

**ASSESSING BARRIERS TO IMPLEMENTATION OF NURSING
PROCESS AMONG NURSES WORKING AT MACHAKOS LEVEL 5
HOSPITAL**

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DECLARATION

I DENNIS NGAO MBITHI declare that this dissertation is my original work and has not been presented for a degree at any other university or any training institution.

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DEDICATION

I dedicate this work to my lovely wife Jackbet Nduku for the support she accorded me during my studies. Dedication also goes to my parents Mr and Mrs Joshua Mbithi Kioko for their encouragement and prayers.

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ABBREVIATIONS/ACRONYMS

BScN:	Bachelor of Science in Nursing
FPC:	Finite Population Correction
KNH:	Kenyatta National Hospital
MOH:	Ministry of Health
MScN:	Master of Science in Nursing
NANDA:	North American Nurses Diagnosis Association
NP:	Nursing Process
QHC:	Quality Health Care
QNC:	Quality Nursing Care
SPSS:	Statistical Package for Social Sciences
UON:	University of Nairobi

OPERATIONAL DEFINITIONS

Barriers: Something or a situation that makes it difficult or impossible to achieve a certain level of functioning, for this study, barriers will mean factors hindering implementation of nursing process

Framework: A framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful. For the study is basic conceptual structure used to guide nursing as a profession.

Implementation: Implementation is the carrying out, execution, or practice of a plan, a method, or any design for doing something. Implementation is the action that must follow any preliminary thinking in order for something to actually happen. For this study is putting in to practice all the steps in nursing process.

Nurse: A person who is formally licensed, educated and trained in the care of the sick or infirm especially in a hospital. For this study, it is any person deployed in the hospital to provide nursing services and is directly under the director of nursing services irrespective of his or her cadre, level of training or specialization. This will include: general nurses, midwives, community health nurses, psychiatric nurses, paediatric nurses.

Nursing process: is a systematic problem solving approach used to identify, prevent and treat actual or potential health problem and promote wellness. This process is composed of seven steps namely; assessment, diagnosis, outcome identification, planning, interventions, implementation and evaluation.

Nursing care plan: it outlines the nursing care to be provided to an individual, family or community. It includes a set of action a nurse will implement. Creation of nursing care plan uses the steps in nursing process.

ABSTRACT

Introduction: Nursing process is a global concept, which forms the foundation of nursing as a profession. The use of nursing process in most hospitals is lagging behind despite all the effort of nursing professionals to implement its use. Nursing process was introduced in early 1960s in developed countries and since then it has been widely accepted as a scientific method to guide nursing procedures and quality of nursing care. Nursing process is dynamic and it is used in clinical practice worldwide to deliver quality-individualized care to patients and lack of its application can affect the quality of nursing care in health institutions.

Study Objectives: This study sought to assess barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital.

Methodology: A descriptive cross sectional study was carried out at Machakos Level 5 Hospital. A total of 134 nurses were recruited in the study. Data were collected through self-administered questionnaires and key informant interviews. Quantitative data were analysed using SPSS version 20.0 Descriptive statistics such as measurements of central tendency were used to analyse sample characteristics. Inferential statistics, chi square tests were used to establish association between independent variables and nursing process implementation and p values were used to calculate the statistical significance of results obtained. Qualitative data were coded through content analysis according to the different themes identified. The study was approved by the University of Nairobi-Kenyatta National Hospital Ethics and Research Committee.

Results: In the study, the mean age of the nurses participating was 34.3 years and 66.4% were female. Most nurses (57.5%) had diploma and 109 (81.3%) had trained in nursing process. One-third (33.1%) of nurses reported that they were actively implementing the nursing process but only 11 (8.2%) nurses correctly listed all the steps of the nursing process. Nursing process implementation was significantly associated with nurses demographics (age $p < 0.001$, experience $p = 0.001$), training ($p = 0.013$), institutional factors ($p = 0.048$). Social ($p > 0.05$) and cultural ($p = 0.993$) factors were not significantly associated with nursing process implementation.

Conclusion: The study demonstrated nurse demographic characteristics related barriers, institution related barriers like resource unavailability, lack of constant nursing processes trainings and poor staffing ratios. Therefore nursing process mainstreaming interventions by stake holders, continuous trainings and mentorship on nursing process at clinical setting, availability of relevant resources which includes human resource and supplies can mitigate these barriers.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Nursing process (NP) is a global concept, which forms the foundation of nursing as a profession. The use of nursing process in most hospitals is lagging behind despite all the effort of nursing professionals to implement its use (Momoh & Chukwu, 2010). The introduction of nursing process as a systematic and scientific approach to patient centered care started in the early 1960s in the developed countries. It is a widely accepted scientific method to guide procedures and quality nursing care (Pokorski, *et al.*, 2009). 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 (Freitas *et al.*, 2007).

The Nursing Process as a systematic problem-solving approach is used to identify, prevent and treat actual or potential health problems and promote wellness. (Carlson, 2010). Despite nurse knowledge on nursing process, certain factors limits the ability of nurses to implement it in their daily practice, including lack of time, high patient volume, and high patient turnover. Despite these hurdles, the daily application of the nursing process is characterized by the scientific background of the professionals involved since it requires knowledge and provides individualized human assistance (Freitas *et al.*, 2007).

According to Rivars *et al.*, (2012) nursing process is a scientific method for delivering holistic and quality nursing care and its effective implementation is critical for improved quality of nursing care. However, its implementation in most hospitals especially in low and middle income countries reportedly remains a challenge despite efforts being made (Mahmoud and Bayoumy, 2014). Kenya being in this category of low and middle income

countries is not exempt from these challenges. Factors associated with failure to implement the nursing process in clinical settings can be categorized into negative attitudes, incompetence and lack of resources.

There is need to expand nursing process implementation in the clinical settings, which translates to improved quality of patient care. This can be done by targeting nurses who make up to 51.5% of all health workers in' Kenyan (National Human Resource for Health, 2010). With nursing services contributing the large percentage of the overall quality of healthcare, nursing process implementation will lead to positive patient outcome and patient satisfaction in our institutions. Fortunately training curriculum for all cadres of nurses in Kenya has incorporated the NP as a framework for delivering nursing care.

However, nurses find it difficult to implement nursing care using this framework which in turn contributes to poor quality health care (QHC) in public hospitals in Kenya (Nyatichi, 2012). As a motivating factor from the government, nursing process has been adopted by Ministry of Health (MOH) Kenya to be in the nurse's scheme of service and to serve as one of the criteria for promotion. This intervention will enhance its utilization hence improved quality nursing care to patients.

1.2 Problem Statement

Nurses are the largest group of health professionals in every health care institution and quality of nursing care delivered by nurses is closely related to effectiveness of health care systems. Application of nursing process as a scientific framework for delivering quality patient centred care plays a significant role in improving quality of care and stimulates the construction of theoretical and scientific knowledge based on the clinical practice.

However, despite nursing process adoption as a framework of delivering quality nursing care and its incorporation as a unit in nurses training curriculum, practically nurses find some barriers in their daily implementation of NP in health institutions contributing to poor quality of health care(QHC) in public hospitals in Kenya (Nyatichi, 2012). While nurses exhibit due diligence and high commitment to the care of their patients, it is however observed that the application of the nursing process in patient care is conspicuously absent in most healthcare facilities including Machakos Level 5 Hospital.

Nursing process is used in clinical practice worldwide to deliver quality-individualized care to patients and lack of its application can reduce the quality of care offered by nurses. Applying nursing process across board requires understanding of barriers affecting its utilization. The nursing process, upon introduction by North American Nurses Diagnosis Association (NANDA) has proved to be a means of standardizing nursing care and in maintaining professional autonomy. However, despite its benefits, many nurses are yet to fully understand and put to practice the nursing process. This has led to poor patient care and outcome.

Despite structured and comprehensive training of nurses working at Machakos Level 5 Hospital on nursing process in the year 2012 by Ministry of Health (MOH), evaluation reports at the institution shows an evidence of low implementation of NP among nurses hence poor quality health care. Poor quality health care in turn leads to increased morbidity and mortality rates in our health care institutions. This prompted the researcher to conduct a study to assess the barriers which are hindering nurses at Machakos level 5 hospital from implementing NP despite all the efforts.

1.3 Justification for the Study

Nursing process is a goal-directed, dynamic, non-static but on-going process, with its objective being delivery of quality care. Its application continues for as long as the nurse and the client have interactions which are directed toward change in the client's physical or behavioral responses. For many years, the nursing process has provided framework for the delivery of nursing care, and proved to be a yardstick of measuring quality nursing care. It enables nursing to fulfil scientific methodology and autonomy as a profession. NP as a process of critical thinking, it requires gathering data, analyzing and interpreting data, making judgments, setting goals, establishing priorities, selecting appropriate interventions, implementing these interventions and evaluating the outcomes to determine if the plan has been effective.

