QUALITY OF NURSING CARE THROUGH PATIENT PARTICIPATION: AN INTEGRATION OF OREM'S THEORY TO THE NURSING PROCESS IN KIAMBU AND THIKA HOSPITALS - KENYA

BY: GITHEMO GRACE KIRIGO

Bsc. Nursing (U.o.N), Msc. Nursing Management and Administration (U.o.N)

H80/85481/2012

THESIS SUBMITTED IN PARTIAL FULFILLMENTOF THE

REQUIREMENT FOR THE AWARD OF THE DEGREE OF DOCTOR

OF PHILOSOPHY IN NURSING MANAGEMENT AND

ADMINISTRATION OF THE SCHOOL OF NURSING SCIENCES,

UNIVERSITY OF NAIROBI

DECEMBER 2017

DECLARATION

I, **Githemo Grace Kirigo** declare that this thesis is my original work and has not been presented in any other institution for the purpose of obtaining a degree or any other award.

Signed……………………………………………. Date ………………………..

Githemo Grace Kirigo

Bsc. Nursing (U.o.N); Msc. Nursing management and administration (U.O.N)

SUPERVISORS' APPROVAL

This research thesis has been submitted in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy in nursing management and administration of the School of Nursing sciences, University of Nairobi with our approval as supervisors

Supervisors:

1. **Professor Anna Karani: Bsc.N, MA, PhD**

   Signature ………………… Date ………………….

2. **Professor Martin Ogutu: B.Ed, MBA, PhD**

   Signature ………………… Date ………………….

3. **Professor Hazel Gachunga Gachoka: B. Ed, MBA, HRM, PhD**

   Signature ………………… Date ………………….

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this work to you Samuel Githemo Weru, my beloved husband. Sammy you have been a strong support in this journey. When I felt like giving up you were there to encourage me. I also dedicate this work to my late Mum Lucy Wambui, who taught me that even at the lowest moment in life, there is always a reason to trust God and never to give up hope.

Contents

LIST OF FIGURES

LIST OF TABLES

OPERATIONAL DEFINITIONS

Nursing process: A patient centered, goal oriented method of caring that provides a frame work to the nursing care. It involves six major steps of assessment, formulation of nursing diagnosis, planning, implementation, evaluation and documentation.

Nursing theory: A purposive, systematic view of phenomena by designing specific inter-relationships among concepts for the purposes of describing, explaining, predicting, and /or prescribing

Orem's theory: The model that focuses on the concept of self-care and states that; "the condition that validates the existence of a requirement for nursing in an adult is the health associated absence of the ability to maintain continuously that amount and quality of self care that is therapeutic in sustaining life and health, in recovering from disease or injury or in coping with their effects".

Quality of care: The degree to which services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge.

Quality of nursing care: This is the degree to which the nursing care provided to the patients increases the likelihood of desired patient outcome and is consistent with current nursing professional standards and knowledge

Attitude: The perspective of the nurse or the patient on the variables under investigation that would influence their behavior.

LIST OF ABBREVIATIONS AND ACRONYMS

Bsc.N   Bachelor of Science in Nursing

FBOs   Faith Based Organizations

Gok   Government of Kenya

KDH   Kiambu District Hospital

KQM   Kenya Quality Model

Msc.N   Master of Science in Nursing

NHSSP   National Health Sector Strategic Plan II. NCK Nursing Council

               of Kenya

MOH   Ministry of Health

NACOSTI   National Council for Science, Technology and Innovation NGOs

               Non-Governmental Organizations

NHIF   National Hospital insurance fund PHC Primary Health Care

QA   Quality Assurance

TDH   Thika District Hospital

U.o.N   University of Nairobi

SCDTN   Self Care Deficit Theory of Nursing

SPSS   Statistical Package for Social Scientist

ABSTRACT

Introduction

Patient participation in health care is regarded as a primary condition for quality care. However the traditional paternalistic perception among the health care workers is a major barrier to patient participation.

Study Objective

The study aimed at establishing whether training of nurses on the nursing process and its integration with Orem's theoretical model would have an impact on the quality of nursing care provided to patients in Kiambu and Thika hospitals.

Research Methodology

This was a quasi-experimental study Questionnaires and checklists were used to collect data from the nurses and patients and analysis was performed by use of computer software SPSS version 22, and descriptive statistics was used for data presentation. Chi square test of significance ($p \leq 0.05$) was used to in hypothesis testing while logistic regression analysis was used to predict the determinants of satisfaction at post –test.

Findings

The study findings revealed that the training of nurses on the nursing process showed significant difference (**$p<0.05$**) between pretest and post-test on knowledge of the steps of the nursing process. There was no significant difference (**$p>0.05$**) on attitude towards the nursing process. Logistic regression findings revealed nurses aged below forty (40) years were more likely to be satisfied with the support from management (**OR** 5.809, **95% CI** 1.049- 32.187). On the patient participation, the findings revealed significant change (**$p<0.05$**) in Kiambu on nurses' perspective about patient involvement in the care. On the role of leadership, the nurses were in common agreement that the management supports the use of the nursing process

Conclusion

The findings rejected the null hypotheses that the training of nurses on the nursing process does not have an influence on the nurses' knowledge, attitude and practice towards the nursing process and that there is no relationship between implementation of the nursing process based on Orem's theory and the quality of care provided to patients Therefore the integration of Orem's theoretical model to the nursing process improved the level of patient participation in their own care

Recommendations

The nursing management should establish policies to incorporate nursing theory to the nursing process to improve patient involvement provision of quality nursing care.

1. CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Today's world of business more than before, has increased pressures on the organizations to improve on their performance. The demands of the stakeholders and more so the customers are ever increasing as they require improved quality of services and products. According to Kenya Institute of management (KIM), the customer has also changed and no longer accepts inferior quality. They are demanding quality in products and services (KIM, 2009).

On the other hand, the changing nature of today's health care organizations, which includes pressure to reduce costs, enhancing the quality of care and meeting strict guidelines has made today's health care professionals to re-examine how they determine their performance. In addition, while many health care organizations have for a long time recognized the need to evaluate care performance beyond financial measures, many still struggle with what measures to select and also how to use the results of those measures (Kikab, 1999).

According to the World Health Organization (WHO), even where health systems are well advanced and with many resources, there is still evidence that health care quality remains a major concern. This is because the expected results are not predictably achieved and there is great variations in standards within the health-care delivery systems and between health-care systems (WHO, 2006). Also large numbers of health care professionals have readily

accepted quality concepts. Therefore health care organizations should from now hence forth move quickly and improve their performance measurement systems (Hyrka, Koivula, Lehti & Paunonen, 2003).

Leigh, Douglas and Douglas (2005), added that quality is the basic principle that forms the foundation of plans for healthcare service delivery and management. In addition, organizational performance whose foundation is based on realized quality improvements in professional standards, structures, processes and outcomes in terms of service available, resource utilization, and stakeholder-oriented outcome improvements are attributes that are crucial to such systems. They also stated that quality management systems are critical to ensure that organizations achieve their objectives of attaining and maintaining these requirements within the spheres of their operations and control.

The desire for health care quality is not a recent concept. Komashie, Mousavi, & Gore (2005) in their work stated that early evidence of healthcare quality can be traced to the works and efforts like the Hippocratic Oath, the work of Ignaz Semmelweis and Florence Nightingale which shows cases of professional concern for quality. According to these early professionals, the pursuit of healthcare quality came out of a concern for better health or lost lives as perceived to occur as a result of lack of quality. However the need for customer satisfaction as a measure of quality has become the primary concern of health care institutions in the recent years. (Komashie, Mousavi, and Gore, 2005).

The demand for quality of nursing care within the health care system has also increased in the recent years. According to Shongwe (2002), dynamism in the health care delivery system demands an on-going evaluation of the quality of nursing care, to ensure that the care is continually improved to meet the ever-increasing demands for quality services by the consumers. Craven and Hirnle (2000) emphasized that, to ensure quality nursing care within the contemporary health care system, mechanisms for monitoring and evaluating care are critical. They also added that as the level of knowledge increases for a profession, the demand for accountability for its services likewise increases. Therefore individuals within the nursing profession must assume responsibility for their professional nursing actions and be accountable to the recipients of care.

The nursing process as a tool for provision of care provides a means for evaluating the quality of nursing care that is given to the patients. Therefore it can be used in demonstrating nurses' accountability and responsibility while providing quality care to the client. The nursing process is the foundation and organizational framework that guides professional nursing practice. Professionally, the nursing process is recognized as a model on which nursing standards are based and remains the universally accepted method of scientific nursing practice (Craven and Hirnle 2000).

According to George and Julia (2002), the nursing process has been the label applied as the underlying principle that provides order and direction to nursing care. The nursing process is also a tool used by many nurses to make decisions while providing care and evaluate the outcomes of nursing actions. Benner

and Wilbel (1989) added that nursing process by itself is merely a sequence of steps passed through in order to achieve a desired outcome. These are assessment, diagnosing, planning, implementation and evaluation. They also stated that as the practice becomes more expert, these steps are moved through so rapidly that it is sometimes difficult to discern them.

Pearson and Allan (2005) stated that nursing can be compared to a package of goods which is to be delivered. The process of assessment, diagnosing, planning, implementation and evaluation is merely a means of ensuring the nursing care is delivered. The package or nursing itself is the model (or theory) which guides the nursing process. A nursing theory is a picture or representation of what nursing actually is. It represents the actual nursing care which is provided to the client.

This was further emphasized by Alligold, (2002). In her work she noted that evolution of nursing theory has been a search for nursing substance and that nursing has made remarkable achievements in the last century that has contributed to its recognition as an academic discipline and as a profession. She further stated that this movement towards theory-based practice has made contemporary nursing more evidence based by shifting the nursing focus from a vocation calling to an organized profession.

The desire for knowledge-base to provide direction for the professional nursing practice had been realized in the first half of the twentieth century and many theoretical frameworks have been developed by nurses ever since.

The main goal for this is to make nursing a recognized profession and also to ensure delivery of quality care to patients as professionals (Alligold, 2002). Among the many nursing theorists who have contributed development of theoretical frameworks is Dorothea Orem.

