

**APPLICATION OF NURSING PROCESS AND
ITS AFFECTING FACTORS AMONG NURSES
WORKING IN MEKELLE ZONE HOSPITALS,
NORTHERN ETHIOPIA**

BY

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Jimma University
College Of Public Health and Medical Sciences
Department of nursing

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Abstract

Background: - *Nursing process is considered as appropriate method to explain the nursing essence, its scientific bases, technologies and humanist assumptions that encourage critical thinking and creativity, and permits solving problems in professional practice.*

Objective: - *The general objective of this study is to assess the application of nursing process and it's affecting factors in Mekelle Zone Hospitals.*

Methods: *A cross sectional design employing quantitative and qualitative methods was conducted in Mekelle zone hospitals March 2011. Qualitative data was collected from 14 head nurses of six hospitals and quantitative was collected from 200 nurses selected by simple random sampling technique from the six hospitals proportional to their size. Quantitative data were analyzed by computer using SPSS for windows 16.1 version and thematic analysis was used for qualitative data. The results of the study were presented in tables, graphs and in themes.*

Results: - *Out of the 210 questionnaires distributed among the study populations 200 were filled completely and returned making the response rate 95.2%. Regarding the knowledge status of the respondents, majority 180 (90%) of the respondents have poor knowledge on the nursing process. Almost all 99.5% of the respondents have a positive attitude towards the nursing process. All of the respondents from the six hospitals said that they did not use the nursing process during provision of care to their patients at the time of the study. Out of the respondents, 25.5% of them reported that allocation of resources for application of nursing process was adequate. Majority (75%) of the respondent said that the nurse to patient ratio was not optimal to apply the nursing process.*

Conclusion and recommendation: - *The nursing process is not yet applied in all of the six hospitals. The finding also revealed that the knowledge of nurses on the nursing process is not adequate to put it in to practice. Factors such as shortage of resources and high patient nurse ratio also affect application of nursing process. The study hospitals should consider the application of the nursing process seriously; motivate professional nurses to apply the nursing process; and monitor and evaluate its progress.*

Key words: - *nursing process, assessment, diagnosis, planning, implementation and evaluation*

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ACRONYMS

ART: Anti Retro viral

BSN: Bachelor of Science in Nursing

GST: General System Theory

ICU: Intensive Care Unit

NP: Nursing process

ND: Nursing Department

OR: Operating Room

SMART: Specific, Measurable, Attainable, Realistically, Time-bound

UK: United Kingdom

USA: United States of America

CHAPTER ONE: INTRODUCTION

1.1 Back ground

Nursing process has its roots in the general systems theory (GST), which was initially introduced in the 1930s by Ludwig Von Bertalanffy and became the basis for scientific inquiry in the 1950s and 1960s. In addition there are basic dynamic processes which govern the operation of closed and open systems (1).

The nursing process was originally adopted by the North American nursing profession from the general systems theory (GST) and quickly became a symbol of contemporary nursing as well as a professionalism nurse ideology (1).

Nursing process was initially regarded as a professional and educational mandate rather than an organizational component of nursing care delivery. It has been maintained that the theoretical basis from which the nursing process was derived, together with the theoretical developments in diagnostic and intervention studies, has established the nursing process as a key element of the nurse's role in research, education and practice (1).

The nursing process is considered the appropriate method to explain the nursing essence, its scientific bases, technologies and humanist assumptions that encourage critical thinking and creativity, and permits solving problems in professional practice. This method represents an attempt to evidence and understand nursing work focused on care as a reflective practice (2).

The nursing process is a widely accepted method and has been suggested as a scientific method to guide procedures and qualify nursing care. More recently, the process has been defined as a systematic and dynamic way to deliver nursing care, operating through five interrelated steps: assessment, diagnosis, planning, implementation and evaluation (3).

According to current American and Canadian practice standards, nursing practice demands the efficient use of the nursing process and professional participation in activities that contribute to the permanent development of knowledge about this methodology (3).

As it was known that there is no literature in the country, which shows the implementation level of nursing process and its affecting factors in Ethiopia, Mekelle Zone. Therefore, this study was aimed to assess the application and affecting factors of nursing process.

1.2. Statement of problem

Nurses are the largest group of health professionals in all countries. Nursing quality is closely related to a healthcare system's effectiveness. In order to achieve quality health care service, quality nursing care is the key element and to fill this demand application of the nursing process have a significant role, but in practice application of the nursing process is not well developed. Nursing process is also the base of nursing researches and different researches undertaken on the documents of nursing process and nursing diagnosis, but due application of nursing process, nursing research is still not well developed globally. Not all nurses, of course, were convinced of the appropriateness of a scientific nursing process basis for nursing research and practice. Nurses with greater levels of expertise are less likely to use the nursing process as a complete system or package for care, relying more on intuition and/or experienced clinical judgments which might also worsen the problem(1).

The experience acquired as a nurse teacher on the nursing process has generated frequent relations with care practice in hospital context. Thus, it could be verified that the nursing activities performed on patients were focused on already established procedures and routines, with no reference to theoretical principles and how to put the nursing process into practice (2).

Some scholars have recently shown the investments made to use the nursing process in care practice, providing information on what nurses know, believe and adopt in various situations and difficulties encountered in hospitals. These studies indicate the potential of investments in its practice, by approaching nursing practice and health care, education and research. Based on the above, it has been reaffirmed that researchers' view that the nursing process is an action full of meaning that can be used by nurses in practice, as a method for care delivery, which represents challenges in education and in practice. The nursing process needs to be deepened in the hospital context, based on the perception of nurses working there, highlighting their doubts, uncertainties and questions about how to put it into operation (2).

There is a demand to establish the nursing process in practical care in every health institution, within hospitals as well as in the community as a whole and it should be established in care practice at all of these health care delivery setting (3).

Implementing a new methodology to guide nursing care delivery implies facing a series of challenges, which requires a priori acknowledgement of the institution's and the nursing team's possibilities and limits (4).

Implementation of the nursing process in practical nursing can be achieved in accordance with the principles of action research. A pre-requisite of the action research is knowledge of the basic principles and the component areas of the nursing process and knowledge of the opportunities for applying the nursing process to practical work, but knowledge of nurses on this process is not yet studied (5).

Failure to keep a record of nursing care or use the nursing process can lead to a breakdown in the quality of care that is provide. The abscess of this process also affects nursing researches, for example to identify the most common types of nursing diagnosis which requires application and documentation of nursing process as a base line data. Despite the availability of a nurse with responsibility for quality management, there were no explicit nursing standards. In addition, nursing records were of poor quality and showed little understanding of the nursing process (6).

Just like architects who make elaborate and detailed blue prints before building any structure or work of art, nurses' use nursing process - a patient centered, problem-solving approach, goal oriented method of caring, that enables the nurse to provide care in an organized scientific manner (7).

The objective of nursing process is to help patients alleviate, minimize, or prevent actual or potential health problems. Through effective communication between nurse and patients in any variety of settings this process is being carried out continually (7).

A major consequence of the under-development of process in nursing was the non-actualization of nursing as a profession. Without the process dimension more fully articulated, nursing is a discipline that lacks political, institutional and professional power (8).

In Africa as well as in Ethiopia the nursing process was introduced in nursing curriculum as a base for providing nursing care in the last decade however application of the nursing process in practice is yet not clear and no further studies has been conducted on this area.

As there is no study conducted related to the implementation level of nursing process and it's affecting factors in Ethiopia as well in Mekelle Zone, this study was conducted to assess the application and affecting factors of nursing process.

CHAPTER TWO

2.1 Literature Review

Nursing process has its roots in the general systems theory (GST), which was initially introduced in the 1930s by Ludwig Von Bertalanffy and became the basis for scientific inquiry in the 1950s and 1960s. In addition there are basic dynamic processes which govern the operation of closed and open systems (1).

This nursing process was originally adopted by the North American nursing profession from the general systems theory (GST) and quickly became a symbol of contemporary nursing as well as a professionalism nurse ideology. In contrast its initial introduction in the United Kingdom (UK) was not a complete success (1).

Attitude of nurses towards nursing process

A research conducted in Leicester General hospital on attitude of nurses towards nursing process in 1983 by Bowmans G.S and Thompson and Sutton T.W shows of the original study sample, 64% answered the questionnaire: 66% from unit 1, 85% from Unit 2 and only 46% from Unit 3 the mean attitude of all units were 73.57(9).

Unit (ward) 1 Charge nurses: several agreed that the nursing process involved both too much paper work and time. . Staff nurses: nearly all agreed that the nursing process involved both too much paper work and time. There was strong disagreement with the statements that the nursing process can be used in any area and that it is an elaborate Kardex system. However, nearly all agreed with the statements that there is not enough time to use the nursing process and yet, interestingly, also agreed that the nursing process works well in practice! Enrolled nurses: similar responses to those of the staff nurses (9).

Application of nursing process

Since 1981, the Nursing Department (ND) at the University Hospital of the University of São Paulo has been implementing the Nursing Process (4). Studies in Finland also have shown that there is little application of the process model in practical nursing (5).

A study conducted in, 2005 in Porto Algere Hospital shows there is a demand to establish the nursing process in practical care in every health institution, within hospitals as well as in the

community as a whole. The nursing process should be established in care practice at all health care institutions, in hospitals as well as in the community as a whole. In practice, however, not all steps are systematically implemented. Studies have revealed difficulties in establishing and using the nursing process within institutions during the last years, in Brazil and in other countries (3). A recent investigation of the steps of the nursing process actually implemented in the routine of a university hospital showed that all phases were performed. However, problems were identified in the nursing diagnosis process, involving recording the history and implementing nursing prescriptions. The evolution of expected results, in particular, was not adequately recorded specifically seeking to investigate the phases of the nursing process performed in the care practice of a university hospital in Brazil (3).

A study conducted in Europe to test the establishment of a validated model of nursing records aimed to promote individual care. The results showed limitations of the nursing process conducted according to the model, particularly in the identification of problems presented by the patients and, consequently, diagnosis and the possible intervention procedures (10).

Study conducted in USA indicates that experienced nurses are less likely to use an analytical process during problem solving. Rather, they develop a method of problem solving that provides them with an 'intuitive grasp' of the whole situation, without requiring a step-by-step approach to achieve this grasp (11).

