how nursing students are educated on it (Agyeman-Yeboah, Korsah & Okrah, 2017). Nevertheless, it is clear that there is inadequate knowledge among nurses and a theory/practice gap in the use of the nursing process (Mwangi et al., 2019). There is some evidence to suggest that improving nurses' knowledge and skills with regard to the nursing process can improve utilisation (Mondragón-Hernández and Sosa-Rosas, 2019; Abdelkader & Othman, 2017). As a result, there is a need for the nursing education system to adequately prepare students on the use of the nursing process, in the hope that improved education will translate to a better use of the process.

Nurses' knowledge and skills related to the nursing process are largely a product of their theoretical learning, practical learning and working experience. While theoretical learning takes place in class or online with lecturers, clinical learning is expected to take place in the hospitals and clinics with the support of trained nurses (Atakro et al. 2019). Those who have supportive learning environments when it comes to the nursing process may experience it differently from others, and may thus develop different perceptions and attitudes towards the process. By identifying the experiences and perceptions of student nurses, we identify the aspects that make it difficult for students to learn and shape their thoughts and behaviours towards the nursing process.

In Namibia, the nursing process is integrated into the general nursing science module and is part of the nursing care in hospitals. Students are taught the theory of the nursing process and are expected to develop their skills in a hospital with the support of nurses. However, the practical learning of the nursing process is not as controlled and assessed as the theoretical learning; students are expected to learn from various nurses in the hospitals with limited support from their lecturers and other clinical teachers. It is not currently known what the perceptions and experiences of nursing students regarding the use of the nursing process is. Most studies on the nursing process have been conducted among professional nurses, neglecting the opinions of the student nurses. The purpose of this study was thus to explore and describe the perceptions and experiences of nursing students at a teaching hospital in Namibia, with the objectives of the study being to explore and describe:

1. the experiences of nursing students regarding the utilisation of the nursing process at a teaching hospital in Namibia; and
2. the perceptions of nursing students regarding the utilisation of the nursing process at a teaching hospital in Namibia.

2. Methods

2.1. Design

A descriptive exploratory qualitative approach was applied to allow the students to express their experiences and perceptions of using the nursing process. This enabled the researchers to describe the phenomenon of the nursing process and its characteristics as experienced and perceived by students. By using qualitative research, it was possible to approach the phenomenon holistically to gain a deeper understanding of the nursing students' experiences, opinions, perspectives and attitudes regarding the nursing process (Creswell, 2015).

2.2. Study setting

The study was conducted at a university teaching hospital in Namibia in the north-east region of Namibia. The university offers a four-year degree in nursing at the undergraduate level. The teaching hospital has a bed capacity of 300 beds and accommodates students from at least three other universities and nursing schools. As a result, the student population is large compared to the available clinical learning space and the number of nurses who are available to support student learning.

2.3. Population and sampling

The target population was nursing students from one university at a teaching hospital. Thirteen students were purposively selected to participate in the study based on the following selection criteria: being a nursing student in the undergraduate degree programme at the university; and agreeing to participate in the study by signing a consent form. First year students were excluded from the study because the nursing process was not part of their learning objectives.

The authors approached students through class WhatsApp groups by sharing a message explaining the purpose and nature of the study. Students who needed clarification or who were interested were requested to contact the researchers directly. The first five who agreed to participate from each group (2nd, 3rd and 4th year – 15 in total) were shortlisted, while others were told they would be contacted if there was a need. Although 15 students were selected, only 13 students were interviewed because data sufficiency was reached. The authors conducted and analysed each interview before proceeding to the next one. During each interview the authors deliberately repeated the same questions to each interviewee in an attempt to reach interview data sufficiency. The analysis was done by the two authors at different times without referring to the codes generated in the first analysis session. This was done to move towards code sufficiency. The practice was repeated with the themes and in cases of disagreement, no consensus was sought as this represented the breadth and depth of the interpretations of the data. We argue that sufficiency was reached at interview 13 because we managed to formulate complete themes that captured the experiences and perceptions of the nursing students. In this study saturation was not possible because there were only two authors, one of whom had less experience in qualitative research. This made it difficult to be sure if interview saturation, code saturation and meaning saturation were attained, as per Hennink, Kaiser, and Marconi (2017). When the data started to show stable patterns, categories and variations of the nursing students' perceptions and experiences, they were considered sufficient (Moser & Korstjens, 2018).

