

# Exploring the Experience of Nurses on Nursing Process Implementation in Northwest Ethiopia: A Qualitative Study

Habtamu Abera Areri<sup>1,2\*</sup>, Hana Getie<sup>1\*</sup>, Alemu Guta<sup>3\*</sup>, Bekele Simegn<sup>4,\*</sup>

<sup>1</sup>Addis Ababa University, Addis Ababa, Ethiopia; <sup>2</sup>Eagle College, Addis Ababa, Ethiopia; <sup>3</sup>Department of Midwifery, Health Sciences College, Dire Dawa University, Dire Dawa, Ethiopia; <sup>4</sup>Department of Public Health, St. Lideta College of Health Sciences, Addis Ababa, Ethiopia

\*These authors contributed equally to this work

Correspondence: Habtamu Abera Areri, Tel +251910218513, Email [habtamu.abera@aau.edu.et](mailto:habtamu.abera@aau.edu.et)

**Background:** The nursing process is a set of actions that help nurses to solve the nursing problems identified for a particular patient. Besides, it is possible to say it is an instrument for nurses in their daily activities, and at the same time, it requires the knowledge, skills, and attitude of its nurses. However, to the knowledge of the research team, there is no study exploring nurses experience on nursing process implementation in the study area. The study aimed to explore the nursing process implementation among nurses in selected referral hospitals of the Amhara Region of Ethiopia. Ida Jean Orlando's Theory of the nursing process guided the study.

**Methods:** The study employed a descriptive explorative qualitative research design. After obtaining permission from respective referral hospitals and informed written consent from nurses, a semi-structured in-depth interview with sixteen nurses were carried out to gather data. NVivo 10 software was used for analysis, and the findings were thematised under different headings.

**Results:** Three main themes emerged from the data: 1) care delivery approach, 2) challenges in the nursing process implementation, and 3) nurses' preparation during training for implementing the nursing process.

**Conclusion:** The findings showed different degrees of nursing process implementation with a huge gap in the quality. Inadequate knowledge, attitude towards the nursing process, and skills were considered a major area of concern. The study recommends the need for coordinated efforts of all stakeholders for improving the implementation of the nursing process, as identified by this study.

**Keywords:** nursing process, nursing process theory, implementation, care plan, documentation

## Introduction

Satisfactory patient care in any hospital depends primarily on the quality of the nursing activities, which is enhanced by the organised nursing process. The nursing process is a set of actions the nurse will implement to solve the nursing problems identified for a particular patient. The nursing process is an instrument for nurses in their day-to-day activities, and at the same time, it requires the knowledge, skills, and attitude of its implementers.<sup>1,2</sup> The nursing process is also regarded as a nursing tool and is the essence of professional nursing practice. [The nursing process] has been used as a problem-solving approach to think about a plan of care as the foundation for professional nurse practice in everyday nursing practice. It is seen as a decision-making approach that promotes critical thinking in nursing.<sup>1-3</sup> Nursing process implementation involves a cyclic and interrelated process of conducting patient assessment, nursing diagnosis, planning, implementation and evaluation. Nurses should document all activities carried out in each step of the nursing process. Documentation is the most important aspects communicating the nursing process among nursing staffs and other healthcare providers.<sup>4,5</sup>

Effective and efficient implementation of nursing process speeds up diagnosis and treatment of actual and potential health problems by reducing the incidence of the patient hospital stays. It promotes a precise documentation that prevent errors, omissions, and unnecessary repetitions in the nursing care. Its effective and efficient implementation also

improves communication across domains and promotes flexibility and independent thinking. Fully implemented nursing process allows tailoring interventions for a patient according to the individual's unique circumstances and it helps the nurses to gain their job satisfaction when seeing the results.<sup>4-6</sup>

A situational analysis conducted in Namibia revealed that nurses' belief systems and attitudes about the nursing process caused ineffective implementation. The findings indicated that registered nurses should approach the nursing process differently and that the nursing process was a prerequisite for an effective nursing plan of care.<sup>4,5</sup> The nursing process helps the nurse to apply knowledge and skills in an organised and goal-directed manner and it allows the nurse to communicate, document and set standards of care effectively.<sup>7,8</sup> Nurses should develop nursing process knowledge and critical thinking skills to implement nursing process efficiently. Competent nurses in nursing process implementation are able to render individualized nursing care.<sup>9,10</sup> Even though the nursing process has become the standard for nursing care delivery globally over the past decades, the perception of the nurses remains that it is considered to be time-consuming for the staff and not practical in most cases. If it is not considered as important and not used, the nurses might continue to practice the standardised nursing activities based on medical approach instead of based on nursing assessment, diagnosis, planning, evaluating, documentation and providing feedback.<sup>3-5,11</sup> A study conducted in three selected Nigerian hospitals showed nurses encountered difficulties in history taking, formulation of the nursing diagnosis, setting objectives, implementing the nursing orders and evaluation of the outcome of the nursing process.<sup>12</sup>