A study conducted to identify most frequent nursing Diagnosis and interventions in Brazilian Intensive care unit shows 991 admissions of 841 different patients have occurred in the period. Each admission had a means of 6-9 nursing diagnoses. The six most frequent nursing diagnoses were Bathing/Hygiene self-care deficit, Risk for infection, impaired physical mobility, Ineffective breathing pattern, impaired spontaneous ventilation and Risk for impaired skin integrity (12).

The application of systematic, evidence- based methods in nursing care results in improved quality of service that conforms to individual patients basic human needs (13).

Computer-generated nursing care plans resulted in the greatest frequency of nursing diagnosis documentation. Nurses who did not document nursing diagnoses, and nurses employed in hospitals without nursing diagnosis implementation programs, had more positive attitudes

toward the value of nursing diagnosis in practice compared with nurses who documented nursing diagnoses and nurses employed in hospitals with implementation programs (14).

One participant of qualitative study in Mexico hospital said as follows '' *It's very different when you don't practice it, when we learn it at school, it has been more than 20 years since I graduated, as time goes by, you lose this continuity, we set aside things that are important, and don't manage it like when we're at school, with more detail because we're not with one patient or two, here we attend* '' (2).

One participant of qualitative study in Mexico hospital said as follows'' *We use the nursing process but we don't even notice it, we have a work routine and don't realize it, we don't think we are putting it in practice, but it is done because we plan activities and perform actions, but it is like routine activities*'' (2).

One participant of qualitative study in Mexico hospital said as follows'' *...As soon as I arrive in the morning I go to get to know the patients, see their medical diagnoses, what may be the characteristics in terms of symptoms or something bothering them....and based on this, I choose my priorities, in case there's some patient who needs more urgent care, so I pay more attention to this patient*'' (2).

Nurses give priority to medication administration during time available, according to the number of patients and medication prescriptions. This activity related to medical prescription is revealed as a central element in nurses' routine in the hospital context (2).

Difficulties with implementing the nursing process are explained as due to inadequate resources, in adequate training on the context of practice (15). Among the nursing process steps implemented, nursing prescription was the least frequently performed during the first 48 hr of hospitalization in all groups (74.8%), particularly in surgical and clinical units; evolution was described in more than 97% of the records, nursing records, although incomplete, were generally available. The results observed for each unit. Investigation was performed in more than 90% of the cases in all units, Physical examination, although not as complete as recommended in the literature, was described in 98.7% of the records, using the taxonomy language of the North American Nursing Diagnosis (3).

A recent American review showed that nursing diagnosis reflects the clinical assessment of the nurse, based on constant surveillance of actions, recognizing risks and monitoring results (16). In a Canadian retrospective study aimed at investigating factors associated with the implementation of nursing diagnoses, the results showed that nurses tend to register a diagnosis at institutions that have a formal program of continuous education and computer-generated care plans (14).

Enabling and reinforcing factors

In Brazil, a study conducted to investigate the establishment and recording of steps in the nursing process identified the most frequent diagnoses in hospital wards, and showed that a smaller number of recordings were done in the steps relative to nursing diagnosis and evolution. Several factors can interfere in the efficient implementation of the nursing process. Operational difficulties involved in the systematization of nursing care in practice, such as lack of knowledge of the steps involved in the process, excessive number of tasks assigned to the nursing team, poor quality of professional education and insufficient reports on physical examination related to the disease are among these factors. Nursing practice is also frequently linked to the performance of bureaucratic and technical activities, to the detriment of the nursing process (17).

One student told us: 'The written nursing process would work if the patient's assessment in the chart was like a textbook; however, the patient's assessment is continually changing' (11).

A study conducted in central Taiwan by Ting-Ting Lee findings reveals that nurses generally followed the nursing process and charting sequence to complete care plans. Most nurses agreed that the listed interventions were comprehensive but not realistic. Some said that they would select an intervention if they thought they would have about a 50% chance to perform it. For example, one intervention was 'to change patient position every 2 hours.' Understaffing and a heavy workload made this intervention not feasible. (18).

Conceptual Framework

Conceptual framework developed after reviewing substantial amount of literatures.

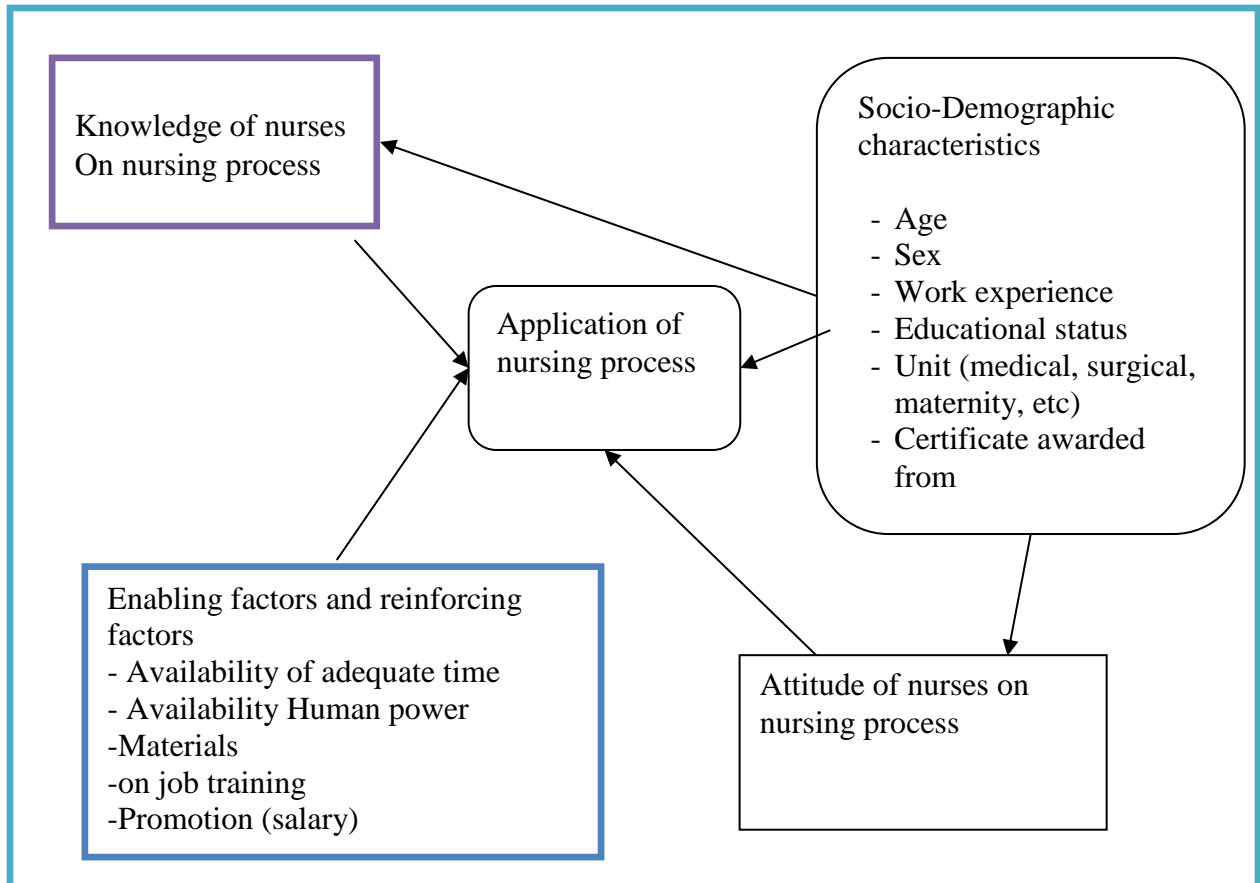


Figure 1 Conceptual framework on application of nursing process and its determinant factors.

2.2 Significance of the study

Effective implementation of the nursing process leads to improved quality of care and stimulates the construction of theoretical and scientific knowledge based on the best clinical practice. In Ethiopia, health services are limited and of poor quality (19). The quality of nursing care is also perceived as poor. To improve the quality of nursing care the basic thing is application of the nursing process and for its implementation the government has been investing on educating students on different educational status at school level based on the nursing curriculum. But the application of this knowledge in practical setup is not yet well known.

Thus, undertaking study related to nursing process application and its affecting factors so as to identify knowledge and/or skill gaps is mandatory. And the result of this study may contribute some importance for policy makers and health care planners in application of nursing process which will have a positive outcome in quality of nursing care provided in Mekelle zone in particular and for the country in general. Further, the result of the study can be used as a baseline data for further related studies.

CHAPTER THREE: OBJECTIVE

3.1 General objective

To assess the application of nursing process and it's affecting factors in Mekelle zone hospitals.

3.2 Specific objectives

1. To assess knowledge of nurses on nursing process in Mekelle zone hospitals
2. To assess attitude of nurses towards the nursing process in Mekelle zone hospitals
3. To assess application of nursing process in Mekelle zone hospitals
4. To identify the relationship of socio demographic characteristics with knowledge and attitude of nurses on nursing process in Mekelle zone hospitals
5. To identify enabling and reinforcing factors that affect the application of nursing process in Mekelle zone hospitals

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area and period

Mekelle is the capital city of Tigray region, which is 783 kilometer far from Adiss-Abeba city to north direction. It has a total area of about 192826938m² with total population of 215,564. It is one of most populous city in Tigray region. Its annual population is growth rate is 2.7 and its climatic weather is weina dega with an average temperature of about 19⁰ c and its attitude of about 2150 meters above sea level with annual rainfall of 6183mm³.

Mekelle zone has seven hospitals which contains, one teaching (referral) hospital, two public (governmental) hospitals, one defense hospital and three private hospitals. Each hospital contains the following number of bed and nurses, Ayder teaching hospital was establishes in 2007 and it serves for about 4.5 million people of Tigray region as referral center, it contains a total number of 495 beds and 145 nurses. Mekelle hospital is a public (governmental) hospital established in 1962, it contains a total number of 180 beds and 84 nurses. Quiha hospital is a public (governmental) Organization established in 1985 by Italian cooperation to provide health services for Quiha town and rural people in the district area with a capacity of 30 beds for eye service and 15 beds for other chronic illnesses with a total number of 44 clinical nurses. Semen EZ hospital defense hospital was established in February 2008, it serves for militaries of semen EZ members and their families it contains a total number of 232 beds and 84 nurses. Markos general hospital is a private hospital it was established in 2008, it starts with partial capacity with 20 beds 7 nurses. Yeha Hospital is a private owned organization it was established in 2008, it has a capacity of 20 beds and 6 nurses. Meskerem hospital is also a private owned hospital it was established in 2009, it contains 20 beds and 6 nurses. Total numbers of nurses found in the seven hospitals were 377.