2.4. Interview guide

The authors partly developed the interview guide based on the research questions, generating three key questions. The additional questions were probing questions that were based on the responses of the participants:

1. What is your understanding of the nursing process in terms of its utilisation ?
2. Tell me more about your experience of the utilisation of the nursing process in clinical practice?
3. What are your perceptions of the utilisation nursing process in clinical practice?

The interview guide was given to two experts to verify the alignment of the questions to the research objectives. A pilot interview was also conducted to test the interview guide and its suitability to generate relevant data for the study. The analysis of the pilot study demonstrated that the questions in the interview guide were suitable for the study. The

data generated from the interview were also considered relevant, and were thus included in the study.

2.5. Data collection

Data were collected though in-depth interviews telephonically and face-to-face between September 2020 and November 2020. A semi-structured interview guide was used with open-ended questions to allow the participants to share their experiences and perceptions in detail (Moser & Korstjens, 2018). The data were collected during the COVID-19 pandemic, hence the researchers complied with all COVID-19 precautionary measures. The use of telephonic interviews during the pandemic has gained momentum and is considered acceptable practice (Lobe, Morgan, & Hoffman, 2020). The in-depth interviews were conducted with four 2nd year students, four 3rd year students and five 4th year students. Each interview was audio-recorded and lasted between 20 and 30 min. All the participants signed informed consent forms agreeing to participate in the study. The recorded interviews, interview transcripts and field notes are stored in locked files on a password-protected computer that belongs to the researchers. If the study is published the data will be deleted after two years, however if it is not published, the data will be deleted after five years.

2.6. Ethical considerations

The university's ethical committee approved this study (Ref: 344/2016). Participants' consent was obtained by sharing the written informed consent forms , as well as detailed explanations of the purpose and procedures of the study. The researchers explained to the participants that they could withdraw from the study at any time without any risk of negative consequences. Assurance was given that the data would be kept confidential and used only for the purposes of this research. Anonymity was ensured by not mentioning the participants' names in the interviews. There were neither expected risks nor direct benefits for participating in this study.

2.7. Data analysis

The interviews were carried out in English, a language all participants were comfortable with. The interviews were audio-recorded and transcribed verbatim. Data were analysed using both Microsoft Word and Atlas.ti version 9.1, applying the thematic analysis method of Braun and Clarke (2006). Both researchers were involved in the six phases of data analysis of familiarisation, code creation, theme formation, reviewing themes, defining and naming themes, and report writing. The second author transcribed the data while the first author checked the transcripts against the recorded audios. The authors separately read the transcripts and generated codes based on their interpretations of the data. The first author generated codes using Microsoft Word and the second author used Atlas.ti. The authors exchanged the codes and discussed them through a negotiated process. Where the authors differed in terms of data interpretation, no efforts were made to reach consensus because such differences are part of the process needed to reach code generation saturation. This cycle of data analysis was repeated at every phase of data analysis, theme generation (categorisation and theme formation), reviewing and naming of themes, and writing up of findings.

2.8. Trustworthiness

Trustworthiness is a process used to establish validity and reliability in qualitative research, which is assessed through: 1) credibility – how believable is the data; 2) dependability – how stable is the data over time and in different situations; 3) confirmability – how much agreement is there between two or more individuals who are reviewing the data for accuracy and meaning; and 4) transferability – how applicable are the results to other groups and situations (Gray, Grove & Sutherland, 2016)? Researcher triangulation during the data analysis was used to ensure the credibility of the study. To ensure dependability, the study was reviewed by experts in qualitative data and an external audit of the findings was conducted to verify the relationship between the themes and the data. Lastly, transferability was attained by detailing the step-by-step procedures followed, from problem identification to the production of findings. Regarding confirmability, the authors declare that while the findings are based on the participants' words and experiences, the themes generated are a product of the author's interpretations. This should not be seen as researcher bias or control, but rather as the reality of qualitative research, where the researchers inherently influence the data collection and bring their own interpretations to the data (Varpio et al., 2020).

3. Findings and discussion

Six themes were generated from the data: understanding the nursing process; utilisation of the nursing process; theory-practice gap and practice-theory gap; learning experience; barriers to the use of the nursing process and the benefits of the nursing process . The students understood the nursing process from a theoretical perspective, however their clinical learning practice showed that there was a theory/practice gap regarding the nursing process and a lack of support for practical learning. In the end, the students' experiences suggested that some practical learning on the nursing process took place, depending on the effort of each student. Otherwise the students were frustrated and failed to learn, resorting to routine use of the nursing process.