Nurses constitute the largest proportion of health care workforce and provide up to 80% of all health care services (Wilson *et al.*, 2012). Therefore, quality of nursing care is critical to the overall quality of health care services in a country such as Kenya. Based on the importance of nursing process and need for its use by nurses in hospital settings, assessing barriers to its implementation will be key for all stakeholders to address highlighted gaps and ensure utilization which in turn will lead to improved quality of nursing care to patients in our health institutions and reduction in mortalities.

1.3.1 Purpose of the Study

The study sought to assess barriers encountered by nurses on their daily implementation of nursing process which is a framework of delivering quality nursing care; this eventually serves as an eye opener on challenges encountered by nurses and how best they can be solved.

1.3.2 Benefits of the Study

This study will give managers of health institutions an overview on barriers to implementation of nursing process by nurses in clinical practice. The highlighted recommendations will be used by hospital administration to addressing the gaps on NP implementation.

The study will benefit policy makers in formulating policies and strategies on nursing process which are informed and evidence based .The study results will also help other researchers who would wish to carry out similar study in future.

1.4 Research Questions

1. What are demographic characteristics of nurses working at Machakos Level 5 Hospital hindering implementation of NP
2. What are the institutional factors hindering implementation of NP at Machakos Level 5 Hospital?
3. What are the nurse social factors hindering implementation of NP among nurses working at Machakos Level 5 Hospital?
4. What are the nurse cultural factors hindering implementation of NP among nurses working at Machakos Level 5 Hospital?

1.5 Main Objective

To assess barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital

1.5.1 Specific objectives

1. To determine nurse demographic factors affecting implementation of NP by nurses working at Machakos Level 5 Hospital

2. To determine institutional factors hindering implementation of NP by nurses working at Machakos Level 5 Hospital
3. To determine nurse social factors hindering implementation of NP among nurses working at Machakos Level 5 Hospital
4. To determine nurse cultural factors hindering implementation of NP by nurses working at Machakos Level 5 Hospital

1.6 Study Variables

1.6.1 Dependent variable

Implementation of Nursing Process (NP Steps and NP Practice)

1.6.2 Independent variables

- Demographic factors (years of experience, professional qualifications, age, and gender)
- Social factors (nurse peers, family)
- Cultural factors (religion, cultural beliefs, and traditional practices)
- Institutional factors (trainings, staffing levels, resources, supervision, motivation, service provider)

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Nursing care has evolved over the years from the era of disease model to the present day scientific and holistic approach to patient care. In the past, the patient was treated and cared for based on the illness suffered with little or no consideration for his or her psychological and social interplay that often accompany physical illnesses and disabilities. The present day nursing however, considers the patient holistically with due regard to the biopsychosocial interactions and dynamism in disease production and symptom presentation (American Nurses Association, 2009).

Nursing is now practiced based on sound scientific principles embedded in a process called the nursing process. According to the American Nurses Association (2009), the nursing process is a deliberate framework that all professional nurses use to solve problems and provide high quality standards of care across populations and settings. Nursing is both an art and science, and the application of the nursing process is the blending of the two which has proven to be a valuable tool that is revolutionizing nursing practice as well as patient outcome globally. Therefore, practitioners of nursing must keep abreast with good scientific understanding of the task applied and must apply scientific knowledge in every task to be done.

The use of nursing process in clinical settings facilitates high quality nursing care, improves client health outcomes and promotes nursing as a professional scientific discipline (Habermann and Uys, 2005, Hagos *et al.*, 2014) Yet, establishing nursing process within clinical settings in Kenya remains a challenge resulting to low quality of health care service (Department of Nursing, 2009)

Despite all the challenges facing NP implementation in Kenya and globally, nursing process has major benefits to patients and the nursing profession in countries where it has been utilized successfully. Research has shown when applied in clinical practice, nursing process offers a basic framework that guides the nurse in provision of systematic and organized quality nursing care (Habermann and Uys, 2005)

2.2 The Nursing Process

The NP is a series of organized steps designed for nurses to provide excellent care. In international literature by Alfaro-LeFevre, (2010) and Berman *et al.*, (2012), nursing process is described as composed of seven steps namely assessment, diagnosis, outcome identification, planning, interventions, implementation and evaluation. In the Kenya, the steps are revised to including documentation as the last step. This was in response to observations by nurse administrators during supervisory visits that documentation is a challenge in Kenya (Wagoro and Rakuom, 2015). Nursing process serves as a scientific method for implementing nursing practice, an approach to arrange the nursing documentation, a method to organize the nursing work, a system of problem solving and even a nursing philosophy (Attree & Murphy, 1999). It is a systemized method focused on achieving goals in an efficient way. Nurses often perform tasks related to each stage included in the NP while they are on duty (Alfaro-LeFevre, 1998)

The Nursing Process is a systematic problem-solving approach used to identify, prevent and treat actual or potential health problems and promote wellness. Every stage of the NP should be recorded in the patient's clinical history as they provide information on the patient's progress and give information on management and service assessment (Saranto and Kinnunen, 2009).

Nursing process is a technology of care that guides the sequence of clinical reasoning and improves the quality of care. It integrates, organizes, and ensures the continuity of information, enabling nursing staff to evaluate their efficiency and effectiveness and to modify their performance according to patient recovery results (Dal Sasso, *et al.*, 2013). Consequently, this underpins the need for the effective implementation of the nursing process in patients care (Afoi, *et al.*, 2012). Nursing process has been used as a problem-solving activity in nurses' plan of care and further as the foundation for professional practice in everyday nursing practice (Yildirim and Ozkahraman, 2011)

2.3 Implementation of Nursing Process

The application of the nursing process is essential to the core of professional nursing practice (American Nurses Association, 2009). 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 (Pokorski, *et al.*, 2009). Nursing process means providing nurse practitioners with a scientific method for the application of care, nurses mostly positively perceived the relation between the nursing process and their practical work, whose implementation would grant meaning and relevance to their professional knowledge and raise their nursing to the same level as the other profession in health care setting (Granero-Molina *et al.*, 2012)

According to Yura and Walsh (1988) implementation of the nursing process improved communication amongst nurses, provided a system for evaluating nursing interventions and improved clients' satisfaction with care. Further, Afolayan *et al.*, (2013) stated that nursing process contributes to professionalization, promotion of client's satisfaction and documentation which form global standards upon which nursing care is audited.

2.4 Barriers to Implementation of Nursing Process

Based on a nursing theory developed by Ida Jean Orlando in the late 1950's as she observed nurses in action, the Nursing Process is an essential part of the nursing care plan. Despite nurse knowledge of the nursing process, certain factors limited the ability of nurses to implement it in their daily practice, including lack of time, high patient volume, and high patient turnover. Despite these hurdles, the daily application of the nursing process is characterized by the scientific background of the professionals involved since it requires knowledge and provides individualized human assistance. However, the existence of failures was shown among the steps of nursing process, in the patients' history, as well as the implementation of nursing prescriptions without recording the evaluation of the expected results (Dominguez-Bellido *et al.*, 2012)

Quality patient care in health care delivery settings depends on nurses' ability to develop a comprehensive plan of care. The challenge for many institutions is to help professional nursing staff members refine their understanding of nursing process and develop patient care planning skills (Null *et al.*, 1995; Festa *et al.*, 1996)

There is higher agreement on how much the NP means to make progress in the profession and research, and to ease the patient's management (Pokorski *et al.*, 2009; Urquhart *et al.*, 2009). Implementation of NP standardizes nursing practice and makes nurses more visible and recognized in health care institutions (Coverston *et al.*, 2004; Ledesma- Delgado and Mendes, 2009).

Previous study indicated that care plans diminished both patient individuality and the nurses' ability to think independently about the patient and highlights the collaborative management of both patient and the nurse (Kerr and Lewis, 2000). According to Aidroos, (1991), quality

of nursing care is rated lower in clinical setting where nursing care plans are not in existence and higher where there are existing nursing care plans.

Factors associated with failure to implementation of the nursing process in clinical settings in low and middle income countries such as Kenya can be categorized into negative attitudes, incompetence and lack of resources (Bowman *et al.*, 1983; Mahmoud and Bayoumy, 2014). In clinical settings where nursing process is implemented, inadequate knowledge and incompetence are cited as barriers to its implementation (Alfaro-LeFevre, 2010; Akbari and Shamsi, 2011).

The barriers related to nursing process implementation in most health care institutions are related to nurses' perception and experience, work, resources, and others related to administration (Manal and Hala, 2014). In this study, 68.2% of nurses agreed that barriers related to nursing process were related to lack of time to implement nursing process, evolution on a daily basis, difficulty with defining diagnosis characteristics, and nursing process being time consuming.