In a quantitative study finding in the Northern part of Ethiopia,<sup>13</sup> daily barrier nurses were facing during the implementation of nursing process included lack of time, workload and lack of skills in implementing the nursing process. The study also identified poor knowledge, and the nurse-to-patient ratio was identified the other main reasons for not implementing the nursing process effectively.<sup>13,14</sup> Similarly, a quantitative study conducted in Nigeria indicated that even though trained nurses at the hospital had good theoretical knowledge of the nursing process, they did not apply it in the care of their patients. The barriers to the application of the nursing process were ascribed among others as inadequate practical knowledge, inadequate staff, work overload, and management body inability to provide the needed materials.<sup>7</sup> Another study conducted in selected hospitals of Central and Northwest Zones of Tigray region of Ethiopia indicates a low level of the nursing process implementation (35%). According to the findings, factors that could hinder the implementation of the nursing process by nurses were a gap in their knowledge and skills, their educational level, and lack of material supply.<sup>15</sup> The finding is almost consistent with other findings reported in Ethiopian studies at different times.<sup>13,16</sup> A quantitative study conducted at the Debre Markos referral and Finote Selam district hospitals showed that the implementation of the nursing process showed degrees of inconsistencies. The main identified reason for the variation was low knowledge of the nursing process.<sup>16</sup> Among the major barriers identified as factors affecting the implementation of the nursing process; difficulty to identify the steps of nursing process,<sup>17</sup> lack of knowledge,<sup>12</sup> lack of practical training, and lack of knowledge on physical examination,<sup>18</sup> workload and unfavourable attitude<sup>11,15,19</sup> were factors coinciding with the findings of this study that could affect the nursing process implementation.

Despite the pressure from the government, prescribing the compulsory application of the nursing process for all patients in hospitals,<sup>20</sup> observations and research reports indicate that this is not the case. Overall, the nursing process implementation remains ineffective and the factors influencing its implementation varied across studies.<sup>13,15,16,21</sup> In Ethiopia, the implementation nursing process is evaluated in several studies quantitatively at different times. However, evidence is lacking on why the level of nursing process implementation varies over years and across setting. None of the studies explored nurses' experience. Besides, to our knowledge, there is no published study on the nurses' experience of nursing process implementation in Ethiopia. Therefore, this study was intended to explore the experience of nurses on the implementation of the nursing process among nurses working in the selected referral hospitals of Amhara regional state of Ethiopia.

## Materials and Methods

### Theoretical Foundations of the Study

The study was based on Ida Jean Orlando's Theory of the nursing process. Orlando, in her Theory of the Nursing Process, describes nursing as a unique and independent profession because it is concerned with an individualised need in

an immediate situation. She advocates the nursing action for two different or same patients' problems should be individualised, which implies, the nurse should work to meet the patient's specific need for help. The nurses share their observations with the patients to identify the need for help and the actions needed. A nursing process is a tool that nurses need to use to fulfil their professional functions to their patients. Therefore, the understanding of the nursing process supports nurses to help the patients within their organisational settings effectively. The nursing practice was guided by this theory as it helps nurses to assess, determine a nursing diagnosis for each problem, establish goals and interventions, implement the plans and evaluate the results.<sup>22–24</sup>

## Study Design and Setting

A descriptive explorative qualitative design was used to explore the nursing process implementation experiences of nurses in selected referral hospitals in Northwest Ethiopia from January to February 2021. The study was conducted in three referral hospitals which included Debre Markos referral hospital, Felege Hiwot referral hospital and Gondar teaching hospital.