3.1. Understanding the nursing process

This study demonstrates that nursing students understand the nursing process from a theoretical perspective more than a practical perspective. On describing the nursing process, the students focused mainly on definition and outlining the steps of the process. Only a few described the nursing process in relation to its practical application for patient care, indicating that it is the cornerstone of nursing and should always be used in the care of patients.

> *"Nursing process regarding to the care of the patient is that it has to be a systematic way of providing care to a patient whereby you have to follow up some certain components or steps because you cannot just do the nursing process randomly."* [P1]
>
> *"Under the nursing process you get heading like assessment, diagnosing, planning, implementation and evaluation."* [P6]
>
> *"In general, the nursing process it's a system that helps us follow the right ways, the right path to treat a patient, for patient's recovery."* [P2]
>
> *"Nursing process is backbone of nursing, whereby every nurse, everyday whenever you are on duty you have to go through all the steps of the nursing process, for you to help the patients."* [P13]

In agreement with our findings, Yilmaz et al. (2015) stated that almost half of the students in their study demonstrated an understanding of the nursing process. This is also in line with a study conducted among nurses which showed that they had good knowledge of the nursing process (Agyeman-Yeboah & Korsah, 2018). On the contrary, some findings suggest that nurses lack an understanding of the nursing process, i.e. there is a knowledge gap (Agyeman-Yeboah, Korsah & Okrah, 2017; Mwangi et al., 2019; Tadzong-Awasum & Dufashwenayesu, 2021). It should be noted that this study qualitatively assessed the students' knowledge of the nursing process, so the findings cannot be conclusive that students understand the nursing process, however the findings authoritatively suggest that students' understanding is more theoretical than practical.

3.2. Utilisation practices of the nursing process

Based on the students' experiences, the nursing process is not consistently used, despite their opinion that it should be used on a daily basis. The students highlighted that their use of the nursing process was daily.

> *"We use it every day, it's required to be done every day, it's the only way you can meet the patients' care."* [P7]

> *"It's normally used every day, let me say throughout the day we use the nursing process, like maybe during admission we collect all the data and then we record and also during soaping we also make use of the nursing process."* [P8]

When used continuously, the students revealed that the nursing process steps are adjusted as the needs of the patient changes, so that it is in line with the required care.

> *"We have to like check the nursing process like to see if there is something that needs to be done, based on the patient's condition if its improving, and then if the condition is getting worse also then the nursing process has to be changed also."* [P3]

However, it is not always the case that the stages of the nursing process are continuously and fully applied. In some cases, some steps of the nursing process are omitted or not done properly. For example, sometimes an assessment is not completed and the care plan is only done once during the admission of a patient. The experience of the inconsistent use of the nursing process is associated with the perception that it is time-consuming in nature. This is demonstrated by the fact that some students acknowledged that they would only apply the nursing process when admitting the patient.

> *"Not always, like on the part of planning whereby we have to write a nursing care plan, it's just only done once instead of doing it daily, not all the assessment is done fully because its time consuming and assessing each patient, it'll take a lot of time for a nurse. So assessment is not done always."* [P11]
>
> *"Mostly it's just when the patient is admitted, yah when the patient is admitted is when you like write for the patient the care plan, and all that. It's just basically when the patient is admitted."* [P9]

According to the findings of Agyeman-Yeboah and Korsah (2018), the nursing process is not fully utilised, which is as per the experiences of the students in this study. In addition, the experiences of nursing students in this study are consistent with literature, which has reported on the underutilisation of the nursing process (Wagoro & Rakuom, 2015; Semachew, 2018; Atakro et al., 2019; Shiferaw et al., 2020). In contrast, Adraro and Mengistu (2020) reported that the utilisation of the nursing process is good in hospitals where there is administrative support and trained nurses. The level of support and training could explain why utilisation of the nursing process varies in different places. The findings of this study indicate that the widely reported underutilisation of the nursing process starts during a nursing student's education. The evidence shows that the utilisation of the nursing process improves with educational interventions, thus there is a need for further education to improve the use of the nursing process (Adraro & Mengistu, 2020; Wagoro & Rakuom, 2015).

