Factors affecting the implementation of the nursing process in Cape Town hospitals

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Abstract

The nursing process is a cyclical approach used in the delivery of coordinated patient care and consists of five steps: assessment, diagnosis, planning, implementation, and evaluation. Some factors can affect the implementation of the nursing process, such as nurses' knowledge, patient load, time and resource constraints. The study aimed to explore and describe factors that are considered barriers and enablers to implementing the nursing process. This study was conducted in two private hospitals in Cape Town, Western Cape, South Africa. A quantitative, exploratory, descriptive research design was utilised. Registered nurses were sampled and recruited using a convenience sampling method. A self-administered questionnaire was used for the collection of data. Assistance was obtained from a biostatistician and STATA 17 statistical software was used for data analysis. A total of 58 nurses participated with a response rate of 64%. Approximately 78% (n=46) of respondents mentioned factors such as insufficient time and inadequate staffing which affected the implementation of the nursing process. Most of the respondents (97%; n=55) mentioned that knowledge regarding the application of the nursing process and support from the hospital management (86%; n=51) was an enabling factor for the implementation of the nursing process and the provision of quality support. Barriers that affect its implementation were related to time, staffing, and resource allocation. Whereas managerial and leadership support was perceived as a barrier and enabling factor. It was recommended that addressing the stated factors would enhance the nursing process implementation.

Keywords: factors; implementation; nursing process; registered nurse; South Africa

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Introduction

Numerous scientific developments have occurred in the nursing sphere with the emergence of new illnesses and adjustments to healthcare delivery emphasising the importance of delivering high-quality healthcare. Nurses are instrumental in providing high-quality healthcare to patients and ensuring a quality patient experience. This is evident when a nurse applies the predefined steps of the nursing process in the duties of patient care (Leoni-Scheiber et al., 2019; Wayne, 2023).

The nursing process is one of the scientifically proven frameworks that guide nurses in delivering high-quality patient care by using the nurse's critical thinking, rational reasoning, and problem-solving skills (Mutshatshi & Mothiba, 2020; Osman et al., 2021; Stonehouse, 2020; Tadzong-Awasum & Dufashwenayesu, 2021). Thus, it is crucial to understand that the factuality of patient data recorded during the implementation of the nursing process can provide insight into the quality of care intended to be provided to specific patients by the nursing staff (Tajabadi et al., 2020).

Furthermore, the duration of the patient's admission to the hospital, and the type of treatment may be impacted by not implementing the five components of the nursing process (Lotfi et al., 2021; Makota et al., 2023; Tajabadi et al., 2020). In previous studies, the barriers to the nursing process implementation included staff shortages, an increase in patient numbers, and a lack of time to accomplish activities in the delivery of care (Isika et al., 2018; Mwangi, Meng'anyi, & Mbugua 2019; Stonehouse, 2020).

The nursing process serves as a guide for all nurses worldwide in providing high-quality patient-centred nursing care. It is a systematic process that consists of five cyclic problem-solving phases (Bär et al., 2024; Tadzong-Awasum et al., 2022). These phases are health assessment, nursing diagnosis, planning, implementation, and evaluation. Ultimately, the goal of the nursing process is to provide a benchmark for care, in which nurses assess a patient's condition and develop action plans to meet their specific requirements based on sketched problems in the nursing diagnoses (Faubion, 2024). These plans are created to address the needs of patients and are initiated to guide the nurses in providing excellent, evidence-based care that will potentially shield them from any legal issue, thus encouraging its use (Faubion, 2024).

When trying to understand the nursing process and the importance of implementing all the phases, we should delve into what the phases are and how they are implemented. The initial phase of the nursing process is assessment. This is where the nurse collects and organises all healthcare information that is communicated by the patient or their family members (Faubion, 2024). This step is critical as it allows the nurse to move into the next phase of assessment: the diagnosis phase. In the second phase, the registered nurse should have the ability to use their clinical judgement and critical thinking skills to analyse the data captured in the assessment phase to determine the actual or potential problem(s) of the patient (Faubion, 2024; Namadi-Vosoughi et al., 2023; ANA, 2022). Once a nursing diagnosis is determined, a nursing care plan is created and executed

(Namadi-Vosoughi et al., 2023). The care plan being the third phase is generally based on the patient's current health condition and is set by the registered nurse in such a way that it outlines the goals and expected outcomes of a treatment regime (Ajibade, 2021; Faubion, 2024). The fourth phase constitutes the process of implementing the care that has been prescribed by the registered nurse in the planning phase. Once the implementation of care has been activated, the registered nurse is able to move on to the final phase of the evaluation. The evaluation phase is continual, allowing the registered nurse to change the planned and implemented treatment for the benefit of the patient (ANA, 2022).