Orem developed the self-care deficit theoretical model for nursing. The self-care deficit theory developed by Orem is a combination of three theories; theory of self- care, theory of self-care deficit and the theory of nursing systems. Its introduction was radical shift from the prevailing notion of nursing, where nursing care was considered to be 'care for' the patient, and when patients made few decisions regarding nursing therapy. The model emphasized individual responsibility in provision of care (Meleis, 1991). In health care therefore, self-care means that patients and families should be allowed to make decisions and take responsibility in matters regarding their own health (Pearson and Allan, 2000).

1.2. Problem statement

Health care quality continues to be a subject of intense criticism and debate. Although quality nursing care is vital to patients' outcome and safety, meaningful improvements have been disturbingly slow (Burhans & Alligood, 2010). This could be attributed to lack of patient participation in their own care.

Health care workers' philosophies, attitudes, and behavior can have a great effect on patient participation. One of the main hindrances is refusal of health care workers to leave their traditional patriarchal role and attitude and to

delegate power (Murray et al, 2001). Also majority of the nurses exercise almost absolute power and control over patients and also consider them incapable to make decisions. This traditional perception is a major barrier to patient participation (Hewison, 1995).

In a study to evaluate patients' participation in clinical decision making, Florin et al (2006) found that, Registered nurses did not successfully involve patients in clinical decision making. The nurses were also not aware of their patients' perspectives and tended to overestimate patients willingness to assume an active role in the care. In another study carried out in Swedish hospital, inadequate quality of care was identified especially on information given about treatment, examination results and opportunities for patient to participate in decisions related to care and information on self-care (Frojd et al, 2011).

Dorothea Orem's model focuses on the concept of self-care. The theory provided for a shift from the prevailing believes towards nursing, whereby nursing care was considered to be "care for the patient'. In addition bedside nurses let alone patients made few decisions regarding the nursing care they provided to patients.

Orem's model emphasized individual responsibility in provision of care (Meleis, 1991). In health, self-care means that individuals and families should be given an opportunity to take initiative, responsibility and participate in matters regarding their health (Pearson and Allan, 2000). This can only be achieved if nurses integrate the nursing theory to nursing process which is the basis for scientific

nursing practice.

However according to Aggleton and Chalmers (2000) the nursing process by itself is essentially an empty approach to care. On its own, the nursing process requires the nurses to asses a patient but tells them little about what to assess, it emphasis planning but says little about how to plan, it also requires the nurses to intervene but fails to say in what ways, it advocates evaluation but does not specify when and how. In many areas of their work, nurses have been expected to introduce the nursing process without a set guideline about how to apply it. Unfortunately the nursing process has been utilized in most cases to provide nursing care around a set of medical understandings of people and their pathological needs without incorporating a nursing theory (Aggleton and Chalmers, 2000).

According to the Nursing Council of Kenya practice guidelines, the practice of nursing should be based on the scientific application of the nursing process (NCK, 2007). This has also been emphasized in the current nursing procedure manual that presents the applications of the nursing process to clinical procedures, to enable nurses deliver effective patient –focused care (NCK manual, 2008). They do not nevertheless indicate which theories the nurse should use in the application of the nursing process.

In the 2008-2013 Strategic plan by the Division of nursing (Ministry of health headquarters), the implementation of models to guide practice at the facility and community based nursing services was emphasized. (Division of Nursing, 2009)This was with an aim of shifting the nursing practice from the medical

model to more comprehensive nursing model. The models identified to guide the practice were the Virginia Handerson or Dorothea Orem. Others that could be applied in different circumstances are Roy's Adaptation Model, Roger's Holistic Care Concepts, Betty Neuman's Health Care Systems Model, and Hildegard Peplau's Interpersonal Relationship Model. However their implementation in practice has been slow.

A study carried out in Naivasha hospital Kenya, to evaluate the implementation of the nursing process found out that nurses had difficulties performing all the phases of the nursing process. These steps included; assessment, diagnosing, goal identification, planning, implementing, evaluation and documentation). Surprisingly the nurses had reported that they find all of them easy (Mangare, Omondi, Ayieko, Wakasiaka, & Wagoro, 2016). Therefore this study aimed at establishing whether the application of nursing process and its integration to the Orem's theoretical model which emphasizes patient's self- care would have an effect on the quality of nursing care that is provided to patients in Kiambu and Thika Hospitals

1.3. Broad Objective

To determine what effect the implementation of the nursing process based on Orem's theory would have on the quality of nursing care provided to patients in Kiambu and Thika Hospitals

1.4. Specific objectives

i. To establish what effects the training of nurses on nursing process would have on their knowledge, attitude and practice of the nursing process

ii. To establish the effect of integration of Orem's theory to the nursing process on patient participation in their own care

iii. To determine what effects the integration of Orem's theory to the nursing process would have on the nurses knowledge, attitude and practice of the nursing theory

iv. To establish the effect of patients participation in care on the level of nurses and patients satisfaction

v. To establish what influence the hospital nursing leadership has on the quality of nursing care

1.5. Research hypotheses

Hypothesis 1

Training of nurses on the nursing process does not have an influence on the nurses' knowledge, attitude and practice towards the nursing process

Hypothesis 2

Patients' participation in their care has no influence on quality of nursing care.