3.3. Theory-practice gap and practice-theory gap

While the students displayed a good understanding of the nursing process, their experiences of using the process in the clinical arena highlighted a deficiency in their knowledge, as well as a theory-practice gap. The students suggested that they did not have adequate knowledge of the diagnosis part of the nursing process.

> *"It becomes tough now diagnosing the patient because you don't know about it, yes so you have less knowledge about it."* [P4]

Some students avoid using the nursing process because they have no skills. If students do use it, they are just writing on the care plan papers for the sake of documentation. Other students indicated that they skip some steps of the nursing process due to a lack of skills, and described the nursing process as difficult, especially the care plan and the diagnosis part:

> *"When I started with the nursing process, I was really struggling, I didn't really have an idea what was supposed to be done, and then sometimes I would avoid doing it because I had fear of making errors and so forth."* [P12]
>
> *"What I have observed when we're at the clinical practice, when we do the nursing process, we're just writing, we're just doing it because of documentation."* [P10]
>
> *"There are sometimes when I do assessment and I leave out some of the things just because I don't know them … I can't, ok I find it so difficult to write down the care plan that I have to provide my patient because I have little knowledge on the care plan and with the implementation, ja I do it but I'm not competent enough."* [P1]

In addition, the students accepted that sometimes they do not complete the whole nursing process, missing aspects of physical examination. The students realise that this leads to misdiagnosis, making it clear that the steps of the nursing process are interrelated and a failure in one step affects the other steps.

> *"If you are ignorant, you just look at what the patient is telling us, but when you fail to do the examination, you miss out some things, and then we misdiagnose the patient obviously. Misdiagnosing and then at the later stage obviously you plan the wrong things and then implement the wrong things."* [P5]

The students experienced the theory/practice gap after realising that what they learned in theory was not how the nursing process was being applied in the clinical practice, leading to some students getting confused.

> *"Uhm it's really a challenge when it comes to this nursing process at clinical practice because it confusing, what the lecturers are teaching is not really what's happening in the clinical practice, it's very different."* [P9]

The theory/practice gap was further noted when the students argued that the nurses implement the nursing process in shortcuts. The students end up copying the nurses because they look up to them as role models.

> *"So if the nurses are doing shortcuts it's really a problem to us. We'll end up also doing shortcuts because we follow what they are doing."* [P9]

Nursing students are thus experiencing a theory/practice gap related to a lack of knowledge, a lack of skills, and an inability to understand the nursing process as implemented by the nurses. Their experience suggests that they are expected to practice the nursing process rather than learn it as students. Many studies in agreement with our findings report that nurses lack adequate knowledge of the nursing process (Tadzong-Awasum & Dufashwenayesu, 2021; Mwangi et al., 2019; Ojewole & Samole, 2017; Mbithi, Mwenda, & Karonjo, 2018). Even in cases when nurses possess good knowledge of the nursing process, it tends to be theoretical because there are failures or poor implementations of the process (Agyeman-Yeboah & Korsah, 2018; Osman et al., 2021; Semachew, 2018). Similarly, this study revealed the theory-practice gap experienced by nursing students. This supports the findings of Clarke (2017), who demonstrated that nurses lack practical knowledge of the nursing process. The findings of this study point to a possible failure of nursing education in teaching the nursing process in a clinical setting. Nursing students should get the opportunity to learn before they are expected to make use of the nursing process.

3.4. Learning experience

Implementing the nursing process provides students with the opportunity to learn.

> *"It benefits almost every nurse because you get to learn new things each and every day new treatments, new nursing diagnosis."* [P2]

The students' experiences demonstrate that learning the nursing process requires extra effort and guidance, both theoretically and practically. One student's experience revealed a back and forth process of learning, from theory to practice and back to theory. This learning experience shows that some of the clinical instructors and nurses are supportive of the students.

> *"I got to understand now after having thorough classes and getting better explanations from clinical instructors and help from the sisters in the ward, and then also like after going through my notes and lessons from the class so like yah I really gained confidence, I got to understand how to formulate nursing diagnoses and I overcame the challenge."* [P3]

Yet some students had negative experiences and found it difficult to learn the nursing process in clinical practice. They felt that the nurses implemented the nursing process in a manner that does not support learning. The students described the practices of nurses as "shortcuts", which did not help them to learn the steps of the nursing process.