According to Toogi *et al.*, (2010) implementation barriers of nursing process were perceived as the most challenging from viewpoint of majority of nurses. Further studies shows that nursing process faced much criticism among many nurses who perceived it as too much time consuming and it involves a series of stages of writing down copious notes by hand to a great deal of documentation of which nurses feel they had no time for (Welsh, 2002). Dominguez-Bellido *et al.*, (2012) further reported that most of nurses reported lack of sufficient time for implementation of the nursing process as a key barrier not forgetting lack of resources. Lack of resources as a barrier was supported by Mamseri (2012) and Mahmoud and Bayoumy (2014) in their study where they observed that many nurses complained of lack of sufficient

resources and time as the most important barrier to implementation of the nursing process. From a study by Potter and Perry (2007) lack of adequate time, poor nurse patient ratio, high patient turn over and lack of equipment and supplies are highlighted as hindrances to implementation of the nursing process.

2.5 Knowledge, Experience and Perception Factors

According Fissehe *et al.* (2014), poor knowledge on nursing process is a major a gap among nurses which acts as one of the barriers to nursing process implementation, in his study nurses' attitude towards the nursing process was not a major barrier in application of nursing process. Lack of knowledge to perform nursing process is the main reason leading nursing professionals to avoid implementing of nursing process on their day-to-day routines care (Takahashi *et al.*, 2008)

Correct education on application of the nursing process helps in developing nursing science and increasing nurses participation in promoting the quality of the care given to the patient (Hasson and Arnetz, 2009). According to Queiroz *et al* (2012), lack of awareness about the importance of nursing process steps, lack of training of the nurses concerned, and lack of time to perform nursing process serves as key barriers in its implementation at clinical set up.

2.6 Demographic Factors

Demographic characteristics of nurses like age, years of work experience and level of education also have significant impact on nursing process implementation; nurse educational status has direct statistically significant relationship with the knowledge of nurses on nursing process (Manal & Hala, 2014). Lack of previous experience by nurses with regard to the Nursing Processes can also lead to resistance in its implementation as nurses may think that nursing process implementation is complex, demands a lot of time and therefore, it is not feasible in daily practice (Brandalize *et al.*, 2005)

2.7 Cultural Factors

Cultural diversity in nursing practice derives its conceptual base from nursing, other cross-cultural health disciplines, and the social sciences such as anthropology, sociology and psychology. Culture is conceptualized broadly to encompass the belief systems of a variety of groups. Cultural diversity refers to the differences between people based on a shared ideology and valued set of beliefs, norms, customs, and meanings evidenced in a way of life. Culture consists of patterns of behavior acquired and transmitted symbols, constituting the distinctive achievement of human groups, including their embodiment in artifacts; the essential core of culture consists of historically derived and selected ideas and especially their attached values (Kroeber and Kluckhohn, 1952). Nurses bring their personal cultural heritage as well as the cultural and philosophical views of their education into the professional setting. Therefore, it is important for the nurse to understand that nurse-patient encounters include the interaction of three cultural systems: the culture of the nurse, the culture of the client and the culture of the setting. Access to care can be improved by providing culturally-relevant, responsive services. Individuals need choices of delivery systems in seeking health care (ANA, 2009)

2.8 Institutional Factors Affecting Implementation of NP

Nursing process to be effectively implemented, there must be collaboration of hospital administration with the implementing nurses for the process involves issues of finance, equipments, implementing tools and personnel. Shortage of resources, lack of knowledge, high patient nurse ratio/work load, and lack of training and motivating factors affected the application of the nursing process (Akbari & Shamsi, 2011).

Poor equipment, staff shortage, non training of nursing staff and unattractive service conditions can as well lead to non implementation of nursing process. Poor nursing care in

any institution arises as a result of barriers to the use of nursing process in inpatient care. It is therefore important for the hospitals as well as the nurses to seek means to upgrade the knowledge of on the nursing process and its implementation and the nurses to improve their knowledge on the nursing process application. The government must reemphasize on the provision of adequate resources such as materials, nursing human power, and motivate nursing professionals so that the nursing process may be applied. (Manal and Hala, 2014).

2.9 Theoretical Framework

This study was based on Expectancy-value theory. Originally this theory was created in order to explain and predict individual's attitudes toward objects and actions; it is used in different field of study including health. Value-expectancy theory proposed by Kurt Lewin, (1938) states that motivation for behavior is based on the probability that a given action or behavior will achieve a valued or desired outcome. Becker and Maiman, (1974) elaborated on this theory and developed a model to study compliance by considering the influence of sociobehavioural determinants in the inter-relationship of motivating and modifying factors which dictate human behavior.

With this theory the researcher will be able to focus on nurses behavioral responses to institutional factors, socio-cultural factors, demographic factors which are some of the determinants of nursing process implementation at Machakos Level 5 Hospital. This theory will also be used to predict individual nurse attitude towards implementation of nursing process and determine whether NP implementing is associated with nurses feeling that NP is adding value to their work.

The researcher will use this theory also to determine factors which influence the use of the nursing process among nurses working at Machakos Level 5 Hospital by examining the

nursing process barrier in the institution. Motivation among nurses will also come out clearly to ascertain use of nursing process.

2.10 Conceptual Framework

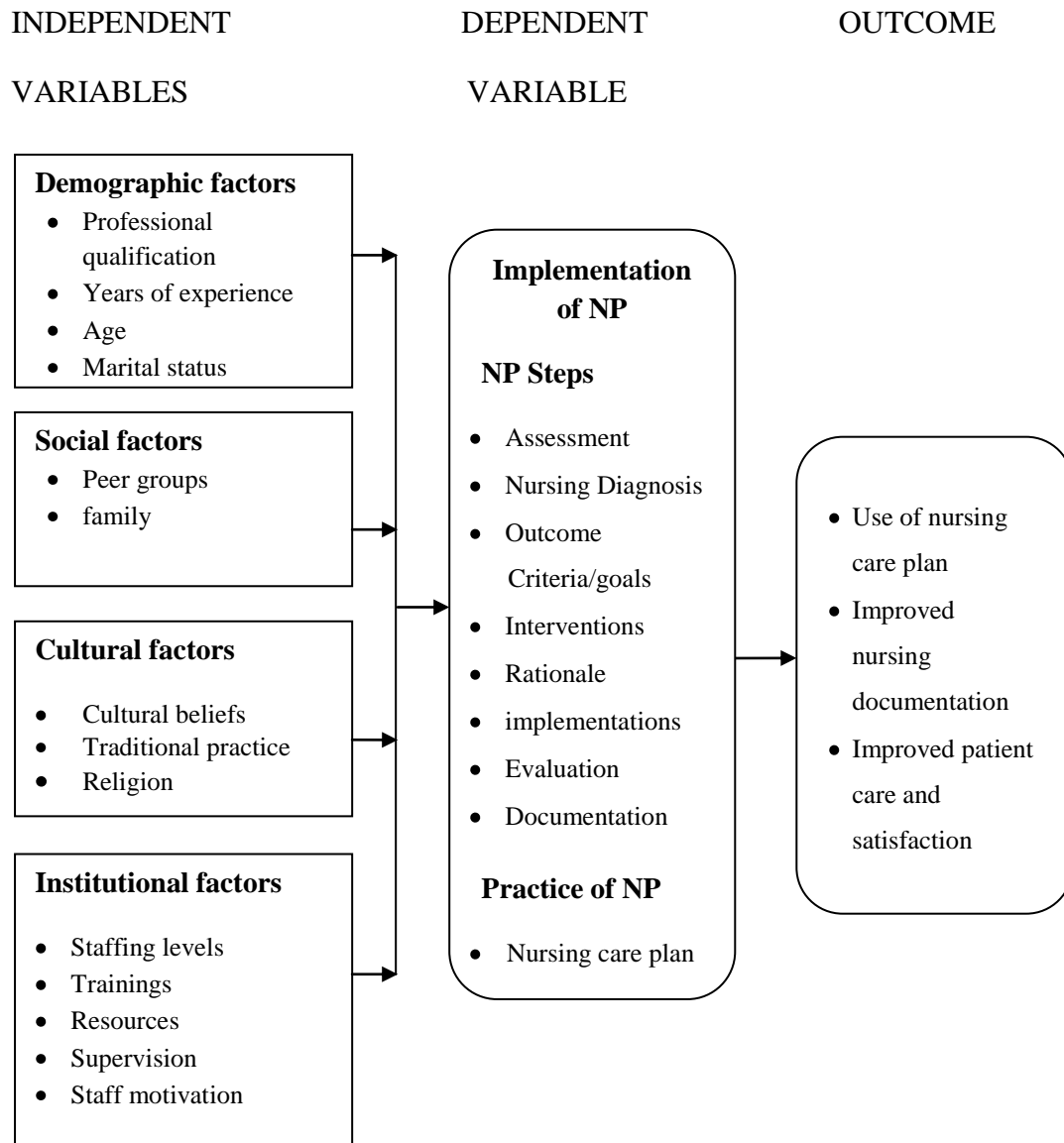


Figure 1: Conceptual Framework

2.11 Gaps in Literature

The literature concentrates more on the factors affecting implementation of nursing process by nurses, basing on their prior college knowledge and experience. Most of the studies on nursing process have been done outside Kenya. So there is less literature on nursing process in Kenya, thus this study will form a basis for more information in a Kenyan context as far as nursing process is concerned.

