



**ASSESSMENT OF BARRIERS TO IMPLEMENTATION OF
NURSING PROCESS AT A SELECTED REFERRAL HOSPITAL
IN RWANDA**

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RESEARCH

ASSESSMENT OF BARRIERS TO IMPLEMENTATION OF NURSING PROCESS

AMONG NURSES WORKING AT A SELECTED REFERRAL HOSPITAL IN

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by

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DECLARATION

“I do hereby declare that this project “Barriers to implementation of nursing process” submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in MEDICAL SURGICAL NURSING, at UNIVERSITY OF RWANDA – COLLEGE OF MEDICINE AND HEALTH SCIENCES, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited.”

UMUTESI Marie Christine

DEDICATION

I dedicate this work to the almighty God who enabled me to achieve this hard work of the degree of MASTER OF SCIENCE IN NURSING.

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My appreciation are expressed to all people who gave me support in my studies especially my research project. I deeply appreciate my supervisors Dr Anita Collins and MrVedaste Baziga for the continued guidance and support, my acknowledgements are also addressed to Dr Beryl for his contribution for correction of English errors. I also acknowledge the support given by all lecturers at College of Medicine and Health Sciences in School of Nursing and Midwifery for teaching and mentorship. Finally my acknowledgements are addressed to my classmates for their teamwork.

UMUTESI M. Christine

ABSTRACT

Assessment of Barriers to Implementation of Nursing Process (NP) among nurses working at University Teaching Hospital of Kigali (UTHK).

Background: The Nursing Process (NP) is a professional framework adapted globally to guide and help professional nurses to deliver quality patient centered care.

Aim of the study: Assessing barriers to implementation of Nursing Process among nurses working at University Teaching Hospital of Kigali (UTHK).

Methods: A cross sectional design employing quantitative methods was conducted at UTHK. Data were collected from 142 nurses using a self directed questionnaire. Statistic package for social sciences (SPSS) version 20.0 was used to analyze data using descriptive statistics (frequencies) and inferential statistics (chi-square, Fisher).

Results: The majority of nurses (73.2%) implemented NP. Of 142 nurses, one half (43%) did not follow all steps of the process while 56% achieved the total score of the NP implementation. Findings indicated that demographic factors had a significant relationship with NP implementation (sex: $p=0.038$; marital status: $p=0.002$; experience: $p=0.000$). Knowledge and trainings of nurses on the process were significantly associated with its implementation ($p=0.000$). Institution factors also had a significant association with NP implementation ($p=0.009$) and nurses' perception to NP ($p=0.003$).

Conclusion and recommendations: Knowledge of nurses was not adequate to put NP into practice. Work overload, lack of materials, poor motivation as well as nurses' perceptions to NP affected its implementation. There is a need to put into practice training on NP for practicing nurses focusing on its benefits and the hospital should consider NP implementation critically by supply all needed resources for the process, motivating nurses and evaluating its progress.

Key words: Implementation, Barriers, Nursing Process, Nurse, Nursing Care Plan

KEY WORDS DEFINITION

Implementation: Implementation is defined as specific activities put together with intention to put into practice the overall program or activity to accomplish a specified goal (Fixsen et al.,2005, p.5). For the purposes of this study, implementation is explained as putting into act a plan designed to perform Nursing Process to prevent or treat health related problems.

Nursing Process: It is a systematic rational problem solving method of planning and providing nursing care (Kozier et al 2008, p.1553). For the purpose of the study, the Nursing Process is the nursing approach that uses its interrelated steps namely assessment, diagnosis, outcome identification, planning interventions, implementation and evaluation to identify and solving health related problems of individual, family and communities.

Barrier: A barrier is a something, rule or situation that prevents somebody or makes it difficult to achieve a certain level of functioning (Ngao, 2015, p.12) in this study barriers include all factors that hind the implementation of Nursing Process among nurses.

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 caring adult people in medical, surgical, emergency and intensive care unit (ICU).

Nursing care plan (NCP):

The nursing care plan is a written, printed or electronic guide or a series of step the care to be rendered to a patient. It includes both standardized and individualized care plans (Kozier & Erb, 2008, p.175). In accordance with this study NCP consists of a series of five steps created from Nursing Process steps provided to individual, family, and community to solve health related problems.

LIST OF ACRONYMS AND ABBREVIATIONS

%	Percent
ANA:	American Nursing Association
Chi²	Chi square
CHUK:	Centre Hospitalier Universitaire de Kigali
GST:	General System Theory
ICU:	Intensive Care Unit
IPD:	In Patient Department
NCP:	Nursing Care Plan
NP:	Nursing Process
MOH:	Ministry Of Health
OPD:	Out Patients Department
RNMU:	Rwanda Nurses And Midwives Union
SCMHPPN:	Social Cognitive Model for Health Promotion Practice in Nursing
SPSS:	Statistical Package for Social Sciences
USA:	United States of America
UTHK:	University Teaching Hospital of Kigali

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CHAPTER ONE: INTRODUCTION

1.0 INTRODUCTION

The first chapter of the study will include the different parts such as introduction on the Nursing process including the definition or the meaning of Nursing Process, nurses' working conditions in Rwanda in relation with Nursing Process implementation, background of the study which includes the history of Nursing Process and its adoption worldwide, problem statement that shows the reason of researcher to conduct the study, the aim of the study and specific objectives, research questions, significance of the study which shows the areas that the study will benefit and the last part of the chapter will consists of giving a detailed structure of the study.

1.1 NURSING PROCESS INTRODUCTION

The Nursing Process concept was defined as a systematic and rational method of planning the provision of individualized care for patients, families, groups and communities. It is a cyclic and dynamic patient centered care approach (Alfaro-LeFevre, 2010, p. 5). The Nursing Process is also systematic rational problem solving method of planning and providing nursing care (Kozier et al 2008, p.1553).

Nursing care is enhanced by nursing care plans which outline the nursing activities to be provided for a patient. Nursing care plans are a set of actions the nurse implements to solve the nursing problems identified for a particular patient and acts as a bridge to the Nursing Process. The Nursing Process was developed as a way of providing holistic patient care, and has globally been considered as a framework for nursing practice and nursing education.

Effectiveness of nursing practice as well as achievement of patient outcomes is tested through the application of nursing process tool which blends nursing as an art and a science (Afolayan et al. 2013, p. 36).

The nurse patient ratio in Rwanda is one nurse per 1227 inhabitants; this shortage of nurses has a negative impact on the care given to the clients (MOH Rwanda, 2014, p.9). The shortage in

nursing and human resources in Rwanda requires nurses to work overtime to meet the patients' needs (RNMU, 2017, p. 4).

The implementation of Nursing Process should be applied for every patient to enable nurses to provide quality patient centered care. The shortage of nurses in comparison to the number of patients, lack of necessary materials for NP, and lack of time can hinder the scientific implementation of the Nursing Process. This study aims to assess and illustrate barriers to implementation of Nursing Process as a tool to guide nursing professionals.

1.2. BACKGROUND

The fundamental nature of nursing, the science and technology of nursing as well as its humanistic assumptions that encourage critical thinking and creativity are well defined by Nursing Process framework that guides nursing profession; the use of Nursing Process tool influences nurses' critical thinking, creativeness and consequently permits resolve problems in practice of nursing (Ledesma & Mendes, 2009, p.1).

The history of Nursing Process concept was introduced in 1960s in developed/industrialized countries and since that period the application of Nursing Process started to be adopted widely as a structured way to be followed by nurses to solve patients' problems in their profession where it was also referred to as a way of providing holistic nursing care (Ngao, 2015, p.1).

The original adoption of Nursing Process was by the North American nursing profession from general system theory (GST) and then quickly became a symbol of modern nursing and a philosophy of nursing profession (Ledesma & Mendes, 2009, p.1).

In African countries the Nursing Process was adopted even if it encountered some challenges. A study aimed to evaluate the utilization of Nursing Process and patient outcome in Nigeria revealed that only 60% of professionals willingly applied the Nursing Process in the care of the patients. The challenges related to this lack of NP application were inadequate practical knowledge, inadequate staff, work overload and management's inability to provide the needed materials among others (Afolayan et al., 2013, p.1).

Currently, a research conducted in Northern Ethiopia in Mekelle zone hospitals to assess the application of Nursing Process and its affecting factors revealed that 90% of nurses had poor knowledge about Nursing Process while 99.5% of nurses had positive attitude toward its implementation (Hagos et al, 2014, p.7). The above findings of Nursing Process application in Ethiopia highlights that the knowledge base of nurses can compromise the use of Nursing Process framework.

Nurses working in referral hospitals also showed inadequacy to implement Nursing Process; the study conducted In Tanzanian referral hospital by (Mamseri, 2012, p.122-124) revealed that only 43% of nurses were able to implement Nursing Process and more than 50% understood it but it was difficult for them to implement it (Mamseri, 2012, p.122). The lack of knowledge about Nursing Process among nurses as it has been indicated in Ethiopia plays a role of hindering its implementation when providing nursing care to patients because knowledge is a pre-requisite of practice.

Nurses' perception regarding the process is crucial whereas it can be compromised by several challenges; the example is a case of Kenya where the research assessing barriers to NP implementation revealed that in Machaos level 5 hospitals one-third (33.1%) of nurses reported that they actively implement the nursing process but only (8.2%) nurses correctly listed all the steps of the process (Ngao, 2016). These mentioned results show the positive attitude of nurses towards Nursing Process implementation even if the knowledge about Nursing Process was poor.

In Rwanda, nursing assessment which is the first step of the Nursing Process has been put into the essential hospital accreditation standards (MoH, 2014, p.35). There is a requirement documented nursing assessment as the first step of Nursing Process for all patients admitted for care and treatment in the organization that permits planning and care to begin as soon as possible because patients are at risk if they are not promptly and appropriately evaluated by a nurse when they are admitted to a hospital (MoH, 2014, p.35).

In Rwanda, Nursing Process has also been introduced in nursing academic curriculum starting from level one in undergraduate program as well as in Master of Science in nursing program. This is similar to the nursing curriculum in the USA where each student who begins a nursing

program has to be taught the Nursing Process during the first term or semester because the Nursing Process framework permits both students and nurses collecting patient's data, formulating nursing diagnosis based on data collected, plan and implement nursing care, evaluate the care or revising care according to the results evaluation (Huckbay, 2009, p.72).

1.3. PROBLEM STATEMENT

Nurses form the largest group of health professionals in every country in the world and nursing quality is closely related to a healthcare system's effectiveness. In order to achieve quality health care services the Nursing Process plays a significant role but its implementation is not well developed. (Hagos et al., 2014, p. 6)

In Rwanda, the essential hospital accreditation standards requires Nursing Assessment that permits planning and care to begin for better outcome of patients therefore quality of health care services (MoH, 2014, p. 35) and Nursing Process has also been introduced in nursing academic curriculum starting from level one in undergraduate program as well as in Master of Science in nursing program as is the case in developed countries (Huckbay, 2009, p.72). If the individualized care responsive to patient needs is to be delivered, the process is very rational.

Despite these strategies made to encourage the implementation of Nursing Process, it is observed that its implementation in patient care is evidently absent in various health institutions in Rwanda and this predicts the possible barriers that are challenging its implementation among nurses in those health institutions. The non-application of Nursing Process causes poor patient's outcomes such as increased length of stay in hospital, increased diseases prevalence, relapse and other complication.

Therefore I was interested as a researcher to assess barriers that could hinder the implementation of Nursing Process in a selected referral hospital as the intent of the study.