The study was conducted on March 2011.

4.2 Study Designs

A cross sectional quantitative and qualitative study designs were employed.

4.3. Population

4.3.1 Source population

The source population was all 377 nurses working in all hospitals found in Mekelle zone for quantitative survey and head nurses for qualitative study.

4.3.2. Study population

The study population was selected 210 nurses from the seven hospitals found in Mekelle zone for quantitative study and all head nurses for qualitative study.

4.3.3 Study unit

Selected nurses from six hospitals of Mekelle zone, who were willing to take part in the study and full fill the inclusion criteria, were involved in the study.

4.4. Sample size and sampling techniques

4.4.1. Sample size determination

Sample size for quantitative data

Sample size for the quantitative study was calculated using single proportion based on the prevalence on the proper application of nursing process, but as there are no studies showing the prevalence of application of the nursing process a population proportion of 50% was used to maximize the sample size. Hence the sample size were calculated using the formula $n = \frac{(Z_{\alpha/2})^2 \times p(1-p)}{d^2}$

Where

n= the minimum sample size

$Z_{\alpha/2} = 1.96$ (95% confidence interval)

p= 50% (prevalence of proper application of nursing process).

d= margin of error (5%)

Therefore the value of n was:

$$n = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05) * (0.05)}$$

n=384

Since the total population is less than 10, 000, using the correction formula the final sample size becomes.

$$nf = \frac{no}{1 + no/N} = \frac{384}{1 + 384/377} = 191 + 10\% \text{ non response rate} = \mathbf{210}$$

Using the correction formula, final sample size becomes 191, and, including 10% non response rate; the final sample size is 210.

Sample size determination for quantitative method

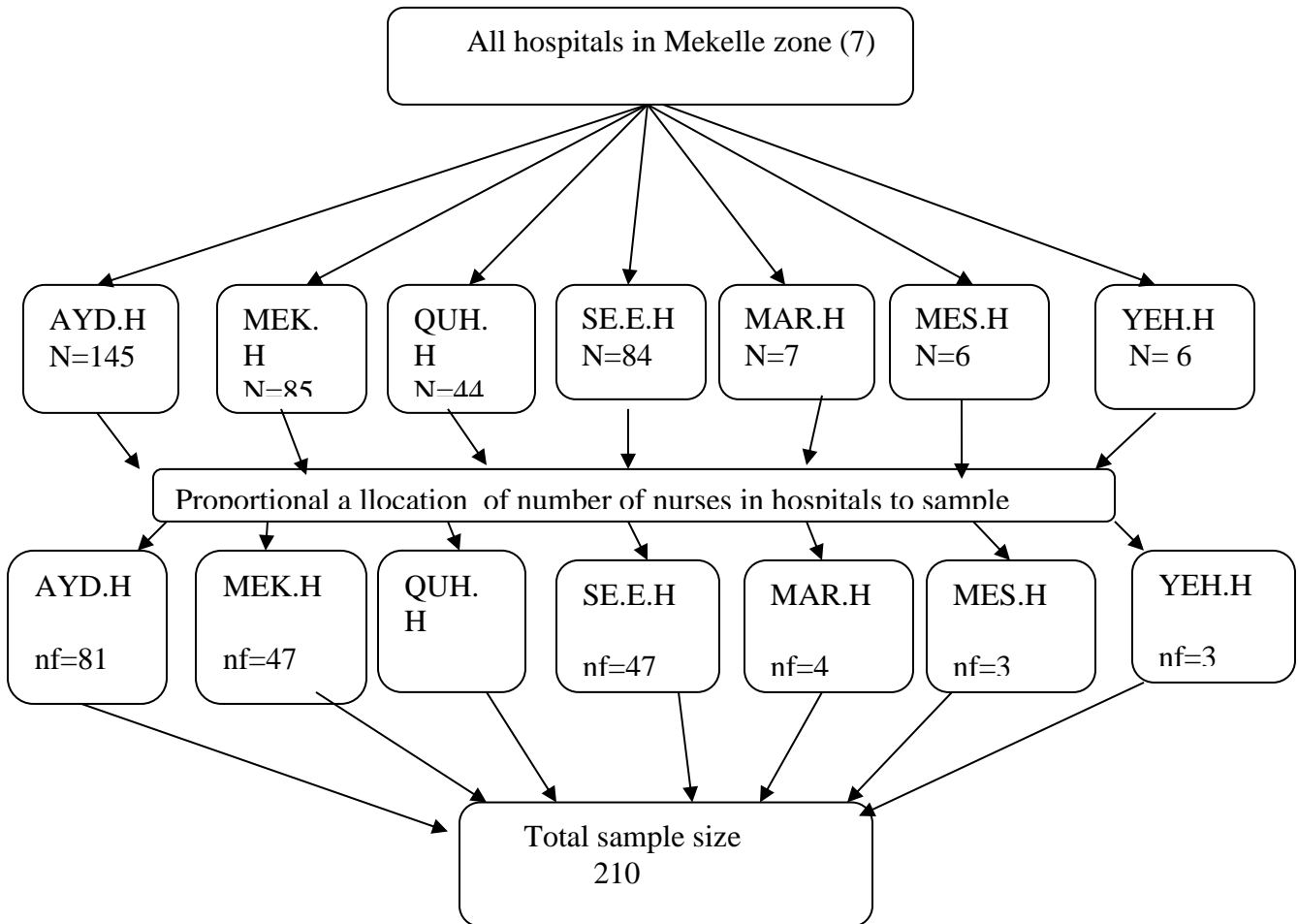


Figure 2 sample size determination for quantitative data collection method

Key: - AYD.H: - Ayder hospital,
MEK.H: - Mekelle hospital,
QUH.H: - Quiha hospital,
SE.E.H: - Semen EZ hospital,
MAR.H: -Markos hospital,
MES.H: - Meskerem hospital,
YEH.H: -Yeha hospital

The number of nurses from each hospital were obtained by proportional allocation with 81 nurses from Ayder, 47nurses from Mekelle, 25 nurses from Quiha, 47 nurses from Semen EZ, 4 nurses from Markos, 3 nurses from Meskerem hospitals, the remaining one private hospital was not included in the study because it was closed during the data collection period.

Sample size for qualitative data

Fourteen head nurses from six hospitals of Mekelle zone involved in the qualitative study, the number of head nurses were determined by saturation of the required data.

4.4.2 Sampling Technique

Sampling technique for quantitative study

Simple random sampling technique was used to select nurses after proportional allocation of sample size to each hospital, lists of nurses was received from personnel office each hospital and then a lottery method was employed.

Sampling technique for qualitative data

Fourteen head nurses who were selected purposively from the six zonal hospitals were participated in the in depth interview purposely. The number of key informants from the six hospitals was determined by saturation of required information.

4.4.3. Inclusion and Exclusion Criteria

Criteria for including nurses in the quantitative study were:-

- Those who had diploma or above in nursing and available during the study period

Exclusion criteria for the study were:-

- Junior nurses (Certificate nurses)

4.5. Variables

4.5.1. Dependent

- Application of nursing process

4.5.2. Independent

- Knowledge of nurses
 - Attitude of nurses
 - Enabling factors and reinforcing factors
 - Socio demographic characteristics
- Age
 - Sex
 - Work experience
 - Educational status
 - Unit (medical, surgical, maternity, etc)
 - Certificate awarded from

4.5.3 Intermediate variable

Knowledge of nurses

Attitude of nurses

4.6. Data Collection procedure and instruments

4.6.1. Instrument

- Data collection tools were developed for assessment of knowledge, practice, and enabling factors and the attitude part were adapted after review of relevant literatures. The questions and statements are grouped and arranged according to the particular objectives that they address.
- The questionnaire includes both closed ended and open ended questions for quantitative survey.
- Interview guides was used for qualitative study to address knowledge, attitude, practice, and enabling factors of nursing process.

4.6.2 Data Collection Procedures

Quantitative data

After granting the consent of participant's, quantitative data were collected by six trained BSN using self-administered questionnaires and two BSN supervisors followed the collection procedure. Both the data collectors and supervisors were recruited from other institutions other than the study hospitals.

Record review was not conducted based on sample size due to absence of nursing documentation sheet in all hospitals because the responses of participants were negative for application of nursing process.

Qualitative data

After guarantying the willingness of the head nurses of the six zonal hospitals, they were interviewed about the application of nursing process using interview guideline. The data was collected by trained two BSN. Data collection strategies used was: semi structured interview, the semi-structured interview with open questions focusing on the object of interest was tape recorded after nurses' authorization. The tapes content was accurately transcribed and submitted to the interviewees for content validation.

Supervision was performed by two supervisors: they were recruited based on their experience in research. And trained for two days on the objective the study, how to handle the data collection procedures. One supervisor attended for three hospitals and the other for the rest three hospitals.

4.7. Data processing and analysis

For quantitative data, after checking the completeness, missing values, and coding of questionnaires, data were entered to computer, processed and analyzed using SPSS version 16.0. The data were summarized and described using descriptive statistics and binary logistic regression was used to determine the relationship of socio-demographic characteristics with knowledge and attitude nurses on nursing process. Then finally data were presented in tables, graphs frequency percentage and of different variables.

For qualitative data, data from in-depth interview of participants were analyzed by thematic analysis technique and described each theme descriptively.

4.8. Quality control

In order to assure the quality of data the following measures will be undertaken:-

- Data were collected by nurses working in other health institution the seven hospitals in Mekelle Zone.
- The data collectors were trained for 2 days on the questionnaire and a technique of data collection separately 6 nurses for quantitative data collectors 2 nurses for qualitative data collectors.
- Supervisors were strictly supervised data collectors by observing each data collector daily.
- The principal investigator was reviewed all filled questionnaires at the end of every day.
- Pre test was conducted on 10% of the study population in Adiss-Abeba in Betel and Black Lion hospitals.

4.9 Definition of terms and operational definitions

Nursing Process - a patient centered, problem-solving approach, goal oriented method of caring, that enables the nurse to provide care in an organized scientific manner. This nursing process has five steps assessment, diagnosis, planning, implementation and evaluation.

Proper application of nursing process: - imply to the conditions in which all the five steps of nursing process are performed without any miss.

Improper application of nursing process: - imply to the condition in which one or more steps of the nursing process is not applied/ jumped.

Nursing assessment—collecting data regarding patient’s signs and symptoms this includes history tacking, physical examination, and collection of laboratory findings.