The nursing process is a global standard that helps guide nursing professionals to carry out quality care for patients with different healthcare problems. The use of the nursing process to guide care has clinical implications, both positive and negative, in today's dynamic, complicated world of patient care (Toney-Butler & Thayer., 2023). As stated in Löfgren et al. (2023), the implementation of the nursing process in clinical practice is difficult to achieve. Nurses face many elements that hinder the implementation of the nursing process such as time constraints, high staff turnover, lack of knowledge, and the ever-changing patient profile (Mutshatshi & Mothiba., 2020).

The rationale for this study has arisen from the first researcher's observation as an experienced nurse educator who has worked in clinical practice for more than 15 years; noting that nursing personnel do not meticulously implement the nursing process and its various steps. The knowledge of the nurse and their ability to implement the nursing process is essential in the patient's healthcare outcome. Mutshatshi & Mothiba (2020) concurred with this sentiment by stating in their research that diligently implementing the nursing process would improve the quality of nursing care and ultimately the patient's outcome.

The aim of the study was to explore factors affecting the implementation of the nursing process among registered nurses in two selected private hospitals in the Western Cape Province, South Africa. The objectives were to: (1) explore and describe the barriers to the implementation of the nursing process, and (2) explore and describe the enabling factors related to the implementation of the nursing process.

Methods

A quantitative, exploratory, and descriptive research design was used.

Population and Sampling

The research population included registered nurses working in two selected private hospitals in the Cape Metropole region within the Western Cape Province, South Africa. The study's population estimated sample size was determined to be 95 respondents, as calculated and reviewed by a statistician. However, due to data collection occurring

during the second wave of the COVID-19 pandemic and daily fluctuations in hospital staffing levels, only 90 questionnaires were distributed.

Out of the 90 distributed questionnaires, 70 were returned, of which 12 were incomplete. Questionnaires with more than 50% of questions unanswered were excluded from the analysis. Consequently, 58 questionnaires were deemed valid for inclusion in the data analysis, resulting in a response rate of 64%. According to Grove & Gray (2022), a response rate exceeding 50% is sufficient to ensure the data is representative of the sample. Thus, convenience sampling was used to select registered nurses who worked in the medical and surgical units of the two private hospitals.

Data Collection

The self-administered questionnaire was adopted after permission was granted by the respective authors (Olivier, 2010; Ngao, 2015). The questionnaire, consisting of 25 questions, was divided into 3 sections, namely:

- the demographic data of the respondents,
- barriers to the implementation of the nursing process,
- enabling factors related to the implementation of the nursing process.

The questionnaires were distributed amongst registered nurses who indicated their willingness to participate and had signed the informed consent prior to the study. They were asked to complete and deposit the questionnaires in a sealed box provided in the nursing unit. The sealed boxes were collected weekly by the researcher to avoid non-response bias. The questionnaires were checked and coded to ensure respondent anonymity. Data was collected from August to September 2021.

The questionnaire data was processed and coded using an Excel spreadsheet before it was entered into STATA version 17 statistical software for analysis. The data was analysed using descriptive statistics, including frequency distributions for categorical variables.

Ethical considerations

The research study was approved by the Health Research Ethics Committee of the university (Project ID: 19494 and HREC, reference no: S21/01/013). The private hospital group granted permission for the study to be conducted at the healthcare facilities (National Health Research Ethics Committee registration: REC 251015-048 and Ref: 12072021/1). Informed consent was obtained from the participants. Ethical considerations of privacy, anonymity and confidentiality were maintained throughout the study.

