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St. Paul's Hospital Millennium Medical College
SCHOOL OF NURSING

**Nursing Process Implementation and Associated Factors among
Nurses working in Selected Public Hospitals in Addis
Ababa: A Mixed Methods Study (2024)**

By: Mazengiaw Melkamu (Bsc)

**A Thesis Research to be submitted to the Department of Cardiothoracic
Surgery; Presented in Partial Fulfillment of The Requirements for The
Degree of Master in Cardiothoracic Surgery Nursing; St. Paul Hospital
Millennium Medical College.**

August, 2024

Addis Ababa, Ethiopia

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By: Mazengiaw Melkamu

Advisors: Rahel Mezemir (MSc.Ass.professor)

Kedeja Muzyin (MSc.)

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Abstract

Introduction: The nursing process is a well-known scientific method that nurses use to organize patient care. Its use facilitates patient diagnosis and empowers employees to have greater responsibility and ownership for the nursing care services they render. Despite its importance, the degree of nursing process implementation in Addis Ababa is not fully investigated using a mixed-methods approach.

Objective: This study aimed to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa.

Methods: An institution based mixed method cross-sectional study was employed in selected public hospitals in Addis Ababa from May 06 to June 06, 2024, among 414 study participants. For a quantitative part, study participants were selected using simple random sampling technique. Data were collected using a standardized validated self-administered questionnaires and observational checklists for the quantitative method. In-depth interviews and inductive thematic analysis were used for the qualitative method. The data were entered into Epi-data version 4.6, and then exported to STATA version 14 for analysis. The Hosmer-Lemeshow test was found to be 0.194. A binary logistic regression model was used to test the association between dependent and independent variables. All variables with a P-value <0.25 in the bivariable regression analyses were included in the multivariable regression analysis. The degree of association was interpreted by using the adjusted odds ratio with 95% confidence intervals, and the significance level has been declared at a P value <0.05 .

Result: The nursing process implementation was found to be 52.9% (95% CI: 48.06, 57.68). Being married (AOR = 1.88, 95% CI: 1.04, 3.38), presence overtime work (AOR = 1.92, 95% CI: 1.00, 3.69), favorable attitude (AOR = 3.90, 95% CI: 2.21, 6.87), and being knowledgeable (AOR = 5.48, 95% CI: 3.14, 9.57) had higher odds of nursing process implementation. The qualitative study also showed that language barriers, patient conditions, resource limitations and patient-to-nurse ratio were the most common challenges to the nursing process implementation.

Conclusion: This study concludes that nursing process implementation among Nurses in Selected Public Hospitals in Addis Ababa is low compared to the previous findings.

Key words: Ethiopia, Nursing process implementation, Nurses, practice, SPHMMC

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Table of Contents

Abstract	I
Acknowledgement	II
Abbreviations and acronyms	VII
1. Introduction	1
1.1. Background	1
1.2. Statement of the problem	3
1.3. Significance of the study	3
2. Literature review	4
2.3. Conceptual framework	6
3. Objectives	7
3.1. General objective	7
3.2. Specific objectives	7
4. Methods	8
4.1. Study area	8
4.2. Study period	8
4.3. Study design	8
4.4. Source and study population	9
4.4.1. Source population	9
4.4.2. Study population	9
4.5. Inclusion and exclusion criteria	9
4.5.1. Inclusion criteria	9
4.5.2. Exclusion criteria	9
4.6. Sample size determination	9
4.7. Sampling procedure	11
4.8. Measurement	13
4.8.1. Study variables	13
4.9. Data collection method and tool	13
4.10. Operational definition	14
4.11. Data processing and analysis	14
4.12. Data quality assurance	15
4.13. Ethical consideration	15

4.14.	Dissemination of results	16
5.	Result	17
6.	Discussion	26
7.	Limitation of the study	29
8.	Conclusion	29
9.	Recommendations	30
10.	References	31
8.	Annex	39
8.1.	Annex I: English Version Questionnaires quantitative approach	39
8.2.	Annex II: Interview guide for qualitative approach	44

List of tables

Table 1: Sample size calculation based on second objective using Epi-info software	10
Table 2: Socio-demographic characteristics of nurses to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024	17
Table 3: work related factors to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024.	18
Table 4: The attitudes and knowledge of the nurses towards the nursing process implementation in selected public hospitals in Addis Ababa, 2024.	19
Table 5: Nursing process implementation in selected public hospitals in Addis Ababa	20
Table 6: Factors Associated with nursing process implementation among nurses in selected public hospitals in Addis Ababa, 2024.	21

List of figures

Figure 1: Conceptual framework for nursing process implementation and associated factors among nurses working in selected public hospitals in Addis Ababa, 2024	6
Figure 2: Schematic presentation of sampling procedure for nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024	12
Figure 3: Nursing process implementation in selected public hospitals in Addis Ababa, 2024 ...	21

Abbreviations and acronyms

ART	Anti-Retroviral Therapy
DC	Data Collector
ETB	Ethiopian Birr
EFMOH	Federal Ministry of Health of Ethiopia
ENT	Ear, Nose, Throat
IRB	Institution Review Board
ICU	Intensive Care Unit
NP	Nursing Process
PI	Principal Investigator;
SPHMMC	Saint Paul's Millennium Medical College
STATA	Statistics and Data Analysis
USA	United States of America

1. Introduction

1.1. Background

The nursing process is an organized approach to problem-solving that is used to identify, prevent, and treat actual or potential health issues while also fostering wellbeing which consists of assessment, outcome, diagnosis, planning, implementation, and evaluation (1). In the modern health care industry, nursing is one of the most important professions because it guarantees the successful implementation of interventions that help people, regardless of their illness or disability, improve, maintain, or recover their health, deal with health problems, and achieve the best possible quality of life until death (2, 3).

Florence Nightingale is renowned as the founder of modern nursing. Born in 1820, she became famous as the “Lady with the Lamp” during the Crimean War for her night rounds to aid wounded soldiers. Nightingale’s environmental theory revolutionized nursing by emphasizing the importance of sanitary conditions for patient care. She established the first secular nursing school in the world at St. Thomas’ Hospital in London in 1860, which became part of King’s College London(4). Nightingale’s approach to nursing involved assessing each patient’s condition within their unique context and developing a personalized plan for their recovery. This method is reflected in today’s nursing process, which includes assessing, creating nursing diagnoses, planning and implementing interventions, and evaluating outcomes (5).

Efficient nursing process practice enhances patient outcomes and, as a result, raises patient satisfaction, service utilization, and shortens hospital stays, all of which have financial implications. Additionally, it minimizes risky mistakes or omissions in the provision of care and avoids time-consuming duplication of treatment and documentation. Moreover, client happiness is the primary goal of the health institution (6, 7).

Failure to follow the nursing process may lead to adverse patient events such as falls, medication errors, pressure ulcers, or urinary tract infections (8). Neglecting the nursing process can also result in incomplete documentation, affecting patient care continuity and legal aspects. Inadequate communication among healthcare providers due to poor nursing process adherence can lead to misunderstandings, delays, and errors (9).

Studies have shown that the implementation rate of the nursing process can vary. For instance, a study conducted in Southwest Ethiopia found a 73.9% implementation rate. Factors that positively affect the implementation include higher educational qualifications, such as a Bachelor of Science in Nursing, administrative support from hospitals, and training. Conversely, lower educational qualifications, lack of training, and non-supportive hospital administration can hinder the process 2024/8/21. Another study at Woldia Comprehensive Specialized Hospital in Northern Ethiopia revealed a 62.8% implementation rate. Significant factors that influenced the nursing process implementation were work experience, organizational support, and nurses' knowledge (11).

1.2. Statement of the problem

The nursing process is a comprehensive approach that is based on humanistic thoughts, science, technology, and the essence of nursing. It promotes critical thinking, sets priorities, fosters creativity, and allows for the settlement of problems encountered in nursing practice. The nursing process is a framework that is dynamic, systematic, client-centered, and widely accepted(12). This dynamic approach involves six interconnected steps: assessment (gathering patient information), nursing diagnosis (identifying health issues), planning (setting goals and creating implementation plans), care delivery (meeting patient needs), and evaluation (assessing the effectiveness of the care plan) (13, 14).

The nursing process is now the cornerstone of modern nursing practice, an essential part of nursing education, and a point of reference for nursing care delivery worldwide. It may be said to be the foundation of all nursing interventions, applicable in any context and within any frame of reference (15, 16). Although the nursing process has been accepted in many countries, it is frequently not applied universally. In Taiwan, nurses followed the nursing process sequences and documentation (17); in Brazil, 98.7% of cases involved assessment; 90% of cases involved diagnosis; and 74% of cases involved planning. A study conducted at the Brazilian teaching hospital found that all steps had been used, but they had not been consistently carried out (18). In Ghana, there were problems with the nursing process's implementation (19).