Most of the studies reviewed in the literature have emphasized more on institutional factors that influence implementation of nursing process. Demographic, social and cultural factors have not been researched in depth. The researcher will go further to determine whether demographic factors like age and gender of the participant have a role to play in implementation of nursing process.

Most of the studies in the literature review have no included social and cultural factors in their studies, so the researcher will go further to determine participant's peers and family are in any way associated with participants' delivery of nursing care. Other aspect that will be looked in to is participants region and traditional beliefs and how they influence implementation of nursing process.

CHAPTER THREE: STUDY METHODOLOGY

3.1 Study Design

A descriptive cross-sectional design was used to assess barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital.

3.2 Study Area

The study was carried out in Machakos Level 5 Hospital. The institution is the main referral hospital for Machakos County. The hospital main catchment area is Machakos County and some parts of the bordering Makueni County. The hospital has a capacity of 375 beds with 90% bed occupancy. The study will be conducted in the medical unit, surgical unit, maternity unit, theatres, Psychiatry unit, Accident and Emergency departments.

3.3 Study Population

The study population was 206 nurses working at Machakos Level 5 Hospital medical units, surgical unit, maternity unit, theatre, Psychiatry unit Accident and Emergency departments.

3.4 Inclusion Criteria and Exclusion Criteria

3.4.1 Inclusion Criteria

- Practicing nurses at Machakos Level 5 Hospital
- Nurses who have given informed consent.

3.4.2 Exclusion Criteria

- Non consenting nurses.
- Nurse students

3.5 Sample size Determination

The sample size was determined using Cochran formula (1963).

$$n = z^2 \cdot q/d^2$$

where:-

n=the desired sample size (if the target population is greater than 10,000)

z=the standard normal distribution at 95% confidence level (=1.96)

P=the expected population correlation coefficient (population effect size)

50% (large effect size) was used to determine the sample size

$$q = 1 - p$$

d=level of precision (set at + or - 5% or 0.05)

Substituting these figures in the above formula:

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

$$= 384$$

Since the target population was less than 10,000, the sample size was adjusted using the Finite Population Correlation Factor (FPC) formula:

$$nf = \frac{n}{1 + n/N}$$

Where

nf= the desired sample size after Finite Population Correction Factor was applied

n= the desired sample size (384) from the above calculation, (when the population > 10,000)

N= the estimate of the population, include 206 nurses

Hence, the desired sample size for nurses was

$$nf = \frac{384}{1 + 384/206}$$

$$= 384 / 1.86$$

$$= 384 / 2.86$$

$$= 134 \text{ nurses}$$

3.6 Sampling Interval

The first nurse from the hospital nurse database was determined by a table of random numbers. Every Nth nurse was then included, where N was the sample Interval.

Sampling interval (N) = No of nurses (206)

$$\text{Sample size (134)} = 1.5373, = 2$$

3.7 Sampling Method

Participants were selected from all wards in Machakos Level 5 Hospital. A register of all nurses in the hospital was obtained from the hospital staff database. The first participant was determined by a random selection from the total population. Every Nth nurse in the register was included in the study, where N is the sample interval. The nursing management and hospital administration were included as the key informants for study.

3.8 Recruitment and Training of Research Assistants

Two research assistants were selected from among the Bachelor of Science nurses on internship at Machakos Level 5 Hospital. They were trained for two days on how to administer the questionnaire.

3.9 Study Instruments

A pre-tested semi-structured questionnaire was used to collect data from nurses on barriers to implementation of nursing process. Key informant interview was conducted on the nurse managers and hospital administrator to determine institutional support to the nurses implementing nursing process. The questionnaire and key informant interview were conducted in English.

3.10 Pre-Testing of Study Instruments

Pretesting of study tools was done on nurses working in one of the medical wards at

Machakos Level 5 Hospital. This was done because nurse in each department shares many similarities. This was to give feedback to the researcher on whether the intended study objectives were captured well, any omissions and any need for additional items for adequate information gathering on nursing process implementation among the nurses.

3.11 Data collection, cleaning and entry

Questionnaires were administered by the researcher. Upon nurses filling the questionnaires, they were checked for completeness. Data was entered into the computer in preparation for data analysis.

3.12 Data Analysis and Presentation

Audio tapes were transcribed. Analysis of data was done using statistical package for social sciences (SPSS) version 20.0. Descriptive statistics such as measurements of central tendency (mean, mode, median) were used to analyse descriptive data. Inferential statistics, such as test of significance and coefficient correlations was used to compare variables. Qualitative data was coded through content analysis according to the different themes identified. Presentation of finding was done using frequency tables, bar charts and graphs.

3.13 Ethical Considerations

The research proposal was submitted to University of Nairobi and KNH ethical review committee for clearance and approval.

Participants were required to give informed consent to participate. The purpose and objectives of the study was explained to them. Permission to conduct research was obtained from hospital administration and county health administration. Data obtained was kept in confidence and questionnaires coded. Research assistants were take a confidentiality pledge before data collection commences

3.14 Study Limitations

The study was conducted only at Machakos Level 5 Hospital and therefore it gives a picture of one hospital. Generalizability to other hospitals in the country may not be possible. The study will only be able to describe the variable under study and associations between the variables. Further studies are required in other hospitals to also determine associations among variables.

CHAPTER FOUR: STUDY RESULTS

4.1 Demographic factors

The characteristics of the nurses participating in the study are summarized in Table 1. The mean age of the participants was 34.3 years. Most, 67 (50%) participants were aged between 21 and 30 years of age. Females accounted for two-thirds 89 (66.4%) of the nurses participating giving a male to female ratio of 1: 2. Most of the nurses were married 74 (55.2%) or single 56 (41.8%).

Table 1: Distribution of respondents by Gender, Age and Marital Status

	Frequency (n)	Percent (%)
Gender		
Male	45	33.6
Female	89	66.4
Total	134	100
Age		
21-30	67	50.0
31-40	29	21.6
41-50	25	18.7
51-60	13	9.7
Total	134	100
Marital status		
Single	56	41.8
Married	74	55.2
Widowed	4	3
Total	134	100

Table 2 shows that 57.5% (n=77) of the nurses in Machakos L5 Hospital were diploma holders, and 41 (30.6%) nurses had undergraduate training in nursing (BScN). Approximately 10% of nurses had certificate training and 2 (1.5%) had post graduate qualifications.

Table 2: Academic qualification and experience of nurses

	Frequency (n)	Percent (%)
Academic qualification		
Certificate	14	10.4
Diploma	77	57.5
BScN	41	30.6
MScN	2	1.5
Total	134	100
Experience		
Below 5	49	36.6
5-10	31	23.1
11-15	17	12.7
16-20	12	9
21-25	11	8.2
26-30	11	8.2
Above 30	3	2.2
Total	134	100

The most common areas of deployment for nurses within Machakos L5 Hospital were obstetric 35 (26.1%), paediatrics 28 (20.9%), medical 23 (17.2%) and surgical 19 (14.2%) departments. Figure 2 shows the all departments at the hospital within which the participants were deployed.