Nursing diagnosis—appropriately identifying the patient’s problems this includes actual and potential nursing diagnosis.

Planning—setting goals of care and desired outcomes and identifying appropriate nursing actions

Implementation—performing the nursing actions identified in planning

Evaluation—determining if the goals were met and the outcomes were achieved and appropriately

Knowledge

For the purpose of this study individual who answered 75% and above of knowledge related questions were considered as having *good knowledge* on nursing process.

Those who scored between 50-74% of the knowledge related questions were considered as having *fair knowledge* on the nursing process.

And individuals who score less than 50% of knowledge related questions were considered as having *poor knowledge* on the nursing process.

Attitude

The subjects were asked to complete a 20-item questionnaire designed. Of the 20 statements, 10 were positive and 10 negative. Each statement was allocated with a score from 1 to 5 (see Appendix). A score of 5 reflects a very positive, score 4 positive attitude towards the nursing process and a score of 1 reflects a very negative, score 2 negative attitude and score 3 considered as neutral idea for positive statements and vice versa for negative statements . By totaling the 20 scores for each subject, attitude score was obtained out of 100 and a total score greater than 50% were considered to have *positive attitude*, score less than 50% were considered to have a *negative attitude* and score of 50% *considered as neutral*(13).

4.10. Ethical Considerations

Letter of ethical clearance was obtained from Research Ethical review board of Jimma University. Letter for cooperation from each hospital was obtained; verbal consent was obtained from each nurse for participation in the study. Privacy and confidentiality was ensured during the interview, and name and address of the interviewee were not recorded in the questionnaire.

4.11 Dissemination plan

The result of this study will be disseminated to relevant bodies such as Jimma University post graduate studies, Ethiopian Nurses Association, Federal Ministry of Health, Regional health bureau, zonal and district health offices and district administration of the study area etc.

CHAPTER FIVE: RESULT

In this study both quantitative and qualitative data collection methods have been employed. Out of the 210 questionnaires distributed among the study populations 200 were filled completely and returned making the response rate 95.2%. In-depth interview involving 14 head nurses of six hospitals was also employed to gather data qualitatively.

5.1. Quantitative and qualitative findings

5.1.1 Demographic results

From the 200 participants majority 123(61.5%) were female while 48 (24.0%) were within the age group 35-39 years. One hundred thirty one (65.5%) of the respondents were diploma nurses. With respect to their years experiences, 62 (31.0%) had up to four years of experiences, while 11 (5.5%) of the respondents had work experience more than 25 years at the time of the study. Majority 140 (70%) of the respondents acquired their educational award from government institutions; and 61 (30.5%) of the respondents have been working at the medical ward at the time of the study (**Table 1**)

Out of the total 14 key informants nine of them were females; age ranging from 24-42 years. Majority 9 (64%) of them were BSc nurses, the rest 5 (36%) were diploma nurses. Medical and surgical wards contributed the majority (five each), and others 1 from OR, 1 from ART, 1 from Gynecology and 1 from pediatric wards involved; with a service year ranging from 2-22 years.

Table 1: The frequency distribution of the respondents by their demographic characteristics in Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

Demographic characteristics		Number	Percent
Sex	Male	77	38.5
	Female	123	61.5
Age	<20	3	1.5
	20-24	33	16.5
	25-29	45	22.5
	30-34	37	18.5
	35-39	48	24.0
	40-44	21	10.5
	45-49	10	5.0
	≥50	3	1.5
Educational status	Diploma	131	65.5
	BSc	67	33.5
	MSc	2	1.0
Year of experience	0-4	62	31.0
	5-9	51	25.5
	10-14	29	14.5
	15-19	28	14.0
	20-24	19	9.5
	≥25	11	5.5
Institutions from where educational award is obtained	Gov't	140	70.0
	Private	60	30.0
The name of the hospital the respondents working in	Ayder	80	40.0
	Mekelle	46	23.0
	Quiha	24	12.0
	Semen Ez	43	21.5
	Markos	4	2.0
	Meskerem	3	1.5
The unit in which the respondents are currently working in	Medical	61	30.5
	Surgical	54	27.0
	Pediatric	22	11.0
	Oby-gyne	19	9.5
	ICU	10	5.0
	Others	34	17.0
The position of the nurse	Nurse officer	3	1.5
	Head nurse	1	0.5
	Staff nurse	196	98.0

5.1.2 Knowledge related results

Out of the total respondents 181 (90.5%) reported that they have heard about nursing process, but 61 (30.5%) failed to mention the steps of nursing process effectively. For example 71(35.5%), 67 (33.5%), and 55(27.5%) respectively failed to mention evaluation, implementation and the nursing diagnosis steps (**Fig 3**)

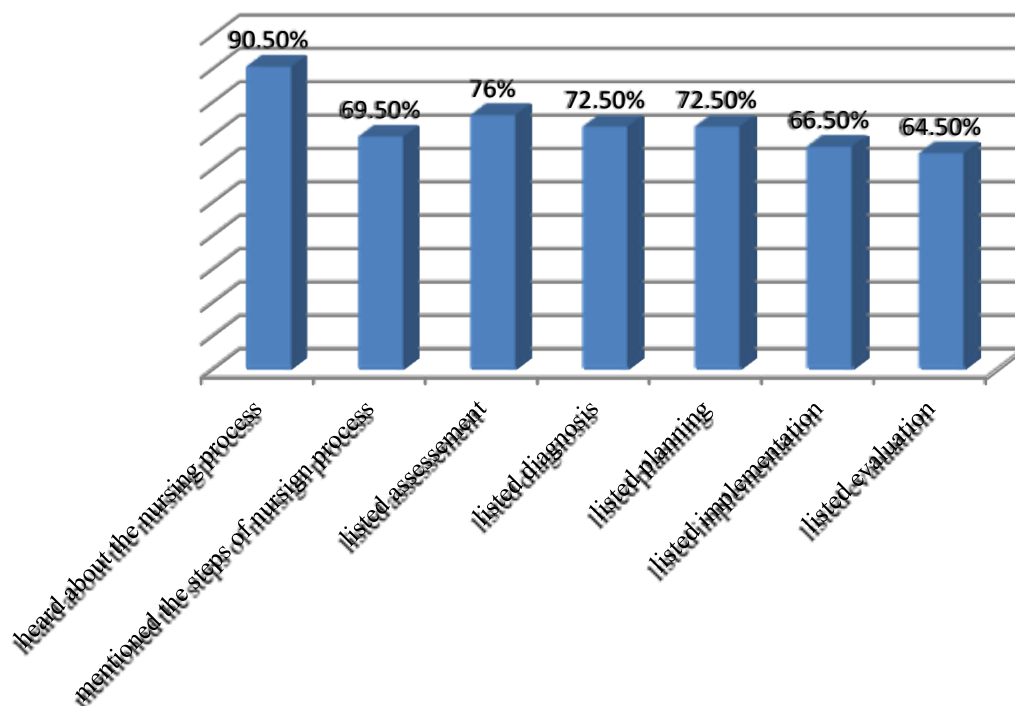


Figure 3 Distribution of the respondents by their knowledge on the steps of nursing process in Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

The respondents were required to mention the types/number of nursing assessment; and majority of them were unable to mention them. For instance, 194 (97%) failed to mention initial nursing assessment, and 192 (96%) failed to mention emergency nursing assessment (**Fig 4**).

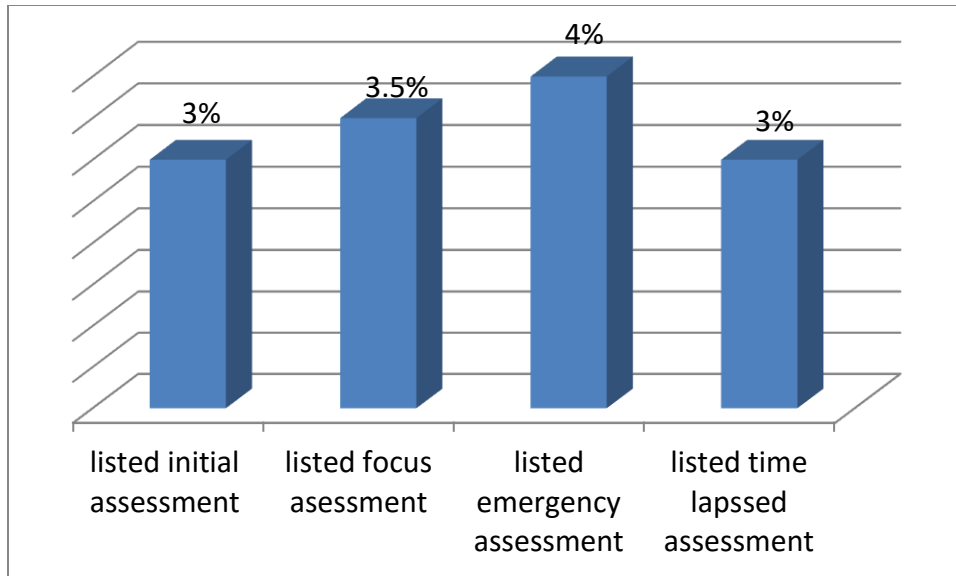


Figure 4 the distribution of nurses of Mekelle zone hospitals by their knowledge on nursing assessment, Mekelle, northern Ethiopia, March 2011 (n=200)

The respondents were required to mention the number of nursing diagnosis; and majority of them were unable to mention correctly, 8(4%) of them respond one, 85(42.5%) responded two, 6(3%) respond three, 2(1%) respond four, only 5 (2.5%) respond the correct answer five and the rest 94(47%) failed respond the question. **(Table 2)**

Table 2 Number of nursing diagnosis listed by the respondents in Mekelle zone hospitals, northern Ethiopia, March 2011

Number of nursing diagnosis mentioned by the nurses	Number	Percent
One	8	4
Two	85	42.5
Three	6	3
Four	2	1
Five	5	2.5
None	94	47
Total	200	100%

The study finding showed most of nurses have no knowledge on the nursing diagnosis; 60 (30%) of respondents mentioned actual nursing diagnosis; 48 (24%) of respondents mentioned risk nursing diagnosis; and 4 (2%) of respondents mentioned possible nursing diagnosis (**fig 5**).