In the USA, acute care hospitalizations account for 2.9% to 3.7% of all hospitalizations. Hospital mortality rates range from 44,000 to 98,000 per year, with errors in nursing process implementation accounting for over half of these deaths (10, 20).

The results of a Brazilian study on the assessment of nursing process practice revealed that the day of admission was the most common time for data collection on the patient's history and physical examination, along with certain nursing interventions without a nursing diagnosis (21).

The nursing process has been incorporated by the majority of African countries; nevertheless, problems with its implementation in clinical settings have been identified. A study conducted across four African countries, nurses broadly agreed on the advantages of the nursing process, but they did not apply it frequently in practice (22). According to a study conducted in Nigeria,

2.7% did assessments, 43.1% completed nursing plans, 13.7% completed diagnoses, and 40.37% completed assessments. The nurses in Kenya were experiencing difficulties performing every step of the nursing process. Ethiopia's government has prioritized nursing process excellence and health service quality. Nonetheless, there are still limitations on how the nursing practice is implemented (23).

The majority of health workers in Ethiopia are nurses (11). The Ethiopian hospital's reform implementation guideline identifies the nursing process as one of the essential elements aimed at enhancing healthcare services due to its significance in raising the standard of care (7, 20). Ethiopian nursing practitioners' implementation of the nursing process in a new healthcare context lacks intended practice and innovation. In many Ethiopian healthcare settings today, the use of the nursing process in clinical practice is required. This is demonstrated by the fact that the Federal Ministry of Health of Ethiopia (EFMOH) developed and distributed nursing care practice guidelines and standardized nursing care plans for all healthcare settings (24).

Despite extensive research on the implementation of the nursing process in a number of developed countries, Ethiopia and other developing countries have only conducted a few investigations in mixed method . As far as our research of the literature and knowledge there are few studies conducted on the implementation of the nursing process and associated factors among nurses which lacks important variables such as nurse's knowledge, work, organization, and attitude-related factors that affects practice on implementation of nursing process. Additionally, earlier studies concentrated on choosing study participants at a single center and quantitative methods. Thus the current research is aimed to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa using a mixed design.

1.3. Significance of the study

The goal of the nursing process' implementation is to reduce the mortality and morbidity rates in all healthcare facilities and enhance the standard of patient care services. When the nursing process is put into practice, a nurse can provide high-quality care by following a structured, goal-oriented approach. Nursing process ensures thorough evaluations, precise diagnoses, and suitable treatments, which are crucial for spotting and managing potential complications early on. The process also supports nurses in providing specialized care, including wound care, pain management, and vital sign monitoring (18).

This study aimed to evaluate the implementation of nursing process by examining previously overlooked factors like knowledge, workplace factors, and attitudes. Moreover, this study has been analyzed a qualitative study to the examination of nursing process implementation. The qualitative approach can reveal the nuanced factors that quantitative methods might miss, such as personal attitudes, workplace culture, and interpersonal dynamics. The study informed the development of evidence-based guidelines and protocols for the implementation of the nursing process. In addition, the result will help to contribute to nursing educational needs and practices and further contribute to increasing the quality of care provided to patients for the prevention and treatment of diseases by applying nursing processes. Nurses often develop effective strategies and best practices for implementing the nursing process.

This study may also help as the literature for decision-makers and program planners at the time to design and implement interventions. Moreover, this study could be used as a baseline for future researchers and as a cue for further studies to be done on the nursing process implementation.

2. Literature review

2.1. Nursing process implementation

In a retrospective study carried out in Sweden, 98% of nurses practiced nursing process and standardized nursing care plans in their daily work (25). Nearly all of the nurses in a medium-sized general hospital in Brazil implemented the nursing process, and a similar study from the University of Brazil found that 54.6% of nurses had good practices for the implementation of the nursing process. This study revealed that 98.7% of assessment was done for cases; in 90% of cases, diagnosis was made; and in 74% of cases, planning was carried out (26, 27). A study conducted in central Taiwan revealed that nurses generally followed the nursing process and charting sequence to complete care plans (28)

A study conducted in Nigeria indicated that 64.22% of nurses had good practice in the implementation of the nursing process. This study showed that 40.37% of nurses performed assessments, 13.7% performed diagnoses, 43.1% performed nursing plans, and 2.7% performed assessments (29). A study conducted in Ethiopia among nurses at public hospitals in central Ethiopia 65.7% (30), a systematic review and meta-analysis in Ethiopia, 46.47% (31), an institutional-based, descriptive cross-sectional study, in Addis Ababa selected government hospitals 52.1%(15), in Arbaminch General Hospital 32.7% (32), and in Woldia, 62.8% (24) revealed that nurses had always implemented the nursing process for all patients

2.2. Factors associated with nursing process implementation

A study conducted in Brazil has shown that there is a significant association between lack of time and lack of preparedness with the practice of nurses and the implementation of the nursing process (21). Another descriptive study conducted in Ogbomoso town, south-west Nigeria, investigated aspects that impact the application of the nursing process in mission, general, and basic health institutions. The survey found that most nurses are resistant to change, professional development, and progress. Some nurses have a tendency to stick to their previous knowledge and abilities without making an attempt to acquire and uphold new skills. Many nurses are unwilling to take on the responsibilities of continuing their education and acquiring new skills necessary for their field of work (33). A study conducted in Iran showed that knowledge,

especially for the formulation of nursing diagnoses in developing nursing care plans, skill, experience, interest, and beliefs of nurses are significantly associated with the implementation of the nursing process (34). Studies conducted in Finland, Egypt, and Ethiopia revealed that the practice of nursing process implementation was significantly associated with lack of knowledge about the process, inadequate training, patient-to-nurse ratio, resource scarcity, low salary, poor promotion of nurses, and influence from other health care providers (32, 35, 36).

Another study done in Ethiopia reported that working unit (surgical unit), organized work environment, good knowledge and length of stay were significantly associated with the implementation of nursing process practice (6). Other studies conducted in Ethiopia revealed that nurse-related factors such as level of education, knowledge, experience, and ability to gather needed materials had higher odds of nursing process implementation (11, 37-39).