Hypothesis 3

There is no relationship between implementation of the nursing process based on Orem's theory and the level of nurses and patients satisfaction with the quality of care

Hypothesis 4

Hospital nursing leadership does not have an influence on quality of nursing care provided to patients

Hypothesis 5

The integration of Orem's theory to the nursing process does not have an effect on nurses' knowledge, attitude and practice of the nursing process and nursing theory

1.6. Justification

In every health-care system there is opportunity to improve its quality performance considering the growing awareness and public pressure to do so. In the "Vienna Recommendations on Health Promoting Hospitals" issued in 1997, the WHO recognized the necessity of encouraging the active and participatory role for all patients in order to improve their health status and improve the efficiency of the health care system (WHO, 1997).

By patients participating in the decision-making process of care, they exercise their most critical rights in health care. Patients are rejecting the passive role

whereby decisions are made by nurses, independent of their input. Patients want to assume responsibility of care and relinquish the sick role sometimes imposed on them by health workers.

The integration of nursing theory to the nursing process anticipated that patients would participate in their own care, resume the responsibility of self-care early and hence reduce their dependence on nurses. Also in this resource constrained area, where there is shortage of nurses, efficiency is the key to quality and this can only be achieved through positive client's outcome.

Kiambu and Thika Hospitals were implementing the nursing process as a model of patients' care. Every patient's file had a nursing care plan and this showed the commitment of the institutions in ensuring quality nursing care using the nursing process. This therefore provided a baseline upon which to evaluate care after implementation of the nursing process based on a theoretical model.

1.7. Study benefits

The mission of the health sector in Kenya is to provide evidence based health care that is patient centered by deliberately building a progressive, responsive and sustainable technologically driven health care system in order to attain the highest standard of health for all Kenyans (Kenya Health Sector Strategic and Investment Plan 2013-2017)

Quality nursing care contributes greatly to rapid achievement of this mission since nurses constitute the largest workforce in the health sector in Kenya. Improved quality of care through application of nursing process based on Orem's theory would ensure that patients gain independence and reduce their dependence on the nurse. This would also enhance job satisfaction among nurses and patients who are internal and external customers in health care organization respectively.

The study results would also provide information on the improvement of the overall quality of patient care in the hospitals. The study also anticipated an increase the use of the nursing process and care plans which provide individualized patient care and accountability in the care provided to patients. Also the results of this study are useful in policy formulation especially now that the government has introduced performance contracting which signifies a movement from control by procedures to control by results. The researcher also intends to recommend replication of the findings of this study in other hospitals for continued quality improvement of nursing care. Overall outcome of the study is to give recommendations for clinical practice and policy development on nursing practice standards and training

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The History and practice of quality can be traced back to 221BC when the China the Chou Dynasty required that Physicians should do pass an examination before entering practice (KIM, 2009). Defining and attempting to measure quality of care is also not new. This idea is attributed to Earnest Codman a physician who first proposed "the end result idea" in 1869.He suggested that hospitals should follow every patient they treated to see if the treatment was successful (Marquis, 2003).

Quality is one of the most fundamental issues facing organizations today. In our everyday life quality is usually not observed and especially when it's regularly provided but people become acutely aware of it when it is lacking (Kenya Institute of management, 2009). According to Driel, Sutter, and Christiaens, (2005), quality of care is the extent to which services for individual patients and communities increase the likelihood of desired health outcomes and is also in line with current professional knowledge. Hence the increase of healthcare quality concerns among health care professionals and policy makers

Hyrka, Koivula, Lehti, and Paunonen (2003) also stated that the changing nature of health care institutions, which includes emphasis to reduce costs, improvement of quality of care provided to patients and the emphasis to meet strict guidelines, has made health care professionals to re-evaluate how they measure their performance. At the same time, many health care institutions

have realized the need to look beyond financial measures when evaluating their performance. However many health care institutions are still struggling with what performance indicators to use and how to evaluate the health outcomes.

According to Leigh, Douglas and Douglas M (2005), quality is the main fundamental principle that forms the basis of plans for healthcare service delivery and management. Also quality management systems are critical in ensuring that organizations achieve their objectives. In addition quality improvement projects within an organization seek important customer satisfaction and professional standards that can only be attained by adopting quality concepts.

According to the world Health Organization, there has been continued increase in knowledge and experience in improving the quality of health care globally over many decades. Unfortunately despite this increase in wealth of experience, the problem frequently being encountered by policy-makers in both high and low-middle income countries is how to identify the appropriate quality strategies complemented by and integrated with existent strategic initiatives that would create the greatest impact on the quality outcomes delivered by their health systems (World Health Organization, 2006).

 The importance of quality of nursing care in the health care systems cannot be assumed. Evaluating the quality of care provided by nurse practitioners is also important in order to understand their contribution within the healthcare system and to formulate policies related to nursing service provision and

reimbursement (Souraya, 2010). According to Sale (2000), quality is not a new concept in nursing. She stated that determination of the nursing care quality dates back to the 1850s when Florence Nightingale evaluated the care delivered to the sick. She also outlined some of the methods used by Nightingale to determine the quality of nursing care which included comments from patients and others, special rounds of patient units and checks on procedures.

According to a study by Williams (1998), quality nursing care was determined by the degree to which patients' physical, psychosocial, and other care needs were met by nurses. He also found out that insufficient time (caused by a lack of human and physical resources) was one of the identified factors by nurses that contributed to their inability to consistently provide quality nursing care to all patients. Also dissatisfaction and stress among nurses was also identified as hindrance to quality service provision.