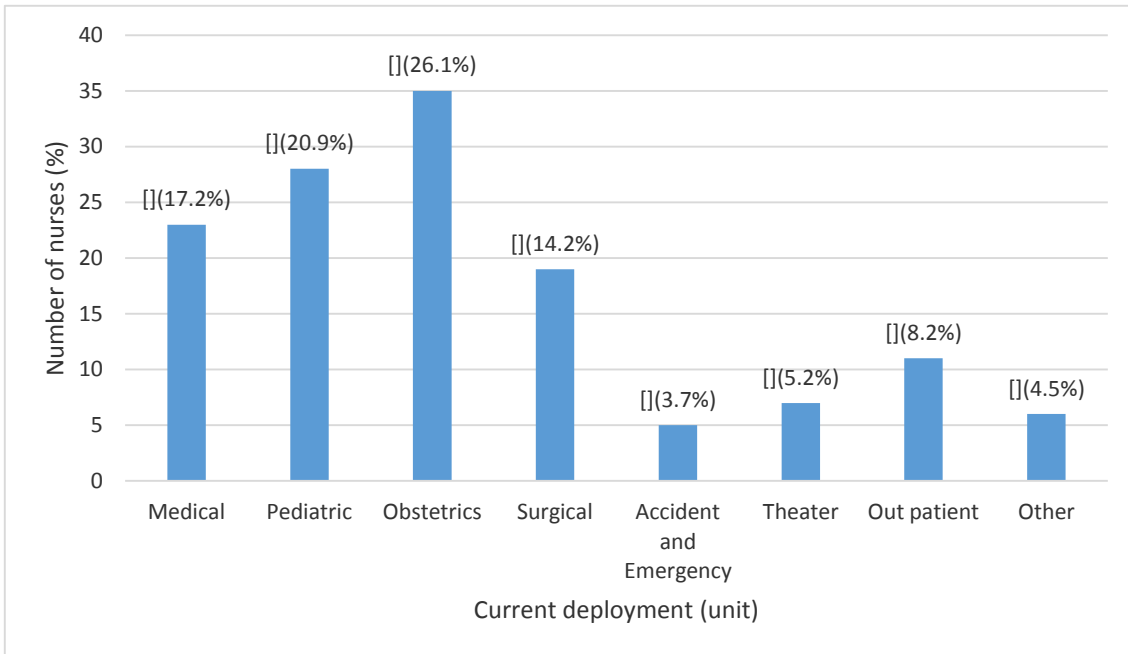


Figure 2: Hospital units of deployment for nursing staff in Machakos Level 5 Hospital

4.2 Training on Nursing Process

4.2.1 Knowledge of Nursing Process

Nearly half 43.3% (n=58) rated their understanding as being good, 35% (n=47) rated average, 17.2% (n=23) rated very good, 3.7% (n=5) rated poor while 0.7% (n=1) rated very poor as shown in figure 3.

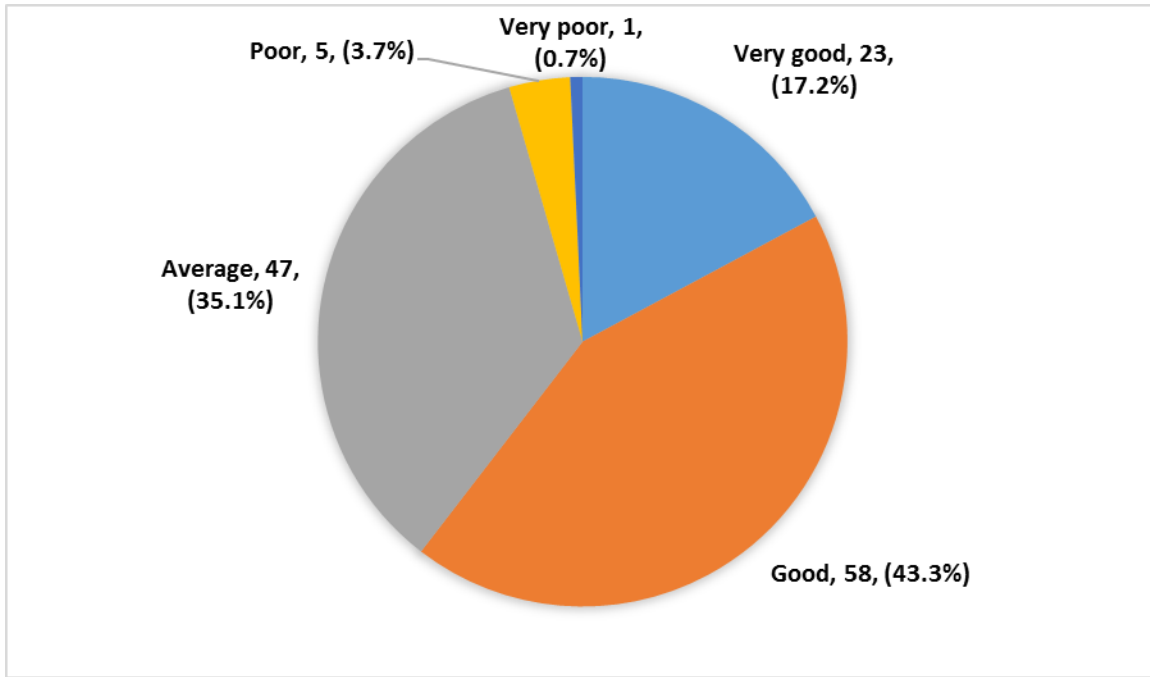


Figure 3: Nurse self-rated understanding of Nursing Process

4.2.2 Type of Nursing Process Training

Of the nurses participating in the interview, a total of 109 (81.3%) reported that they had ever had any training on the nursing process (Table 3). Most of the nurses who had been trained, reported receiving training on nursing process in college 82 (61.2%). Twenty-one (15.57%) nurses were trained during seminars and 20 (14.9%) during Ministry of Health organized training. The nurses who reported that training enables them to competently practice nursing process were 77 (70.6%) compared to 32 (29.4%) who reported that training did not enable them to competently practice nursing process.

Table 3: Nursing process training among nurses in Machakos Level 5 Hospital

	Frequency (n)	Percent (%)
Ever trained on nursing process		
Yes	109	81.3
No	25	18.7
Total	134	100
Where trained on Nursing process		
College	82	61.2
Seminar	21	15.7
On job training	11	8.2
MOH NP training	20	14.9
Total	134	100
Training enables nurse to competently practice Nursing Process		
Yes	77	70.6
No	32	29.4
Total	109	100

4.3 Practice of nursing process

The practice of nursing process was assessed by asking for evidence of preparation and implementation of nursing care plans for patients in the one week period prior to the interview. As shown in Table 4, 44 (33.1%) of nurses reported that they were actively practicing the nursing process. Of these nurses reporting that they practiced the nursing process, 11 (8.2%) of could list all the steps of the nursing process.

Table 4: Practice of nursing process among nurses in Machakos Level 5 Hospital

	Frequency (n)	Percent (%)
Developed a nursing care plan in the last one week		
Yes	44	33.1
No	89	66.9
Total	133	100
List the steps of the Nursing process followed in preparing care plan		
Able to list all the steps	11	8.2
Unable to list all the steps	123	91.8
Total	134	100

4.4 Institutional factors

4.4.1 Workload

The workload in different departments within Machakos L5 Hospital is shown in Table 5. The lowest nurse to patient ratio was reported in theatre (mean 2.7, range 2 to 3). The widest variability in nurse to patient ratio was seen in the obstetric department with a mean ratio of 1: 15 and a range from 3 to 40. The range depicted the different nurse to patient ratios in the labor ward, antenatal and postnatal ward that are both found within the maternity unit.

Table 5: Nurse to patient ratio in nursing units at Machakos L5 Hospital

	Mean ratio	Minimum ratio	Maximum ratio
Unit			
Medical	30.7	15	50
Paediatric	25.4	10	40
Obstetrics	15.0	3	40
Surgical	29.6	20	40
Accident and emergency	22.0	10	50
Theatre	2.7	2	3
Out patient	25.6	15	30
Other	15.3	6	20

4.4.2 Institutional Support

Table 6 shows how the hospital management supports the implementation of nursing process. Most 105 (78.9%) nurses reported that hospital administration recognized nursing process as a framework for quality nursing care delivery. One-half 67 (50%) of nurses stated that the hospital administration supports implementation nursing process, 42 (31.8%) reported that management monitors nursing process and 20 (14.9%) indicated that management recognizes staff applying the nursing process. Only 6(8%) nurses in this study reported that management rewards staff applying nursing process. 101(75.4%) participants reported that the hospital administration supplies relevant equipment to enable staff implement nursing process.

Table 6: Institutional Support

	Frequency (n)	Percent (%)
Hospital administration recognized NP as framework for quality nursing care delivery		
Yes	105	78.9
No	28	21.1
Hospital administration supports implementation of NP		
Yes	67	50
No	67	50
Management monitors implementation of NP		
Yes	42	31.8
No	90	68.2
Management recognizes staff for applying NP		
Yes	20	14.9
No	114	85.1
Incentive given by management in recognition of NP application		
Rewarding	6	8
NP implementation forms part of annual performance appraisal objectives		
Yes	47	35.3
No	84	63.2
Institution supplies relevant tools to enable staff implement NP		
Yes	101	75.4
No	33	24.6

4.5 Social factors

Nursing peers and family influences were some of the variables used by the researcher to determine if they influence nursing process implementation. In Table 7 only 54(40.6%) of the participants included in the study reported that nursing peers influence nursing process implementation while the remaining 57 (42.9%) disagreed and 22 (16.5%) were not sure. Majority of the participants 85 (63.4%) reported that family influences does not affect delivery of nursing care among nursing staff and 40 (29.9%) indicated that their families influence their practice of nursing

Table 7: Peer influence and family influence on nursing care

	Frequency (n)	Percent (%)
Nursing peers influence implementation of NP		
Yes	54	40.6
No	57	42.9
Not sure	22	16.5
Family influences delivery of nursing care		
Yes	40	29.9
No	85	63.4
Not sure	9	6.7

4.6 Cultural Factors

Forty four (32.8%) nurses reported that religion influence the delivery of nursing care and 3 (2.2%) said that traditional cultural belief influences delivery of nursing care (Table 8).