2.3. Conceptual framework

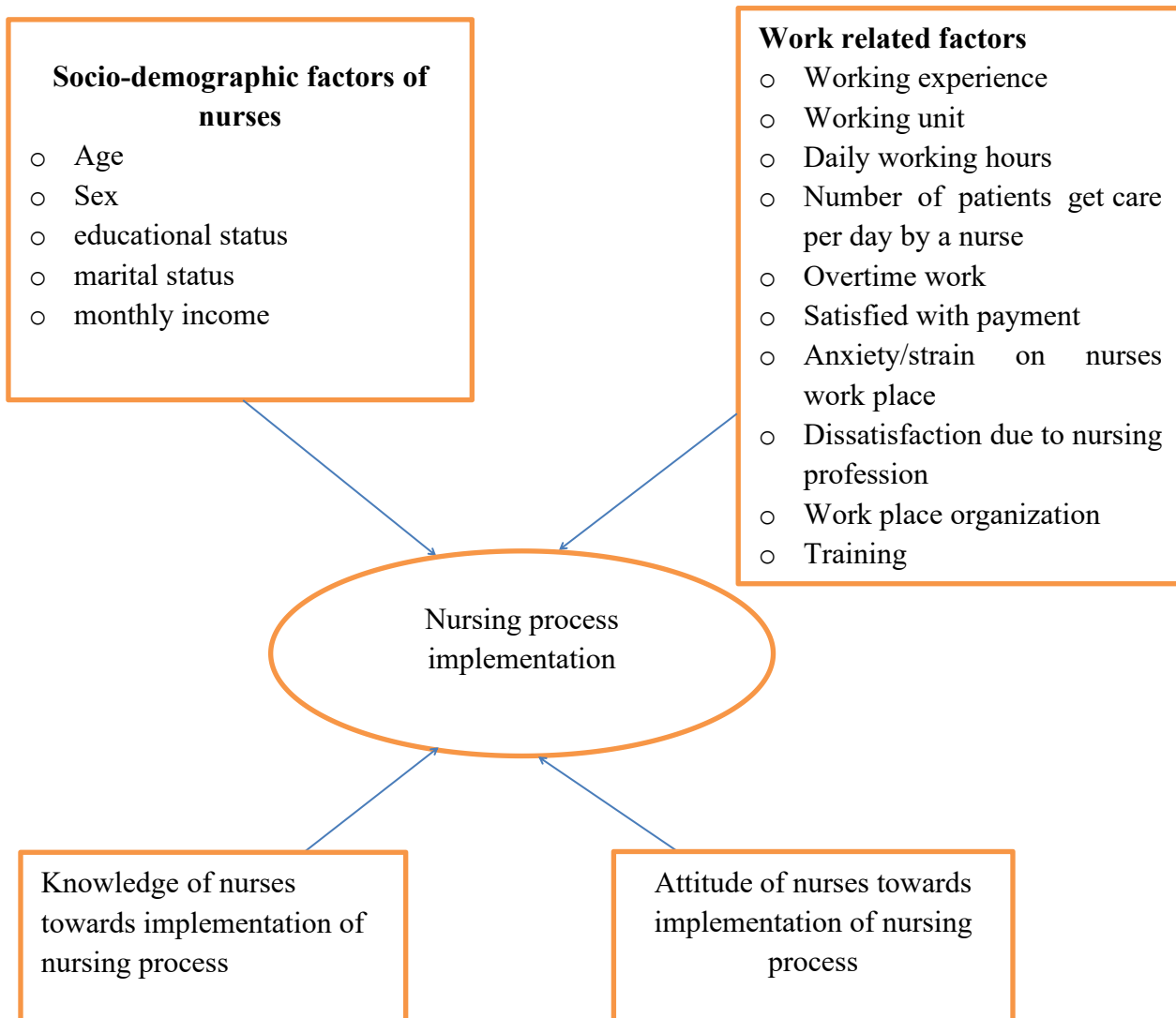


Figure 1: Conceptual framework for nursing process implementation and associated factors among nurses working in selected public hospitals in Addis Ababa adapted from (24, 38, 40, 41)

3. Objectives

3.1. General objective

- ✓ To assess nursing process implementation and associated factors among nurses working in selected public hospitals in Addis Ababa, 2024

3.2. Specific objectives

- ✓ To determine nursing process implementation among nurses in selected public hospitals in Addis Ababa, 2024
- ✓ To identify factors Associated with nursing process implementation among nurses in selected public hospitals in Addis Ababa, 2024
- ✓ To explore the experience towards the challenges and barriers on the implementation the nursing process among nurses who working in selected public hospitals in Addis Ababa in 2024

4. Methods

4.1. Study area

This study was conducted in Saint Paul's Hospital, Alert Hospital, Ras Desta Damtew hospital, and St. Peter General Specialized Hospital. St Paul's Millennium Medical College was established through a decree of the Council of Ministers in 2010. The college has more than 2800 clinical, academic and administrative and support staffs that provide medical specialty services to patients who are referred from all over the country, teaching medicine and nursing students and doing basic and applied researches. While the inpatient capacity is more than 700 beds, The College sees an average of 1200 emergency and outpatient clients daily.

St. Paul's Hospital Millennium Medical College provides healthcare and training to its students through its different biomedical and clinical departments. Alert Comprehensive Specialized Hospital is a medical facility specializes in treating Hansen's disease. It has expanded its focus to include tuberculosis. The official name now stands as the All Africa Leprosy, Tuberculosis, and Rehabilitation Training Centre. Ras Desta Damtew is located in Addis Ababa. The hospital was established in 1924 E. C. It has a total of 153 beds, organized by 42 case teams. In addition, the hospital serves as teaching and training center for different health professionals.

St. Peter General Specialized Hospital in Addis Ababa, Ethiopia, is a key healthcare provider in the region. The hospital is known for its comprehensive care and specialized services. It operates with a mission to become a center of excellence and a model general specialized hospital in East Africa, integrating internal medicine, pediatrics, practical training, and research to improve health services.

4.2. Study period

The study was conducted from May 06 to June 06, 2024

4.3. Study design

An institution based cross-sectional mixed method study design using quantitative and qualitative methods was employed in selected public hospitals in Addis Ababa. For the qualitative part descriptive phenomenological approach was used for in-depth exploration of the

nurses' experiences, perceptions, and the contextual factors influencing the implementation of the nursing process as a complement of the quantitative part.

4.4. Source and study population

4.4.1. Source population

All nurses working in all inpatient and outpatient units in selected public hospitals in Addis Ababa city.

4.4.2. Study population

All selected nurses working in selected public hospitals in Addis Ababa and available at the time of data collection period

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion criteria

- All nurses working in all inpatient units and willing to participate in the study and available during the data collection time
- For qualitative part nurses who were not involved on the quantitative study was purposefully included

4.5.2. Exclusion criteria

- For qualitative part nurses who were involved on the quantitative was be excluded to avoid bias, ensuring fresh perspectives, and allowing a holistic exploration of the nursing process.

4.6. Sample size determination

Sample size was determined by using single population proportion formula by taking the proportion of practice (p) 50.22% (42) with expected margin of error (d) 5% just to maximize the sample size and improve the precision of study, 95% confidence interval.

$$n = \frac{Z_{\alpha/2}^2 \times p \times (1-p)}{d^2}$$

$$n = \frac{1.96^2 \times 0.5022 \times (1-0.5022)}{0.05^2} \approx 385$$

Non response rate = (385) (10%) $\approx$ 39

❖ Total sample (n) = 385+39= 424

Where n= minimum sample size required to the study

d= margin of error

p= prevalence of practice

$Z_{\alpha/2}$ = value of standard normal distribution

Table 1: Sample size calculation based on second objective using Epi-info software

Variable	Nursing process implementation		Total	Proportion	Sample size
	Yes	No			
Training					
Yes	132	43	175	0.75	216
No	81	63	144	0.56	
Material supply					
Yes	123	23	146	0.84	78
No	90	83	173	0.52	
Educational level					
Diploma	207	73	280	0.38	248
BSc/above	6	23	29	0.21	
Administration support of NP					
Yes	163	96	259	0.63	172
No	50	10	60	0.83	

Therefore, I have used the large number of the sample size=424

For qualitative study

Purposive sampling was employed to choose the participant in the qualitative study and sampling continued until data saturation, the sample size has been saturated at 6 participants.

4.7. Sampling procedure

The total number of sample size was obtained from, Saint Paul's hospital; Alert Hospital, Ras Desta Damtew hospital, and St. Peter General Specialized Hospital in all inpatient and outpatient units. These figures were obtained directly from the hospitals' inpatient and outpatient units' databases by requesting the matrons for the relevant period. To select our study subjects, we employed a simple random sampling method, which is a type of probability sampling. This method ensures that every individual in our sampling frame will have an equal chance of being selected, by minimizing selection bias and enhancing the representativeness of our sample.

Our sampling frame was consisted of inpatient and outpatient units of Saint Paul's Hospital, Alert Hospital, Ras Desta Damtew Hospital, and St. Peter General Specialized Hospital. We compiled a comprehensive list of nurses from these units during the specified period, which served as our sampling frame. To apply the lottery method, we assigned a unique identifier to each individual in the sampling frame. Then used a random number generator to select identifiers without replacement until we reached our desired sample size of 424 participants. The lottery method, being a form of simple random sampling, was allow us to maintain the principles of randomness and equiprobability, which are crucial for the validity of my study's findings.