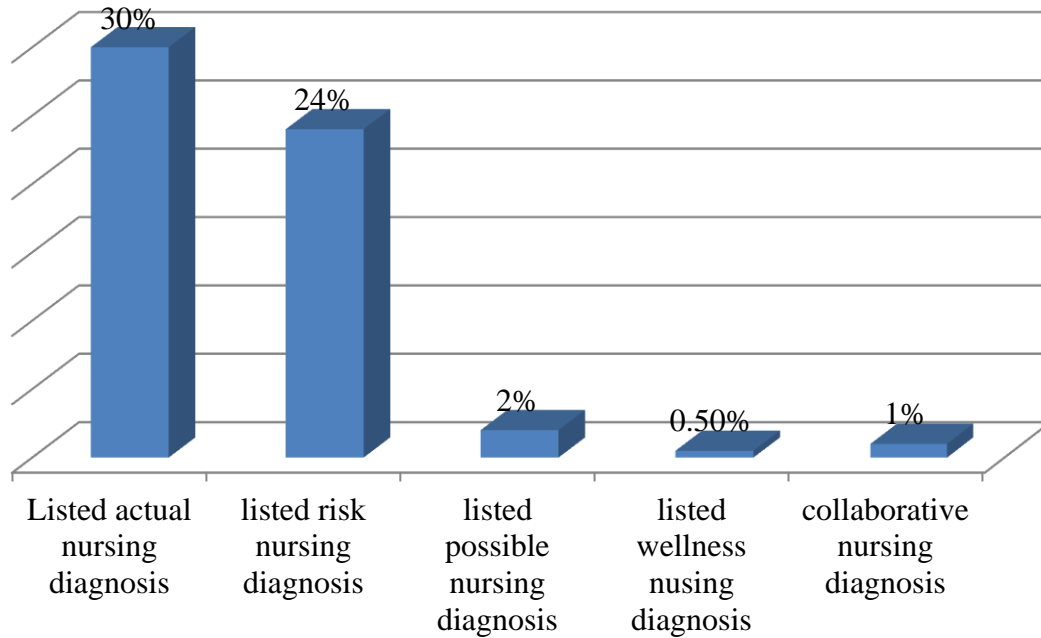


Figure 5 Distribution of nurses of Mekelle zone hospitals by their awareness on the type of nursing diagnosis, northern Ethiopia, March 2011

The study findings showed that regarding the nursing planning, majority of them didn't know its components. For instance, 192 (96%) failed to list developing nursing care plan; 187 (93.5%) failed to mention intervention; 163 (81.5%) failed to mention even setting priorities (**fig 6**).

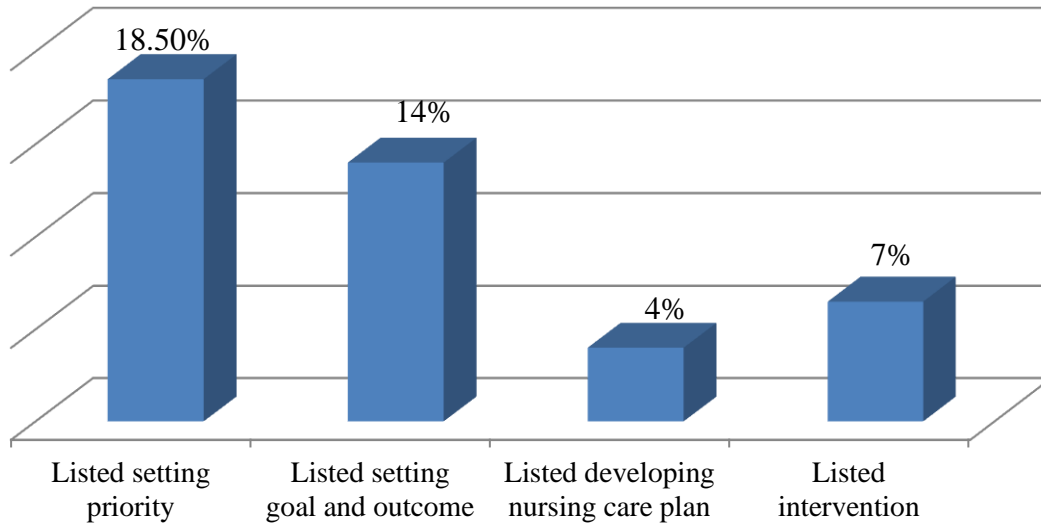


Figure 6 List the distribution of the respondents by their awareness of the components of nursing planning in Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

The respondents did not have an appreciable awareness about implementation and evaluation, in which 76.5% did not answer the question about implementation of nursing care plan while 65.5% failed to answer question regarding evaluation (**table 3**).

Table 3 List the distribution of the respondents by their awareness on implementation and evaluation steps of nursing process in Mekelle zone hospitals, northern Ethiopia, 2011 (n=200)

Implementation and evaluation phases of nursing process	Yes		No	
	No	%	No	%
Nursing action is the implementation of nursing care plan	47	23.5	153	76.5
Evaluation is important to check whether the action plan you performed has been effective or not	69	34.5	131	65.5

Regarding the overall knowledge of nurses on nursing process, majority 180 (90%) of them have poor knowledge while 20 (10%) of them have fair knowledge (**Figure 7**)

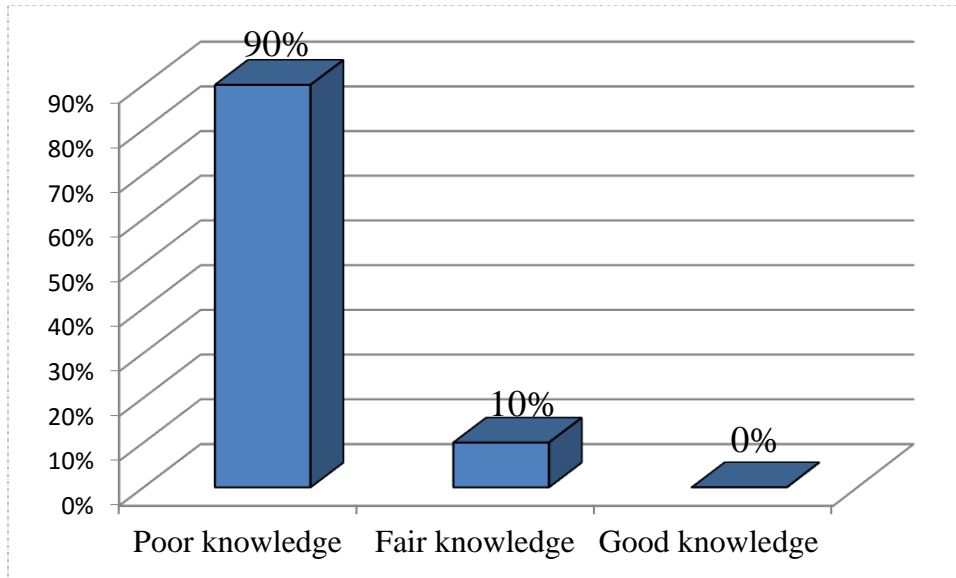


Figure 7 The frequency distribution of the respondents by their knowledge status on nursing process in mekelle Zone hospitals, northern Ethiopia, March 2011

From the in-depth interview it was found that nurses have no adequate knowledge to implement nursing process which may be due to variety of reasons. Majority of the key informants said that it is quite unlikely to put the nursing process in practice depending on the current knowledge of the nurses on the nursing process. For instance, one of the key informants said *“I don’t believe that nurses have enough knowledge about the nursing process”*. According to claims made by some of the participants, inability to apply what the nurses have learnt at school was one of the reasons why nurses did lack knowledge to implement the nursing process. One key informant said *“nurses have no knowledge since as the time goes by we lose knowledge because what we have learnt about the nursing process and what we are doing now are quite different”*. Another key informant said *“we forgot the knowledge about nursing process because even if we learnt it at school we haven’t been able to put it in practice.”*

From the educational level point of view, the key informants made it known that BSc nurses may have better knowledge to apply the nursing process. One key informant said *“I think BSc nurses have better knowledge than diploma nurses to apply the nursing process.”* The other key informant said *“I think BSc nurses have better knowledge in nursing process than diploma nurses because the nursing process is included in the curriculum of BSc nursing,.”* Another key informant attempted to compare the knowledge of past and current nurses on the nursing process, saying *“the previous nurses had not had enough knowledge on nursing process as it was not*

included in their curriculum, but the current do have.” In some cases the problem may not be only knowledge on nursing process. Language barrier may be one factor hindering the application of nursing process, as one key informant indicated “*currently our diploma nurses have basic language problems. In fact they don’t even know the five steps of nursing process.*”

5.1.3 Attitude of nurses on nursing process

Around 190 (95%) of the respondents reported that they either strongly agreed or agreed that the aim of the nursing process is appreciable, at same time 177 (88.5%) either strongly agreed or agreed that they were convinced that nursing process would work if applied in patient care. Slightly above (60%) of the respondents showed their disagreement that the nursing process should be used only by BSc and above nurses. Seventy nine percent of the respondents either strongly agreed or agreed that the nursing process works well in practice. Slightly above half of the respondents reported that there was time constraints to apply the nursing process; at same time 43% said that the nursing process is time wastage. In contrast 81.5% indicated their readiness to apply the nursing process. Around 88% of the respondents said that the nursing process enables to provide quality nursing care, while 12.5% said that pts may not like to be cared for using nursing process. Around 55% of the respondents also either disagreed or strongly disagreed to the statement “nurse staffs have no willingness to apply the nursing process” (**Table 4**).