Reliability

Reliability refers to the consistency and dependability of the measurement tool utilised in research (Brink & van Rensburg, 2023). A reliable measurement instrument should produce the same results when administered to the same respondents under similar conditions. To ensure reliability, each instrument must undergo testing to evaluate its stability, consistency, dependability, and reproducibility (Grove & Gray, 2022).

To assess the stability of a questionnaire, the test-retest method is commonly employed. This involves administering the same instrument to the same individuals on two separate occasions within a short time-frame to determine whether the responses remain consistent.

In this study, a pilot test was conducted as part of the research process to identify any gaps in the questionnaire. The results from the pilot study closely aligned with those obtained in the main study, indicating the questionnaire's reliability.

To further measure the internal consistency of the questionnaire, particularly for multi-item scales, Cronbach's alpha was employed as a reliability coefficient (Grove & Gray, 2022). The overall Cronbach alpha for this study yields a result of 0.63 which, indicates adequate reliability for the study.

Validity

The concept of validity aims to confirm that the instrument effectively measures the intended construct within the specific context in which it is applied (Brink & van Rensburg, 2023). Face validity ensures that the instrument appears to measure the intended construct (Polit & Beck, 2021). Instruments with strong face validity are more likely to be completed by participants, especially when the questionnaire's content aligns with the study's title and is relevant to the participants' context. To enhance face validity, the involvement of a statistician was sought during the validation process. Thus, when a newly developed tool is used, its content is reviewed by subject-matter experts to determine whether it aligns with the study's objectives (LoBiondo-Wood & Haber, 2019). Establishing content validity typically involves consultation with experts, such as the researcher's supervisor, a statistician, or a qualified nurse educator, who assess the questionnaire's relevance and adequacy. Additionally, a pilot study was conducted to validate the self-administered questionnaire.

Results

Section A: Demographic characteristics of study respondents

Most of the registered nurses (91%) were females. The majority of the registered nurses (39%; n=23) were above 40 years of age, while 19 (33%) of them were between 31–40 years of age and 16 (28.0%) were 21–30 years old.

Regarding nursing education background, 30 (52%) of them had a diploma, 27 (46.0%) of them had a 4-year degree or diploma in nursing and one nurse (2%) had a master's degree in nursing. Among these registered nurses, 48% (*n*=21) worked as a nurse for 6–20 years, while 35 (44%) of them worked for 5 years or less, and 2 (8%) had more than 25 years' work experience. Most of the registered nurses (38, 66%) worked in the surgical ward, while 20 (34%) worked in the medical ward. (Refer to Table 1 below).

Table 1: Frequency tables of study respondents (nurses working in two selected hospitals in Cape Town)

Variables	Number of nurses *n*=58	Composition in per cent (%)
Gender		
1. Male	5	9.0
2. Female	53	91.0
Age		
1. 21-30 year	16	28.0
2. 31-40 year	19	33.0
3. 41-50 year	14	24.0
4. 51-60 year	7	12.0
5. Above 60 years	2	3.0
Nursing qualifications		
1. Bridging course diploma	30	52.0
2. 4-years diploma	12	20.0
3. 4-years degree	15	26.0
4.Master of Nursing Science	1	2.0
Number of service years		
1. Less than 1 year	16	8.0
2. 1 – 5 years	19	36.0
3. 6 – 10 years	14	26.0
4. 11 – 20 years	7	22.0
5. 21 – 25 years	0	0
6. More than 25 years	2	8.0
Ward		
Medical ward	20	34.0
Surgical ward	38	66.0

Section B. Barriers to the implementation of the nursing process

Most of the registered nurses 78% (*n*=45) indicated that time was a major barrier in the implementation of the nursing process. Furthermore, 77% (*n*=44) of the registered nurses believed that the implementation of the nursing process in patient care delivery is time-consuming and they do not have sufficient time to complete all five phases of the nursing process.

The majority of the study respondents (97%) believed that the number of nurses assigned for care provision impacted the implementation of the nursing process. Nearly

half of them (48%) indicated that there were not enough staff on duty to fulfil the implementation of all the elements of the nursing process, while 21% (*n*=12) indicated that there was limited managerial and institutional support to ensure adequate staffing for patient care delivery and to implement the phases of the nursing process.