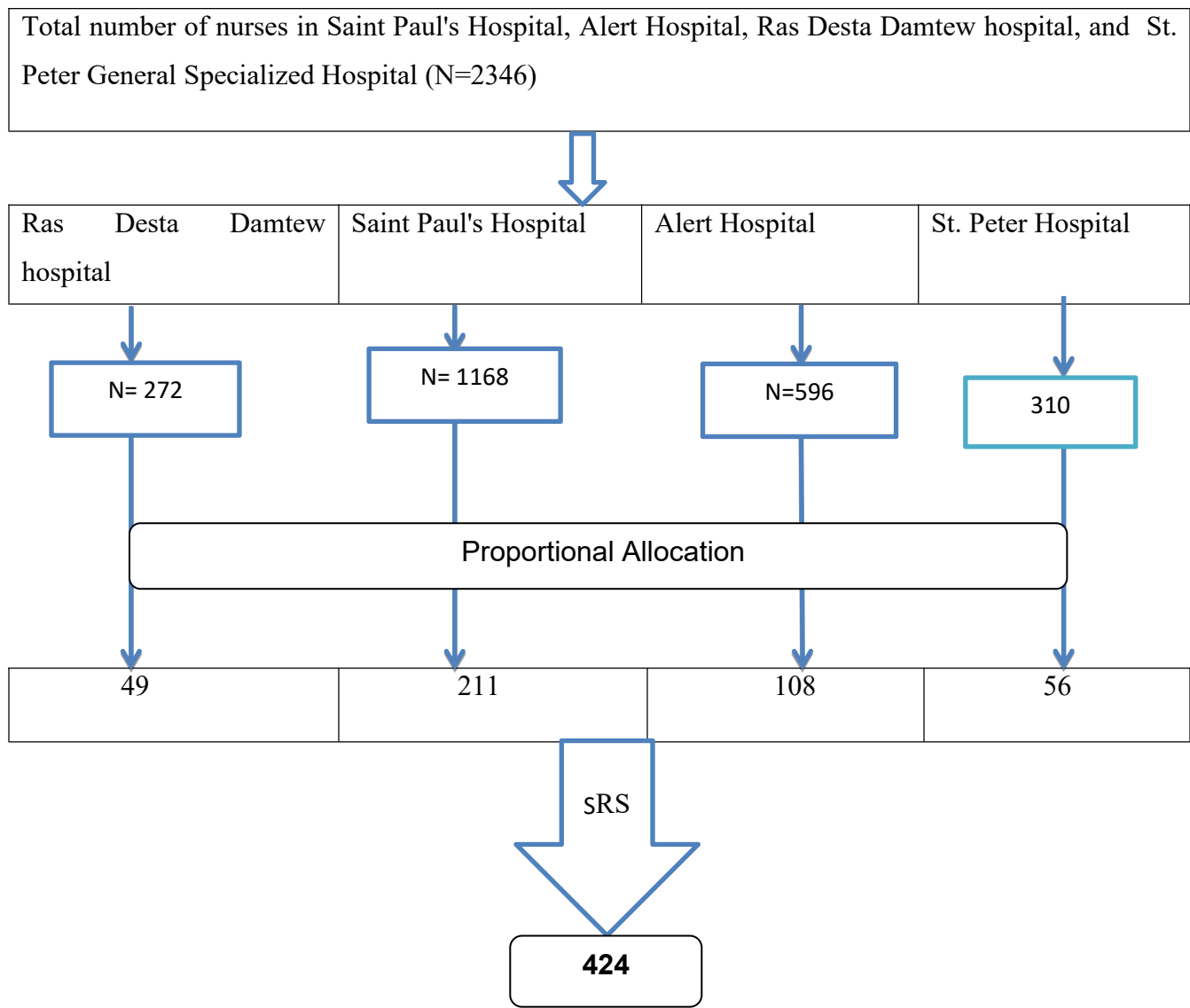


Figure 2: Schematic presentation of sampling procedure for nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024

4.8. Measurement

4.8.1. Study variables

4.8.1.1. Dependent variable

- Nursing process implementation good , poor.

4.8.1.2. Independent variables

- Socio-demographic characteristics (Age, Sex, educational status, marital status, monthly income)
- Work related factors (Working experience, Working unit, Daily working hours, Number of patients get care per day by a nurse, Overtime work, Satisfied with payment, Anxiety/strain on nurses work place, Dissatisfaction due to nursing profession, Work place organization, Training)
- Knowledge of nurses towards nursing process implementation
- Attitude of nurses towards nursing process implementation

4.9. Data collection method and tool

Data were collected using a self-administered questionnaire and observational checklists for the quantitative method and in-depth interviews for the qualitative method. The structured English version of the of the questionnaire, which is adapted from previous studies (29, 39), was modified and some questions added appropriate to current study. Data related to nurses' socio-demographic characteristics, knowledge of nurses towards nursing process implementation, attitude of nurses towards nursing process implementation, and professional and work-place-related factors were collected using self-administered questionnaires. Data related to the nursing process implementation were collected using observational checklists. The qualitative part was collected using key informant interviews, which were developed from the previous literatures. The questionnaires were pre-tested by using 5% of the total sample size. Six data collectors from BSc graduating nurse students and two BSc holder supervisors conducted data collection from April to May 2024. Data collectors and supervisors were given one-day intensive training on the objective, the content of the instrument, and the data collection procedure. The questionnaire was validated by following the face validity method. To test the reliability of the

tool, Cronbach alpha was calculated after a pre-test by taking 5% of the sample size at Minilik hospital, and the values were 0.79, 0.83, and 0.89 for knowledge, attitude, and nursing process implementation tools, respectively, that were in acceptable ranges.

4.10. Operational definition

Good Nursing process implementation: NP was said to be implemented when all its consecutive five steps (assessment, diagnosis, planning, intervention and evaluation) were serially performed during patient care, Poor Nursing process implementation said to be implemented less than five consecutive steps (15, 16, 40, 41).

Good knowledge: Nurses awareness about nursing process. Good knowledgeable nurses are those answers $\geq 80\%$ of the questions, poor knowledgeable nurses those scored $< 80\%$ of the knowledge questions (15, 43, 44).

Favorable attitude: Study participants who have scored above the score (≥ 18) of the attitude questions were categorized as favorable attitude, and those who have scored less than the mean score (< 18) of the attitude questions were categorized as unfavorable attitude (40).

4.11. Data processing and analysis

The quantitative data were coded and entered into Epi-data version 4.6 and then exported to STATA/SE version 14 statistical software for analysis. The data were cleaned then frequencies and cross-tabulation was computed before regression analysis. Descriptive statistics was computed, and the result was summarized using texts, tables, frequency, percentages, and charts and presented for continuous and discrete data in terms of mean and standard deviation for those normally distributed data. The Hosmer–Lemeshow test was used to check the fitness model. Binary logistic regression model was used to test the association between dependent and independent variables. All variables with P-value < 0.25 in the binary regression analyses were included in the multivariable regression analysis. The degree of association was interpreted by using the adjusted odds ratio with 95% confidence intervals, and the significance level was declared at P value < 0.05 .

Qualitative data were analyzed using open code version 4.3. Qualitative data, which were obtained from key informant face-to-face interview and audio recordings, were transcribed by arranging the record according to forwarded questions and translated to an English version. Then

the data were imported to open code software for coding, grouping, and summarization of documents, memos, codes, and quotations. The data were grouped into themes for inductive thematic analysis. The findings of the quantitative study were integrated with the qualitative findings using the triangulation approach.

4.12. Data quality assurance

Data quality were ensured by providing training to data collectors and supervisors about the research objective, participant selection method, eligible study subjects, data collection tools, and procedures. The data collection tools were developed in English language. A pretest was done on five percent (22 participants) of the total sample size at Minilik hospital one month before the actual data collection period. Based on the result of the pretest, necessary corrections and amendments have been taken on the data collection tools. The data were collected by six data collectors from graduating nurse students for duration of one month. Regular supervision was held during the data collection period and the collected data were checked on daily basis for completeness and consistency.

To ensure the quality of qualitative data, triangulation (multiple data sources or methods has been utilized to enhance credibility. Prolonged engagement with participants and detailed field notes has been implemented to validate results. To ensure transferability, rich descriptions of the study setting, participants, and data collection methods have been implemented. Dependability has been enhanced by documenting decisions during data analysis. Lastly, confirmability has been maintained by acknowledging biases, describing data analysis processes, and using member checking.

4.13. Ethical consideration

Ethical clearance was obtained from Institutional review board (IRB) of Saint Paul's Hospital Millennium Medical College as well as from the Addis Ababa Health Bureau, which oversees health research ethics within reference number (PM23/1134). Verbal and written consent were obtained from study participants. Study participants privacy, secrecy, and wellbeing were protected. Data collected for the purpose of this study were not included study participants identification such as the name of the study participants.

4.14. Dissemination of results

The result of this study will be presented for Saint Paul's Hospital Millennium Medical College teachers and students. Then after the hard and soft copy of this study result will be presented to Saint Paul's Hospital Millennium Medical College, and Addis Ababa health bureau. Finally by communicating with the advisors the research paper will be published in reputable journals.

5. Result

Socio-demographic characteristics study participants

From 424 samples, 414 were participated in the current study giving a response rate of 98%. Among respondents 246 (59.4%) were female. In this study the mean age of the participants was 30.57 years + 4.51 standard deviation. From the total participants 181 (43.72%) were married and 367 (88.65%) had more than 5000 Ethiopian birr income and 260 (62.80 %) nurses had a bachelor's science degree (**Table 2**).