1.4. THE AIM OF THE STUDY

To assess barriers to implementation of Nursing Process among nurses working at University Teaching Hospital of Kigali (UTHK)

1.5. SPECIFIC OBJECTIVES

- To assess the extent of the implementation of Nursing Process among nurses working at University Teaching Hospital of Kigali(UTHK)
- To describe the barriers to implementation of Nursing Process among nurses working at University Teaching Hospital of Kigali(UTHK)
- To examine the association between the barriers and implementation of Nursing Process among nurses working at University Teaching Hospital of Kigali (UTHK)

1.6. RESEARCH QUESTIONS

- What is the extent to which nurses implement the Nursing Process at University Teaching Hospital of Kigali?(UTHK)
- What are the barriers hindering the implementation of Nursing Process among nurses at University Teaching Hospital of Kigali? (UTHK)
- What is the association between the barriers and nursing process implementation among nurses at University Teaching Hospital of Kigali?(UTHK)

1.7. SIGNIFICANCE OF THE STUDY

This study will benefit the following areas:

Nursing Profession: The study will remind practicing nurses, especially in Rwanda, of the global standard set through the application of the nursing process in patient care. The findings will reveal the barriers present in Rwanda that hinder the task of identifying and managing patient's problems and the systematic implementation of nursing process. It may therefore stimulate them to undertake greater responsibility and enable them to maintain high level of professionalism in nursing.

Hospital organization: The major task of a healthcare institution is to make quality healthcare available to every client who will require their services. In actualizing this mission, nursing play the key role. Implementing the nursing process requires constant documentation as it accounts

the actions taken by the nursing team in resolving patient problems. The study will inform the hospital management of their responsibility in providing necessary articles, equipment, stationary etc for the successful implementation of nursing process.

Education: The study will help nurse educators review the curriculum and course content of nursing with a view to incorporate ways and means of overcoming the barriers that are identified in this study.

Research: The study will help nurse researchers generate ideas to overcome the identified barriers in implementing the nursing process and conduct further researches to improve the quality of nursing care. Such nursing research will provide the scientific basis for the practice of the profession.

1.8. STRUCTURE/ORGANIZATION OF THE STUDY

The dissertation will be presented in the following five chapters:

Chapter one: The introduction to the study

Chapter one provides an introduction to nursing process, the background information to the nursing process adoption worldwide and its challenges, the problem statement of the study, the aim and objectives of the study, research questions, and significance of the study as well as definitions of key terms.

Chapter two: Literature review

Chapter two provides the overview of the literature explaining nursing process implementation and challenges.

Chapter three: Methodology

Chapter three describes the study design and methodology used for the study

Chapter four: Data analysis

Chapter four comprises presentation and analysis of results

Chapter five: Results discussion

Chapter five provides conclusion and recommendations of the study

Chapter six: Conclusion and recommendation

The last chapter provides the summary of the study and concludes the findings as well as addressing recommendations

CHAPTER TWO: LITERATURE REVIEW

2.0. INTRODUCTION

The literature review for this study was conducted systematically using the concept of the Nursing Process in order to obtain a deeper understanding of the Nursing Process as well as different determinants and challenges to Nursing Process implementation during patient care.

Nursing care has been practiced over the years starting from the period of disease addressed model up today the period in which the scientific and holistic approach to solve patient problems is being used. In earlier time, the patient was treated based on the disease he was suffering from but little was considered regarding psychological and social interactions that influence or accompany the physical illness. Actually the art of nursing takes the patient into consideration holistically that is the bio-psycho-social connection in the presentation of disease that includes its symptoms (ANA, 2015, p. 84).

In present time, nursing is practiced under the series of steps joined together resulting in a process which is called Nursing Process. The nursing theorist Orlando explains the Nursing Process as a continuing validation of actions of a nurse together with the patient in which 4 steps are identified include patient action, nurse reaction, nurse-patient validation and nurse action (Schimieding 2006, p.439).

2.1. NURSING PROCESS

The Nursing Process framework was adopted by the north American nursing profession to be used as a scientific method to guide nursing procedures for quality patient centered care and was taken into consideration as a mean of providing holistic patient care as well as a guide for nursing practice and nursing education (Hagos et al., 2014, p. 2).

According to American Nurses Association 2010, the Nursing Process is often conceptualized as the combination of interrelated actions of assessment, diagnosis, and identification of outcomes, planning, implementation, and finally, evaluation. This model expresses the proficient level of

nursing care for what nurses require the knowledge, skills and attitude toward responding to the individual or group health issues related to the health so that people with identified nursing needs may achieve the best possible wellbeing or arrive at a peaceful death (ANA, 2010, p. 2).

The Nursing Process is a humanistic and intellectual activity in which nurses gather information and test it against personal and professional knowledge (Mamseri, 2012, p.25). Orlando's theory, which was developed in the late 1950s, was recognized this process as an essential part of delivering standardized and improved patients' care through developing a nursing care plan (Mamseri, 2012, p.31).

In the hospitals Nursing Process tool to enhance quality care is presented by nursing care plan a written format in patient file to be used by the nurse for organizing, planning, coordinating and delegating patient care. Thereafter, the utilization of this tool have been mandatory for guiding nursing care to ensure coordinated quality patient care and as an indicator of quality nursing care for institution accreditation in standard #7 written in plans of care in Rwanda Hospital Accreditation Standards ('Rwanda Hospital Accreditation Standards', 2014).

Orlando's Nursing Process focuses on improvement in the patient's behavior by actions that are based on a patient's needs found through effective interaction with the patient (Parker & Smith, 2010, p. 79).

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 may have led to poor patient care and outcome (Afolayan et al., 2013, p.1)

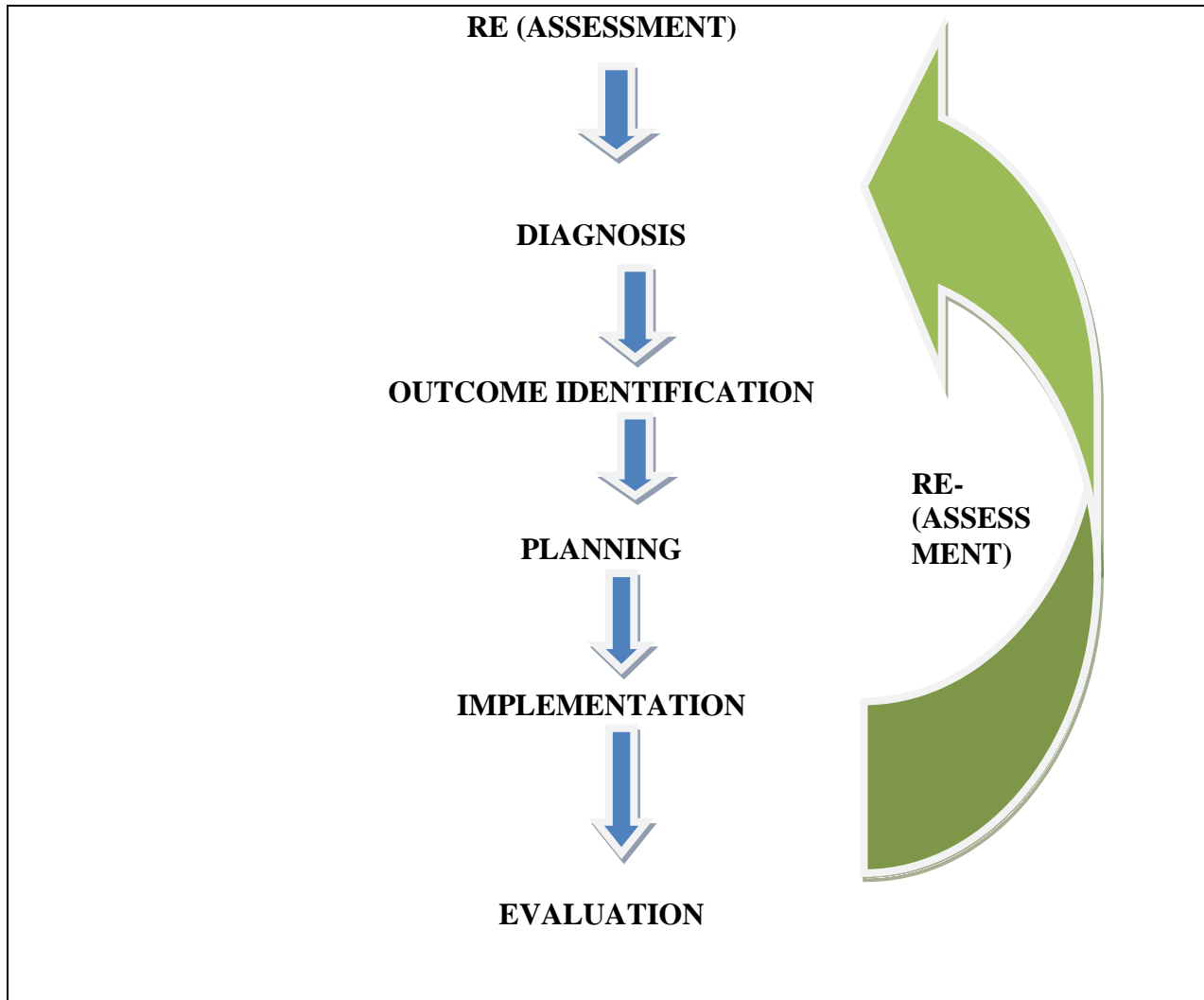


Figure 1 : Steps of Nursing Process

The Assessment is a process where the nurse collects information in various ways, for example, by interviewing, observing and taking different measurements. Assessment step helps then discovering the needs of a patient which can then be addressed with proper nursing interventions (Haapoja, 2014, p.5). Nursing diagnosis step consists of a clinical judgment based on information obtained (Magnan and Maklebust 2009, p.860). In planning step the nurse prioritizes the problems, formulates goals and considers the desired outcomes, selecting nursing interventions, and recording the nursing interventions (Mamseri, 2012, p. 30), implementation is a step of Nursing Process where planned interventions are actually delivered to the patient (Kozier et al., 2008, p. 233), the last step is evaluation; the final phase of the Nursing Process of

evaluation involves examination of the outcome of the nursing actions or the extent to which the expected outcomes or goals were achieved (Smith et al.,2004, p. 24).

2.3. IMPLEMENTATION OF NURSING PROCESS

Effective patients' outcomes are promoted through the effective implementation of Nursing Process and this Nursing Process implementation also demonstrates professionalism. With routine Nursing Process implementation, nurses become more competent for patients therefore the agreement between nurse and patient turns out to be strengthened progressively (Afolayan et al., 2013, p. 34).

Nurses have to document every care provided to the patients to help evaluating patient's progress therefore nursing care interventions or treatment which have not been documented are considered to be not implemented (Mamseri, 2012, p. 22). In addition, nursing complete, comprehensive and accurate documentation will have significant importance for the continuity of nursing care based on documented nursing information in the patient's files and this will help research studies to be conducted based on that previous nursing information. Application of the Nursing Process while providing nursing care and keeping accurate records can donate to humanizing nursing outcomes, and thereby help to address patients' complaints through assessment regarding the quality of nursing care (Mamseri, 2012, p. 23)

The Nursing Process as a framework is composed by steps which are interrelated among them to be followed by nurse in order to achieve good patient outcomes; in Ethiopia the research done in Mekelle zone hospitals revealed that nurses fail to follow all Nursing Process steps and said that they apply some of them but not at all. This malpractice of Nursing Process steps consequently results in very poor patients' outcome (Hagos et al., 2014, p.4).

The study which the aim was to describe the level of Nursing Process implementation and associated factors among nurses working in a selected referral hospital and a selected district hospital in Ethiopia revealed that even if some nurses implement nursing process very much, the majority of nurses more than a half fail to apply Nursing Process or they seem to be applying Nursing Process (Abebe et al., 2014, p. 5).