## Participant Recruitment

The research team approached the selected referral hospital managers and explained the purpose of the study. After obtaining permission, nurses from each institution were approached and discussion was carried out on the purpose of the study. Then researchers purposely selected the nurses from medical, surgical, and paediatrics wards. In these wards, nursing process documentation and its implementation is routine.<sup>20</sup> The researchers with selected nurses arranged the data collection schedule. In all three referral hospitals, the interviews were scheduled for the afternoon period since there were nursing rounds in the morning and different times were arranged based on the nurses' free time. The recruited nurses are expected to have at least six months of nursing process implementation experience and qualified as bachelor science in nursing. The whole process of recruitment was based on a volunteer to participate in the study. A criterion of data saturation was used to determine the sample size. The sample size for qualitative study should be determined based on the information needs.<sup>25</sup> Data saturation was achieved after interviewing 16 nurses.

## Data Collection

A semi-structured interview guide was prepared which contained a list of questions covered with each participant. A semi-structured interview that developed in line with the theory of the dynamic nursing process included an identical set of questions which is presented to every interviewee. The interview guide contains three parts and a list of 15 topics or broad questions. The guide enabled the researcher to explore and explain the nursing process implementation experiences of nurses. Face-to-face in-depth interviews were carried out in a private office in all the selected referral hospitals. An audiotape was used after obtaining consent for its use to capture all information during interviews. The use of an audiotape assisted the researcher to concentrate better on what was said as some information might have been easily missed out. The researcher used probing and repeating of questions to elicit useful information when required. The in-depth interview took about 50 minutes in average.

## Data Analysis

The interview data was imported to the qualitative analysis package QSR Software NVIVO 10. The respondents were coded as N1, 2, 3, through 16 to maintain anonymity. Interview data were roughly transcribed, analysed and summarised and given to the participant to confirm that the transcription of the interview data coincides with participant's response shortly at the end of each responses. The analysis of interview data involved a systematic approach for discovering and categorising ideas that were conveyed by the study participants. For this study analysis, the researchers used Marshall and Rossman<sup>26</sup> and Creswell<sup>27</sup> proposed steps for qualitative studies. Therefore, the researchers followed the following steps to reduce the large data set to research the common response provided by nurses': (1) Audiotaped interviews were transcribed verbatim, (2) transcribed interviews were then read and re-read by the researchers, (3) themes were identified, (4) redundant information, which the researchers felt, did not have a direct or indirect bearing on questions was eliminated, leaving relevant themes, (5) responses to individual questions were transcribed manually, to allow structuring

and organisation of data, (6) themes were classified into major categories and then clustered into subcategories and (7) categories and subcategories from all questions of the interviewers' guide were integrated into a total description of the attributes required. Then, the data was then rechecked to ensure consistency between the themes and the categories. Inconsistency among team members while coding, checking and thematising was solved with discussion among research team members.

The researchers wrote down the themes and categories as they appeared in each set of the data. Themes were developed based on the research objectives; the data were then cross-checked to ensure that there was consistency between the themes and the categories. The researchers then summarized the themes and categories to draw conclusions that provided answers to the research question.

## Results

The majority of the participants were male (n=14; 77.8%) and the rest were female (n=4; 22.2%). Half of the participants (n=9; 50.0%) were in the age category of 25–30 years. Themes and categories were developed based on the research objectives. Therefore, the data analysis revealed three major themes: eight categories. The emerged themes were care delivery approach, challenges in the nursing process implementation and nurses' preparation during training for implementing the nursing process (Table 1).

### Theme 1: Care Delivery Approach of the Hospitals

#### The Nursing Process Implementation

The role of nurses in hospital settings is to provide holistic nursing care but in general, the nurses assume the practitioner nursing role which involves nursing process implementation in the framework of nursing care philosophy. Participants agreed on the presence of the nursing process implementation by all nurses, especially for admitted patients. There was a different degree of uniformity and quality in the implementation of the nursing process between the three selected referral hospitals, leading to confusion. This was supported by the data summarised from participants' interviews:

As a nurse .....responsible to carry out the nursing process for all admitted patients and our performance was evaluated based on the nursing process framework [N2].

Overall, most of the participants were in agreement that the implementation could be considered as good, audited yearly by the external body but the implementation quality was different among individuals because of differences in knowledge, attitude, and skills [N1, N3, N6, N7, N8 & N9].