Table 2: Socio-demographic characteristics of nurses to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024 (N = 414)

Socio-demographic characteristics	Frequency	Percent (%)
Age		
20-29	90	21.74
30-39	261	63.04
≥40	63	15.22
Sex		
Male	168	40.58
Female	246	59.42
Marital status		
Single	204	49.28
Ever married	210	50.72
Level of education		
Diploma	57	13.77
BSc degree	260	62.8
Masters and above	97	23.43
Monthly income		
<5000 ETB	47	11.35
5000 – 7000 ETB	252	60.87
≥7001 ETB	115	27.78

Work related factors

One-third of study participants, 137 (33.09%), had ten or more years of work experience. Out of 414 nurses who participated in the study, 95 (22.95%) were working in medical units, while 117 (27.26%) were working in surgical units. More than three-fourths of study participants, 318 (76.81%), attended training programs regarding nursing processes, and 134 (32.37%) nurses

attended training programs on nursing process implementation more than once. Nearly a quarter of study participants, 115 (27.78%), were satisfied with their monthly salary (**Table 3**).

Table 2: work related factors to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa, 2024 (N = 414).

Work related factors	Frequency	Percent (%)
Work experience		
≤4 years	117	28.26
5 to 9 years	160	38.65
≥10 years	137	33.09
Attend training on nursing process		
Yes	318	76.81
No	96	23.19
Working unit		
Medical units	95	22.95
Surgical units	117	28.26
Pediatric units	56	13.53
Gyne/obs	57	13.77
Others	89	21.50
Daily working hours		
≤8 hours	226	54.59
>8 hours	188	45.41
Number of patients get care per day by a nurse		
≤10	204	49.28
>10	210	50.72
Presence of overtime work		
Yes	331	79.95
No	83	20.05
Satisfied with payment		
Yes	115	27.78
No	299	72.22
The greatest anxiety/strain on nurses work place		
Unsympathetic manager	141	34.06
Coworkers doesn't do their task	181	43.72
Harassing coworker	25	6.04
Misconception of physicians	46	11.11
Language barrier	21	5.07
Dissatisfaction due to nursing profession		
Yes	295	71.26
No	119	28.74
Work place organization		
Disorganized	199	48.07
Stressful	172	41.55
Negligent	12	2.9
Very well	31	7.49

Nurse's attitude and knowledge of the Nursing Process

In this study 238 (57.49%) of nurses had a favorable attitude of the nursing process and 234 (56.52%) were knowledgeable regarding the implementation of the nursing process (**Table 4**).

Table 3: The attitudes and knowledge of the nurses towards the nursing process implementation in selected public hospitals in Addis Ababa, 2024 (N = 414).

Variables	Frequency (N)	Percent (%)
Attitude		
Unfavorable	176	42.51
favorable	238	57.49
Knowledge		
Not knowledgeable	180	43.48
Knowledgeable	234	56.52

Nursing Process Implementation

By using 10 practice based questions, more than half 219 (52.90 %) of the respondents implemented nursing process; whereas the remaining 195 (47.10%) respondents poorly implemented (Figure 3, and Table 5)

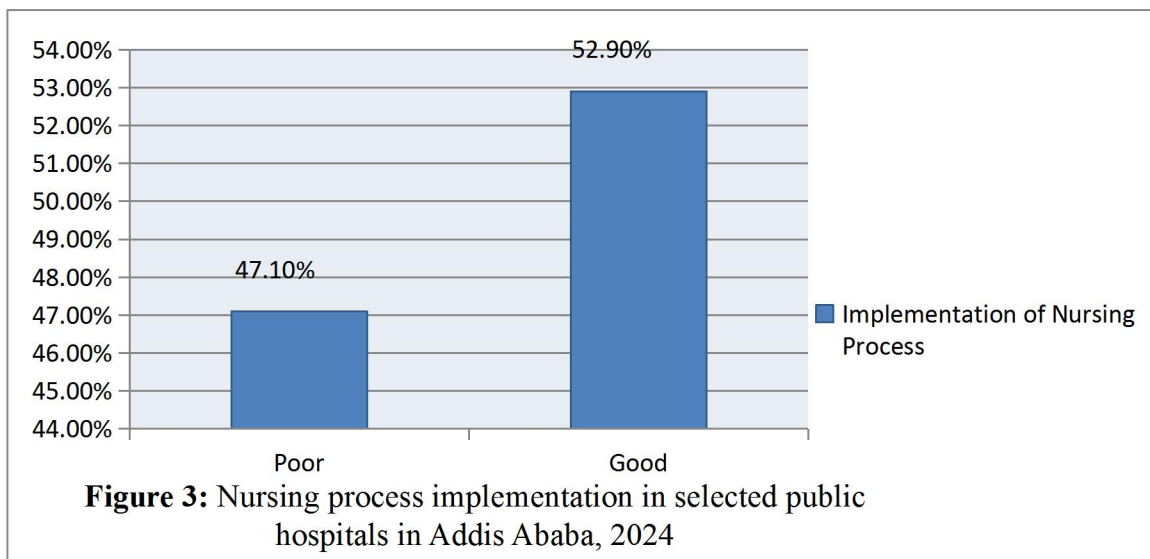


Table 4: Nursing process implementation in selected public hospitals in Addis Ababa (N = 414).

Variables	Good n (%)	Poor n (%)
Both subjective and objective data is documented	260(62.80)	154(37.20)
Nursing diagnosis is developed based on the standard of patient problem	250(60.39)	164(39.61)
Actually diagnosis include fully PES	259(62.56)	155(37.44)
Potential diagnosis stated well	243(58.70)	171(41.30)
Nursing care plane prepared based on diagnosis	230(55.56)	184(44.44)
Nursing intervention documented	177 (42.75)	237(57.25)
Effectiveness of intervention was evaluated	168(40.58)	246(59.42)
Implementation was written in understandable way clearly	231(55.80)	183(44.20)
Is the evaluation statement recorded properly?	161(38.89)	253(61.11)
Have you been documenting your nursing care activities?	155(37.44)	259(62.56)

Factors Associated with nursing process implementation among nurses

In the multivariable logistic regression, marital status, presence of overtime work, favorable attitude, and knowledgeable related to nursing process were found to have significant and independent effect on the implementation of nursing process. The odds of nursing process implementation were 1.88 times higher among married nurses as compared to nurses who were single (AOR = 1.88, 95% CI: 1.04, 3.38). Nursing process implementation was 1.92 times higher among nurses who had overtime work as compared to nurses who did not have (AOR = 1.92, 95% CI: 1.00, 3.69). The odds of nursing process implementation were 3.90 times higher among nurses who had favorable attitude towards nursing process as compared to nurses who had unfavorable attitude (AOR = 3.90, 95% CI: 2.21, 6.87). The odds of nursing process implementation were 5.48 times higher among nurses who were knowledgeable regarding nursing process as compared to nurses who were no knowledgeable (AOR = 5.48, 95% CI: 3.14, 9.57) (Table 6)

Table 6: Factors Associated with nursing process implementation among nurses in selected public hospitals in Addis Ababa, 2024 (N = 414).

Variables	Nursing process implementation		COR(95% CI)	AOR(95% CI)	p-value
	Yes	No			
Age					
20-29	53	37	1	1	
30-39	126	135	1.53 (0.94, 2.49)	1.77(0.90, 3.46)	0.098
≥40	16	47	4.21 (2.08, 8.52)	1.52(0.53, 4.38)	0.436
Marital status					
Single	115	89	1	1	
Ever married	80	130	2.10 (1.42, 3.11)	1.88(1.04, 3.38)*	0.035
Monthly income					
<5000 ETB	31	16	1	1	
5000-7000 ETB	137	115	1.63 (0.85, 3.12)	1.22(0.43, 3.49)	0.708
≥7001ETB	27	88	6.31 (3.01, 13.26)	1.99(0.44, 9.11)	0.374
Work experience					
≤ 4 years	73	44	1	1	
5 to 9 years	80	80	1.66 (1.02, 2.70)	1.15(0.57, 2.29)	0.698
≥10 years	42	95	3.75 (2.23, 6.32)	0.44(0.17, 1.13)	0.087
Educational level					
Diploma	36	21	1	1	
BSc degree	137	123	1.54 (0.85, 2.78)	0.82(0.31, 2.20)	0.700
Masters and above	22	75	5.84 (2.85, 11.98)	1.05(0.25, 4.45)	0.950
Number of patients get care per day by a nurse					
≤10	115	89	1	1	
>10	80	130	2.10(1.42, 3.11)	1.52(0.77, 3.00)	0.227
Daily working hours					
≤8 hours	120	106	1	1	
>8 hours	75	113	1.71 (1.15, 2.52)	0.76(0.38, 1.50)	0.427
Presence of overtime work					
Yes	186	145	1.94(1.19, 3.17)	1.92(1.00, 3.69)*	0.021
No	33	50	1	1	
Satisfied with profession					
Yes	66	49	1.28(1.04, 2.46)	1.24(0.69, 2.23)	0.364
No	153	146	1	1	
Attend training related to nursing process					
Yes	189	129	3.22(1.98, 5.24)	1.35(0.71, 2.57)	0.470
No	30	66	1	1	