Table 8: Cultural factors

	Frequency (n)	Percent (%)
Religion influences delivery of nursing care		
Yes	44	32.8
No	90	67.2
Traditional cultural belief influences delivery of nursing care		
Yes	3	2.2
No	131	97.8

4.7 Association between demographic factors and nursing process implementation

There was a significant association between nursing plan implementation and nurses' age ($p < 0.001$) and also nursing plan implementation and nurses experience ($p = 0.001$), Table 9. The younger nurses aged between 21 and 30 years were more likely to practice nursing process 33 (49.3%) compared to nurses aged 31-40 years (24.1%), 41-40 years (8%) and 51-60 years (15.4%). Recently qualified nurses with experience less than 5 years and experience

between 5 and 10 years were more likely to implement nursing process at 38.8% and 54.8%, respectively compared to 11-15 years (23.5%) and 16 or more years (10.8%).

Table 9: Nurse demographic characteristics and implementation of nursing process

	Nursing plan implementation		Chi square	P value
	Yes	No		
Age				
21-30	33(49.3)	33(49.3)	18.5	<0.001*
31-40	7(24.1)	22(75.9)		
41-50	2(8.0)	23(92.0)		
51-60	2(15.4)	11(84.6)		
Academic qualification				
Certificate	2(14.3)	12(85.7)	5.5	0.141
Diploma	24(31.2)	52(67.5)		
BScN	18(43.9)	23(56.1)		
MScN	0(0.0)	2(100.0)		
Experience				
Below 5 years	19(38.8)	30(61.2)	17.2	0.001*
5-10 years	17(54.8)	13(41.9)		
11-15 years	4(23.5)	13(76.5)		
16 years and above	4(10.8)	33(89.2)		
Hospital unit				
Medical	10(43.5)	13(56.5)	9.3	0.235
Pediatric	11(39.3)	17(60.7)		
Obstetrics	14(40.0)	20(57.1)		
Surgical	4(21.1)	15(78.9)		
Accident and Emergency	2(40.0)	3(60.0)		
Theatre	0(0.0)	7(100.0)		
Out patient	2(18.2)	9(81.8)		
Other	1(16.7)	5(83.3)		

4.8 Association between Training and implementation of nursing process

Table 10 shows associations between training on nursing process and implementation of nursing process in practice. Nurses who reported ever having trained in nursing process were also more likely to implement the nursing process 41 (37.6%) compared to those who had not trained 3 (12%). Nurses who had trained in the nursing process, were also similarly likely to

report that the training had enabled them to competently practice the nursing process ($p = 0.002$).

Table 10: Training and implementation of nursing process

	Nursing plan implementation		Chi square	P value
	Yes	No		
Self-rated understanding of NP				
Very good	12(52.2)	11(47.8)	8.8	0.068
Good	21(36.2)	37(63.8)		
Average	11(23.4)	35(74.5)		
Poor	0(0.0)	5(100.0)		
Very poor	0(0.0)	1(100.0)		
Ever trained on NP				
Yes	41(37.6)	67(61.5)	6.2	0.013*
No	3(12.0)	22(88.0)		
NP training has enabled competent practice of NP				
Yes	36(46.8)	40(51.9)	9.6	0.002*
No	5(15.6)	27(84.4)		

4.9 Institutional factors and the association with implementation of nursing process

Table 11 presents the associations between nursing process implementation and institutional factors. Among the factors examined only a single factor, namely institutional supply of relevant tools required for nursing process implementation was related to the implementation of nursing process ($p = 0.048$). Out of the nurses who reported that the institution supplied the relevant tools 38 (37.6%) implemented the nursing process compared to 6 (18.2%) of nurses who indicated that the institution did not provide the relevant tools for implementation of nursing process. Other variables which included supervision ($p = 0.404$), performance appraisals ($p = 0.131$) and staff motivation ($p=0.751$) were not significantly associated with the implementation of nursing process.

Table 11: Institutional factors and the association with implementation of nursing process

	Nursing plan implementation		Chi square	P value
	Yes	No		
Hospital administration recognizes NP as a framework of care delivery				
Yes	33(31.4)	71(67.6)	0.6	0.452
No	11(39.3)	17(60.7)		
Hospital administration support implementation of NP				
Yes	20(29.9)	46(68.7)	0.5	0.499
No	24(35.8)	43(64.2)		
Management monitors NP implementation				
Yes	12(28.6)	30(71.4)	0.7	0.404
No	32(35.6)	57(63.3)		
Management recognizes staff for applying NP				
Yes	6(30.0)	14(70.0)	0.1	0.751
No	38(33.3)	75(65.8)		
NP implementation forms part of annual performance appraisal objectives				
Yes	15(31.9)	32(68.1)	4.1	0.131
No	27(32.1)	56(66.7)		
Institution supplies relevant tools required for NP implementation				
Yes	38(37.6)	63(62.4)	3.9	0.048*
No	6(18.2)	26(78.8)		

4.10 Association between social factors and implementation of nursing process

Table 12 shows that the social factors assessed which included nursing peers ($p = 0.094$) and family influences ($p = 0.059$) were not significantly associated with the implementation of nursing process.

Table 12: Social factors and implementation of nursing process

	Nursing plan implementation		Chi square	P value
	Yes	No		
Nursing peers influence NP implementation				
Yes	21(38.9)	33(61.1)	4.7	0.094
No	20(35.1)	36(63.2)		
Not sure	3(13.6)	19(86.4)		
Family influences NP implementation				
Yes	8(20.0)	32(80.0)	5.6	0.059
No	34(40.0)	50(58.8)		
Not sure	2(22.2)	7(77.8)		

4.11 Association between cultural factors and implementation of nursing process

Table 13 shows that the cultural factors assessed which included religion and cultural practices. Religion ($p = 0.03$) was significantly associated with implementation of nursing process while cultural practices ($p = 0.993$) was not significantly associated with the implementation of nursing process.

Table 13: Cultural factors and implementation of nursing process

	Nursing plan implementation		Chi square	P value
	Yes	No		
Religion influences delivery of nursing care to patients				
Yes	9(20.5)	35(79.5)	4.7	0.03
No	35(38.9)	54(60.0)		
Culture influences delivery of nursing care to patients				
Yes	1(33.3)	2(66.7)	0	0.993
No	43(32.8)	87(66.4)		

4.12 Nurses perception of the nursing process

Most nurses strongly agreed 67 (50.4%) or agreed 60 (45.1%) that they liked the nursing process as shown in Table 14. Similarly 56 (41.8%) strongly agreed and 72 (53.7%) agreed that identification of patient priority is easy using the nursing process. Most nurses also strongly agreed 71 (53%) or agreed 55 (41%) that nursing process enables nurse to provide quality patient centred care. The responses of nurses when asked whether the nursing process could be implemented for every patient were more variable. For this item a significant number of nurses disagreed 40 (29.9%) or strongly disagreed 18 (13.4%). On evaluating whether nursing process was tedious 33(24.6%) strongly agreed, 59(44%) agreed that nursing process was tedious to implement.

Table 14: Nurses perception of the nursing process

	SA	A	DK	D	SD
I like the concept of Nursing Process	67(50.4)	60(45.1)	1(0.8)	3(2.3)	2(1.5)
Identification of patient priority is easy using NP	56(41.8)	72(53.7)	3(2.2)	2(1.5)	1(0.7)
The Nursing Process works well in practice	32(24.2)	91(68.9)	4(3.0)	4(3.0)	1(0.8)
NP enables nurse to provide quality patient centered care	71(53.0)	55(41.0)	5(3.7)	3(2.2)	0(0.0)
The NP can be implemented for every patient	25(18.7)	45(33.6)	6(4.5)	40(29.9)	18(13.4)
The Nursing Process is tedious	33(24.6)	59(44.0)	2(1.5)	34(25.4)	6(4.5)

SA-strongly agree; A-Agree; DK-Don't know; D- Disagree; SD – Strongly Disagree

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter covers discussions in line with the objectives of the study. The study was aimed at assessing barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital. These study objectively assessed nurse demographic factors, institutional factors, social and cultural factors which were hindering implementation of nursing process. Conclusions are drawn and recommendations made based on the study findings.

5.3 Discussion of findings

5.3.1 Nurse demographic factors

The findings of this study showed that there was a significant association between nursing process implementation with the nurses' age and experience. The younger nurses were more likely to practice nursing process compared to elderly nurses. Recently qualified nurses with experience less than 5 years and experience between 5 and 10 years were more likely to implement nursing process respectively compared to the nurses who have more years of experience. These findings could be attributed to positive shift of attitude towards nursing process by the young nurses, the current mode of nursing upgrading system which is enhancing upward mobility of nursing education and more so the push for patient centered care in our current society. This is in agreement with the findings of Manal & Hala, (2014) that demographic characteristics of nurses like age and years of work experience have significant impact on nursing process implementation.