The implementation of nursing process among nurses has not the same feature as found in other professions because some nurses shows ability to use Nursing Process during their routine patients care while others report that Nursing Process is well understood but difficult to be applied by them; Other nurses say that Nursing Process is found confusing for them and that they are unsure how implement it (Mamseri, 2012, p. 34).

The protocols and frameworks have an important significance in the routine of nurses for guiding the panning of care nurses' actions and interactions and these protocols must be interiorized in all services as a basis of actions that interpret the process (Ledesma, 2009, p.42).

2.4. BARRIERS TO IMPLEMENTATION OF NURSING PROCESS

Systematic assessment of the articles showed different challenges in implementation of the Nursing Process. Intangible understanding of the concept of Nursing Process, different views of the process, lack of knowledge and awareness among nurses related to the execution of process, supports of managing systems, and problems related to recording the Nursing Process were the main challenges evidenced from review of literature (Zamandeh et.al 2015, p.416).

A descriptive-exploratory study design done in Egypt to explore barriers and facilitators for execution of Nursing Process from nurses' perspectives by Mahmoud & Bayoumy in 2014 revealed that some barriers were related to nurses' perception and experience, work, resources, and others related to administration as well as lack of time to implement Nursing Process (Mahmoud and Bayoumy, 2014, p.312).

The barriers to Nursing Process implementation revealed among authors are almost similar; the studies (Ngao, 2015; Zamandeh et.al 2015) that focused on assessing challenges to Nursing Process implementation have also evidenced almost the same barriers including lack of knowledge about formulating nursing diagnosis, institutional/organizational barriers including lack of staff training on Nursing Process and poor staffing ratios, another common barrier shown by these studies was a time it takes to document.

2.4.1 Demographic barriers to Nursing Process

Demographic characteristics of nurses like age, years of work experience and level of education play a significant role on Nursing Process implementation; the nurses' educational status had a direct statistically significant relationship with the knowledge on Nursing Process as revealed by a study done to assess barriers and facilitators for execution of Nursing Process in Egypt (Mahmoud & Bayoumy, 2014, p.312).

Knowledge, experience and perception of nurses may sometimes be a barrier to Nursing Process implementation; the practice is influenced by knowledge because a nurse can't put into action what he or she was not instructed to do it so. The competence of nurse requires a set of knowledge, skills and attitudes towards caring people; the knowledge means specific information about professional practice related to Nursing Process and caring people meaning addressing his or her behavior, sympathy and respect for other people (Finkelman & Kenner, 2016, p. 4).

Effectiveness of patient centered care based on the best accessible facts and patient safe quality care reflects the fundamental role of nurses. The combination of technical capability, clinical critical thinking of nurses is the evidence of formal teaching and effective mentorship on the part of healthcare institutions is critical. A lack of those prerequisites to nurses as formal teaching and effective mentorship are barriers to Nursing Process knowledge and practice for nurses (Gordon & Watts, 2011, p. 3).

The study interest is also driven to nurses' education; training of nurses about Nursing Process can enhance its implementation; some nurses can have a positive attitude towards Nursing Process application but fail to apply it in clinical setting because of barriers of having low or lack of knowledge to the importance of its interrelated steps or lack of sufficient time to implement nursing process (Queiroz et al., 2012, p.1347).

Lack of adequate knowledge about Nursing Process has been evidenced as a barrier among majority of nurses working at Makelle zone hospitals; the finding revealed that the knowledge of nurses on Nursing Process is not adequate to put it in to practice even though other challenges like high patient nurse ratio also hindered its application (Hagos et al. 2014, p.7)

In the review of literature of 21 publications from 2003-2013 on Nursing Process it was found that 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 cited in Ngao, 2015, p.12)

2.4.2 Social-cultural barriers to nursing process

Much advancement has been made since the conception of becoming culturally diverse in nursing. A hallmark behavior and action that focused on cultural diversity within nursing gave rise to the trans-cultural nursing movement. The early focus of the trans-cultural nursing movement was to bring sensitivity to the differences between nurses' own culture and that of the people to whom they were providing care (Lowe & Archibald, 2009, p.13).

A study done in Kenya to assess barriers to Nursing Process implementation has included socio-cultural factors including nursing peers, family influence, religion and cultural practices to assess their contribution to nursing process implementation; among socio-cultural variables used for the study, religion seems to be more likely to influence how nurses delivered care to patients whereas nursing peers are associated with continuity in implementation of nursing care plan and assisting in planning of care. No previous other studies regarding socio cultural factors in Nursing Process implantation (Ngao, 2015, p.15).

2.4.3 Organizational/institutional barriers to Nursing Process

According to World Health Organization, 2014 A health systems consist of all organizations, people and actions whose primary intent is to promote, restore or maintain health.

Researchers found that in health system organizational factors, including work, resources and management, ranked the highest predictive factor in the use of nursing process. The professional factor need to be addressed because innovations in health care systems often create obstructions or challenges resulting in lack of motivation in implementation which may be responsible for the

negative attitude of nurses which is the least ranked in the use of nursing process (Mahmoud & Bayoumy, 2014, p.312).

Participants reported that factors such as shortage of resources, lack of knowledge, high patient nurse ratio/work load, and lack of training and motivating factors such as salary affected the application of the Nursing Process. The government must reemphasize 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 (Hagos et al., 2014, p.7).

The health institution management of the problems related to recording of the Nursing Process enhances and supports the implementation of Nursing Process. The use of software programs is a strategy improves time management as well as facilitating and accelerating the implementation of the nursing process (Zamandeh et al., 2012, p.615)

2.5. CONCEPTUAL FRAMEWORK

Conceptual framework adopted from whitehead model (Whitehead, 2001, p.423) of social cognitive model for health promotion practice in nursing (SCMHPPN).

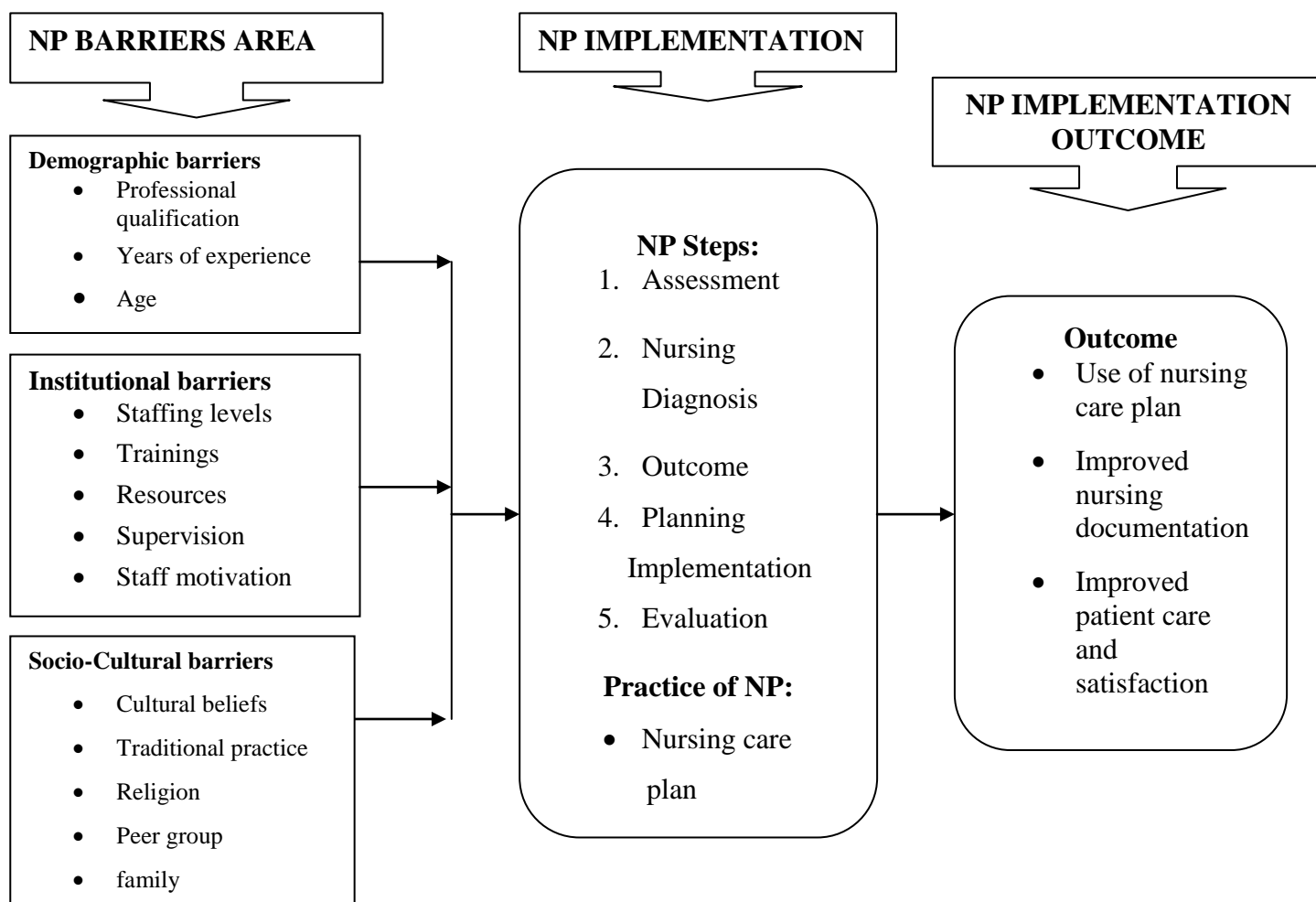


Figure 2: Conceptual framework

The conceptual model of Whitehead include considerable number of cues such as cues to action, cues to non-action, the client's/nurse's reaction to the health threat, regulating factors, perceptions of the client/nurse, cost/reward calculations, and behavioral intent to change (Whitehead, 2001, p.423). In accordance to the study purpose, the Nursing Process to be effectively implemented a number of the above namely cues are sensitive where during assessment a nurse identifies the patient's threat and reacts accordingly to rule out causes or

regulating factors behind a threat and planning possible behavior or intervention aiming to change the situation.

According to (Whitehead, 2001, p.423) Cues to action include aspects such as motivation, pressure to succeed, influence of mass media, acceptance for significant others and support system these reflect also the factors influencing the Nursing Process such as demographic characteristics of nurses as revealed by (Hagos, 2014, p.1). The age of nurses, years of work experience, level of education or professional qualification and the knowledge on Nursing Process acquired directly through nursing education affect the NP implementation (Mahmoud and Bayoumy, 2014, p.312).

Whitehead model also explain cues to no action as concepts such as anxiety, fear of failure, non conformist attitude, suspiciousness and denial and other regulating factors. In this study the non-action cues are comparable as the factors acting as barriers to the concept of Nursing Process implementation; these barriers can be categorized into socio-cultural as the difference existing between people relating to their common ideology, norms or beliefs forms the cultural diversity that influences their daily practice therefore nursing practice may be influenced negatively or positively according to cultural diversity (Lowe and Archibald 2009, p.17).

The cues to no action for the study can also be institution related barriers because for Nursing Process to be effectively implemented there must be collaboration of hospital administration with the implementing nurses because 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 and Shamsi, 2011, p. 312). Nurse's perception to the concept also plays a significant role motivating its implementation (Bowman et al. 1983, p.125-129) lamented that in Australia, the Nursing Process has gone through the phases of negative attitude.

The purpose of whitehead model is health promotion. In accordance to the study the results from Nursing Process implementation are patient outcome focusing on improved health status and patient satisfaction so, the effective patient outcomes are promoted through the effective implementation of Nursing Process and Nursing Process implementation also demonstrates professionalism (Afolayan et al., 2013, p.4)

CHAPTER THREE: RESEARCH METHODOLOGY

3.0. INTRODUCTION

This chapter describes the quantitative methods which will be adopted for this study, such as the data collection and analysis. The purpose of the study is to assess the barriers to implementation of nursing process among nurses working in a selected referral hospital.