Working unit					
Medical units	48	47	1	1	
Surgical units	72	45	0.64 (0.37, 1.10)	0.49(0.23, 1.05)	0.066
Pediatric units	21	35	1.70 (0.87, 3.34)	0.79(0.33, 1.86)	0.583
Gyne/obs	25	32	1.31 (0.68, 2.53)	0.70(0.30, 1.66)	0.420
Others	29	60	2.11 (1.16, 3.84)	1.76(0.81, 3.84)	0.153
Frequency of taking training					
Only once	146	134	1	1	
Two and more	49	85	1.89(1.24, 2.88)	0.82(0.45, 1.52)	0.534
Attitude					
Favorable	128	48	6.81 (4.40, 10.52)	3.90(2.21, 6.87)*	0.001
Unfavorable	67	171	1	1	
Knowledge					
Knowledgeable	132	48	7.46 (4.81, 11.58)	5.48(3.14, 9.57)*	0.001
Not knowledgeable	63	171	1	1	

NB: Hosmer and Lemeshow test= 0.194

Qualitative Research Findings

A total of six participants were interviewed in the qualitative interviews. Five of them were males. Six main themes were identified from the content analysis of qualitative research. These were (i) How nurses learn about the nursing process, (ii) Nurses understanding about the nursing process (iii) challenges of implementing the nursing process, (iv) Administrative support for the implementation of nursing process, (v) Resources to implementing the nursing process, and (vi) ongoing education and Training on the nursing process. Direct quotes from transcripts are provided to illustrate these themes. Quotations from interviews with participants are identified by a code.

How nurses learn about the nursing process

The nursing process has evolved over time, with contributions from nursing theorists. Nurses learn about it through education, practice, and ongoing professional development. Among the participants a male nurse from Saint Paul's Hospital supported the above idea by expressing:

“I first learned about the nursing process during my formal nursing education. It was introduced as a fundamental background for delivering patient-centered care. Through lectures, textbooks, and clinical rotations, I gained an understanding of its five steps: assessment, diagnosis, planning, implementation, and evaluation in the university.”(p1)

Another male participant from Alert hospital agreed with the aforementioned idea by describing:

“Education at university, real-world application during clinical practice and continuous learning and experience has refined my implementation of the nursing process.” (p3)

Nurses understanding about the nursing process

A few participants describe their understanding of the nursing process as a systematic approach to patient care and as it involve assessment, diagnosis, planning, implementation, and evaluation. A female nurse from St. Peter General Specialized Hospital explained her understanding about the nursing process as:

“My understanding of the nursing process is rooted in its systematic and patient-centered approach. First, we thoroughly assess the patient’s health status, considering physical, psychological, and social aspects with in the first eight hours. This assessment helps us identify their unique needs and any existing health problems from head to toe. Next, we diagnose actual or potential issues based on the assessment data. These nursing diagnoses guide our subsequent interventions. In the planning phase, we collaborate with patients, their families, and other healthcare professionals. Together, we develop a care short and long term plan that outlines specific goals, outcomes, and interventions. These interventions can range from administering medications and providing treatments to educating patients about self-care and preventive measures. Once the plan is in place, we move to implementation. Finally, we evaluate the outcomes. Did the patient’s condition improve? Were the goals met? If not, we revisit the process and make necessary modifications.” (p6)

Challenges of implementing the nursing process

Most participants reported that language barriers, patient conditions, resource limitations and patient-to-nurse ratio (workload) were the most common challenges to implement the nursing process implementation. A male nurse from Ras Desta Damtew hospital explained:

“The implementation of the nursing process presents several challenges. Mostly, language barriers hinder my ability to conduct thorough assessments. Communicating effectively with patients who don’t speak the same language can be frustrating and may affect our ability to assess their needs accurately.” (p3)

One of Saint Paul's Hospital staff nurse described the aforementioned challenge as follow:

“Patient conditions, such as when patients are unable to speak due to their health condition, pose additional challenges. Gathering essential information for care planning becomes difficult in such cases. In addition, resource limitations impact my ability to execute planned interventions. Whether it’s insufficient staffing, outdated equipment, or limited access to evidence-based guidelines, these constraints directly affect patient care quality.” (p3)

A male nurse from St. Peter General Specialized Hospital also described the above-mentioned challenge as follow:

“The patient-to-nurse ratio (workload) plays a crucial role. High patient-nurse ratios lead to increased workload, making it challenging to allocate sufficient time for thorough assessments and documentation.”(p5)

Administrative supports for the implementation on nursing process

Most participants reported that conducive work environments, guidelines, training and clear policies were given by the hospital administration

“Access to evidence-based guidelines and protocols is essential example. Clear policies facilitate consistent practice and ensure alignment with best practices of my daily work. Hospital administration gave me ongoing education and training. Administration invests in workshops, seminars, and skill development sessions related to the nursing process.”(3)

Resources to implementing the nursing process effectively

Effective nursing practice relies on several key resources such as adequate staffing, Evidence-based practice guidelines, availability of medical supplies, and administrative support.

“Resources for implementing the nursing process play a crucial role in my daily practice. For example, having adequate staffing levels is essential. When we’re short-staffed, it becomes challenging to allocate time for thorough assessments, care planning, and patient education.”(p6)

“Access to evidence-based guidelines and protocols is vital. Having up-to-date information helps us make informed decisions and deliver safe care example NANDA nursing diagnosis and Gordon’s approach of nursing diagnosis.”(p3)

“Availability of medical supplies such as wound dressings, medications, and diagnostic tools directly impacts our ability to carry out interventions effectively. In addition administrative support matters. When hospital leadership prioritizes nursing processes, allocates resources, and encourages professional development, it positively influences our practice.” (p2)

Training on the nursing process

Most participants agreed that they took training. Training on nursing process enhances patients’ self-care abilities, nursing outcomes, and satisfaction. Moreover, it positively influences nurses’ knowledge, skills, and practices, ultimately benefiting patient care.

“Yes, I’ve received formal training on the nursing process during my education. In nursing school, I learned about each step assessment, diagnosis, planning, implementation, and evaluation in detail. Moreover, I have taken training related to nursing process after I employed for five days.”(p1)

The impact of ongoing education on the implementation of the nursing process

Nurses who engage in continuous learning are better prepared to deliver high-quality care. They stay updated on the latest medical advancements, best practices, and evidence-based guidelines. This equips them with the skills and knowledge necessary to handle complex medical situations, make informed clinical decisions, and positively impact patient outcomes. A few participants reported that ongoing education significantly enhances their practice.

“Ongoing education significantly impacts my implementation of the nursing process and quality care. Firstly, attending workshops, conferences, and in-service training sessions exposes me to new evidence-based practices and guidelines. Secondly, ongoing education enhances critical thinking. When faced with complex patient scenarios, I draw upon the knowledge gained from continuous learning to adapt care plans and interventions. Thirdly, networking with other healthcare professionals during educational events allows me to exchange ideas, discuss challenges, and learn from their experiences.”(p4)

6. Discussion

A structured and goal-directed framework for providing high-quality nursing care is made possible by the nurse's implementation of the nursing process (10, 18, 45). Poor nursing care results from missing any one of the nursing process's steps in execution. Poor nursing care delivery, health service disarray, nurse-to-nurse role conflicts, medication errors, poor disease prognoses, patient dissatisfaction, longer hospital stays, and higher mortality rates can all be caused by inadequate nursing process implementation (46, 47).

The result of this study showed that 52.9% of nurses implemented the nursing process. This finding was consistent with a previous studies conducted in Ethiopia, 52.08% (15), 56.95% (41), 48.85% (43) and Nigeria, 57.1% (48). This finding was found to be lower than the findings conducted in Ethiopia, 60.99% (49), 68.3% (50), 62.8% (44), Kenya, 70% (51), Pakistan, 67.7% (52), and Sweden, 98% (25). The lower nursing process implementation rate in our study compared to Kenya, Pakistan, and Sweden could be attributed to several factors. Firstly, variations in the health care system play a crucial role. Each country has unique policies, infrastructure, and resource allocation for nursing care. Secondly, differences in the strategies employed for nursing care implementation might contribute. Lastly, the educational qualifications of nurses could impact implementation. Countries with better-trained nurses may achieve higher rates due to their competence and knowledge (36, 53, 54).