> *"They don't really do it like the way we're supposed to be doing it, they just do short cuts, so which makes it very difficult for the students to learn, like for us we only learn from our lectures and also from the nurses. So if the nurses are doing shortcuts it's really a problem to us."* [P6]

This experience made the students feel that the nursing process is not well taught, not only in the clinical area, but in theory as well. The students came across aspects of the nursing process they lacked knowledge of. Some students expressed that this lack of knowledge was more pronounced in the early years of the nursing programme.

> *"Yes, it's not well taught in class because it can be well taught but uhm it's just a challenging thing, like maybe when you have to find the problem and the cause of the problem so sometimes you can see the problem or you get the problem but you don't know the cause, what causes that problem."* [P8]
>
> *"Most of the time you can go in the hospital a 2nd year or 3rd year student doesn't even know what a nursing process is, they usually do it but they don't know what it is."* [P2]

The findings of the study demonstrate that the students' learning experience of the nursing process in clinical practice is a difficult process that lacks support. Similarly, it has been reported that the nursing process is not well taught, both in theory and practice (Agyeman-Yeboah, Korsah & Okrah, 2017). The fact that it is underutilised means that students are deprived of the chance to learn the practical aspects of the nursing process. Similarly, Atakro et al. (2019) reported that there is a lack of proper teaching support for students regarding the use of the nursing process in hospitals. In the end, students are not learning but are rather routinely applying the nursing process without applying critical thinking (Yildirim and Ozkahraman, 2011). Some students in this study demonstrated resilience and kept on making efforts to learn the nursing process. This contradicts the findings of Heidari and Hamooleh (2016), who found that students ended up just coping and not using critical thinking in the implementation of the nursing process. The differences in students' experiences in this study demonstrates the general perception that the learning of the nursing process is inadequate and that clinical learning provides varying learning opportunities for students (Mangare et al., 2016).

3.5. Barriers to the use of the nursing process

The perceptions of the students presented the nursing process as an activity that is affected by many other facets in the care of patients. Communication, patient preferences, time demands, workload and availability of equipment were all perceived to influence the application of the nursing process. The students may also experience a language barrier, hindering the implementation of the nursing process. In certain cases, patients prefer to be assessed by professional nurses rather than students, which compromises the students' learning and utilisation of the nursing process.

> *"So I faced the challenges because the language that the patients use here, a lot of patients use, I'm not really good at it so sometimes you're trying to communicate with the patient and they don't know what you're talking about so it's sometimes challenging and let me say difficult."* [P7]
>
> *"Sometimes difficult patients could be a problem, some might refuse to allow us to assess them due to the fact that we are students, and they would rather be assessed by registered nurses."* [P5]

Besides communication, the nursing students felt that there is a high workload as a result of many patients and a lot of paperwork required in the nursing process. In addition, a shortage of the resources required to carry out some steps of the nursing process compromises its utilisation.

> *"…you should be doing this and this and this due to the fact that we have a lot of patients, we cannot be writing a lot of stuff for one patient, so we have to be quick and fast."* [P6]
>
> *"Sometimes it could be lack of machines in the ward, such as blood pressure machines, or even as simple as thermometer they all compromise your assessment of the patient causing frustration."* [P5]
>
> *"…but the equipment is just not enough, someone is also using them so you have to wait and it's really not, it's a challenge to get all that is needed in the nursing process."* [P12]

The study's findings reflect the integrated learning nature of nursing, with students experiencing similar challenges to those of qualified nurses when implementing the nursing process. According to Agyeman-Yeboah and Korsah (2018), too many patients and a shortage of staff hamper the use of the nursing process. Similary, other studies have noted that a shortage of nurses and other resources are some of the reasons that the nursing process is not fully utilised (Baraki et al., 2017; Tadzong-Awasum & Dufashwenayesu, 2021). Moreover, the perceptions of the students in this study were that the nursing process is time consuming, which validates the research of Zamanzadeh, Valizadeh, Tabrizi, Beshid, and Lotfi (2015) and Baraki et al. (2017). The findings of this study indicate that the challenges experienced by nurses when using the nursing process affect the students' learning of the nursing process. Nurses can only help students to learn if they have the necessary time, opportunity and resources (Panda et al., 2021).

3.6. Benefits of the nursing process

Despite the challenges and some negative experiences, the students perceived that the nursing process is a good guiding tool for nursing care which improves the quality of care. The participants further expressed that a failure to follow the process step-by-step is seen as a bad thing for patient care.