Table 4 showing the attitudes of the respondents towards the nursing process in Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

Variables	Strongly agree		agree		I don't know		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	N	%
	<u>o</u>									
I like the aim of nursing process	74	37.0	116	58.0	4	2.0	1	0.5	5	2.5
I'm convinced the NP will work if applied in pt care	55	27.5	122	61.0	11	5.5	8	4.0	4	2.0
The nursing process is an elaborated Kardex system	24	12.0	77	38.5	42	21.0	50	25.0	7	3.5
The nursing process should be used by BSc and above nurses only	13	6.5	43	21.5	17	8.5	97	48.5	30	15.0
The nursing process works well in practice	48	24.0	110	55.0	18	9.0	13	6.5	11	5.5
The nursing process can be used in any settings	38	19.0	107	53.5	28	14.0	21	10.5	6	3.0
There is no enough time to apply NP during pt care	49	24.5	61	30.5	15	7.5	53	26.5	22	11.0
Nursing process is a waste of time	35	17.5	51	25.5	25	12.5	58	29.0	31	15.5
I'm ready for the application of nursing process	34	17.0	129	64.5	19	9.5	9	4.5	9	4.5
The Kardex system of nursing record is unsatisfactory	20	10.0	97	48.5	34	17.0	28	14.0	21	10.5
The NP simplifies the awareness of pt needs	45	22.5	123	61.5	14	7.0	12	6.0	6	3.0
Priorities of care are easy to identify using NP	54	27.0	124	62.0	15	7.5	7	3.5	0	0
I'm fed up with hearing about the nursing process	26	13.0	76	38.0	41	20.5	49	24.5	8	4.0
The nursing process involves too much of paper work	18	9.0	61	30.5	23	11.5	74	37.0	24	12.0
NP enables to provide quality nursing care to pts	54	27.0	122	61.0	10	5.0	10	5.0	4	2.0
I'm willing to apply nursing process during pt care	51	25.5	123	61.5	13	6.5	7	3.5	6	3.0
I think introduction of NP will cause a problem	6	3.0	25	12.5	45	22.5	94	47.0	30	15.0
I think pts will not like to be cared for using the NP	7	3.5	18	9.0	45	22.5	102	51.0	28	14.0
I think the nursing staff have no willingness to apply NP	13	6.5	38	19.0	38	19.0	90	45.0	21	10.5
I think the staff will never accept the nursing process	20	10.0	25	12.5	31	15.5	99	49.5	25	12.5

The mean score of the attitudes of nurses is 71.81 with a minimum score of 38 and maximum score of 92 out of 100.

Almost all of the respondents 199 (99.5%) of the respondents have scored above 50% this indicates they have a positive attitude towards the nursing process (**Table 5**)

Table 5: status of attitudes of the respondent towards the nursing process among nurses of Mekelle zone hospitals, northern Ethiopia, March 2011

Categorized attitude	Frequency	Percent
Negative attitude	1	.5
Positive attitude	199	99.5
Total	200	100.0

All head nurses participated in this qualitative study agreed that nursing process will improve patient care. One key informant said *“I think if patient get service based on the nursing process, it is quite better.”* Another participant said *“the nursing process is quite important because it helps us to identify the patients’ problems every hour and every day.”* Another key informant also strengthened this idea by saying *“Yes it improves service provided because it is the science that simplify the way to identify patients’ problems.”*

The participants were also required to express their attitudes towards the type of health institution in which the nursing process need to be applied. There are two types of attitudes reflected towards the setting in which nursing process can be applied. The first attitude is that the nursing process should be applied where there is patient admission. Five participants said *“It is better to apply it in hospitals and admission areas.”* But some of the participants believed that the nursing process can be applied in every setting where patients and nurses are available. They said *“We can apply the nursing process wherever we want as long as nurses and patients are available.”*

Except one participant all the other believed that the nursing process can be applied by all nurses including diploma nurses after provision of training to them. One participant said *“I think nurses starting from diploma can apply the nursing process.”* Another participant said *“If they get better training any nurse can apply it.”* Again another participant said *“Since the number of nurses in Ethiopia is very low, all nurses must apply the nursing process after providing training to them.”* But one participant reflected his/her opinion indicating the nursing process is better applied by BSc nurses. He/she said *“as to me BSc nurses can better apply the nursing process.”*

The participants were also asked to guess what the attitude of the other nurses would be towards the nursing process. Their responses were quite variable. Some of them said nurses have good attitude towards the nursing process. One participant, for instance, said *“they have good attitude”* Another participant said *“We can say it is good.”* Some other participants said that nurses have good attitude towards nursing process but with some preconditions. For instance, one participant said *“nurses like the nursing process, and want to apply it but the number of nurses is not sufficient enough to the number of pts as a result nurses were not motivated to apply it.”* Another participant said *“the attitude of nurses is good if it is supported by training.”* The other participant said *“the nurses have better attitude to apply it but our hospital serves patients coming from four regions. Due to this the nurses became exhausted because of high work load.”*

The other participants said nurses do not give attention to nursing process due to different reasons. One of them said *“due to lack of knowledge they don't give attention.”*, and the other one said *“nurses do not give attention towards nursing process because they give care traditionally.”*

5.1.4 Practice related results

All of the respondents said that they did not follow the scientific ways of application of the nursing process during provision of care to their patients at the time of the study (**table6**)

Table 6 Describing the application nursing process by the nurses of Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

Variables		Yes		No	
		No	%	No	%
Do you follow the steps of nursing process during provision of care?		0	0	200	100.0
Is data collection takes place during the assessment phase?		0	0	200	100.0
Have you developed nursing diagnosis from your assessment?	Actual	0	0	200	100.0
	Risk	0	0	200	100.0
	Possible	0	0	200	100
	Wellness	0	0	200	100
	Collaborative	0	0	200	100
Have you been preparing care plan based on your diagnosis?		0	0	200	100
Have you been implementing the care plan you have developed?		0	0	200	100
Have you been evaluating the effectiveness of your intervention?		0	0	200	100
Have you been documenting your nursing intervention?		0	0	200	100

With regarding to the application of the nursing process all participants unanimously stated that the nursing process was not applied in patient care. One of the key informants said “*there is a rule indicating the application of the nursing process in every patient care within 24 hours of admission, but it is only a paper value*”. The other participant said “*till now we have not yet started applying the nursing process.*”

5.1.5 Relationship of socio- demographic characteristics with knowledge and attitude.

The knowledge of the respondents on nursing process has a significant relationship with their educational status. Compared to the knowledge of diploma nurses, the knowledge of BSc nurses on nursing process is about 11.5 times higher ($p < 0.001$). But the rest of the demographic characteristics have no statistically significant association with knowledge on nursing process (**table 7**).

Table 7 Association of knowledge with socio-demographic characteristics on binary logistic regression in Mekelle Zone hospitals, N. Ethiopia, March 2011.

	B	Sig.	COR	95.0% C.I.	
				Lower	Upper
Educational status		0.000			
BSc	2.442	0.000	11.493	3.808	34.685
MSc	3.041	0.089	20.935	0.628	697.64
					4
Diploma nurses		1			
Work experience		0.454			
5-9yrs	-0.120	0.858	.887	0.239	3.299
10-14yrs	-0.711	0.564	.491	0.044	5.505
15-19yrs	-2.244	0.113	.106	0.007	1.700
≥20yrs	-0.360	0.800	.698	0.043	11.359
0-4yrs		1			
Age of respondent		0.387			
25-29yrs	0.345	0.602	1.411	0.386	5.162
30-34yrs	-0.887	0.515	0.412	0.029	5.942
35-39yrs	1.357	0.312	3.886	0.280	53.889
40-44yrs	0.174	0.922	1.190	0.037	38.087
≥45yrs	-18.528	0.999	0.000	0.000	.
20-24yrs		1			
Type of hospital		0.287			
Public	-1.429	0.157	0.239	0.033	1.737
Defense	-1.956	0.074	0.141	0.017	1.210
Private	-1.925	0.115	0.146	0.013	1.596
Teaching Certificate awarded		1			
Private	0.095	0.848	1.099	0.418	2.888
Government	-1.231	0.261	0.292		
		1			

Association of attitudes of the respondents with the socio-demographic characteristics showed that none of them have statistically significant association in binary logistic regression, i.e. the attitude of nurses towards the nursing process is not affected by the socio-demographic characteristics.

5.1.6 Enabling and reinforcing factors for implementation of the nursing process

Regarding the enabling and reinforcing factors, 94 (47%) said that the administrations of the hospitals were supportive in the application of the nursing process, while 51 (25.5%) the respondents reported that allocation of resources for application of nursing process was adequate. Majority 150 (75%) of the respondent said that the nurse to patient ratio was not optimal to apply the nursing process; whereas only 11 (10.5%) said that the salary and promotion were motivating for the application of the nursing process, despite that around 118 (59%) of the respondents claimed that their educational level was adequate to apply the nursing process (**Table 8**).

Table 8 enabling and reinforcing factors for the application of nursing process by the nurses of Mekelle zone hospitals, northern Ethiopia, March 2011 (n=200)

Variables	Yes		No		I don't know	
	N ₀	%	N ₀	%	N ₀	%
Does the hospital administration support the application of NP?	94	47.0	73	36.5	33	16.5
Does the allocation of resources for application of NP adequate?	51	25.5	128	64.0	21	10.5
Does allocated time sufficient to apply the nursing process?	52	26.0	135	67.5	13	6.5
Does the nurse/patient ratio optimal to apply the nursing process?	38	19.0	150	75.0	12	6.0
Does appreciating feedback available for application of NP?	43	21.5	141	70.5	16	8.0
Does there monitoring and evaluation for application of NP?	49	24.5	140	70.0	11	5.5
Does the salary and promotion motivating for application of NP?	21	10.5	173	86.5	6	3.0
Have you ever seen other nurses applying the NP?	40	20.0	148	74.0	12	6.0
Have you got on job training on nursing process?	42	21.0	150	75.0	8	4.0
Does your educational level adequate to apply NP?	118	59.0	78	39.0	4	2.0

It is well known that one of the limitations of the nursing process is that it needs ample of resources especially time. Most of the key informants believe that most of the enabling and reinforcing factors such as time, resource, human power and training were not adequate to apply nursing process. One of the key informants said *“The main obstacles for application of the nursing process are resource scarcity, time shortage and lack of adequate knowledge.”* The other key informant supported the previous one by saying *“There is shortage of material and human power. In addition to that there is also no motivation at all to apply the nursing process.”* Some of the key informants said that lack of training on application of the nursing process is one of the factors why nurses lack adequate knowledge to apply the nursing process. Another key informant said *“Lack of attention and training are factors contributing to the failure of applying the nursing process.”*

CHAPTER SIX: DISCUSSION

The nursing process is a widely accepted method and has been suggested as a scientific method to guide procedures and qualify nursing care (5). In Ethiopia quality of health care was poor (9) to improve the quality of health service application of nursing process may contribute a lot.

6.1. Knowledge

The findings of this study indicated that knowledge is one of the most determinant factors for application of the nursing process. One hundred eighty (90%) of the respondents have scored below 50% on knowledge related questions. All the key informants indicated that nurses lack knowledge to apply the nursing process. The findings of this study agrees with the findings of a study conducted in Mexico which indicated that there was a problem in application of the nursing process due to variations in what the nurses were thought at school and what they were applying at hospitals (4). The result of this study also agreed with a study conducted in Brazil which indicated knowledge is one of several factors that interfere in the efficient implementation of the nursing process (17).