The research methodology consists of a body of knowledge that reflects the general philosophy and purpose of the research process, the assumptions and values that serves as rationale for research, the general approach of data collection and analysis, and the standards used for interpreting data and reaching conclusions (Shi, 2008, p.247-264).

3.1. RESEARCH DESIGN

Research design is the overall plan for addressing a research question, including specifications for enhancing the study's integrity (Polit and Beck 2008, p.765).

In this study the design was a cross sectional method to gather information about the nurses barriers to implementation of the nursing process by assisting them to provide all possible information in survey.

3.2. RESEARCH APPROACH

A quantitative research approach was be used for this study

3.3. RESEARCH SETTING

The study was carried out University Teaching Hospital of Kigali (UTHK/CHUK). The University Teaching Hospital of Kigali is located in the Centre of Kigali city, district of Nyarugenge. It was built in 1918, from when it served as health center. Today, it serves as a referral hospital and it has the capacity of 385 beds. In June, 2014 UTHK employed 807 people including 89 medical doctors and 498 nurses and midwives (Health sector annual report, 2013-2014).

3.4. POPULATION

The population of a study is the group of subjects, usually of people, about whom we want to draw conclusions (Mouton 2006, p.100). In this study, the researcher interest is addressed to all nurses working in UTHK/CHUK in-patient departments (IPD) including internal medicine, surgical ward, emergency ward and intensive care unit (ICU) especially adults. The reason for this selection is because they spend much time with hospitalized patients more than nurses working in out- patient departments (OPD). According to the health sector annual report, 2013-2014 the total numbers of nurses working in University Teaching Hospital of Kigali was 498 nurses but among them are nurses working in consultation with doctors and midwives working in maternity and nurses working in pediatric services and they are not the part of study population. Therefore the study population is 221 nurses (surgical ward: 83 nurses, medical ward 65 nurses, emergency 33 nurses, and intensive care unit 40 nurses).

The participants had to meet the following criteria for inclusion in this study:

1. Nursing work experience of at least 1 year or more at this particular hospital.
2. Working as full time staff nurse in service
3. Having role and responsibility that are linked with the patients

The following nurses were excluded from the sample in this study:

1. The nurses who did not consent to participate in the study.
2. All nurses who were absent at work place during data collection period.

3.5. SAMPLING

3.5.1 Sampling strategy

A sample is a subset of the total population that is selected for the study to be a representative of the whole population, and sampling includes selecting groups of people, events, behaviors or other elements with which to conduct a study.

In this study a stratified simple random sampling or probability sampling technique were used where population elements under investigation had an equal chance of being selected. This selection is important because it reduces the risk of selection bias, and a randomly selected sample is a requirement for inferential statistical analyses (Endacott and Botti, 2007, p. 236-237)

3.5.2 Sample size

The sample size was calculated using sample size calculation formula of Taro Yamane (Polania, 2013, p. 8)

A simplified formula for proportions Yamane, 1967, p. 886 cited in (Polania, 2013, p.8) was used to calculate sample size:

$$n = \frac{N}{1 + N * (e)^2}$$

n - The sample size

N - The population size: 221

e - The acceptable sampling error: 5%

* 95% confidence level and p = 0.5 are assumed

Sample size calculation

$n = \frac{221}{1 + 221 \cdot (0.05)^2}$ <p>N = 142</p>
--

Sample size was **142** nurses

3.7. DATA COLLECTION

3.7.1 Data Collection instrument

The instrument of data collection for this study was a structured questionnaire e named “Study questionnaire on Barriers to Nursing Process Implementation”. It was adopted from Ngao, 2015 from Kenya and it was used for similar study in Nairobi in 2015. The permission to use the questionnaire was given to researcher. The questions were structured using 6 sections: section A. composed of demographic data, section B. composed of knowledge and trainings, and section C.

composed of NP implementation, section D. composed of institutional related questions and section E. composed of social and cultural information and section F. composed of nurses' perception of nursing process. The questionnaire was in English then translated into French with assistance of a lecturer of languages in college of education.

Validity and reliability of questionnaire

The questionnaire was tested for its content validity through experts in medical surgical nursing domain. The pretesting of study questionnaire was done on nurses working in one of the medical wards a such pilot study was conducted in 10% of the study sample to test the clarity and validity of the study tool contents; and members involved in the pilot study were excluded from the study sample. Some items on the questionnaire were changed to make it clear and understandable according to the objectives and to facilitate analysis. The results of reliability test cronbach's Alpha were 0.75.

3.7.2 Data collection procedure

After getting clearance approval from ethical review committee, I asked the permission from hospital to conduct research. Then I met the nurses in their service to give them information regarding research and they were informed about benefits of the study. The distributed questionnaires were to be handed back on the following day. For each day questionnaires were given to one service and returned back to the next day. The total days for data collection were 2 months.

3.8. DATA ANALYSIS

Study data were entered via a computer and analyzed using descriptive and inferential statistics. Descriptive part such as central tendency measures, (mean,), and frequency distribution were used to present demographic data. Statistical package for social sciences (SPSS) version 20.0 was used to analyze data statistically with the assistance of a statistician using inferential statistic tests like chi-square. Thereafter data were presented in the form of tables, graphs and diagrams.

3.9. ETHICAL CONSIDERATIONS

Ethics is a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal, and social obligations in view of the participants (Polit and Beck 2008, p.765).

Before collecting data, the permission from the relevant health authorities to do the study was asked by, and a request for ethical clearance from the school was submitted at the same time.

The participants had the right to decide voluntarily whether to participate in the study or not, and they had the right to ask questions, the purpose and the objectives of the study were explained to them. The consent form was given to nurses to sign if they agreed to participate in a study. The nurses were assured of the protection of their identity. The questionnaires were anonymous therefore respondents had not to write their names on the questionnaires.

The participants were assured that the information provided would be treated confidentially.

3.10. DATA MANAGEMENT

Data were collected using a validated questionnaire and questionnaires were kept in safe sealed envelopes with codes indicating services then envelopes were kept in one box sealed safely. Data entry were be done by researcher assisted with a statistician using a computer locked with a code and the password known only by researcher to protect data.

3.11. DATA DISSEMINATION

The report hard copy will be submitted to the University of Rwanda for partial fulfillment of requirements for Masters of Sciences degree in nursing the track of Medical Surgical.

The final report will be also submitted to the UTHK research department. A researcher is planning to submit the article arising from the study to scientific journals.

3.12. PROBLEMS AND LIMITATIONS

Problems

Respondents complained of complexity of questionnaire stating that the questionnaire was boring to answer.

The authorization of the UTHK research ethical committee took too long period and delayed the time to start collecting data.

Limitations

The main limitation of the present study was the lack of access to full-text articles about the Nursing Process. It was recommended to perform more studies considering this limitation.

It was very difficult to know the rate of Nursing Process implementation and to compare barriers to implementation of Nursing Process from other studies in Rwanda due to limited reporting in Rwandan hospitals.

CHAPTER FOUR: DATA ANALYSIS

4.0. INTRODUCTION

The chapter four aims to describe analyse and interpret the collected data. The purpose of the study was to assess barriers to implementation of Nursing Process. The statistical tests were used

to examine association between barriers and implementation of Nursing Process. The statistical data presented were obtained from 142 questionnaires distributed to 142 nurses working in four services of a one referral hospital. All distributed questionnaires were completed and returned to researcher. The questionnaire consisted of the six sections ordered as following: biographic data, nurses' implementation of the Nursing Process, nurses' training and knowledge on the Nursing Process, institution related barriers to Nursing Process, socio-cultural related barriers to Nursing Process and nurses' perceptions to Nursing Process. The results are presented in accordance with these sections using graphs and tables then discussed in accordance with study objectives.

4.1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1: Demographic characteristics of respondents

Table 1A: Age, sex and marital status

No	Variables	Frequency	Percent%
1	Age		
	21-30	38	26.8
	31-40	83	58.5
	41-50	21	14.8
2	Sex		
	Male	41	28.9
	Female	101	71.1
3	Marital status		
	Single	27	19.0
	Widow	4	2.8
	Married	111	78.2

N=142

The table1A is Composed of age, sex and marital status of respondents; most of nurses n=83 (58.5%) were aged between 31 and 40 years of age. Overwhelming respondents were females n=101 (71.1%) while males accounted for n=41(28.9%) of the nurses participating in the study giving a male to female ratio of 1: 2.

Table 1B: Qualification, experience and unit

No	Variables	Frequency (n)	Percent %
1	Qualification		
	Certificate	8	5.6
	Diploma	120	84.5
	Bachelor	14	9.9
2	Experience		
	1-10	104	73.2
	11-20	30	24.1
	21-30	8	5.6
3	Unit		
	Medical	33	23.2
	Surgical	54	38.0
	A&E	30	21.1
	ICU	25	17.6

N=142

Findings from table 1B show that a large number of nurses n=120 (84.5%) possessed diploma in nursing certification and they were not novices as every nurse had a minimum of 4 years experience and a majority of them n=104 (73%) had experience ranging from 4 to 10 years. The most common areas of deployment for nurses in CHUK were surgical unit n=54 (38%), followed by medical unit n=33 (23.2%).

Table 1C: Nurses' sites of training of the Nursing Process

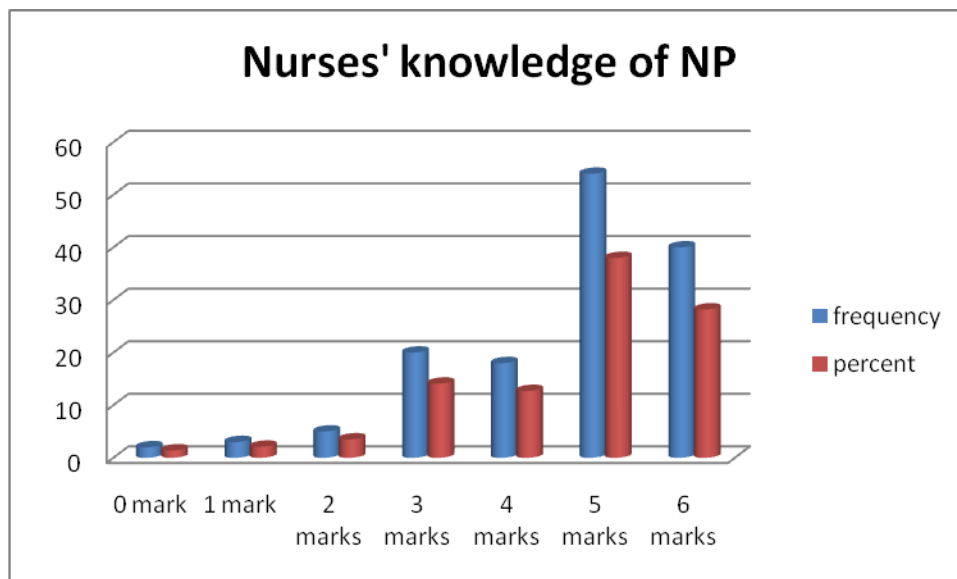
No	Training site	Frequency	Percent %
1	College	78	54.9
2	Job training	20	14.1
3	MOH training	4	2.8
4	Others	3	2.1
5	None	37	26.1

N=142

The table 1C presents nurses' sites of NP training and shows that n=37 (26.1%) working at University Teaching Hospital of Kigali were not trained on the Nursing Process and the majority n=78 (54.9%) of nurses who received training on the Nursing Process, they were trained by means of college training whereas in-service training was at n=20 (14.1%). By these results it is evidenced that there was fewer clinical field training on the Nursing Process among nurses at UTHK.