> *"It helps actually, personally, it helps, like let me say when you're implementing, it helps because you'll be looking at the plans, and those plans will guide you on what to do, and what medication maybe to give to the patient."* [P4]
>
> *"Not these shortcut things because we're really harming our patients, these things of shortcuts, you just doing because of doing."* [P10]

The students noted that the nursing process is a beneficial tool for the provision of quality nursing care, as well as for the evaluation of the care

the nurses give.

> *"The nursing process is a good thing, since it's used to identify the patient's problem, then you plan and implement and also we use it to evaluate to see if the patient has improved or not, like if there was no care plan, then we will not know what are the problems of the patient, how are we going to come up with interventions on how we can help the patient and also we'll not be able to evaluate to see if our patient is improving or not so I think in my own view, it's really a good thing."* [P9]

According to the participants, the use of the nursing process when providing care to patients leads to better patient outcomes.

> *"…and the other thing is that the positive thing I've realised of using the nursing process is that it helps patient's health to improve and that makes me feel good."* [P1]

The students revealed that the use of the nursing process enables nurses to prioritise patients' needs and guide them when providing care to patients.

> *"It guides us as nurses on what is really important like on the patient care, like if there needs to be changes on the treatment you're giving to the patient or how we're caring for the patient, so I think it's a really good guide when coming to the patient treatment."* [P13]

Besides prioritisation of care, the students noted that using the nursing process boosts their level of confidence and competence in patient care.

> *"Ja I have come up with some positive stuff when I'm using the nursing process, whereby it gives me the courage to be competent enough at some point where by if my patient has achieved or has had improvements, that gives me that good heart and to continue nursing my patient, so it motivates me a lot."* [P11]

In addition, the students found the nursing process to be beneficial for all nurses as it provides several learning opportunities. Some participants expressed that utilising the nursing process helps to build a good nurse patient relationship.

> *"The nursing process usually, it benefits almost every nurse because you get to learn new things each and every day new treatments, new medical diagnosis and things like that."* [P2]
> *"…and the other point is that the nursing process is, I think that it's perfect because it helps the nurse and the patient to have that strong bond with each other because they daily interact with one another when the nurse is giving interventions to a patient."* [P1]

This study demonstrates that nursing students have positive perceptions about the nursing process as a tool for guiding nursing care. These findings corroborate a previous study by Yilmaz et al. (2015), who reported that students think that the nursing process is beneficial for nursing care despite the challenges in its utilisation. These positive perceptions were also revealed in other studies, where nurses expressed a willingness to use the nursing process (Hagos et al., 2014; Akhtar et al., 2018). Based on the findings of this and other studies, it can be assumed that the poor utilisation of the nursing process is not related to the student nurses' or nurses' perceptions, but that other factors that hinder its implementation.

4. Conclusion

The nursing students' experiences show that the practical teaching of the nursing process is not well supported and compromises students' learning. The perceptions of the students towards the nursing process were generally positive, but the challenges experienced could be a threat to learning and the future utilisation of the nursing process when the students become professional nurses. Future studies should focus on strengthening the practical learning of the nursing process. The lack of knowledge and the theory/practice gap reported by professional nurses could well have started during their years of nursing education.

4.1. Limitations

Due to COVID-19 restrictions, data were collected telephonically, hence the researcher missed the opportunity to collect non-verbal data which could have either confirmed or contradicted the verbal communication of the participants. The study was only undertaken at one hospital, hence the results can only be applied to this specific hospital. A study covering more than one hospital would have given a more comprehensive picture of nursing students' perceptions and experiences with regards to the utilisation of the nursing process in clinical practice.

4.2. Implications for nursing practice, policy, education and research

The study findings may be used as the basis for strengthening the theoretical and practical teaching of the nursing process. Nurse educators could use these findings to play an active role in improving their knowledge and skills regarding the nursing process, as well as strengthen both the theoretical and clinical teaching of the nursing process. Hospital administrators and managers in teaching hospitals should consider providing support in terms of introducing policies that support the use of, and educate nurses on, the nursing process. This may help with the implementation of the nursing process and ultimately improve the nursing education of students. Further research should focus on quantitatively assessing students' knowledge and clinical learning of the nursing process.

CRediT authorship contribution statement

Takaedza Munangatire: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Supervision, Validation, Visualization, Writing – review & editing. **Sophia M.T. Nambuli:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

This study did not receive any funding. However, we are grateful to all the facilities and participants for taking part in this study. We are also thankful to all researchers and authors whose work is cited in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijans.2021.100393.

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