6.2. Attitude

According to both the qualitative and quantitative findings nurses of the study sites have positive attitude towards the nursing process. One hundred ninety nine (99.5%) of the respondents have positive attitudes. The qualitative finding also revealed that nurses have positive attitude towards the nursing process. Most of key informants they believe nursing process qualifies nursing process. The problem was not related to attitude the rather mainly related to with knowledge and enabling and reinforcing factors because they believe it qualifies nursing care: it strengths nurse patient relationships: it increase competency of the nurses. The findings of this study almost consistence the findings of a study conducted in US in which the mean attitudes of nurses towards the nursing process was 73.57% (13), and that of this study's mean attitude of nurses towards the nursing process was 71.81% indicating attitude is not a determinant for application of the nursing process.

6.3. Application of the nursing process

Both the qualitative and quantitative findings indicated that the nursing process is not applied by following the scientific way in the hospitals. All the 200 respondents reported that they did not apply any of the nursing process steps. This finding is lower than the findings of study conducted

in Brazil in which, for instance, assessment was performed in 98.7% cases; diagnosis was made in 90% of cases; planning was made in 74.8% of cases (3). It also varies with a finding of a study conducted in central Taiwan revealed that nurses generally followed the nursing process and charting sequence to complete care plans (18). The variation may be due to difference in the study sites and the progress of the nursing profession; resource and technological variations Government commitment: level of nursing practice; lack of clear nursing standard.

The findings of the qualitative study also strengthened the findings of the quantitative findings, in which all the participants said that any of the nursing process steps were not applied in their hospitals. This finding agrees with a findings of a qualitative study conducted in Mexican hospital that indicated there was a problem of application of the nursing process (2).

6.4. Socio-demographic relationship

Among the socio demographic characteristics educational status have a statically significant relationship with knowledge of nurses on nursing process BSc nurses have better knowledgeable than Diploma nurses with p-value < 0.001.

6.5 Enabling and reinforcing factors

The result of this study showed that most of the enabling and reinforcing factors did not motivate to apply nursing process. For example, slightly less than half (47%) of the respondents said that the administration of the hospitals supported application of nursing process; 25.5% said the allocation of time was adequate to apply nursing process; 67.5% there was time shortage; 75% there was imbalance between the nurse and patient ratio. The quantitative finding is also supported by the qualitative finding. For instance, one key informant said *“The main obstacles for application of the nursing process are resource scarcity, time shortage and lack of adequate knowledge.”* Another respondent said *“We have not started to apply it because one nurse serves for 45 pts”*.

This finding of this study agrees with study conducted in Brazil indicating factors such as lack of knowledge of the steps involved in the process, excessive number of tasks assigned to the nursing team can interfere in the efficient implementation of the nursing process (17). To apply the nursing process in practice it requires adequate time, nursing human power and materials.

Strength and Limitations

Strength

- ✓ The study employed by both qualitative and quantitative methods

Limitations

- ✓ One of the major limitation of study was the data may not be generalized for national level due to limitation of the study area
- ✓ All affecting factors might not identified properly due absence of the proper application of nursing process.
- ✓ Due to lack clear job description among each level nurses diploma nurses were included in the study

CHAPTER SEVEN CONCLUSION AND RECOMMENDATION

Conclusion

Based on the findings of this study the following conclusions are made.

The majority (90%) the study participants were poorly knowledgeable about the nursing process.

Almost all of study participants had positive attitude towards the nursing process. This seems that nurses' attitude towards the nursing process is not a factor affecting the application of nursing process.

Generally the nursing process is not applied in the six hospitals.

From the socio-demographic characteristics only educational status has direct statistically significant relationship with the knowledge of nurses on nursing process.

Participants reported that; factors such as shortage of resources, lack of knowledge, high patient nurse ratio/work load, and lack of training, motivating factors such as salary affected the application of the nursing process.

Recommendations

Based on the findings of this study the following recommendations are forwarded.

1. The hospitals should seek means to upgrade the knowledge of their nurses on the nursing process and its implementation.
2. The nurses of the hospitals should seek a way to improve their knowledge on nursing process and its application so that they may be able to provide quality of care to their patients.
3. The hospitals should consider the application of the nursing process seriously; motivate professional nurses to apply the nursing process; and monitor and evaluate its progress.
4. The ministry of health, teaching hospitals and NGO's must provide great emphasis on provision of training on the nursing process.

5. The Ethiopian Nursing Association must work in collaboration with ministry of health and ministry of education to upgrade the knowledge of nurses on nursing process.
6. The policy makers of health should consider application of nursing process to improve the quality of health service.
7. The government must re- emphasizes on the provision of adequate resources such as materials, nursing human power, and adequate salary for the professionals so that the nursing process may be applied.
8. The ministry of health must set a clear job description among each level of nurses
9. This study may not be generalized to the national level; therefore the author would like to recommend other research at a national level on related topic by using this finding as base line information.

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ANNEX I. Questionnaire

Jimma University
College of public health and medical sciences
Department of nursing

A questionnaire to assess the application of nursing process and its determinants, in Mekelle hospitals, northern Ethiopia, February 2011.

INFORMED CONSENT SHEET

Good morning/afternoon, my name is _____ and I am a nurse working for other hospital. I am also part of a team carrying out a study on application and affecting factors of the nursing process in the Hospitals. The principal investigator is a student in Jimma University who is conducting this research for partial fulfillment of masters of degree in Adult Health Nursing.

We nurses owe our patients a standard and quality care. One of the major means of providing standardized and quality care to our patients is by applying the nursing process. Therefore investigating the level of application and affecting factors of nursing process is unquestionable. Currently we are conducting a study on application and determinants of nursing process. We strongly believe that the findings of this study will be quite helpful in the area of improving the quality of nursing care our patients are receiving.

If you participate in the study, it will not take us more than 20 to 30 minutes. Your name will not be written on this form, thus the information you provide will not be known to others. Your participation is purely voluntary, and you can withdraw any time after you get involved in the study without compromising your right. However, we hope that you will participate in this study since your views are important.

Now do you agree to participate in the study? Yes _____ No _____.

If yes, please read the questions thoroughly and provide your answer either by circling or by filling on the space provided!

Thank you very much for your cooperation!

The participant:

1. Agreed
2. Not agreed -----end interview.

Interviewer: - please put your signature in the space provide blow which signify that the respondent has consented to participate in the study! Sig. _____

Interviewer name _____ code _____ signature _____

Date _____ month _____ year _____

Supervisor name _____ signature _____

Date _____ month _____ year _____

Please note the inclusion criteria:

- ✓ Is the nurse diploma and above? _____
- ✓ Is the nurse voluntary to participate in the study? _____

If “no” any of the above questions, thank the nurse and stop the interview!

Time of interview: - Start time ___ : ___

End time ___ : ___

Date of interview ___/___/2011

Section I. demographic characteristics

S. No	Questions and filter	Coding categories	Skip
101	Sex of the respondent	Male _____1 Female _____2	
102	Age of the respondent	_____	
102	Educational status	Diploma _____1 Degree _____2 MSC _____3 PhD _____4	
103	From where did you earn your diploma or degree award?	Government institution _____1 Private institution _____2	
104	For how long have you been working as nurse?	_____	
105	What is the name of the hospital you are working in?	_____	
106	In what type of hospital are you	Teaching hospital _____ 1	

	working in?	Public hospital _____2 Defense hospital _____3 Private hospital _____4	
108	In which unit are you currently working in?	Medical ward__1 Surgical ward__2 Pediatrics____3 Oby-gyne____4 ICU _____5 Other specify_____	
109	What is your position?	Nurse officer _____1 Head nurse _____2 Staff nurse _____3 Other specify_____4	
Section II. Knowledge assessment			
201	Have you ever heard about the nursing process?	Yes _____1 No _____ 2(if no skip)	301
202	If yes to the above where did you get the information?	From pre service training __1 From in service training____2 Other nurses with you____3 Other specify_____	
203	How many steps do you know?	_____	
204	What are the steps of nursing process?	List those steps _____ _____ _____ _____ _____ _____ _____	
205	Which types of nursing assessment do you aware of?	_____ _____ _____ _____	

206	How many types of nursing diagnosis do you know?	_____	
207	Which types of nursing diagnosis are you aware of?	_____ _____ _____ _____	
208	What are the activities of planning?	_____ _____ _____ _____ _____	
209	What is/ are the nursing action(s)?	_____ _____ _____	
210	How do you check whether the action plan you performed has been effective or not?	_____	
Section III application of nursing process			
301	Do you follow the steps nursing process during provision of patient care?	Yes -----1 No -----2 If no why? ____ _____ _____	401
302	What activities have you been performing in the assessment step?	_____ _____ _____ _____	
303	Have you developed nursing diagnosis from your assessment?	Yes _____1 No _____2. If no why _____ _____	
304	Which types of nursing diagnosis	_____	

	have you developed from your assessment?	_____ _____ _____	
304	Have you been preparing care plan based on your nursing diagnosis?	Yes -----1 No -----2. Would you please list some of the reasons for not developing care plan? __ _____ _____	
305	Have you been implementing the care plans you developed?	Yes _____ 1 No _____ 2. If no what were the reasons? _____ _____	
306	Have you been evaluating to check whether your intervention has effective or not?	Yes _____ 1 No _____ 2. If no why? _____ _____ _____	
307	Have you been documenting your nursing intervention on patient chart?	Yes _____ 1 No _____ 2	
Section IV enabling and reinforcing factors			
401	Does the administration of hospital support application of nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
402	Does allocating resources needed for implementation of the nursing process is adequate?	Yes _____ 1 No _____ 2 I don't know _____ 3	
403	Does allocating time sufficient to implement the nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
404	Does the nurse- patient ratio optimal to apply nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
405	Does appreciating feedbacks is available for applying nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
406	Does there Monitoring and evaluating for the application of the nursing	Yes _____ 1 No _____ 2	

	process?	I don't know _____ 3	
407	Does the salary and promotion is motivating for the application of nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
408	Have you ever seen other staffs applying the nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
409	Have you got on job training on nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
410	Does your professional level adequate to apply nursing process?	Yes _____ 1 No _____ 2 I don't know _____ 3	
411	What are the commonest constraints for application of the nursing process?	_____ _____ _____	

Section V attitude related questions

Instruction: - How much do you agree or disagree with the following statements about the nursing process? Please circle the level of agreement you have chosen!