4.2. NURSES' KNOWLEDGE OF NURSING PROCESS

Figure 3: Nurses' knowledge score of Nursing Process

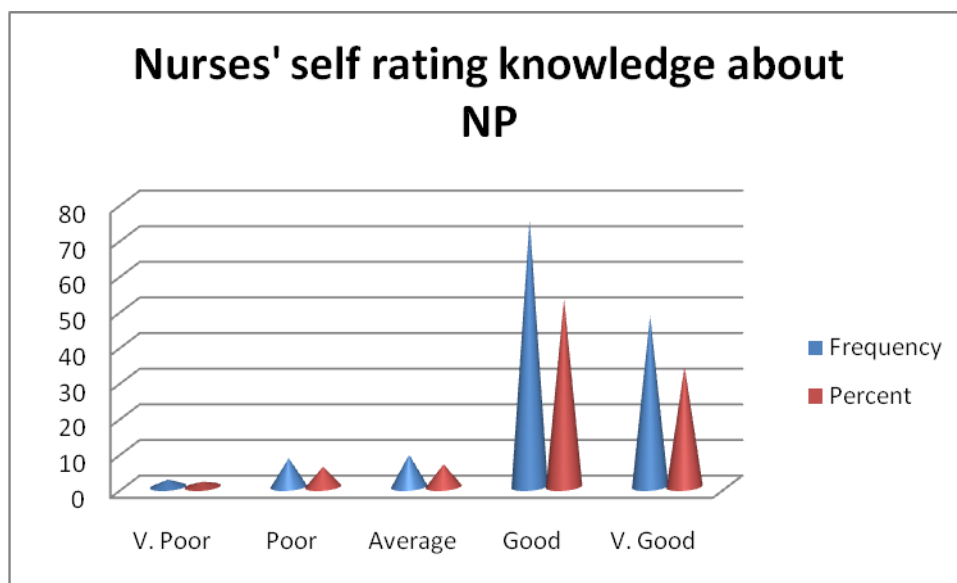


N=142

Mean= 4.6

According to the figure 3: the results of nurses' knowledge on Nursing Process showed that some of nurses achieved the total score of marks of knowledge about NP n=40 (28.2%), the total score was 6 marks and n=54 (38%) scored the marks beyond the mean as the mean was 4.6 marks, fewer of nurses scored 0 mark n=2 (1.4%).

Figure 4: Nurses' self rated level of understanding of Nursing Process



N=142

Mean=3.1

The figure 4 shows that the majority of nurses rated their knowledge of NP to be very good n=48 (33.8%) and good n=75 (52.8%) only few nurse reported their knowledge to be poor n=8 (5.6%) or very poor n=2 (1.4%)

4.3 NURSING PROCESS IMPLEMENTATION

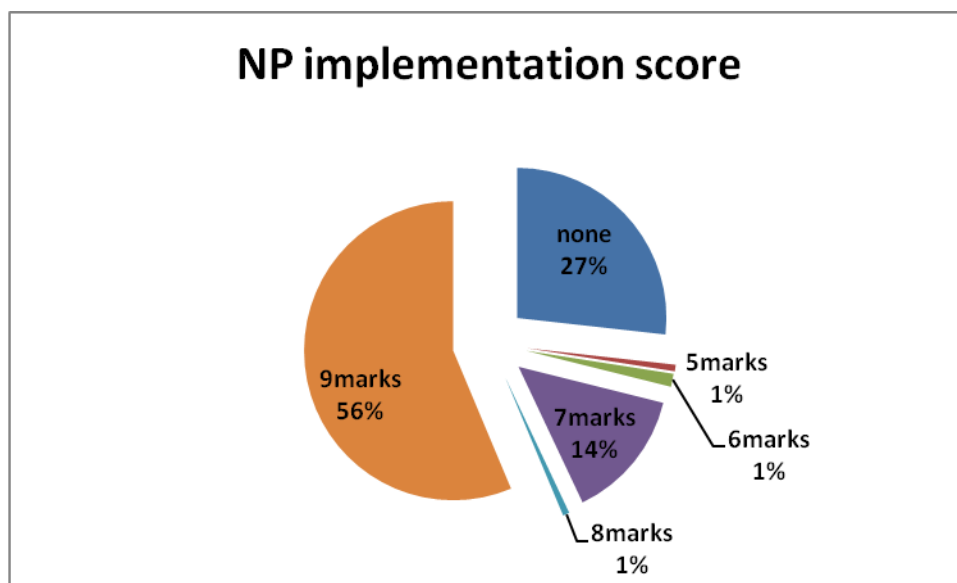
Table 2 Nursing Process implementation

No	Variables	Frequency (n)	Percent (%)
1	I developed NCP		
	No	38	26.8
	yes	104	73.2
2	I followed all steps of NCP		
	No	61	43.0
	yes	81	57.0
3	Data collection step		
	No	42	29.6
	yes	100	70.4
4	Nursing diagnosis step		
	No	39	27.5
	yes	103	72.5
5	Expected outcomes/goals		
	No	52	36.6
	yes	90	63.4
6	Nursing intervention step		
	No	38	26.8
	yes	104	73.2
7	Evaluation step		
	No	44	31.0
	yes	98	69.0
8	I met challenges		
	yes	41	28.9
	No	101	71.1

N=142

According to the table 2 almost nurses (73.2%) implemented nursing care plan in the one week period prior to the interview; among them the above one half (43%) did not implement all steps of nursing care plan and the step three was the most absent in NCP than other steps at (26.6%).

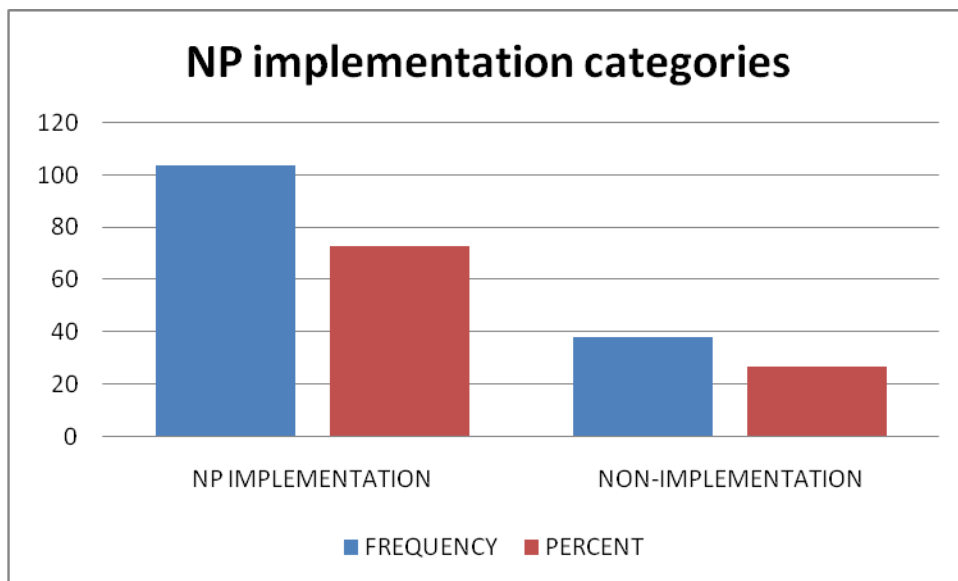
Figure 5: Nursing Process implementation score



N= 142

Mean= 6.23

The figure 5 shows that the above a half (56%) of respondents were scored the highest implementation score of 9 marks while a short percentage (27%) of respondents scored to lack the Nursing Process implementation. Respondents whose NP implementation score was about 5 marks, 6 marks and 7 marks represented the percentage of 1% each. The mean of Nursing Process implementation score was 6.23 marks.

Figure 6: Nursing Process implementation categories

The figure 6 represents the results on NP implementation classified into two categories; the majority of respondents $n=104$ (73.2%) were classified in implementation category of the NP while the minority $n=38$ (26.8%) were classified in non- implementation category of the NP.

4.4: INSTITUTION SUPPORT OF NURSING PROCESS

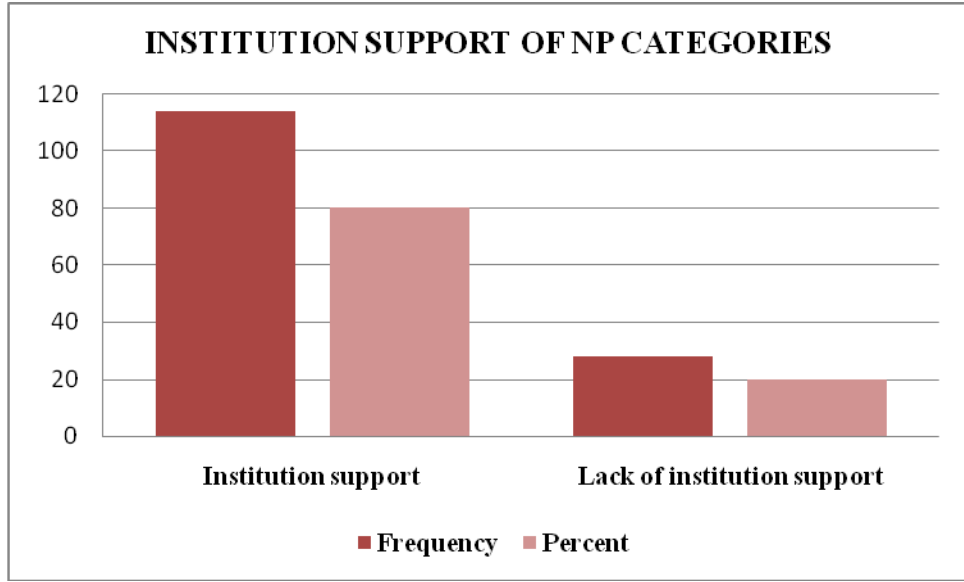
Table 3: Institution support of Nursing Process

No	Variable	Frequency	Percent %
1	Nurses work overload at UTHK		
	No	15	10.6
	Yes	127	89.4
2	Hospital recognizes NP as framework		
	No	3	2.1
	Yes	139	97.9
3	Hospital support of NP by Resources		
	No	21	14.8
	Yes	121	85.2
4	Hospital support of NP by Training		
	No	92	64.8
	Yes	50	35.2
5	Monitoring of NP		
	No	30	21.1
	Yes	112	78.9
6	Staff motivation		
	No	90	63.4
	Yes	52	36.6
7	Performance appraisal		
	No	13	9.2
	Yes	129	90.8
8	Hospital supplies Relevant tools for NP		
	No	39	27.5
	Yes	103	72.5

N=142

In the table 3, the data presented show that nurses reported work overload at (89%) and the institution recognition of the Nursing Process as a framework for quality nursing care delivery at (97.9%) and gives support to its implementation. The institution integrated the NP framework in annual performance appraisal objectives at (98%).

Figure 7: Institution support of NP categories



The figure 7 shows the two categories of institution support of Nursing Process; almost n=114 (80.3%) respondents reported that the institution supports the NP framework to be implemented whereas fewer of respondents n=28 (19.7%) reported the lack of institution support to NP implementation.

4.5: SOCIO CULTURAL BARRIERS ON NURSING PROCESS IMPLEMENTATION

Table 4: Description of social and cultural barriers to Nursing Process

No	Variable	Frequency(n)	Percent
1	Peers		%
	yes	3	2.1
	I am not sure	41	28.9
	No	98	69.0
2	Religion		%
	yes	1	.7
	I am not sure	23	16.2
	no	118	83.1
3	Family		%
	yes	0	0
	I am not sure	10	7.0
	no	132	93.0
4	Tradition/culture		%
	yes	1	.7
	I am not sure	13	9.2
	no	128	90.1

N=142

The table 4 of socio- cultural barriers to NP implementation shows that almost nurses (93%) stated that their families do not limit the way of care delivery as the same as religion influence (83%). One hundred twenty eight nurses (90.1%) reported that their cultural beliefs do not also influence the way of care delivery to the patients, only one nurse (0.7%) reported some limitation of religion to care delivery to the patients.