#### Nurses Role of Care versus Philosophy

Majority of the responses were similar that the nursing philosophy such as “holistic Nursing Care” is a guiding principle for nurses [N1, N2, N4, N7, N8, N13, and N16]. These were evident in the following statements made by participants regarding the care delivery approaches:

**Table 1** Themes and Categories of the Data

THEMES	CATEGORIES
<b>Theme 1:</b> Care delivery approach	1.1 The nursing process implementation 1.2 Nurses role of care versus Philosophy
<b>Theme 2:</b> Challenges in the nursing process implementation	2.1 Competency of the nursing process 2.2 Nurses' views of the nursing process 2.3 Workload
<b>Theme 3:</b> Nurses preparation during training for implementing the nursing process	3.1 Theory and practise integration 3.2 Recommendation of nurse educators 3.3 Staff development plan

The major role of the nurse is to follow the patients' progress, and implementation of the holistic care approach for all admitted patients. [N6]

In this ward, performing nursing care is based on the framework of the nursing process; for instance, performing nursing care and documentation that addresses the social, psychological, spiritual, and physiological and so forth. [N1]

However, a significant number of nurses want to practice in medical philosophy, rather than practising in a nursing philosophy. Some participants stated that they were not even clear with what are the expected roles of nurses in hospitals. Upon probing questions, some of the participants fail to define the nursing philosophy of their hospital and few defended the nurses for performing the nursing process is "... difficult because it is time-consuming" [N3] and few of the participants were confusing the nursing care plan within the nursing process. Besides, participants have some reservations about the quality of the nursing process they are implementing and recommending for training needs [N10, N5].

## Theme 2: Challenges in the Nursing Process Implementation

Participants in this study have identified different categories of challenges they have faced during their professional practice. The emerged challenges consisted of, lack of competency, nurses' view of the nursing process and nurses' workload.

### Competency of the Nursing Process

Participants expressed agreed concerns on various factors that could affect the implementation of the nursing process in the selected referral hospital of the region. Most of the respondents agreed that many of them were not sure on their nursing process implementation competency [N2, N8, N12, N14, and N15]. The following were evident in the following statements made by participants regarding competency in the nursing process implementation:

As a professional nurse, I can say, I am in the difficulty of generating the evidence for the nursing diagnosis". [N9]. Similarly, another respondent added: ...has critical problems of physical assessment skills". [N16]

From the responses of the participants, it is also noted from their responses that a significant number of nurses lacks decision-making skills [N1, N9, N10 & N11].

### Nurses' Views of the Nursing Process

Participants in this study seemed to agree that nurses' views about nursing process affected its implementation and could require view reframing or changes. To bring attitude change towards the nursing process and its implementation, continuous professional development, better payment, public image and recognition of the nursing profession need to be improved [N1, N3, N 5, N 12, N15, and N16]. The following statements were evidence regarding nurses' view towards the nursing process:

The overall view towards the nursing process implementation is negative which could be related to various factors; lack of updating on the nursing process, difference incompetence in the nursing process, and inadequate payment for nurses". [N14]

.... negative view about the nursing process is also reflected on student nurses.... did not want to hear about the nursing process...". [N17]

### Workload

The interviewed participants seemed to agree on the challenges nurses were facing as a result of the inappropriate nurse to patient ratio in all the selected referral hospitals of the region [N2, N7, N10 & N12]. The following were evident in the following statements made by participants regarding workload:

The big challenge here is workload; patient to nurse ratio especially during the nighttime is high. [N7]. Besides, high turnover is also found to be a problem. Many nurses want to change their profession and job title after second-degree qualification [N10, N12, N15, & N17]. This evidenced by "... high turnover after master graduation for a better salary....; and we[nurses] are considering postgraduate qualifications to leave hospital work and join teaching institutions for better pay and soon. [N11]

## Theme 3: Nurses' Preparation on the Nursing Process

### Theory and Practise Integration

Regarding nurses preparation on nursing process, the participants agreed that nurses have an orientation of the nursing process even better in terms of theoretical knowledge but there is a clear gap in practice. From the viewpoint of the participants, the current nursing education curriculum has adequately integrated with the nursing process approach but some of the educators were not sticking to what was expected and nurses were not briefly informed on its importance for the discipline [N1, N2, N3, N4, N5, N6, N8, N13, N14, N15, and N16]. The following were evident in the following statements made by participants regarding nurses' preparation on the nursing process especially on theory and practice integration:

.....yes, the nursing process is an integral part of the training programme but our implementation is not uniform even among colleagues in the same hospital. [N15 & N16]