S. No		Strongly agree	Agree	Don't know	Disagree	Strongly disagree
1	I like the aim of the nursing process	5	4	3	2	1
2	I am convinced the nursing process will work if applied in patient care	5	4	3	2	1
3	The nursing process simplifies awareness of patient needs	5	4	3	2	1
4	Priorities of care are easy to identify using the nursing process	5	4	3	2	1
5	The nursing process works well in practice	5	4	3	2	1
6	The nursing process can be used in any settings	5	4	3	2	1
7	The nursing process enables to provide quality nursing care to patients	5	4	3	2	1
8	I am willing to apply the nursing process during	5	4	3	2	1

	caring for patients					
9	I am now ready for the application of the nursing process	5	4	3	2	1
10	The Kardex system of nursing records is unsatisfactory	5	4	3	2	1
11	The nursing process is an elaborated Kardex system	1	2	3	4	5
12	The nursing process should be used by BSc and above nurses only	1	2	3	4	5
13	I am fed up with hearing about the nursing process	1	2	3	4	5
14	The nursing process involves too much of paper work	1	2	3	4	5
15	There is no enough time to apply the nursing process during pt care	1	2	3	4	5
16	The nursing process is a waste of time	1	2	3	4	5
17	I think introduction of nursing process will cause problems	1	2	3	4	5
18	I think patients will not like to be cared for using the nursing process	1	2	3	4	5
19	I think the nursing staffs have no willingness to apply the nursing process	1	2	3	4	5
20	I think the staff will never accept the nursing process	1	2	3	4	5

Annex II: - Guidelines for in-depth interview

Guide lines for in-depth interview to be used to gather qualitative data from head nurses

Interviewer: - please explain the purpose of the study and obtain the willingness of the interviewee before proceeding to interview!

1. Do you think nursing process enables to provide quality nursing care to patients?
2. Is the working environment where you are working in is convenient for application of the nursing process? Why?
3. How is application of the nursing process in your work area?
4. In which health institution do you think the nursing process should be applied?
5. Do you believe nurses have enough knowledge for application of nursing process?
6. Nurses of what educational level do you think should apply the nursing process? Why?
7. What, in your opinion, are the drawbacks of applying the nursing process?
8. How do you allocate time for applying nursing process?
9. How do you allocate nurses in your ward for application of nursing process?
10. What other obstacles has for the application of nursing process?
11. What do you think about the attitude of nurses towards nursing process?

Annex III: - Guidelines for chart review

Guide lines for chart review to be used to gather quantitative data from patients chart

Data collectors: - please collect the data from patients chart based on the following questions if the steps of nursing process were performed within 48 hrs after admission.

Guide line for record review tick the answer on space provided

1. Is assessment recorded in patient chart?
Yes _____
No _____
 - 1.1.If yes to question No 1, on which type of chart it recorded?
 - I. Medical chart _____
 - II. Nursing chart _____
 - 1.2.If yes to question No 1, which of the following approach is followed?
Head to toe _____
Systemic approach _____
Gordon's approach _____
2. Is nursing diagnosis is recorded in the chart?
Yes _____
No _____
If yes which type of nursing diagnosis is recorded?
Actual _____
Potential nursing diagnosis _____
3. Is care plan is prepared and recorded for the nursing diagnosis?
Yes _____
No _____
4. Is nursing implementation is recorded in the chart?
Yes _____
No _____
5. Is nursing evaluation is recorded in the chart?
Yes _____
No _____

ጅማ ዩኒቨርሲቲ
የህብረተሰብ ሳይንስና ሜዲካል ሳይንስ ኮሌጅ
ነርሲንግ ዲፖርትመንት

ስለ ነርሲንግ ፕሮሰሰርና ትግበራና ትግበራው ጋር ግንኙነት ያላቸውን ነገሮች ለማወቅ የተዘጋጀ መጠይቅ፡ መቀሌ ዞን ሰሜን ኢትዮጵያ፡ የካቲት 2003 ዓ/ም

የፈቃደኝነት ማረጋገጫ ምስክር ወረቀት

እንደምን አደሩ/ዋሉ? ስሜ _____ ይባላል። እኔ ከዚህ

ሆስፒታል ውጪ በነርስነት የምሰራ ስሆን በተጨማሪ ይህን ጥናት ከሚያካሂዱት አባል ስሆን፡ ጥናቱ የነርሲንግ ፕሮሰስ ትግበራና ትግበራው ጋር ግንኙነት ያላቸውን ነገሮች ለማወቅ ሲሆን፡ የዚህ ጥናት ባለቤት በጅማ ዩኒቨርሲቲ የሁለተኛ ዲግሪውን በአዋቂዎች ነርሲንግ የሚጠና ሲሆን ይህ ጥናት የመመረቅ ድጋፍ ይሆናል።

እኛ ነርሶች ለህሙማን ደረጃውን የጠበቀ የህሙማን እክብካቤ ማድረግ ይጠበቅብናል። ይህን ለመተግበር ትልቁ መሳርያ ነርሲንግ ፕሮሰስን ተግባራዊ ማድረግ ነው። የዚህ የትግበራ ደረጃና ትግበራው ጋር ግንኙነት ያላቸውን ነገሮች ማወቅ የግድ ይላል። አሁን ይህን በማጥናት ላይ እንገኛለን። የዚህ ጥናት ግኝት ለምንሰጠው የህሙማን እንክብካቤ ከፍተኛ አስተዋፅኦ አለው ብለን እናምናለን።

በዚህ ጥናት ቢካፈሉ የሚዎስድቦት ጊዜ ከሃያ እስከ ሰላሳ ደቂቃ ነው። የእስዎ ስም በዚህ መጠይቅ አይጻፍም። ስለዚህ የሚሰጡት መረጃ ለሌላ አይገለፅም። የእርስዎ ተሳትፎ ሙሉ በሙሉ በርስዎ መልካም ፈቃድ ላይ የተመሰረተ ነው። በመጠይቁ መካከል በማንኛውም ሰዓት አቋርጠው መውጣት ይችላሉ። ይሁንና የዚህ ጥናት ተካፋይ እንደሚሆኑ እምነታችን ነው። የእስዎ አመለካከት በጎ ስለሆነ።

አሁን ይህን መጠይቅ ለመሙላት ፈቃደኛ ነዎት? አዎ _____

አይደለም _____ ፈቃደኛ ከሆኑ መጠይቁን በማንበብ መልስዎን በማክበብና በክፍት ቦታው በመጻፍ ይግለፁ።

ለትብብርዎ እጅግ በጣም እናመሰግናለን!

ጥልቅ ቃለ መጠይቅ ለማድረግ የተዘጋጀ መመሪያ

ይህ መመሪያ የተዘጋጀው ከየሆስፒታሉ የህመማን መኝታ ክፍል ሃላፊ ነርሶች ለለነርሲንግ ፕሮሰስ ትግበራ ጥልቅ መረጃ ለመሰብሰብ ነው ።

ጠያቂ ፡ ቃለ መጠየቅዎ በፊት ስለ ጥናቱ አላማ በመግለጽ የተሳታፊውን ፈቃደኝነት ይጠይቁ።

- 1 ነርሲንግ ፕሮሰስ ነርሶች ለህመማን የሚሰጡትን እንክብካቤ ያሻሽላል ብለው ያስባሉ?
- 2 እርስዎ የሚሰሩበት የስራ ቦታ ነርሲንግ ፕሮሰስ ለመተግበር አመች ነውን?
- 3 በስራ ቦታዎ የነርሲንግ ፕሮ ሰስ ትግበራ ምን ይመስላል?
- 4 ምን ዓይነት የጤና ተቋም ላይ ነርሲንግ ፕሮሰስ ተግባራዊ መሆን አለበት ብለው ያስባሉ?
- 5 ነርሶች በነርሲንግ ፕሮሰስ በቂ እውቀት አላቸው ብለው ያስባሉ?
- 6 ምን ዓይነት የትምህርት ደረጃ ያላቸው ነርሶች ነርሲንግ ፕሮሰስን ተግባራዊ ማድረግ አለባቸው ብለው ያስባሉ?
- 7 ነርሲንግ ፕሮሰስ ትግበራ ምን ዓይነት ችግሮች ያስከትላል ብለው ያምናሉ?
- 8 ለነርሲንግ ፕሮሰስ ትግበራ የሰዓት አጠቃቀም ምን ይመስላል?
- 9 ነርሶችን ለነርሲንግ ፕሮሰስ ትግበራ በስራ ቦታ ላይ እንዴት ያስማራሉ?
- 10 ለነርሲንግ ፕሮሰስ ትግበራ ሌሎች እንቅፋቶች ካሉ ቢገልጹልን?
- 11 ነርሶች ለነርሲንግ ፕሮሰስ ያላቸው ዝንባሌ ምን ይመስላል?

መምርሒ ንጡሉቕ ቃለ መጠይቅ

መምርሒ ንጡሉቕ ቃለ መጠይቅ ካብ ሓለፍቲ ነርስታት

ጠያቂ ቅድሚያ ሕዳድ ምጽግርኩም ዓላማ ናይዚ መፅናዕቲ ብምግላፅ፡፡ ፍቃድኻንዮም ሕተት

1. ነርስንግ ፕሮሰስ ፅፍፍ ናይ ሕሙማን ከንከን ንምሃብ የክእል እዩ ኢልኩም ትሓሰቡ ዶ?
2. ነርስንግ ፕሮሰስ ንምትግባር ስራሕ ቦታኩም ምቕው ዶ?
3. ነርስንግ ፕሮሰስ ትግበራ ኣብ ስራሕ ቦታኩም እንታይ ይመስል?
4. ኣብምንታይ ዓይነት ትካል ነርስንግ ፕሮሰስ ተግባራዊ ክኮውን ዘለዎ?
5. ነርስታት ነርስንግ ፕሮሰስ እኹል ፍልጠት ኣለዎም ዶ?
6. እንታይ ዓይነት ትምህርቲ ደረጃ ዘለዎም ነርስታት እዮም ተግባራዊ ክገብሩ ዘለዎም?
7. ነርስንግ ፕሮሰስ ንምትግባር ዘለዉ ሕፅረታት እንታይ እዮም?
8. ኣመቓቕማ ሰዓትኩም ነርስንግ ፕሮሰስ እንታይ ይመስል?
9. ነርስንግ ፕሮሰስ ንምትግባር ነርስታት ኣብ ስራሕ ቦታ ከመይ ተሰማርዉ?
10. ነርስንግ ፕሮሰስ ንምትግባር ካልኣት ዘለዉ ሕፅረታት እንታይ እዮም?
11. ነርስታት ኣብ ነርስንግ ፕሮሰስ ዘለዎም ዝንላለ እንታይ ይመስል?