Although academic qualifications has been found to have a direct statistically significant relationship with the knowledge of nurses on nursing process of nurses and how they implemented nursing process in other study by Manal & Hala, (2014), the results of this

study indicate that academic qualification ($p=0.141$) was not significantly associated with nursing process implementation though again this study results revealed that nurses with bachelors degree in nursing were more likely to implement nursing process as compared to nurses with certificate in nursing. This study finding could be attributed to lack of emphasis of nursing process training curriculum, lack of enabling or facilitating factors in the institution of study like facilitative supervision by manager, lack of enough resources, poor staffing levels and lack of guided practice.

5.3.2 Nurse training on nursing process and practice

The results of this study revealed that nurses who reported to have ever trained on nursing process were also more likely to implement the nursing process compared to those who had not trained. Nurses who had trained in the nursing process, were also similarly likely to report that the training had enabled them to competently practice the nursing process ($p = 0.002$). However, among the sample population ($n=134$) only 44(33.1%) were actively practicing nursing process by formulating nursing care plans and 11(8.2%) could list all the steps of nursing process followed in preparing care plan correctly. The majority of the trained nurses were not implementing nursing process which could be attributed to knowledge gap on nursing process, increased workload, lack of updates on nursing process, inconsistency in facilitative supervision and low motivation among nurses working at Machakos level 5 Hospital. According to Delgado & Mendes, (2009) what is taught in school could be different from what is actually being done in clinics thus creating some challenges.

5.3.3 Nurse knowledge on nursing process and implementation

In rating the understanding of nursing process, over more than half of the nurses rated their understanding as very good and good, however the study results revealed there was no significant association between understanding and implementation of nursing process. The statistical insignificance of the finding could be as a result of inconsistency in nursing process practice, negative attitude, poor staffing ratios and lack of relevant resources to implement nursing process. This finding varies with several studies. A study by Florance and Adenike, (2013) reports that the more nurses are knowledgeable, the more they are likely to use of nursing process and a study conducted in Brazil by Reppetto and Souza, (2005) indicated that knowledge is one of several factors that interfere in the efficient implementation of the nursing process. The result of this study also varies with a study in Ethiopia by Fisseha Hagos, *et al.*, (2014) which found that knowledge is one of the most determinant factors for application of the nursing process. A study by Zewdu and Abera, (2015) found that highly knowledgeable nurses were 8.78 times more likely to implement nursing process than nurses who were not knowledgeable.

5.3.4 Institutional factors association with nursing process implementation

Among the institutional factors examined in this study, institutional supply of relevant tools required for nursing process implementation was significantly associated with the implementation of nursing process. This agrees with the findings of Abebe, Abera and Ayana, (2014) in Northern Ethiopia which showed that nurses who reported availability of necessary equipment for patient care in the hospital were three times more likely to implement nursing process than those who reported inadequate equipment for patient care. Out of the nurses who reported that the institution supplied the relevant tools 38 (37.6%)

implemented the nursing process compared to 6 (18.2%) of nurses who indicated that the institution did not provide the relevant tools.

Another institutional factor in this study was nurse workload. Results indicated that nurse to patient ratio was high and this could be a contributing factor that hindered nursing staff from applying nursing process. This agrees with a study by Clarke and Aiken, (2003) that found certain factors limited the ability of nurses to implement nursing process in their daily practice, including lack of time and high numbers of patient. This is also in line with Lukes, (2010) that most nurses easily use the nursing process when caring the special patients individually but with increase in the number of patients, this process may not be used.

5.3.5 Nurses perception on nursing process

Most nurses strongly agreed (50.4%) or agreed (45.1%) that they liked the nursing process as shown in Table 14. Similarly 56 (41.8%) strongly agreed and 72 (53.7%) agreed that identification of patient priority is easy using the nursing process. Most nurses also strongly agreed 71 (53%) or agreed 55 (41%) that nursing process enables nurse to provide quality patient centered care. The responses of nurses when asked whether the nursing process could be implemented for every patient were more variable. For this item a significant number of nurses disagreed 40 (29.9%) or strongly disagreed 18 (13.4%). On evaluating whether nursing process was tedious 33(24.6%) strongly agreed, 59(44%) agreed that nursing process was tedious to implement. Bowman et al (1983) lamented that in Australia, the nursing process has gone through the phases of negative attitude. Shabel, (2009) in her studies explained that attitude is 20% of variance in the utilization of nursing process. In the study of O'Connell, (1998) some nurses displayed negative attitude towards the use of nursing process by stating that it is contrasting with nursing practice.

5.3.6 Socio cultural factors

The variables that were used for the study included nursing peers, family influence, religion and cultural practices. Religion seemed to be more likely to influence how nurses delivered care to patients. Peers were associated to continuity in implementation of nursing care plan and assisting in planning of care. No previous studies regarding socio cultural factors in nursing process implantation.

CONCLUSION AND RECOMMENDATION

Conclusion

1. Age and experience are some of nurse demographic factors which serve as barriers to nursing process implementation
2. Lack of continuous nursing process update trainings and resources to implement within the institution are major hindrance to NP implementation
3. Poor staffing ratios and high work load serves as a barrier to NP implementation
4. Socio-cultural factors of individual nurse does not serve as barriers to NP implementation

Recommendations

1. Nurses who qualified prior to integration of NP in nursing training curriculum to be targeted with interventions aimed at improving nursing process implementation at clinical area.
2. Due to moderate level of implementation of NP in recent qualified nurses, the study also recommends that the group be included in the interventions targeting nurses in older age group
3. The study recommends increased coverage of NP training among practicing nurses through continuous medical education, on job training and mentorship
4. Institution should reinforce the mechanisms to ensure availability of resources needed to implement NP. Resources include human resource and supplies

5. The Ministry of Health, Kenya, Department of Nursing to continue with the nursing process mainstreaming programme as an intervention to scale up its implementation in clinical setting.
6. Future studies are required to address implementation of NP in geographically diverse areas in Kenya and in higher level (level 6) and lower level(level 4) health facilities

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APPENDICES

APPENDIX I: PARTICIPANTS INFORMATION SHEET AND CONSENT FORM

Study Title: Assessing barriers to implementation of nursing process(NP) among nurses working at machakos level 5 hospital

Investigator: Dennis Ngao Mbithi.
School of Nursing Sciences,
University of Nairobi
Po Box 19676, Nairobi.
Tel.: 0728223417

Introduction: I am a student at the School of Nursing Sciences, University of Nairobi pursuing a Master of Science Degree in Nursing. I am conducting a study titled: “**assessing barriers to implementation of nursing process among nurses**”. This study is being conducted at Machakos level 5 Hospital.

The purpose of this information is to give you details pertaining to the study that will enable you make an informed decision regarding participation. You are free to ask questions to clarify any of the aspects we will discuss in this information and consent form. The researcher will also ask you questions regarding the study before you sign the consent form to ascertain your comprehension of the information provided.

Background and objective: The purpose of this study is to assess different barriers which affect implementation of nursing process by nurses despite training. This will identifying gaps with view of coming up with suggestions to improve the same.

Participation: Participation in the study will entail answering questions which will be filled by the interviewer in the semi-structured questionnaire. You will not be subjected to any invasive procedure. The research involves participation of approximately 134 nurses.

Benefits: There is no direct monetary benefit in participating in this study. However, the results of the study will be useful in understanding different barriers that prevent nurses from

implementing nursing process. The findings will be availed to the hospital, other relevant decision makers and stakeholders.

Risks: There are no economic or physical risks to participating in the study. However, due to the time taken in responding to question, you will take a longer time than usual at your work place. The researcher will also endeavour to spend approximately 25 minutes with you.

Confidentiality: Confidentiality will be maintained and the information you provide will only be used for the intended purpose of the study. In addition, your name will not be required on any forms or used during publication of the final report thus ensuring your anonymity. All materials used during the study will be under lock and key and only the personnel involved in this study will have access to them. Electronic files will be saved on password

Voluntary participation: Participation in this study is voluntary. Refusal to take part will not attract any penalty. You retain the right to withdraw from the study without any consequences.

Compensation: There is no compensation for participating in the study.

Conflict of interest: The research and the supervisors confirm that there is no conflict of interest amongst them.

CONSENT FORM

If you Consent to Participate in the study please sign below:

I hereby consent to participate in this study. I have been informed of the nature of the study being undertaken and potential risks explained to me. I also understand that my participation in the study is voluntary and the decision to participate or not to participate will not affect my employment status at this facility in any way whatsoever. I may also choose to discontinue my involvement in the study at any stage without any explanation or consequences. I have also been reassured that my personal details and the information I will relay will be kept confidential. I confirm that all my concerns about my participation in the study have been adequately addressed by the investigator and the investigator have asked me questions to ascertain my comprehension of the information provided.