On the other hand, the magnitude of nursing process implementation in this study was higher than the findings conducted in Ethiopia, Debre markos, 37.10% (39), Arbaminch ,32.65% (32), Harar, 36.64% (55), Mekelle, 37.11% (56), Jimma, 47.00% (57), Ghana, 32,30% (58), Kenya, 33.10% (59), and Brazil, 25% (60). The higher nursing process implementation rate in our study compared to other countries may be attributed to several factors. Firstly, contextual differences such as healthcare infrastructure, policy support, and resource allocation could influence implementation success. Additionally, variations in nursing education, training, and professional

development programs might contribute to the observed differences. Furthermore, cultural norms, patient demographics, and community engagement play a crucial role in shaping nursing practices and adherence to standardized processes (61, 62).

In the multivariable logistic regression, marital status, presence of overtime work, favorable attitude, and knowledgeable related to nursing process were found to be significantly associated with the implementation of nursing process at $p\text{-value} < 0.05$. The odds of nursing process implementation were 1.88 times higher among married nurses as compared to nurses who were not married. It is consistent with studies conducted in Spain (63) and United states (64). The possible explanation could be that married nurses benefit from social support, which positively influences their work performance and adherence to nursing protocols. Marital stability fosters commitment and responsibility, leading to greater dedication and conscientiousness in professional duties. Balancing household responsibilities alongside their careers enhances organizational skills and time management. Additionally, marriage is associated with healthier lifestyle choices, which may contribute to better overall well-being and job performance among nurses (65-67).

Nursing process implementation was 1.92 times higher among nurses who had overtime work as compared to nurses who did not have. This is supported by the previous studies conducted in New York 12:16 PM. The higher implementation of the nursing process among nurses who had overtime work can be attributed to several factors. Firstly, nurses working overtime often have increased exposure to patient care situations, allowing them more opportunities to apply the nursing process. Secondly, the extended work hours may lead to greater familiarity with patient needs and care plans, reinforcing the use of the incentive and payments. Lastly, nurses who voluntarily take on overtime work may exhibit a stronger commitment to their profession, which positively influences their adherence to evidence-based practices like the nursing process (18, 38, 69). However, this finding is in contrary with the study conducted in Ethiopia (10). The inconsistency could be due to nurses who work overtime may experience negative effects on their performance and well-being. As nursing overtime work increases, patient dissatisfaction with care rises, and nurses are more likely to suffer from burnout and job dissatisfaction. Longer shifts can lead to emotional, mental, and physical exhaustion, impacting the quality of patient

care (70). Additionally, mandatory overtime policies, while addressing staffing shortages, can strain nurses and affect collaboration among healthcare professionals (71).

The odds of nursing process implementation were 3.90 times higher among nurses who had favorable attitude towards nursing process as compared to nurses who had unfavorable attitude. It is consistent with studies conducted in Nepal (72), Iran (73), and Turkey (74). The possible explanation might be that, when nurses have a favorable attitude toward the nursing process, they are more likely to actively engage in its implementation. This positive mindset can lead to greater adherence to established protocols, better communication among healthcare professionals, and improved patient outcomes. Conversely, nurses with unfavorable attitudes may be less motivated to fully embrace the nursing process, potentially resulting in suboptimal care delivery (51, 75, 76).

The odds of nursing process implementation were 5.48 times higher among nurses who were knowledgeable regarding nursing process as compared to nurses who were no knowledgeable. This is supported by the previous studies conducted in Ethiopia (10, 30), Kenya (51), and Egypt (36). The possible explanation could be that knowledgeable nurses understand the importance of following a structured and systematic nursing process. They recognize that it leads to better clinical outcomes, such as accurate diagnosis and effective treatment of health problems (10). In addition, knowledgeable nurses appreciate the theoretical and scientific foundation of the nursing process. Implementing the nursing process allows them to apply their knowledge effectively in clinical settings, leading to better patient care (77). In summary, knowledgeable nurses demonstrate better implementation of the nursing process due to their understanding, clinical reasoning abilities, evidence-based practice, holistic approach, and overall competence. This is also supported by our qualitative findings:

“Ongoing education significantly impacts my implementation of the nursing process and quality care. Firstly, attending workshops, conferences, and in-service training sessions exposes me to new evidence-based practices and guidelines. Secondly, ongoing education enhances critical thinking. When faced with complex patient scenarios, I draw upon the knowledge gained from continuous learning to adapt care plans and interventions. Thirdly, networking with other healthcare professionals during educational events allows me to exchange ideas, discuss challenges, and learn from their experiences.”(p4)

7. Limitation of the study

- ✓ Despite, the high response rate in this study, social desirability bias and recall bias are potential limitations of these self-reported results. Study participants might not give true and genuine responses on the self-administered questionnaire, preferring to provide more socially acceptable responses than their actual day to day practice. To address social desirability bias and recall bias in self-reported results, we have considered the following strategies: First, we ensured participant anonymity to reduce pressure for socially desirable responses. Second, we have used neutral question wording to minimize bias. Third, we have employed objective measures (such as diaries or medical records) instead of relying solely on memory.
- ✓ Using a self-administered questionnaire instead of observational check list to examine the nurses' knowledge and attitude was the main limitation of this study.

8. Conclusion

This study concludes that nursing process implementation among Nurses in Selected Public Hospitals in Addis Ababa is low compared to the previous findings. Factors associated with nursing process implementation were being married, presence of overtime work, favorable attitude, and being knowledgeable related to nursing process and the qualitative study also showed that language barriers, patient conditions, resource limitations and patient-to-nurse ratio were the most common challenges to the nursing process implementation.

9. Recommendations

Based on the result of this study, the following recommendations are forwarded:

To Addis Ababa city health bureau:

- Addis Ababa city health bureau should invest in continuous education and training to improve nurses' knowledge and skills related to the nursing process.

To hospital administrators:

- The public hospital administrators in Addis Ababa should recognize and celebrate nurses who demonstrate positive attitudes toward the nursing process and highlight success stories and share them across the organization.

To nurses:

Nurses should read updated literatures to enhance the implementation of nursing process.

To other researchers:

- Further studies to exploit factors associated with the implementation of nursing process implementation should be undertaken.

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10. Annex

10.1. Annex I: English Version Questionnaires quantitative approach

Information sheet

Greeting! My name is _____. I have been collecting data on the assessment of nursing process implementation and associated factors among nurses all inpatient and outpatient units in selected public hospitals in Addis Ababa. The study is being conducted by Mr. Mazengiyaw Melkamu, who is an MSc candidate in cardiothoracic surgery nursing specialty at Saint Paul's Hospital Millennium Medical College.

The main objective of this study is to assess nursing process implementation and associated factors among nurses in selected public hospitals in Addis Ababa. You are being selected to take part in this study and to respond genuinely. This questionnaire asks about socio-demographic, work-related, knowledge-related, attitude-related, and practice-related questions. It will take approximately 35 minutes to complete the questionnaire.

Participation: Your participation is voluntary, and you are not obligated to answer any question you do not wish to answer. If you feel uncomfortable with the question, it is your right to drop it at any time you want without penalty.

Benefit and risk: Although this study will not benefit you directly, the findings of the study will provide recommendations for practice and associated factors of nursing process implementation among nurses. There is no harm or discomfort, including physical, psychological, and social risks, to you except the time spent completing the questionnaire.

Confidentiality: No personal information will be identified in the data processing or publication of the study outcomes. Your name will not be needed in this form and will never be used in connection with any information you tell us. All information you provide will be kept strictly confidential. The collected data will only be used for the purpose of the study. If you have questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator.

Address of the principal investigator: Cellphone: +251935663124

Email: mazengiyaw3124@gmail.com

Datacollector's name _____ Signature _____ Date _____

Thank You Very Much for Your Cooperation.

Informed consent

Hello dear, my name is_____I come here as a data collector to assess the nursing process implementation and associated factors among nurses in three public hospitals in Addis Ababa. On this questionnaire paper, your name will not be written, and I'm going to ask some questions related to socio-demographic, work-related, knowledge-related, attitude-related, and practice-related questions. You may end up with this self-administered questionnaire any time you want, but your honest response to these questions will help you focus on how to care for this problem in order to develop better strategies and solve the problem in the future. I will greatly appreciate your truthfulness and active participation in responding to this questionnaire.