2.2. Evaluating quality of care

Defining and developing health care quality measures are critical for healthcare providers to demonstrate accountability to all the stakeholders who includes insurers, patients, legislative and regulatory bodies. The definition of quality of care and its measurement often varies between providers and patients. Therefore this makes it difficult to find a common definition of quality healthcare that represents the viewpoints of all stakeholders in the healthcare system. What is even more difficult, however, is identifying and elucidating the myriad factors that play a part in determining whether quality healthcare exists (Marquis, 2012).

Handler, Issel, & Turnock (2001), while discussing about health care they stated that, a lot of attention has been focused on performance measurement in the provision of health care. This attention has concentrated on the inter-relationships between organizational structure, the process of care, and patient health outcomes, with the strong emphasis that the provision of health care should be evidence based.

They further emphasized that, there has been inadequate parallel activities, research agenda, or conceptual framework whose aim is to evaluate the performance of the health care delivery organizations and the relationship between the practice of public health and population health care outcomes. This lack of emphasis on public health system performance has also partly resulted from a lack of consensus on how to operationalize the mission of health care delivery (Handler, Issel, & Turnock 2001),

In the quest for a method to evaluate quality, a physician named Avedis Donabedian proposed a model for measuring health care quality based on structures, processes and outcomes. He identified structure as the environment in which health care is provided, process as the method by which health care is provided and outcome as the results of the health care provided (Marquis, 2003).

Structure evaluation included assessment of number and category of nursing staff, nurse-patient ratio, patient characteristics, and the nurse's independent

decisions about assessment, treatment and nursing interventions. Structure also included the organization's mission, vision and philosophy. Structure characteristics could influence the quality of care positively or negatively. Process refered to how the providers interact with the patients in the provision of care. It dealt with the aspects of health care provider and patient communication, decision-making and overall management of patient care. Therefore process measurement included an assessment of the procedures performed to and for the patient (Marquis, 2003).

According to Liberton et .al, 1997) structure and process influence the outcome of care. Outcome measurement focuses on what happened to the patient as a result of the care received. This could include outcomes like specific client behaviors such as compliance with treatment, knowledge about his/condition, attainment of cure, normal functioning, satisfaction, dissatisfaction or comfort. In determining the outcome, the patient and nurse's perceptions of care must be taken into account.

Marquis (2012) emphasized that evaluating performance is difficult if standards of care have not been clearly stated. Not only must standards exist, but leader/managers must also see that subordinates know and understand the standards. Because standards vary among institutions, employees must know the standard expected of them at their organization. Employees must also be aware that their performance will be measured in terms of their ability to meet the established standard.

In Kenya the development and application of health standards provides the basis for discussion of quality improvement and identification of priority areas for improving quality in health care. This came into effect with the development of the Kenya Quality model and its application in the health care system. This was to ensure that the health care provided to the patients was of quality and also measurable.

2.3. The Kenyan Quality Model - KQM

The Kenyan Quality Model (KQM) provided a road map for quality measurement in Health Care in Kenya. KQM adopted seven Quality Management principles that included; Customer orientation (external and internal [health worker] customer), leadership to provide guidance and motivation to quality improvement, Involvement of people of the organization and stakeholders, Systems approach to management, Process orientation, Continuous quality improvement, and Evidence based decision making (Mboya, 2003). The Kenya quality management model promotes a basic structure-process-outcome model that describes aspects which are relevant to management and improvement of quality in Kenya as shown in Figure 1.
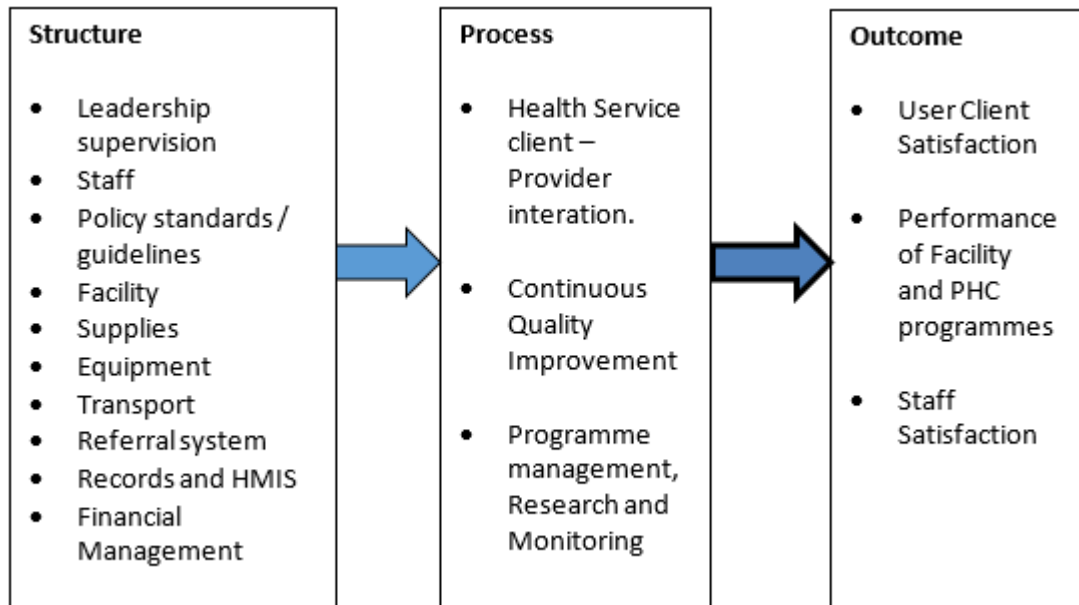
Figure 1: KQM Dimensions (Mboya, 2003)