More than half of the registered nurses 52% (*n*=30) indicated that there was an imbalance in the number of patients who required care versus the availability of nurses who engaged in direct care, which might hinder the implementation of the nursing process. The minority (49%, *n*=28) agreed that a better nurse-to-patient ratio could improve implementation of the nursing process.

Section C. Enabling factors of the implementation of the nursing process

Study respondents reported perceived enabling factors that might help them to implement the steps of the nursing process in their professional care provision. Some of these mentioned enabling factors are knowledge about the nursing process, training and updates on the nursing process, and managerial support.

They indicated that adequate knowledge about the nursing process might be an enabling factor to practise implementation of the nursing process. Most of the registered nurses (97%) mentioned that they are knowledgeable about the implementation of the nursing process and 95% (*n*=55) of them witnessed the benefit of the nursing process to prioritise patient care, and to apply their professional knowledge in the actual patient care.

Furthermore, 88% (*n*=51) of the registered nurses mentioned that knowledge regarding the nursing process is important and can be sourced from college, university, workshops, or seminars. However, about half of the study respondents (52%; *n*=30) expressed that they still need additional information and tutorials to practise the nursing process implementation.

Ninety-three percent (*n*=54) of respondents agreed that the nursing process is used as a teaching aid in the process of knowledge application in clinical practice. Around 76% (*n*=45) of study respondents mentioned they had training on the nursing process steps and its application for patient care. Forty nurses (69%) confirmed that training on the nursing process steps was organised and provided by their respective hospitals and 63% (*n*=37) of them confirmed that refresher training was provided to them if there was any need to change the application of nursing process in their hospital.

The respondents also identified managerial and organisational support as one of the major factors that impacted the nursing process implementation positively. Two-thirds of study participants (65%) expressed that the hospital managerial teams understand the notion of the nursing process and 86% (*n*=51) of them stated that hospital management recognises it as a formal pattern to manage nursing care and provide quality nursing care. They also indicated that hospital management was supportive in allocating

necessary materials like policies, work procedures, guidelines, and posters for its application (78%; *n*=46).

In general, those factors mentioned above may have a direct impact on the implementation of the nursing process and affects the quality of patient care.

Discussion

The demographic of the registered nurses in this study aligns with the profile of registered nurses in the country. In the Western Cape, 91% of females and 9% of males were registered on the South African Nursing Council (SANC) roll (SANC STATS, 2022). In this study, 91% (*n*=53) of respondents are female nurses with a minority of 9% (*n*=5) being male. This congruence in the result between the current study and the SANC statistics is a clear indication that nursing is the profession of choice for females. The SANC indicators identified that 27% of nurses are aged between 50 to 59 years, 26% of them are 40 to 49 years and 21% are between the ages of 30 to 39 years with a minority of 6% being registered nurses under the age of 30 years (SANC STATS, 2022).

According to a study conducted by Alburquerque-Sendín et al. (2018), 36% of South Africans have more than 5 years of clinical nursing experience. This finding is consistent with the findings of this study that was conducted in South Africa where 26% of the respondents had 6 to 10 years of experience. The congruence of nurses' years of service with the above-mentioned studies would reveal that years of service and experience ultimately may impact the implementation of the nursing process.

Gazari et al. (2020) stated that 96% of study respondents agreed that the nursing process is a long-drawn-out activity. A further study conducted by Mutshatshi & Mothiba (2020), presents the argument that a lack of time is indeed a barrier to implementing the nursing process. This is in line with the study findings, which found that the registered nurses viewed the availability of time as a barrier to implementing the phases of the nursing process. Furthermore, they perceived the implementation of the nursing process as time-consuming, which hindered the full implementation of the five phases of the nursing process.

Various studies revealed that nursing staff shortage has a direct effect on hindering the formulation of nursing care plans based on the patient's condition and needs (Abdelkader & Othman, 2017; Stonehouse, 2020; Tadzong-Awasum, et al., 2022). In the current study, 81% (*n*=46) of registered nurses agreed that a shortage of staff nurses has impact on the successful implementation of the nursing process.