Are you agreeing to participate? A Yes B. No

If yes continue

Date of data collection_____

Data collector name_____

Signature_____

Part 1: Socio- demographic characteristics of nurses in selected public hospitals in Addis Ababa

1.	Age	 in years
2.	Sex	1. Male 2. Female
3.	Marital status	1. Married 2. Single 3. Divorced 4. Widowed 5. Separated
4.	Level of education	1. Nursing diploma 2. Bachelors' degree in Nursing 3. Masters' degree in Nursing 4. Higher
.	Monthly income	In ETB_____

Part 2: Work related factors of nurses in selected public hospitals in Addis Ababa (18, 39)

1.	Work experience	in years	
2.	Working unit		
3.	Daily working hours	in hours	
4.	Number of patients get care per day by a nurse		
5.	Presence of overtime work	1. Yes 2. No	
6.	Satisfied with payment	1. Yes 2. No	
7.	The greatest anxiety/strain on nurses work place	1. Unsympathetic manager	2. yes 3. No
		4. Coworkers doesn't do their task	1. Yes 2. No
		5. Harassing coworker	1. Yes 2. No
		6. Misconception of physicians	1. Yes 2. No
		7. Language barrier	1. Yes 2. No
8.	Dissatisfaction due to nursing profession	1. Yes 2. No	
9.	Work place organization	1. Disorganized 2. Stressful 3. Negligent 4. Very well	
10.	Attending any training related to nursing process	1. Yes 2. No	
11.	How many times did you take training		

Part 3: The attitudes of the respondents towards the nursing process implementation in selected public hospitals in Addis Ababa (11)

Variables		Strongly agree	Agree	I do not know	Disagree	Strongly disagree
1	I like the aim of nursing process					
2	I am convinced the NP will work if applied in patient care					
3	The nursing process is an elaborated Kardex system					
4	The nursing process should be used by BSc and above nurses only					
5	The nursing process works well in practice					
6	The nursing process can be used in any settings					
7	There is no enough time to apply					

	NP during pt. care					
8	Nursing process is a waste of time					
9	I am ready for the application of nursing process					
10	The Kardex system of nursing record is unsatisfactory					
11	The NP simplifies the awareness of pt. needs					
12	Priorities of care are easy to identify using NP					
13	I am fed up with hearing about the nursing process					
14	The nursing process involves too much of paper work					
15	NP enables nurses to provide quality of nursing care to pts.					
16	I am willing to apply nursing process during pt care					
17	I think introduction of NP will cause a problem					
18	I think pts. will not like to be cared for using the NP					
19	I think the nursing staff have no willingness to apply NP					
20	I think the staff will never accept the nursing process					

Part 4: The knowledge of the respondents towards the nursing process implementation in selected public hospitals in Addis Ababa (78)

Sn.	Questions	Responses	Remark
1	Do you know components of Nursing process?	1. Yes 2. No	
2	If your answer is NO for Q # 1 dont answer the question here.		
3	How many steps did nursing Process has?	1. Three 2. Four 3. Five 4. Six	
4	What is the core purpose of nursing process	1. To diagnose and treat human responses to actual and potential health problems 2. To treat the specific disease that the individual has 3. to treat problems with structure and function	

		of organs or systems 4. To teaching about how diseases and trauma are treated	
5	A nurse should do one at the first step of nursing process	1. Collecting subjective and objective data 2. Directly intervening the problems of the patient 3. Evaluating what has be done for the patient 4. Indicating the activities to be done 5. Other, specify	
6	What makes nursing process different from medical approach?	1. Nursing diagnosis always focuses on the diseases than other human responses 2. Nursing diagnosis always focuses on human responses than diseases process 3. Both focuses on human responses but nursing process is limited to pathological problems 4. Both have similar procedure to resolve a patient's problem 4. Other, specify	
7	Write down steps of nursing process in order?		
8	Mention types of nursing Diagnosis		
9	Ineffective airway clearance related to incisional pain as manifested by poor cough effort ”	Identify: Problem:- Etiology:- Sign/symptom:-	

Part 5: Nursing process implementation related questions in selected public hospitals in Addis Ababa (18, 43)

Sn.	Variables	Yes	No
1.	Is both subjective and objective data is documented?		
2.	Is nursing diagnosis is developed based on the standard of patient problem?		
3.	Does actually diagnosis include fully PES?		
4.	Does potential diagnosis stated well?		
5.	Is nursing care plane prepared based on diagnosis?		
6.	Is nursing intervention documented		
7.	Have you been evaluating effectiveness of your intervention?		
8.	Does implementation written in understandable way clearly?		
9.	Is the evaluation statement recorded properly?		
10.	Have you been documenting your nursing care activities?		

Thank you very much for your information and time!

8.2. Annex II: Interview guide for qualitative approach

Consent form

My name is Mazengiyaw Melkamu. I am a postgraduate nursing student (cardiothoracic surgery nursing) at St. Paul's Hospital Millennium Medical College. I am conducting a study entitled "Nursing process implementation and associated factors among nurses in all inpatient and outpatient units selected public hospitals in Addis Ababa" as my MSc thesis. This consent form is prepared to ensure that you understand the purpose of your involvement and that you agree to participate in this study voluntarily. The interview will take approximately 30 minutes. Therefore, read the following information sheet and sign the form below if you agree to take part in this interview. Please tick on the questions below if you agree with each statement.

I understand that my participation is voluntary and I am free to stop the interview at any time without any reason.

I understand that my responses will be kept strictly confidential.

I agree that the interview will be audio recorded and transcript will be produce.

I understand my name will not identified or identifiable in research material.

I understand that the transcript of interview will be accessed to and analyzed by only research investigator.

I can request copy of transcript of my interview.

I understand that I am free to contact the researcher with any questions I may have in the future

I agree to take part in this interview

Participant signature _____ date _____ Principal Investigator

signature _____ date _____

In key informant interview for nursing process implementation and associated factors among nurses working in all inpatient and outpatient units in selected public hospitals in Addis Ababa, 2024

Part I socio demographic characteristics

Tell me about your back ground (probe)

1. Working area hospital-----
2. Sex -----
3. Age -----
4. Education -----
5. Current position of responsibility -----
6. Length of work experience -----
7. Educational status-----

Part II Nursing process implementation (79, 80)

1. How did you first learn about the nursing process?
2. Can you describe your understanding of the nursing process?
3. Describe how you implement the nursing process in your daily practice.
4. What challenges do you face when implementing the nursing process?
5. What kind of support do you receive from the hospital administration for implementing the nursing process?
6. Are there enough resources available to you for implementing the nursing process effectively? what are the resources
7. Have you received any formal training on the nursing process?
8. How does ongoing education impact your implementation of the nursing process?
9. What improvements would you suggest for better implementation of the nursing process?
10. How can nurse educators and managers facilitate these improvements?

Thank you.

1. በመጀመሪያ ስለ ነርሲንግ ሂደት/ፕሮሰስ እንዴት ተማሩ?
2. ስለ ነርሲንግ ሂደት/ፕሮሰስ ያለዎትን ግንዛቤ መግለጽ ይችላሉ?
3. በዕለት ተዕለት ልምምድ ውስጥ የነርሲንግ ሂደቱን/ፕሮሰስ እንዴት እንደሚተገብሩ ይግለጹ.
4. የነርሲንግ ሂደቱን/ፕሮሰስ ሲተገብሩ ምን አይነት ፈተናዎች አጋጥሞዎታል?
5. የነርሲንግ ሂደቱን/ፕሮሰስ ተግባራዊ ለማድረግ ከሆስፒታል አስተዳደር ምን አይነት ድጋፍ ያገኛሉ?
6. የነርሲንግ ሂደቱን/ፕሮሰስ በብቃት ለመተግበር በቂ ግብዓቶች አሉዎት? ግባአቶቹ ምን ምን ናቸው?
7. በነርሲንግ ሂደት/ፕሮሰስ ላይ ምን አይነት መደበኛ ስልጠና ወስደዋል?
8. ቀጣይነት ያለው ትምህርት በነርሲንግ ሂደት/ፕሮሰስ ትግበራዎ ላይ እንዴት ተጽዕኖ ያሳድራል?
9. የነርሲንግ ሂደቱን/ፕሮሰስ በተሻለ ሁኔታ ተግባራዊ ለማድረግ ምን ማሻሻያዎችን ይጠቁማሉ?
10. የነርስ አስተማሪዎች እና አስተዳዳሪዎች እነዚህን ማሻሻያዎች እንዴት ሊያመቻቹ ይችላሉ ብለው ያስባሉ?

አመሰግናለሁ

Declaration

I declare that this Research entitled "Nursing process implementation and associated factors among nurses working in all inpatient and outpatient units in selected public hospitals in Addis Ababa, 2024" is my own work that have not been addressed in the study area as far as my knowledge touched and all the sources I used has been indicated and acknowledged as complete reference.

Name of investigator

Signature

Date

Mazengiaw Melkamu

Name of adviser/s

1. Rahel mezemir(Ass professor) _____

2. Khedja muzeyin(Msc) _____

Name of invigilators

1. _Abera Shiberu_(assistant_professor) _____

2. ____Kokeb Gezahagne _____