KQM Dimensions

The KQM model identified three quality dimensions which are structure, process and outcome. According to the KQM dimensions of structure, leadership was identified as a key principle in quality management and improvement since leaders provide guidance and motivation. In this dimension also staff involvement, knowledge and timely implementation of policies were identified as factors that would produce a positive outcome in quality. In addition resource constraints should not be a barrier to starting quality improvements since there is always something that can be done to improve quality.

The KQM dimension of process refers to all the typical processes observed in the health care system and includes all the steps followed in service delivery

from the time the patient enters a health care facility until discharge. Therefore in managing quality all these steps needs to be evaluated and improved in order to achieve the best possible patient outcome. These included health service client-provider interactions, continuous quality improvement, programme management, research and monitoring

In the KQM outcome dimension, well managed structures and processes should lead to improved patient outcomes. These outcomes should be documented to provide feedback on the structure and processes to make them better. These should include and not limited to patients' views, level of satisfaction and also satisfaction of internal customers (staff). Therefore a well-integrated health care system should ensure that all the systems in the structure criteria are put in place.

2.4. Patient participation in health care as a measure of quality

While evaluating the relationship between the patient and the health care worker, Emanuel and Emanuel, (1992) found out that, in many cultures this followed a "paternalist" model where all decisions relating to patient care depended entirely on the health worker knowledge and the patient had traditionally been a passive recipient of his own care. Cody (2003) added that, the paternalistic practices wherein the health care providers give treatment or services to the patient without consulting them or involving them in decision making , either by reason of their limited autonomy or decreased capacity, are widespread in healthcare institutions and in organizations around the world

In healthcare, paternalism is commonly framed in terms of the conflict between the primary obligation of physicians, nurses, and other provider-practitioners to abide by the principle of beneficence in their practice and the assertion of the rights of persons who are receiving services to make autonomous decisions about their lives. Often embedded in the discussions of the conflict of ethical principles in paternalism is an assumption that the recommended interventions of healthcare professionals are encompassed by and represent beneficence with regard to the care of people's health (Cody, 2003).

Paternalism should be encouraged or even practiced in health care. According to Gillon (1994), one of the medical ethics is that, every human being is endowed with will and with a right to self-determination. By participating in the decision-making process, the patient exercises his or her most fundamental rights. Like any other consumer of services, the patient should demand quality services (Coulter and Ellins, 2006).

The world health organization emphasized that improved quality outcomes cannot be achieved by health-service providers alone. This is because communities and consumers of services are partners in the production of health and therefore their critical roles and responsibilities in identification of their own health needs should not be ignored. Therefore health service consumers need to influence both quality policy formulation and their implementation if clients' positive health outcomes are to be achieved (World Health Organization, 2006).

Patient participation in health care is regarded as a primary condition for quality care. However lack of information and lack of recognition have been found to be significant aspects for patients' non participation in health care (Ehnfors, 2004). In a study to evaluate patients' participation in clinical decision making, Florin et al (2006) found that, Registered nurses did not successfully involve patients in clinical decision making. The nurses were also not aware of their patients' perspectives and tended to overestimate patients willingness to assume an active role in the care.

In another study carried out in Swedish hospital, inadequate quality of care was identified especially on information given about treatment, examination results and opportunities for patient to participate in decisions related to care and information on self-care (Frojd et al, 2011). Murray, Davis, Tai, Coulter, Gray,and Haines (2001) added that health care workers' beliefs, attitudes, and behavior can have a major effect on patient participation. They found out that the main obstacle to patient participation in care was the refusal of health care workers to abandon their traditional role and to delegate power. Hewison (1995) also added that nurses exercise almost absolute power and control over patients and consider them unable to make decisions. Therefore this traditional perception is a major barrier to patient participation and non-involvement in their own care.

2.5. Patient satisfaction as a measure of quality

One of the most critical quality management concepts is the customer satisfaction and therefore its importance in the quest of quality cannot be underestimated. Studies have shown that dissatisfied customers talk more than satisfied customers (Kenya Institute of management, 2009). Therefore addressing the needs of the customer is critical since quality is usually measured from the customers' perspective.

However, measuring patient satisfaction within health care settings has been limited. This is mainly because, as in other organizations and sectors, surveys have tended to focus on managers' and clinician's agendas and not on questions meaningful to patients which can be translated into actions (Devkaran, 2014). Therefore addressing quality from a patient's perspective is critical in the health care.

Marquis (2012) argues that one of the greatest measures of quality is how an organization meets customer expectations and needs. Therefore managers must ensure that they understand customer quality expectations and ensure that they meet and exceed those expectations in their effort provide quality services.