Studies support the belief that theoretical knowledge is crucial for carrying out the nursing process (Burucu & Arslan, 2021; Gonzalo, 2023; Leoni-Scheiber et al., 2019). Seçer and Karaca's (2021) indicated that nurses faced difficulty in the implementation of assessment (50.9%) and the nursing diagnosis (74.4%) phases of the nursing process. Whereas in this

study, even though 97% of nurses responded that they are knowledgeable about the implementation of the nursing process, 52% of them still need additional information and training to practise it. This similarity among the current study and others might be related to the divergence of patient illness and the emergence of evidence-based practice which empowers nurses to demand more updates and trainings to implement the nursing process.

According to Abdelkader & Othman (2017), 63% of the respondents viewed lack of training as a barrier in implementing the nursing process. Additionally, a study by Lekenit et al. (2020), reported that insufficient training has been hindering its implementation. In the current study, 76% (n=45) of the respondents had sufficient training and 63% (n=36) of them indicated that if changes were made pertaining to the nursing process, they would receive training on those changes. As it is indicated in the above-mentioned studies, there is an agreement on the positive effect of training and on the implementation of the nursing process.

Rajabpoor et al. (2018) stated that 93% of their respondents declared a lack of management control and monitoring as a barrier and suggested that managers should devise suitable strategies to encourage the use of the nursing process. Even though 79% of nurses in this study complained of a lack of attention by the management of the organisation in ensuring adequate staffing, a further 78% (n=46) of the study respondents reported that their respective hospital management fulfilled the necessary protocols by supplying policies, work procedures, and guidelines for the implementation of the nursing process. Also, 86% (n=51) of the respondents indicated in this study that the management supports the use of the nursing process as it can be seen as a framework for the delivery of patient care. This difference could be explained as managers in this study may have better knowledge regarding the nursing process than the comparison study. Authors of this study agreed that management support could be seen as a barrier to the implementation of the nursing process as they control staff allocation. Yet, management support can also be considered as an enabler due to their ability to facilitate the implementation of the nursing process.

Limitations of the study

The COVID-19 pandemic affected the data collection process, thus leading to a low response rate. Additionally, data were collected from only two private hospitals in the province; hence, the study results cannot be generalised to the entire province or country.

Implications for the nursing practice

Nursing professionals have to know about the concept of the nursing process and its steps in order to maintain patient safety. The nursing process is a guiding instrument for every approach to nursing care, and it ensures the quality of patient care. It is also a tool that helps to facilitate effective communication among care providers, prioritise patient care, and ensure the provision of harmonised nursing care.

In this study, nurses provided clues on those factors that influence the implementation of the nursing process. Those mentioned factors were related to nurses' knowledge, experience, availability of updates regarding training, proper nursing staff and other resource allocation, and managerial and organisational support, which have a direct effect on its implementation. Understanding the enabling factors and barriers affecting its implementation of the nursing process will benefit nurses. Therefore, healthcare teams and institutions have to address the comprehensive implementation of the nursing process.

Conclusion

According to the study findings, time, knowledge about the nursing process steps, training on the nursing process implementation, managerial and institutional support, and nursing professionals' allocation were identified as factors that affect the implementation of the nursing process in various ways. Time was mentioned as a major barrier to put the nursing process into practice, and it frequently has to do with all the components related to the work that has to be fulfilled by the nurse. Nurse staffing allocation, being a barrier also has a significant effect on the implementation of the nursing process. The nurses' knowledge, training and hospital management support towards the provision of updates and guidelines ought to be enabling factors that facilitate the nursing process implementation.

Overall, this study recommends that the nursing process implementation be supported through the allocation of an effective nurse-to-patient ratio, provision of updated refresher training and continued involvement of stakeholders such as nurse managers, senior hospital leaders, and health bureau officials for the betterment of the nursing process implementation.

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Contributions of authors

Lesley-Ann Smith contributed to the conceptualisation, data collection, and analysis, under the supervision of Professor P. Jordan and Dr C. Iwu–Jaja. Lesley-Ann Smith drafted the manuscript, whilst Professor P. Jordan and Dr M. Sileshi contributed to the editing, contextualising and revising the manuscript, adding valuable and important intellectual content and context. All authors read and approved the final version of the manuscript.

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