Participant's Signature (or thumbprint).....Date.....

I confirm that I have clearly explained to the participant the nature of the study and the contents of this consent form in detail and the participant has decided to participate voluntarily without any coercion or undue pressure.

Investigator's Signature..... Date

For any Clarification, please contact

Dennis Ngao Mbithi
Researcher
Mobile Number: 0728223417
Email: dennismbithib.dm@gmail.com

or

Dr. B Omuga
Senior Lecturer, School of Nursing Sciences,
University of Nairobi.
Mobile Number: 0722256080

or

Mr Antony Ayieko
Lecturer, School of Nursing Sciences
University of Nairobi.
Mobile Number: 0723521528
Email:

or

The Chairman,
University of Nairobi- Kenyatta National Hospital Ethics and Research Committee
Tel: 020-2726300 Ext 44355

APPENDIX II: STUDY QUESTIONNAIRE

Questionnaire Serial Number _____ Questionnaire Status _____ (1=complete; 2= partially complete)

Interviewer ID _____ Date of Interview ____/____/____

Your honest responses on the following questionnaire will greatly assist in the attempt to identify different barriers hindering Nurses from implementing nursing process. All responses will be coded by an identifying number only, kept confidential, and analyzed in group form so that no personal information is revealed. Thank you for taking you time (estimated at 25 minutes) to complete the questionnaire.

SECTION A:

Demographic Factors

1. What is your gender?

Male Female

2. What is your age?

<20 21-30 31-40
41-50 51-60 >60

3. What is your marital status?

Single Married
Widowed Divorced

4. What is your academic qualification?

Certificate Diploma BScN MScN

5. How many years of work experience do you have?

Below 5 5-10 11-15 16-20
21-25 26-30 Above 30

6. Which unit are you currently working in?

Medical Paediatric Obstetrics
Surgical Accident and Emergency
Theatre Psychiatry other specify _____

SECTION B

Training

7. How do you rate your understanding of NP?

Very good [] Good [] Average [] Poor [] Very poor []

8. Have you ever been trained on NP?

Yes [] No []

9. If yes where? (*Where applicable tick more than once*)

College [] seminar [] on job training [] MOH NP training []

Other (specify).....

10. Does the NP training you have acquired enable you to practice NP competently?

Yes [] No []

11. Give suggestions to improve on NP trainings

.....
.....
.....
.....
.....

Practice of Nursing Process (NP)

12. Have you developed a nursing care plan of a patient in the last one week?

Yes []

No []

If No move to question 14

13. If Yes, list the steps of the NP that you followed when preparing the nursing care plan

.....
.....
.....
.....

.....
.....
.....
.....

14. If No, What are the barriers hindering you from developing a patient nursing care plan?

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

SECTION C:

Institutional support

15. What is the ratio of nurse to patients in your ward? _____

16. Does the hospital administration recognize nursing process as a framework of nursing care delivery?

Yes [] No []

17. Does the hospital administration support the implementation of NP?

Yes []

No []

18. If yes what form of support is given to you by hospital administration?

.....
.....
.....
.....

19. Does the management monitor implementation of nursing process?

Yes []

No []

20. If yes how does the administration monitor the implementation of NP?

.....
.....
.....
.....

21. Does the management recognize staff for applying NP in patient care?

Yes []

No []

22. If yes in which way?

Rewarding [] promotion []

Others (specify)

.....
.....

23. Is NP implementation part of your annual performance appraisal objectives?

Yes [] No []

24. Does the institution supply you with the relevant tools to enable you implement NP?

Yes [] No []

25. If Yes specify which tools are availed to you

.....
.....
.....

26. If No, specify which tools not availed to you

.....
.....
.....

SECTION D:

Social Factors

27. Do your nursing peers influence the way you implement nursing process?

Yes [] No [] I am not sure []

28. If yes, in which way?

.....
.....
.....
.....

29. Does your family in any way influence the way you deliver nursing care?

Yes [] No [] I am not sure []

30. If yes, in which way?

.....
.....

Cultural Factors

31. Does your religion influence the way you deliver nursing care to patients?

Yes [] No []

32. If yes how does it influence?

.....
.....
.....

33. Does your traditional cultural belief limit your way of delivering nursing care to patients?

Yes [] No []

34. If yes how?

.....
.....
.....

.....
.....
.....

SECTION E

Service provider perception towards the Nursing Process (NP)

	Questions	Strongly agree	Agree	I do not know	Disagree	Strongly disagree
35.	I like the concept of Nursing process(NP)					
36.	Identification of patients priority is easy using NP					
37.	The nursing process works well in practice					
38.	NP enables nurse to provide quality patient centered care					
39.	The NP can be implemented for every patient					
40.	The nursing process is tedious					

APPENDIX III: KEY INFORMANT INTERVIEW GUIDE

My name is Dennis Mbithi from the University of Nairobi, School of Nursing. I am pursuing a Master of Science degree in Nursing (Medical Surgical) and I am carrying out this research for academic purposes. The study is assessing barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital, I hope you will be willing to answer a few questions.

Anything you tell me is confidential. Nothing you say will be personally attributed to you in any reports that result from this interview. All of our reports will be written in a manner that no individual comment can be attributed to a particular person.

Are you willing to answer my questions? Do you have any questions before we begin?

1. Is Nursing Process (NP) been implemented by nurses in this hospital?

.....

2. What are the problems facing nursing process implementation?

.....

3. How does hospital administration support NP implementation?

.....

4. What is the percentage of nurses trained on NP in your department?

.....

5. How do you do evaluations/audit NP implementation?

.....

Thank you very much for your time and for sharing your experiences with us.

Do you have any additional comments or insight on barriers affecting nursing process implementation?

Do you have any questions for us?

Again thank you very much.

Have a good day.

APPENDIX IV: AUTHORITY LETTER FROM THE KNH/UON ETHICS AND RESEARCH COMMITTEE



UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
(254-020) 2726300 Ext 44355

KNH/UON-ERC
Email: uonknh_erc@uonbi.ac.ke
Website: <http://erc.uonbi.ac.ke>
Facebook: <https://www.facebook.com/uonknh.erc>
Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC

KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/227

18th May, 2015

Dennis Ngao Mbithi
Reg.No.H56/70344/2013
School of Nursing Sciences
School of Medicine
University of Nairobi

Dear Dennis

Research Proposal : Assessing barriers to implementation of nursing process among nurses working a Machakos Level 5 Hospital (P262/05/2015)

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and **approved** your above proposal. The approval periods are 18th May 2015 to 17th May 2016.

This approval is subject to compliance with the following requirements:

- Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
- All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH/UoN ERC before implementation.
- Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH/UoN ERC within 72 hours of notification.
- Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH/UoN ERC within 72 hours.
- Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
- Clearance for export of biological specimens must be obtained from KNH/UoN-Ethics & Research Committee for each batch of shipment.
- Submission of an *executive summary* report within 90 days upon completion of the study
This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

For more details consult the KNH/UoN ERC website www.erc.uonbi.ac.ke

Yours sincerely,

PROF. M. L. CHINDIA
SECRETARY, KNH/UON-ERC

c.c. The Principal, College of Health Sciences, UoN
The Deputy Director CS, KNH
The Chair, KNH/UoN-ERC
The Director, School of Nursing Sciences, UoN
Supervisors: Dr.Omuga, Mr. Antony Ayeiko Ong'any

Protect to discover

APPENDIX V: AUTHORITY LETTER FROM THE DIRECTOR PLANNING AND ADMINISTRATION, MACHAKOS COUNTY



REPUBLIC OF KENYA



GOVERNMENT OF MACHAKOS COUNTY
MINISTRY OF HEALTH & EMERGENCY SERVICES

Telephone: +254-44-20575
Fax: 254-44-20655
When replying please quote
Ref. DHES/RESRCH/1/VOL.1/28

Machakos Highway
P.O. Box 2574-90100
Machakos, Kenya.
11TH JUNE, 2015

To Medical Superintendent
Machakos Hospital
P.O Box 19
MACHAKOS

*Noted
Dr Nzura*

RE: PERMISSION TO CONDUCT RESEARCH AT MACHAKOS HOSPITAL

This is to request you to assist Mr. Dennis Ngao Mbithi from University of Nairobi, to carry out a research on assessing barriers to implementation of nursing process among nurses working in Machakos Level 5 Hospital.

The research will be conducted for a period of one month and the target population will be all the Nurses of Machakos Level 5 Hospital.

By a copy of this letter, the Department of Health is also kindly requesting him to share the study reports with us.

Kindly allow him to conduct the Research and accord the necessary assistance.

J. Sitienci
DIRECTOR ADMINISTRATION & PLANNING