According to Arije (2016), the developed countries have recently put a lot of emphasis on the measurement of patient satisfaction and consumer behavior in health care .This has resulted from increased awareness of patients' rights and

availability of alternative healthcare facilities where services are provided giving the consumer a wide range of choices. This means that the consumer will seek the services which they will perceive to be of quality and able to satisfy their needs, leaving those that are not of quality.

Several studies have been carried out to determine the factors that can lead to patient satisfaction or dissatisfaction. A Study carried out in rural Bangladesh found out that the most powerful predictor for client satisfaction with services was provider attitude or behavior, especially showing respect and politeness for patients (Rasheed, Arya, & Acharya, 2012). Similarly a study carried out in Tanzania Mwananyama hospital to determine patients level of satisfaction with the quality of care found out that some of the issues that caused patient to be dissatisfied with the quality of care were health worker related. These areas included communication skills, how patient were shown compassion, politeness and also active listening skills. They concluded that having a policy to address the above issues would indirectly improve patients satisfaction and hence quality of care (Khamis & Njau, 2014).

A study carried out in New Delhi India to determine the client's satisfaction and perception about health care quality at a primary care center revealed that participants identified several factors that were detrimental to effective delivery of quality health care. These included the perceived poor attitude of some health workers, long waiting times and high cost of services. Other hindrances to quality care identified were inadequate staff, policy of payment for health

services, frequent referrals to other hospitals and lack of ambulances at facilities to transport the patients ((Rasheed Arya & Acharya, 2012).

2.6. Leadership and quality

Quality and its management are organizational and value system wide concepts that influence almost every system of the organization and its services. Quality goals are usually formulated and incorporated in the organization corporate strategy. Through appropriate leadership quality culture is embraced that ensure customer satisfaction and continuous improvement of services by all employees (Cole and Kelly, 2011).

Marquis (2012) stated that, quality measurement provides managers with the opportunity to evaluate organizational performance from a systematic, and evidence based viewpoint. It is therefore the role of nurse managers to set the performance standards which will form a basis for measuring quality care in their units. In addition they should also develop and implement quality control programs that measure outcomes against the set standards. She also added that all managers are responsible for monitoring the quality of the services that their units provide to the patients. Therefore managers must assess and promote patient satisfaction in their units which is one of the greatest measures of quality

A survey of the quality of nursing care in three districts in South African hospitals found out that management strategies were critical in the provision of quality. The management measures identified to be critical in quality included

regular monitoring of care and provision of feedback to nursing teams. The monitoring meetings for example the perinatal mortality review meetings and special incentives for higher quality were also identified as key management strategies which are key in provision of quality care (Africa, Uys, & Naidoo, 2004).

According to the Kenya health policy framework leadership is identified as one of the most critical function in the process of quality management and quality improvement. This is because leadership in an organization provides guidance and motivation that is key in ensuring quality services (Mboya, 2003). The Kenya institute of management (2009) also emphasizes that, because top management create the organization systems that determine how products and services are produced, the quality improvement process must begin with managements' own commitment to total quality management.

2.7. The Nursing process

Historically nursing services provision was focused on addressing health problems or specific disease conditions that the patient was suffering rather than on person receiving the nursing care. Most often nursing care was based on intuition of individual nurses based on the instructions from a physician. This developed into the biomedical model of nursing care which still strongly influences nursing practice even today (Aggleton and Chambers1986).

The biomedical model focuses heavily upon pathophysiology and altered homeostasis but not the individual patient. The model fails to distinguish

individual differences since it focuses solely on the treatment of the diseased system without taking into consideration the psychological, social, cultural, and economic differences between individuals. Thus the biomedical model views and treats patients suffering from the similar illness the same irrespective of their religion, culture, or ethnicity (Aggleton and Chalmers1986). However nurses quickly realized that managing patients based upon their illnesses rather than carrying out a complete assessment was not the holistic way of attending to patients (Aggleton and Chambers1986). As part of strategy towards making nursing a profession, a more scientific and problem solving patient centered approach to nursing care was identified as the nursing process (Christensen and Kenny, 1990).

Since the 1970, the nursing process has been the scientific tool that has been utilized to provide order and direction to nursing care. It has revolutionized how nurses make decisions, predict and evaluate the outcome of nursing care (George, 2002). The nursing process has also enabled the nurses to be responsible and accountable for the care they provide. It has also empowered the nurses to utilize their theoretical knowledge to diagnose the patient response to illness, plan care, implement and evaluate therapeutic nursing actions. This is with an overall goal of attaining, maintaining and promoting optimal bio psychosocial functioning of an individual patient (Lindberg 1998).

According to (Pearson and Allan, 2005), the nursing process consists of five sequential but interrelated steps or phases: Assessment, diagnosis, planning,

Implementation and evaluation. Initially the steps are followed in sequence. After the process has begun, it becomes a continuous cycle. After assessment the planning phase of the nursing process involves the development of a nursing care plan for the client based on the nursing diagnosis. The nursing care plan is a communication tool used by Nurses to care for their clients. The nurse implements the nursing actions in order of priority and then evaluates the expected outcome.

2.8. Nurses Knowledge, attitude and practice of the nursing process

Knowledge is one of the major elements in the practice of any health profession. However inadequate knowledge may result from the inability to master new knowledge at the rate and complexity it is being generated. Even well intentioned and highly motivated clinicians have to try and keep up-to-date with the volume of new information being generated and new evidence that is constantly becoming available (McLoughlin & Leatherman, 2003). This constant change in the health care system requires that nurses also keep update with the current information.