We all are good in the theoretical knowledge of the nursing process but there was a gap in its application and even not interested in it. [N1-N6, N8, N13 & N14]

### Recommendation of Nurse Educators

The participants were also asked a range of questions on what should be done by nurse educators to strengthen the implementation of the nursing process in general. They seemed to agree on the presence of problems on the current nursing process implementation by both newly qualified and experienced staffs. The following were evident in the following statements made by participants regarding nurse educators:

A nursing process is a tool for nursing staff for their entire professional life and quality of health care. Therefore, during training, there should be a balance between theoretical knowledge and practical skills. [N13]

Nursing schools and hospitals should work together on improving attitudes towards the nursing process. There should be a strict follow-up on the implementation of the nursing process. More importantly, nursing schools should consider the nursing process as one major course. [N11]

### Staff Development Plan

Most of the nurses reported inadequacy of professional or staff development plan in the selected referral hospitals. It seems also they clearly understood the need of involvement nurses in continuous professional development [N3, N7, N8, N11, N14, and N16]. However, in a few cases, they were planning and implementing monthly seminars and morning sessions per week to learn from each other. The following were evident statements regarding staff development:

There is no as such structured staff development in our hospital but learning from each other was the main way of personal development here for most of us. [N8]

It is possible to say....there was no access for self-development opportunities, but the nurses were sharing their experience during the morning session, seminar time and nursing rounds. [N3]

Besides, only one ward in one hospital has an internet connection and nurses were using the up-to-date database. The following statements are examples of what participants had to say:

No library access, internet access for accessing journals and reading evidence [N4, N7 N8]. We [Nurses] had only a hard copy of the NANDA lists. We do not have hard copy guidelines even for each nurse. [N6, N7, N11]

## Discussion

The nursing process is a means for nursing professionals as a scientific process and autonomy as a profession. Nursing process implementation is a critical aspect in addressing professional nursing philosophy. The nursing philosophy is a guiding principle for nurses to act accordingly for those who need their support. However, the nurses' experience



showed most of the time nurses want to practice in medical philosophy, rather than practising in a nursing philosophy. This implies nurses are practicing in medical approach and leaving aside the nursing process approach. Therefore, it is true that the nurses could face difficulty to plan and recording the steps of the nursing process.<sup>17</sup> The reasons for this might be related to a lack of appropriate nursing knowledge, attitude, and skills to work independently. The other reason could be the critical shortage of nurses in those referral hospitals that make them busy carrying out routine medical orders.

According to the Ethiopian Ministry of Health,<sup>20</sup> the nursing process implementation is a means of assuring accountability and responsibility to patients. Currently, most hospitals in Ethiopia have policies for enforcing the implementation of the full version of the nursing process for all patients admitted to hospitals on the day of admission. However, the findings of this study revealed inadequate reinforcing mechanisms were reported among some of the participants. The main reason for inadequate reinforcement could be related to the shortage of nurses. The number of nurse-to-patient ratio is high, it could be difficult to cover all the required needs of their patients, which might not be their fault and then, the leaders face difficulty enforcing them. However, this finding is a call to establish strong communication among policymakers, hospital managers and supervisory teams for improving the quality of the nursing process implementation. There should be nursing rounds once per week and a nursing audit committee to enforce and support the nurses in implementing the nursing process. This could be an opportunity for nurses to learn from each other during the rounds and discussions.

The findings summarised from discussion with participants indicated inadequate understanding, gaps in skills, and negative views about the nursing process were major concerns in line with the findings in the literature that could affect the implementation of the nursing process.<sup>7,13,14</sup> In addition to theory and practise integration, the recommendation for nurse educators and the development plan were identified areas of concern to enhance the nursing process implementation.

Nurses working in the study areas lack the required competence level of the nursing process as a result they were facing difficulty in decision-making. Each step of the nursing process requires a critical thinking skill component which is crucial during data collection, interpretation of the collected data, formulating a diagnosis, prioritising, identifying appropriate nursing actions for the implementation and evaluation.<sup>7</sup> The nursing process must guide nurses' thinking daily, and it should be the foundation for clinical reasoning during nursing practice and promote a competent level of care.<sup>5</sup> A nursing process is a problem-solving approach that all nurses working in a hospital setting should apply. However, the findings of this study indicate nurses' lack the assessment and diagnosis skills which might make them ineffective in the implementation of the nursing process.