4.6: NURSES' PERCEPTION ON THE NURSING PROCESS

Table 5: Nurses' perception on Nursing Process

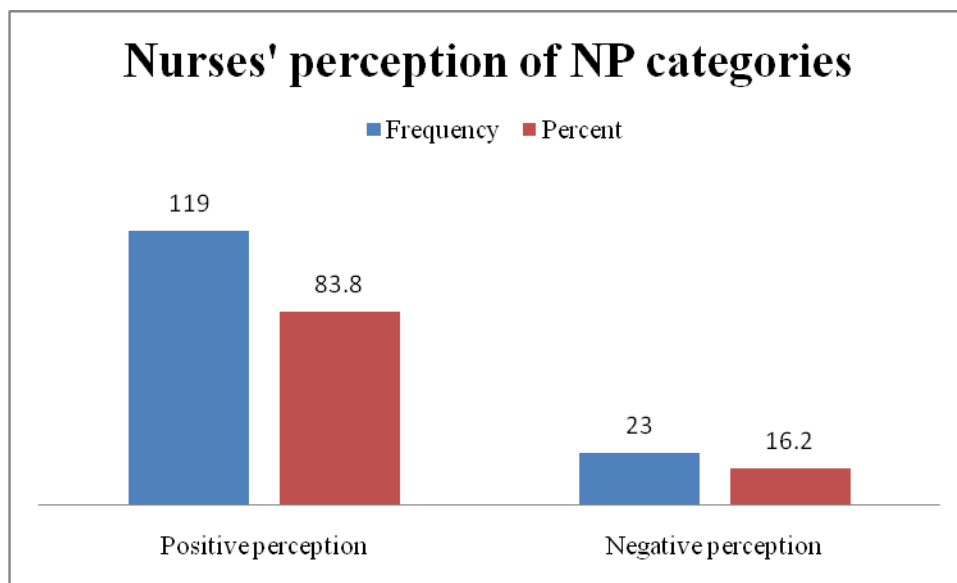
Variable	Strongly agree	Agree	I don't know	Disagree	Strongly disagree
I like the concept of Nursing process(NP)	77(54.2%)	43(30.3%)	9(6.3%)	12(8.5%)	1(0.7%)
Identification of patents priority is easy using NP	77(54.2%)	53(37.3%)	7(4.9%)	5(3.5%)	0(0%)
The nursing process works well in practice	31(21.8%)	41(28.9%)	22(15.5%)	32(22.5%)	16(11.3%)
NP enables nurse to provide quality patient centered care	74(52.1%)	43(30.3%)	15(10.6%)	4(2.8%)	6(4.2%)
The NP can be implemented for every patient	45(31.7%)	19(13.4%)	11(7.7%)	39(27.5%)	28(19.7%)
The nursing process is tedious(boring/time consuming)	56(39.4%)	45(31.7%)	9(6.3%)	20(14.1%)	12(8.5%)
Nurses have a negative attitude towards NP implementation	0(0%)	25(17.6%)	23(16.2%)	69(48.6%)	25(17.6%)
NP is inapplicable in my place of practice	10(7.0%)	1(0.7%)	15(10.6%)	0(0%)	116(81.7%)
The nature of patients' condition does not allow for use of NP	39(27.5)	83(58.5)	0(0%)	19(13.4%)	1(0.7%)

N=142

In the table 5 most nurses strongly agreed (54.2%) or agreed (30.3%) to like the Nursing Process and only few nurses (3.5%) disagreed that the Nursing Process permits identification of patients' priority easily. Twenty five nurses (17.6%) reported to have a negative attitude toward the

Nursing Process and the majority of nurses (39.4%) strongly agreed or agreed (31.7%) that the Nursing Process implementation is time consuming and tedious.

Figure 8: Nurses' perception of Nursing Process categories



The figure 8 shows the two categories of nurses' perception of Nursing Process. A large number of respondents n=119 (83%) had positive perception of Nursing Process while a short number n=23 (16.2%) of respondents had a negative perception of Nursing Process.

4.7 ASSOCIATION BETWEEN BARRIERS AND NP IMPLEMENTATION

Table 6: Analysis on demographic barriers associated to NP implementation by nurses

Variable categories	NP Implementation		Total	Chi square	P value
	No	Yes			
Sex					
Male	6(14.6%)	35(85.4%)	41(100%)	4.325	0.038*
Female	32(31.6%)	69(79.4%)	101(100%)		
Age					
21-30	10(26.3%)	28(73.7%)	38(100%)	1.681	0.431
31-40	20(24%)	63(76%)	83(100%)		
41-50	8(38%)	13(62%)	21(100%)		
Marital status					
Single	4(14.8%)	23(25.2%)	27(100%)	12.917	0.002*
Widow	4(100%)	0(0%)	4(100%)		
Married	30(27.1%)	81(72.9%)	111(100%)		
Qualification					
Certificate	5(62.5%)	3(37.5%)	8(100%)	5.649	0.059
Diploma	29(24.1%)	91(75.9%)	120(100%)		
Bachelor	4(28.5%)	10(71.5%)	14(100%)		
Experience					
1-10	17(16.3%)	87(83.7%)	104(100%)	21.65	0.000***
11-20	17(56.6%)	13(43.4%)	30(100%)		
21-30	4(50%)	4(50%)	8(100%)		
Unit					
Medical	9(27.2%)	24(72.8%)	33(100%)	8.49	0.036*
Surgical	19(35.1%)	35(64.9%)	54(100%)		
A & E	2(6.6%)	28(96.4%)	30(100%)		
ICU	8(32%)	17(68%)	25(100%)		
Type of NP training					
College	10(12.8%)	68(87.2)	78(100%)	12.565	0.014*
Job training	8(40%)	12(60%)	20(100%)		
MOH training	2(50%)	2(50%)	4(100%)		
Others	2(66.6%)	1(33.4%)	3(100%)		
None	16(43.2%)	21(56.8%)	37(100%)		

n= 142, outcome: NP implementation, *P<0.05, ***P<0.001

The table 6 summarizes the results of association between demographic characteristics and nursing process implementation. The chi square test and p value were used to find whether there was relationship between categorical variables (dependent and independent variables).

The association between nursing process implementation and sex resulted in ($\chi^2=4.325$; $P=0.038$) Where males implemented the nursing process at (85.4%) while females implemented the nursing process at (79.4%). The marital status association with the nursing process implementation in practice resulted in ($\chi^2=12.917$; $P=0.002$ where the results revealed that married nurses implemented the nursing process when caring patients at (73.3%) while single nurses implemented nursing process at (25.2%) and widows did not implement the nursing process at all.

The academic qualification and nursing process implementation association had ($\chi^2=5.649$; $P=0.59$) and working experience association with Nursing Process implementation resulted in ($\chi^2=21.65$; $p=0.000$) the study results revealed that nurses experienced less than 11years $n=87(83.7\%)$ implemented Nursing Process more than nurses who had many years of experience.

Nurses' working unit associated with the Nursing Process implementation revealed ($\chi^2=8.49$; $P=0.036$) where almost nurses working in accident and emergency unity (96.4%) implemented more the Nursing Process during care delivery of patients than nurses working in surgical unity (64.9%) , medical unit (72.8%), and in ICU(68%).

The type of participated Nursing Process training was also in relationship with its implementation with ($\chi^2=12.565$; $P=0.015$) as this was evidenced by a large number of nurses trained at their colleges during the academic period (87.2%) to implement more the Nursing Process than other nurses who have had Nursing Process training at job training (60%), MOH training (50%) and others.

Table 7: Analysis on knowledge, institution support and nurses' perception associated with nursing process implementation

Variable categories/item	NP Implementation		Total	Chi square	P value
	No	Yes			
Knowledge					
Knowledge on NP	19(16.9%)	93(83.1%)	112(100%)	25.95	0.000***
Lack of knowledge on NP	19(63.3%)	11(36.7%)	30(100%)		
Perception of NP					
Positive perception to NP	26(21.8%)	93(78.2%)	119(100%)	9.044	0.003*
Negative perception to NP	12(52.1%)	11(47.9%)	23(100%)		
Institution support to NP				6.884	0.009*
Support of NP	25(21.9%)	89(78.1%)	114(100%)		
Lack of institution support of NP	13(46.4%)	15(53.6%)	28(100%)		

N=142, outcome: NP implementation by nurses, *p<0.05, ***p<0.001

According to the table 7, the summarized results of association showed that nurses' knowledge (chi-square 25.95, p<0.001), nurses' perception (chi-square 9.044, p=0.003) and institution support (chi-square 6.884, p=0.009) were significantly associated with the implementation of nursing process where nurses' lack of knowledge of NP, nurses' negative perception to NP and low institution support of NP were barriers hindering the implementation of NP.

Table 8: Relationship among variables and Nursing Process implementation**Logistic Regression Predicting barriers to Nursing Process implementation**

Variables	B	S.E	Wald	df	p	Odds ratio	95% C.I for Odds ratio	
							Lower	Upper
Nurses' Knowledge and training on NP	-1.89	.47	15.782	1	.000	.15	.06	.39
Nurses' Perception of Nursing Process	-.92	.54	2.922	1	.087	.4	.14	1.14
Institutional support of Nursing Process	-.57	.51	1.217	1	.270	.57	.29	1.55
Constant	1.82	.29	40.422	1	.000	6.18		

In table 8, a directed logistic regression performed to assess the impact of a number of factors on NP implementation shows that only the one of independent variables made the unique statistically significant contribution to the NP implementation: nurses' knowledge and training on NP ($p=0.000$; Odd ratio 0.15)

Table 9: Analysis on nurses' social and cultural factors in association with NP implementation

Variables	NP Implementation		Chi square	P value	Fisher Exact test
	No	Yes			
Peers					
Yes	0(0%)	3(100%)	1.127	0.569	
I am not sure	11(26.8%)	30(73.2%)			
No	27(27.5%)	71(72.5%)			
Family					
Yes	0(0%)	0(100%)	0.962	0.327	
I am not sure	4(40%)	6(60%)			
No	34(27.7%)	98(74.3%)			
Religion practice					
Yes	1(100%)	0(0%)	12.412	0.000*	14.734
I am not sure	0(0%)	23(100%)			
No	37(31.3%)	81(68.7%)			
Tradition/culture					
Yes	0(0%)	1(100%)	1.336	0.513	
I am not sure	5(38.4%)	8(61.6%)			
No	33(25.7%)	95(74.3%)			

N=142, outcome: NP implementation by nurses, *p<0.05

Table 9 shows a detailed analysis of one variable in association with NP implementation. Nursing peers ($\chi^2=1.127$; $p=0.569$), family influence ($\chi^2=0.962$; $p=0.327$) and culture ($\chi^2=1.336$; $p=0.513$) were not significantly associated with the nursing process implementation while religion practice (fisher=14.734; $p=0.000$) only was significantly associated with Nursing Process implementation.

CHAPTER FIVE: RESULTS DISCUSSION

5.0 INTRODUCTION

The part of discussion covers detailed explanations in line with the study objectives. The aim of the study was to assess barriers to implementation of nursing process among nurses working at university teaching hospital of Kigali. The study assessed demographic characteristics, knowledge and trainings, institution support, social and cultural factors, nurses' perceptions and Nursing Process implementation to rule out possible barriers hindering the NP implementation at University Teaching Hospital of Kigali.

5.1 THE EXTENT OF THE IMPLEMENTATION OF NURSING PROCESS AMONG NURSES WORKING AT (UTHK)

Findings from the study showed that nurses at university teaching hospital of Kigali implement the Nursing Process at a moderate level. This is evident from the analysis on the Table 2 and figure 6 which showed that 104 respondents or (73.2%) implemented nursing care plan in a one week period prior to the interview while only 38 respondents or (26.8%) exhibited the non-implementation of nursing care plan. However, the analysis from Table 2 showed that even though nurses implemented the nursing care plan, around one half (43%) were not followed all steps of nursing care plan and the most step to be not followed by nurses is the step three of planning expected outcomes (goals) with evident of (36.6%). The analysis using the NP implementation score revealed that more than a half of nurses at UTHK reached the NP implementation total score this means that they were implemented nursing care plan correctly based on standards.

5.2 THE BARRIERS TO IMPLEMENTATION OF NURSING PROCESS AMONG NURSES WORKING AT (UTHK)

The study findings revealed that NP implementation barriers were outlined into five major factors including nurses' demographic characteristics, nurses' knowledge and training on Nursing Process, institution support factors, nurses' perceptions of NP factors.

Findings shown on table 1C indicate that the qualification of nurses played a role of barrier to NP implementation. The majority (54.9%) of nurses working at UTHK have had a Nursing Process training at college site and only very few (14.1%) nurses had NP training at job training or MOH training (2.8%). Through this report the study analysis revealed that the level of studies or qualification is a barrier to NP implementation as nurses who had diploma from the college reported to have also NP training from their colleges while nurses with certificate from high schools reported lack of NP training from their schools.

The level of knowledge of nurses was evidenced to be a barrier to NP implementation, the analysis shown on figure 4 of nurses' self rating of understanding of NP. The nurses reported that their knowledge of NP were average (n=57), poor (n=8) or very poor (n=2) and findings on the figure 5 showed that even though the majority (94%) of nurses reached marks above mean (4.6) of total score, there were still who lacked NP knowledge profoundly with total score of 1mark or 2 marks.

The results of institution support of NP summarized in table 3 showed that the work overload at UTHK, lack of job training on NP, lack of staff motivation on NP implementation, insufficient supply of materials for NP implementation were barriers reported by nurses to be hindrances for NP implementation. A part from the above reported barriers the institution support was categorized into two categories in the figure 7 the positive institution support (80.3%) and lack of institution support (19.7%)

The negative perception of nurses to NP is a factor which may play a big role of hindering implementation of NP among nurses at UTHK. The findings of nurses' perception to NP as

shown in table 5 and summarized in figure 8 where almost nurses demonstrated a positive perception to NP only 16.2% demonstrated a negative perception toward NP.

5.3 THE ASSOCIATION BETWEEN THE BARRIERS AND IMPLEMENTATION OF NURSING PROCESS AMONG NURSES WORKING AT (UTHK)

5.3.1 Nurses' demographic barriers and NP implementation

In table 6, the findings of the study revealed that there was a significant association between nursing process implementation and nurses' gender where females were two times lacking the implementation of the nursing process than males; the nurses' marital status association with the nursing process implementation in practice was also significant with where the results revealed that married nurses were more likely implementing the nursing process when caring patients than single nurses widows. These findings were totally different from the studies done on barriers and facilitators for execution of nursing process from nurses' perspectives (Mahmoud and Bayoumy, 2014, p 23).

The study findings revealed that there was no significant relationship between nurses' academic qualification and nursing process implementation at university teaching hospital of Kigali but nurses' working experience was influencing significantly the nursing process implementation where nurses experienced less than 11years were more likely to apply nursing process than nurses who had many years of experience.

This situation is similar to the findings of the study conducted in Kenya in 2015 by Ngao Mbithi assessing the barriers to implementation of nursing process among nurses working at Machaos level 5 hospitals (Ngao, 2015, p.48)

Nurses' working unit had a statistical significance with the nursing process implementation at university teaching hospital of Kigali where almost nurses working in accident and emergency unity (96.4%) implemented more the nursing process during care delivery of patients than nurses working in surgical unity (64.9%) , medical unit (72.8%), and in ICU(68%) these findings reflect

the ways of monitoring of nursing process implementation as some respondents stated that there is in service document checking of nursing process implementation.

The training of nurses on nursing process at UTHK was also in relationship with its implementation, almost trained nurses on NP were more likely to implement Nursing process than nurses who reported to lack NP training and they did not implemented it in one week prior to the interview. These findings are not similar to the findings revealed in the study conducted in Nigeria to assess the application of nursing process where although the trained nurses at the hospital had good theoretical knowledge of the process it has not been translated into practice (Afolayan et al., 2013, p.9).

The type of nursing process training participated by nurses was significantly associated to the implementation and this was evidenced by a large number of nurses trained at their colleges during the academic period (87.2%) to implement more the nursing process than other nurses who have had nursing process training at job training (60%), MOH training (50%) and others.

5.3.2 Association of nurses' knowledge and Nursing Process implementation findings

To distinguish nurses' knowledge to NP implementation, the study established a cut of point and nurses' knowledge that scored 50% and above on the overall questionnaire was not considered to be barriers to nursing process implementation as the score labeled to be "knowledge" while nurses' knowledge scored less than 50% was considered as barriers hindering the implementation of nursing process as the score labeled to be lack of knowledge.

In table 7 item 1, the results of the study revealed that nurses who were knowledgeable about NP significantly implemented the NP than nurses who scored to have lack of knowledge on NP and these findings are not different from several literatures. A study by (Adeyemo and Olaogun, 2013) reported that the more nurses are knowledgeable, the more they are likely to apply of nursing process and this is similar to a study conducted in Brazil by (Repetto and Souza, 2005) indicated that knowledge is one of several factors that interfere in the efficient implementation of the Nursing Process. The findings of this study also sustain the results from a study in Ethiopia by (Hagos, et al.,

2014) which found that knowledge is one of the most determinant factors for application of Nursing Process

5.3.3 Association of institution support and Nursing Process implementation

In table 7 item 3: 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 (Zewdu and Abera, 2014, p.4) 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.

The staff motivation was also significant to implementation of Nursing Process among nurses who failed to implement nursing process n=23(60.5%) reported the lack of institution motivation on NP while n=15(39.5%) reported that the institution motivate nurses to apply NP framework.

5.3.4 Association of nurses' perception of NP and Nursing Process implementation

The findings in table 7 item 2 show that the association of nurses' perception and implementation of NP was significant where more than a half of nurses who had negative perception to NP showed non-implementation. 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.

5.3.5 Association of social and cultural factors and Nursing Process implementation

To describe social and cultural barriers to implementation of Nursing Process, the study used variables included nursing peers, family influence, religion and cultural practices. Religion seemed to be more likely to influence how nurses delivered care to patients. Nursing peers were associated to

continuity in teaching and implementation of nursing care plan with assistance for planning of care. The findings of the study are similar to the results obtained in Kenya where religion influenced nursing care delivery associated with NP implementation at 79.5% (Ngao, 2015).

5.3.6 Association among variables and Nursing Process implementation

According to the table 8, a directed logistic regression performed to assess the impact of a number of factors on NP implementation showed that only the one of independent variables made the unique statistically significant contribution to the NP implementation: nurses' knowledge and training was found to be the most barrier on NP implementation in comparison with other variables ($p=0.000$; Odd ratio: 0.15), nurses' perception (Odds ratio: 0.4), institution support (Odds ratio: 0.57).

Nurses knowledge at UTHK is not the first case to be a challenge to Nursing Process implementation as the similar studies done in Nigeria to assess the utilization of Nursing Process and patients outcome revealed also knowledge barrier (Afolayan et al., 2013, p. 1) and the study done to assess the application of Nursing Process and its affecting barriers in Ethiopia found that the majority of nurses had poor knowledge about the NP (Hagos et.al, 2014, p. 8)

CHAPTER SIX: CONCLUSION AND RECOMMENDATION

6.0. INTRODUCTION

The chapter six of the study is the last part and its aim is to provide the summary from the five chapters and conclude the study as well as addressing recommendations to concerned areas.

6.1. SUMMARY

The study was conducted to assess the barriers to Nursing Process implementation. The study area was a referral hospital at University Teaching Hospital of Kigali and respondents were 142 nurses working in four services internal medicine, surgical ward, accident and emergency and ICU. All respondents were selected using a stratified random sampling strategy and the distributed questionnaires were handed to the researcher after in two days. The period of data collection took two months then data were gathered and analyzed with assistance of a statistician. The findings were presented and discussed in lines with similar studies worldwide.

6.2. CONCLUSION

The majority of the study participants were knowledgeable about the Nursing Process but they poorly implement its steps. Almost of the study participants had positive attitude towards the Nursing Process but among nurses who lacked to implement Nursing Process the majority had negative attitude towards Nursing Process. This seems that nurses' attitude towards the Nursing Process is a barrier affecting the application of Nursing Process. From the socio-demographic characteristics, working experience and working unit had direct statistically significant relationship with the application of Nursing Process. Participants reported that institution factors such as shortage of resources, high patient nurse ratio/work load, and lack of training and motivating factors such as promotion and rewarding affected the application of the Nursing Process. The socio-cultural factors were not associated with the Nursing Process a part from religion which found to influence the way some nurse deliver care to the patients. Job training on Nursing Process was identified to be almost absent at UTHK to strengthen nurses' knowledge of Nursing Process.

6.3. RECOMMENDATIONS

1. To improve nurses' knowledge of NP, the health institutions in collaboration with the Ministry of Health should organize regular seminars, workshops and symposia to focus the attention on practice of NP implementation.
2. The hospital administration should be enlightened on the importance of the NP in expressions of patients' outcomes to improve a regular delivery of the needed resources for the practice of the nursing process.
3. Nurses and midwives should strive to update their knowledge on nursing process in both theoretical aspect and practical aspect especially nurses who have increased years of experience in hospital and they should consider the routine implementation of Nursing Process as a guiding principle to the profession.
4. The review of nursing curriculum used in training of nursing students is needed in schools of nursing and midwifery and it should cover theoretical component as well as practical component within a period of internship in order to fresh graduates in the application of NP.
5. Future researches on Nursing Process are recommended in Rwanda especially in other referral hospitals as well as district hospitals.

REFERENCE

Abebe N, Abera H, Ayana M, (2014), *The Implementation of Nursing Process and Associated Factors* among Nurses Working in Debreworkos and Finoteselam Hospitals, Northwest Ethiopia, 2013. JNurs Care 3: 149. doi:10.4172/2167-1168.1000149149

Afolayan, J. A., Donald, B., Baldwin, D. M., & Onasoga, O. (2013). *Evaluation of the utilization of nursing process and patient outcome* in psychiatric nursing : Case study of psychiatric Hospital. *Advances in Applied Science Research*, 4(5), 34–43.
www.pelagiaresearchlibrary.com

Akbari, M. and Shamsi, A. (2011): *A survey on Nursing Process Barriers* from the nurses view of Intensive Care Units. *Iranian journal of Critical Care Nursing.*, 4(3):181-186

Alfaro-LeFevre, R. 2010. *Applying nursing process. A tool for critical thinking.* 7th edition. Philadelphia: Lippincot Williams & Wilkins.

American Nurses Association. (2009): *The Nursing Process: A Common Thread among all Nurses*. From <http://www.nursingworld.org>. Axelsson,

American Nurses Association 2010, *Nursing: Scope and standards of practice, 2nd Edition*. Silver Spring, MD: Nursesbook.org.