Consistent with a study conducted in Namibia,<sup>4</sup> the participants of this study comprehend nurses have attitude problems towards the implementation of the nursing process. The participants seem to have a lot to do in this regard since the nursing process implementation was just for the sake of coverage, but nurses are accountable and responsible for the service quality they provide to their patients. Nurses' attitudes should be reframed, and nurses should adapt to the nursing process as it is a prerequisite for effective nursing care delivery. It is a fact that the nursing process provides a framework by which nurses use their knowledge, practical skills, attitudes and values for providing humanistic care.<sup>10,11,19</sup>

Shortage of staff, inadequate organisational support, workload, lack of time and extensive writing were some identified barriers for documenting what has been carried out by nurses. This finding is congruent with similar studies.<sup>3,7,8,12,13,17</sup> This implies, the nurse-patient ratio is high, it means nurses do have not adequate time to perform the steps of the nursing process.

In terms of limitations, it is important to note that the study was conducted on nurses working in one region of Ethiopia and all were referral hospitals. This might affect the transferability of the findings beyond the immediate study setting.

## Conclusion

The findings showed different degrees of nursing process implementation with a huge gap in the quality as a result of inadequate knowledge, attitude, and skill among nurses. The view towards the nursing process, competencies, workload, and inadequate payment were considered a major area of concern. Different enhancing mechanisms should be in place

for motivating and enabling nurses for better nursing process implementation. Improving the nurses' view on the importance of nursing process should be given a due emphasis for both the enhanced quality of care and advancement of the profession. Then, the hospitals and concerned stakeholders should work on improving the competency of nurses, especially on the nursing assessment competency. The leaders should also work on maintaining nurse-to-patient ratio that allows the nurses to have adequate time to apply the nursing process for patient care. It is very important to have in mind that the effectiveness of any hospital depends on the motivation of the nurses to effectively implement the nursing process; therefore, it is crucial to have a policy to recognize and motivate the nurses.

## Ethics Approval and Consent to Participate

To confirm the Declaration of Helsinki (1964) and Population Screening Act, ethical approval for the study was obtained from Amhara Regional Health Bureau Research Office. Permission was obtained from the hospital management. Participation is determined by the person without any external influence to participate or not. Informed consent was obtained from the individual participant, and it included publication of anonymized responses. The participant of this study has the right to withdraw anytime from the research project without any negative consequences. Information is collected in private rooms and kept private all the time.

## Acknowledgments

The authors acknowledge the study participants. The acknowledgement also extends to the Amhara Regional Health Bureau Research Office for ethics approval.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

## Funding

No fund obtained for this study.

## Disclosure

The authors declare that they have no competing interests.

## References

1. Yildirim B, Özkahraman S. Critical thinking in nursing process and education. *Int J Humanities Social Sci.* **2011**;13(1):257–262.
2. Tadzong-Awasum G, Dufashwenayesu A. Implementation of the nursing process in Sub-Saharan Africa: an integrative review of literature. *IJANS.* **2021**;14:100283. doi:10.1016/j.ijans.2021.100283
3. Adraro Z, Mengistu D. Implementation and factors affecting the nursing process among nurses working in selected government hospitals in Southwest Ethiopia. *BMC Nurs.* **2020**;19(1):105. doi:10.1186/s12912-020-00498-8
4. Jooste K, Van der Vyfer M, Van Dyk A. Implementing the nursing process in gynaecology wards in Namibia. *Afr J Nurs Midwifery.* **2010**;12(1):87–99.
5. Alfaro-LeFevre R. *Applying Nursing Process: The Foundation for Clinical Reasoning*. 8th ed. Philadelphia: Lippincott Williams & Wilkins; **2014**.
6. EMOH. *National Comprehensive Training on Standards of Nursing Practice. Participants' Manual*. Ethiopia: Addis Ababa; **2017**.
7. Afolayan JA, Donald B, Baldwin DM, Onasoga O, Babafemi A. Evaluation of the utilization of nursing process and patient outcome in psychiatric nursing: case study of psychiatric Hospital Rumuigbo. *Port Harcourt Adv Appl Sci Res.* **2013**;4(5):34–43.
8. Moghadas T, Sedaghati Kesbakh M. Factors influencing implementation of nursing process by nursing students: a qualitative study. *J Med Edu.* **2020**;19(4):e110810. doi:10.5812/jme.110810
9. Castledine G. Updating the nursing process. *Br J Nurs.* **2011**;20(2):131. doi:10.12968/bjon.2011.20.2.131
10. Chabeli M. Facilitating critical thinking within the nursing process framework: a literature review. *Health SA.* **2007**;12(4):69–89. doi:10.4102/hsag.v12i4.273
11. Farokhzadian J, Khajouei R, Hasman A, Ahmadian L. Nurses' experiences and viewpoints about the benefits of adopting information technology in health care: a qualitative study in Iran. *BMC Med Inform Decis Mak.* **2020**;20(1):240. doi:10.1186/s12911-020-01260-5



12. Ofi B, Sowunmi O. Nursing documentation: experience of the use of the nursing process model in selected hospitals in Ibadan, Oyo State, Nigeria. *Int J Nurs Prac.* 2012;18(4):354–362. doi:10.1111/j.1440-172X.2012.02044.x
13. Hagos F, Alemseged F, Balcha F, Berhe S, Aregay A. Application of nursing process and its affecting factors among nurses working in Mekelle Zone Hospitals, Northern Ethiopia. *Nurs Res Pract.* 2014;2014:675212. doi:10.1155/2014/675212
14. Tadzong-Awasum G, Ghislaine MM, Adelphine D, Boris KA, Seraphine MN. Nurses' experiences with the adoption and use of the nursing process in four urban hospitals. *IJANS.* 2022;16:100411. doi:10.1016/j.ijans.2022.100411
15. Baraki Z, Girmay F, Kidanu K, Gerensea H, Gezehgne D, Tekla H. A cross sectional study on nursing process implementation and associated factors among nurses working in selected hospitals of Central and Northwest zones, Tigray Region, Ethiopia. *BMC Nurs.* 2017;64(54):1–9.
16. Abebe N, Abera H, Ayana M. The implementation of nursing process and associated factors among nurses working in Debre Markos and Finoteselam Hospitals, Northwest Ethiopia. *J Nurs Care.* 2014;3(02):1–7. doi:10.4172/2167-1168.1000149
17. De Moraes Lopes MH, Higa R, Dos Reis MJ, De Oliveira NR, Christóforo FM. Evaluation of the nursing process used at a Brazilian teaching hospital. *Int J Nurs Terminol Classif.* 2010;21(3):116–123. doi:10.1111/j.1744-618X.2010.01157.x
18. Paganin A, Moraes MA, Pokorski S, Rabelo ER. Factors that inhibit the use of nursing language. *Int J Nurs Terminol Classif.* 2008;19(4):150–157. doi:10.1111/j.1744-618X.2008.00103.x
19. Foroozan AS, Tahereh A. Factors influencing implementation of nursing process by nurses: a qualitative study; 2011.
20. Nursing care practice standards: a reference manual for nurses and healthcare managers in Ethiopia; 2011.
21. Shewangizaw Z, Mersha A. Determinants towards implementation of the nursing process. *Am J Nurs Sci.* 2015;4(3):45–49. doi:10.11648/j.ajns.20150403.11
22. George JB. *Nursing Theories: The Base for Professional Nursing Practice.* 6th ed. New Jersey: Pearson Education; 2011.
23. Alligood MR, Tomey AM. *Nursing Theory: Utilization and Application.* 2nd ed. St. Louis: Mosby/Elsevier; 2002.
24. Alligood MR. *Nursing Theorists and Their Work.* 8th ed. St. Louis: Mosby/Elsevier; 2014.
25. Polit DF, Beck CT. *Nursing Research, Generating and Assessing Evidence for Nursing Practice.* 8th ed. Philadelphia: Lippincott, Williams & Wilkins; 2008.
26. Marshall C, Rossman GB. *Designing Qualitative Research.* 2nd ed. Thousand Oaks: Sage.; 1995.
27. Creswell JW. *Qualitative, Quantitative and Mixed Methods Approaches.* 2nd ed. Thousand Oaks: Sage; 2014.

## Nursing: Research and Reviews

Dovepress

### Publish your work in this journal

Nursing: Research and Reviews is an international, peer-reviewed, open access journal publishing original research, reports, reviews and commentaries on all aspects of nursing and patient care. These include patient education and counseling, ethics, management and organizational issues, diagnostics and prescribing, health outcomes, economics and resource management, improving patient safety in all settings. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <http://www.dovepress.com/nursing-research-and-reviews-journal>