ANA. (2015) *Annual Report*, 84. <http://doi.org/10.1017/CBO9781107415324.004>

Anne, H. (2014). *The Nursing Process , a Tool to Enhance Clinical Care – a Theoretical Study*, Thesis ,university of applied science

Brandalize, D.L. & Kalinowski, E.C. (2005). *Nursing process: experience in the implementation of the diagnostic phase*. *Cogitare Enferm* , 10 (3), 53

Burns, N & Grove, SK (2005) *Nursing research conduct, critique and utilisation*, 55th edition.

St Louis: Elsevier/ Saunders

Cook, C. (2003) *The many faces of diversity: Overview and summary*. Online Journal of Issues in Nursing , 8 (1). Retrieved 1 October, 2016, from <http://nursingworld.org/ojin>

Endacott, R, Botti, M (2007) *Clinical Research 3: sample size selection, Accident and Emergency* : Elsevier. 15, 234-238

Finkelman, A., Kenner, C. (2016) *The Essence of Nursing: Knowledge and Caring- professional nursing concepts*-Jones and Barlett learning Pp.9298

Fisseha, H., Fessehaye, A., Fikadu, B., Semarya, B., & Alemseged, A. (2014). *Application of Nursing Process and its Affecting Factors among Nurses Working in Mekelle Zone Hospitals, Northern Ethiopia*. Retrieved from <http://dx.doi.org/10.1155/2014/675212>

Fixsen, D. L., Naoom, S. F., Blase, K. a, Friedman, R. M., & Wallace, F. (2005). *Implementation Research: A Synthesis of the Literature*. Components, 311712, 1–119.

George, JB. (2002). Nursing theories. *The base for professional nursing practice*. 5th edition. Upper Saddle River, New Jersey: Pearson Education

Gordon, J., Watts, C., (2011) *APPLYING SKILLS AND KNOWLEDGE: principle of Nursing Practice* F. Nursing Standard.25,33,35-37 Vol 25 No 33

Haberman, M & Uys, LR (2005) *The nursing process: a global concept*. China: Elsevier Churchill Livingstone

Huckbay, Loucine M. (2009) *Clinical Reasoned Judgement and Nursing Process*, Journal compilation, Wiley Periodicals, Nursing forum vol. 44, No 2

Kozier, B, Erbs, G, Berman, A & Synder, S (2012) *Fundamentals of Nursing*, concepts process and practice, 9th edition, New Jersey: Pearson Education

Ledesma, DME, Mendes MMR (2009) *The Nursing Process presented as routine care actions: building its meaning in clinical nurses' perspective*. Rev Latino-am Enfermagem maio-junho; 17(3):328-34.

Lowe, J., & Archibald, C. (2009), *Cultural diversity: the intention of nursing*. Nursing Forum, 44(1), 11–18. <http://doi.org/10.1111/j.1744-6198.2009.00122.x>

Magnan, MA & Maklebust, J. (2009). *The nursing process and pressure ulcer prevention: making the connection*. Advance Wound Care (22):83-92

Mahmoud, M. H., & Bayoumy, H. M. (2014). *Barriers and facilitators for execution of nursing process from nurses' perspective* ISSN 2320–5407. International Journal of Advanced Research, 2(2), 300–315.

Mamseri, R.A. (2012). *The nursing process as a means of improving patient care* (Master thesis). University of South Africa.

Manal, H.M., & Hala, M.B. (2014). *Barriers and facilitators for execution of nursing process from nurses' perspective* International Journal of Advanced Research, 2(2), 300-315.

MOH Rwanda. (2014). *Health Sector Policy*.
<http://www.gov.moh.rw> retrieved online on 19th June, 2016

Mouton, EBJ. (2006). *The practice of social research*. 6th edition impression. Cape Town: ABC Press.

Ngao, M. D. (2015) *Assessing barriers to implementation of nursing process among nurses working at Machakos Level 5 Hospital Mbithi*. PhD Proposal, 1, 2–5.
<http://doi.org/10.1017/CBO9781107415324.004>

Orlando, I.J. (1990) *The Dynamic Nurse-Patient Relationship: function, process and principles*, Reissue of the 1961 edition, New York: National League of Nursing.

Parker M.E.& Smith M.C. (2010). *Nursing theories & nursing practice*. 3rd ed. Philadelphia, USA: F.A Davis Company.

Pokorski, S., Moraes, M.A., Chiarelli, R., Costanzi, A.P. and Rabelo, E. R. (2009). *Nursing process: From literature to practice*. What are we actually doing? Rev Latino-am Enfermagem, maio-junho, 17(3), 302-307.

Polania, Gfk, (2013), *Analysis of sample size in consumer survey*, p33

Polit, DF & Beck, CT,(2008) *Nursing research, generating and assessing evidence for nursing practice*,8th edition, Philadelphia: Lippincott, Williams & Wilkins.

Queiroz, O.C.A., Sant'Ana, R.S.E., Oliveira, S.C., Moinhos, A.S. and Santos, L.S. (2012): *Nurse's perception in front of the implementation of nursing diagnosis and prescription*. Nursing Journal. UFPE on line, 6(7), 1347-51.

Raile Alligood Martha. (2013). *Nursing Theory Utilization and Application*. Journal of Chemical Information and Modeling (Vol. 53). <http://doi.org/10.1017/CBO9781107415324.004>

Raosoftware, 2004, *Raosoftware sample size calculator* available at:
<http://www.raosoftware.com/samplesize.html>.

R. Endacott RN, DipN(Lond), MA, PhD, M. Botti RN, RM, BN, PhD, MRCNA(2007) *Clinical research 3: Sample selection, Accident and Emergency Nursing* (15), pp. 234–238

Rwanda nurses and midwives union, (2017) *Ensure healthy lives and promote well being for all at all ages*, volume 3 publication of RNMU. available at:
<http://www.rnmurw> retrieved on 15th /March/2017

Rwanda Hospital Accreditation Standards' (2014), 2nd available:.

http://www.gakenke.gov.rw/fileadmin/templates/DOCUMENT_Z_ABAKOZI/HEALTH/RWA_NDA_HOSPITAL_ACCREDITATION_STANDARDS-SIGNED-1.pdf

Schmieding N. J. (2006) In: Tomey A.M. & Alligood M.R. *Nursing Theorists and Their Work*. 6th edition. St.Louis, Missouri, USA: Mosby Inc. 431-471

Shi, L., (2008) , *Health Services Research Methods* , 2nd Ed , New York: Delmar cengage learning, 247-267

Smith, SF, Duell, DJ & Martin, BC. (2004). *Clinical nursing skills: basic to advanced skills*. 6th edition. New Jersey: Upper Saddle River, Pearson Education.

Walsh, M. (2002). *Watson's clinical nursing and related sciences*. 6th edition. London: Bailliere Tindall.

Yura,H.,Walsh, M. (1988). *The nursing process assessing, planning, implementing, evaluating* (5th ed.). Norwalk: Appleton and Lange.

Zamanzadeh, V., Valizadeh, L., Tabrizi, F. J., Behshid, M., & Lotfi, M. (2015). *Challenges associated with the implementation of the nursing process: A systematic review*. Iranian Journal of Nursing and Midwifery Research, 20(4), 411–9. <http://doi.org/10.4103/1735-9066.161002>

Zewdu Shewangizaw, Abera Mersha(2015) *Determinants towards Implementation of Nursing Process*. American Journal of Nursing Science. Vol. 4, No. 3, 2015, pp. 45-49.
doi:10.11648/j.ajns.20150403.11

APPENDIX
RESEARCH INSTRUMENT
STUDY QUESTIONNAIRE ON BARRIERS TO NURSING PROCESS
IMPLEMENTATION

Questionnaire Serial Number _____

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 your time (estimated at 25 minutes) to complete the questionnaire.

Instruction: Please tick (V) the option that best applies to you or write as appropriate as applicable.

SECTION A: DEMOGRAPHIC DATA

1. **Age of last birthday**.....
2. **Sex:** Male.....Female.....
3. **Marital status:**
Single..... Widowed....., Married....., Divorced.....
4. **Academic qualification:**
Certificate....., Diploma....., BScN....., MScN....., other (specify).....
5. **Work experience:**
Below 5yrs....., 10yrs....., 20yrs....., 30yrs....., above 30 yrs....., other (specify).....
6. **Currently working unit:**
Medical....., Surgical....., ICU....., Emergency.....
7. **My training site on NP is:**
College....., seminar on job training....., MOH NP training....., Other (specify).....

SECTION B: KNOWLEDGE AND TRAINING ON NP RELATED BARRIERS

1. I rate my knowledge and understanding of NP as:
Very good....., Good....., Average..... Poor....., Very poor.....
2. I have been trained on NP: Yes.....No.....

3. I have inadequate skills in doing all that are required in the different components of the NP:
Yes..... No.....

SECTION C: NURSES IMPLEMENTATION OF THE NURSING PROCESS

The following statements are about your implementation of the NP in the last one week:

4. I have developed a nursing care plan of a patient: Yes..... No.....
5. I have followed steps of nursing care plan while caring patients: Yes.....No.....
6. The nursing care plan steps I have followed are:
- 1) Data collection: Yes.....No.....
 - 2) Nursing diagnosis: Yes.....No.....
 - 3) Expected outcomes/planning/objectives: Yes.....No.....
 - 4) Nursing interventions: Yes.....No.....
 - 5) Evaluation: Yes.....No.....
7. I met challenges to apply nursing care plan during patients care: Yes.....No.....
8. I did not use / implement the nursing process: Yes.....No.....

SECTION D: INSTITUTIONAL RELATED BARRIERS

17. The ratio of nurse to patients in my ward is poor resulting to work overload: Yes.....No.....
18. The hospital administration recognizes nursing process as a framework of nursing care delivery?
Yes..... No.....
19. The form of support given by hospital administration is:
- 1) Nursing process materials supply: Yes.....No.....
 - 2) Training of nurses on nursing process: Yes.....No.....
20. The hospital management monitors implementation of nursing process: Yes.....No.....
21. The hospital management recognizes (motivates) staff for applying NP in patient care:
Yes.....No.....
22. The ways of recognition (motivation) are: Rewarding....., promotion....., others (specify).....
23. The NP implementation is a part of annual performance appraisal objectives: Yes..... No.....

24. The institution supplies the relevant resources needed to enable the implementation of NP?

Yes.... No.....

25. Resources that are availed to me are:

- 1) Nursing assessment materials Yes.....No.....:
- 2) Nursing intervention materials Yes.....No.....
- 3) Documentation materials Yes.....No.....
- 4) Guidelines for NCP/NANDA lists Yes.....No.....

SECTION E: SOCIO-CULTURAL RELATED BARRIERS

26. My nursing peers exert a negative influence on the way I implement nursing process:

Yes..... No..... I am not sure.....

27. My family influences negatively the way I deliver nursing care to patients:

Yes..... No....., I am not sure.....

28. My religion limits the way I deliver nursing care to patients:

Yes....., No.....I am not sure.....

29. My traditional/cultural belief limit the way of delivering nursing care to patients:

Yes....., No..... I am not sure.....

SECTION F: NURSES' PERCEPTIONS TOWARDS THE NURSING PROCESS (NP)

QUESTIONS

Statement	Strongly agree	Agree	I don't know	Disagree	Strongly disagree
30. I like the concept of Nursing process(NP)					
31. Identification of patents priority is easy using NP					
32. The nursing process works well in practice					
33. NP enables nurse to provide quality patient centered care					
34. The NP can be implemented for every patient					
35. The nursing process is tedious(boring/time consuming)					
36. Nurses have a negative attitude towards NP implementation					
37. NP is inapplicable in my place of practice					
38. The nature of patients' condition does not allow for use of NP					