A study done in Saudi Arabia by (Mahmoud & Bayoumy, 2014b) showed that among the variables evaluated, knowledge factor influenced the use of nursing process more than all the others. Other factors that that were found to have a high predictive area to the use of nursing process included professional attitude and institutional factors like work load availability of resources and management styles

In another study carried out in Nigeria on the factors that influenced the use of the nursing process in health institutions the findings showed that the combination of all the predictor variables which include knowledge factor, institutional factor, professional factor and attitude factor had a positive influence on the use of nursing process while knowledge factor had the highest predictive value on the use of nursing process (Adeyemo & Olaogun, 2013).

Application of the nursing process in patient care had been accredited as fundamental for quality nursing care provision and nurses must be knowledgeable about its use. However a study carried out in a Brazilian hospital revealed that nurses had difficulties in the application of all the steps of the nursing process. Also the study showed that the nursing process was viewed as a documentation activity and its methodology as a theoretical process (Helena et al. 2010). In their integrated review on the application of the nursing process in the intensive care unit Oliveira & Moura (2013), found out that lack of knowledge is the main factor that hinder nurses to implement the nursing process. This is because most of them are not aware of its importance and therefore do not adhere to its application in the management of patients assigned to them.

In Kenya, a study carried out in Naivasha hospital to evaluate the implementation of the nursing process found out that nurses had difficulties performing all the phases of the nursing process. These steps are; assessment, diagnosing, goal identification, planning, implementing, evaluation and

documentation. This is despite the fact that most of the nurses had reported that they find all of them easy (Mangare et al., 2016).

2.9. Theoretical and conceptual models in Nursing

The development of nursing theories and conceptual models have for long seemed to have little relevance for many nurses and students of nursing and also to the contemporary healthcare system. However according to Pearson and Allan (2005), though the term nursing conceptual model may be new, the practice of nursing based on a model has occurred since nursing began. The basic model which has for long guided nursing practice has been the medical model which still guides nursing practice in some areas even today.

The medical model of care views a person as a complex set of anatomical and physiological system. Within this model much of a person social behavior and many psychological processes are thought to have their origins in physiological and biochemical activity. Therefore while providing care, the focus is on the physiological system or anatomical part that the care giver perceives to have a malfunction and not on the whole person. Hence the patient has no role in the care since the success of interventions is based on how the physiological system or the anatomical part has regained its normal functioning (Aggleton and Chalmers, 2000).

Therefore nurses who utilize the medical model in patient care find themselves merely as physician assistants. This role has for long been the tradition within nursing since nurses were expected to follow orders and serve the needs and

interests of the physician (Chin and Kramer, 1995). Therefore this model may not be useful in evaluating quality of nursing care from patients perspective since decision making on care is in the hands of the physician.

Several nurse theorists have developed various models and conceptual frameworks for nursing care. Florence nightingale is often considered as the first nurse theorist. She stated that, the goal of nursing is to put the patient in the best condition for nature to act upon him. Hence the nurses' responsibility is to manipulate the environment of the patient for example by reducing the noise to array patients' anxiety (current nursing, 2011). Since the patient is a passive recipient of the care, the utilization of the theory in evaluating nursing care can only focus on the care giver and not on the recipient of care.

The nurse theorist who borrowed heavily from the medical model, and from which most nursing curriculums have been based on, is Virginia Henderson. Virginia.

Henderson is credited for identifying the unique function of the nurse. She stated that "the unique function of the nurse is to assist the individual sick or well in the performance of those activities contributing to heath and its recovery (or to peaceful death), that he would perform unaided if he had the necessary strength, will or knowledge". In addition the nurse is to do this in such a way as to help him gain independence as rapidly as possible" (Henderson, 1966).

According to Henderson also, the role of the nurse is to assist patients to regain independence as speedily as possible. Therefore a patient requires nursing care when they are unable to perform activities contributing to health, recovery or to a peaceful death. Therefore evaluation of care involves examining the extent to which the patients' fundamental needs have been met after the intervention (Aggleton and Chalmers, 2000). This theory did not however include the role of the patient in the care and hence its use in evaluating care from a patient perspective is limited.

Many more nursing models and theoretical frameworks have been identified as the best guide for nursing practice by providing better and rational ways of nursing and caring for people. These models also identify values within which nurses should work which are crucial if a group of nurses are to provide continuity of care (Pearson and Allan, 2005).

The development of nursing theory to guide nursing practice has therefore been a search for nursing substance. This has brought great achievements for nursing in the last century which has led to its recognition, not just as an academic discipline but also a professional career. This move towards theory-based practice has also made contemporary nursing more scientific by shifting nursing focus from vocational calling to an organized profession (Alligold, 2002).

According to George and Julia (2002), Florence Nightingale started the historical development and theoretical thinking in nursing during the Crimean

war which continues to the present. Since then nursing has grown to the era of theory utilization whereby nurses are now using philosophies, models and theory based nursing practice for the provision of quality patient centered care (Alligold, 2010). Alligold (2011) emphasized that the works of many nurse theorists have contributed to the development of many nursing scholars whose professional style of practice is based on a holistic view of the person. They have also provided great understanding of nursing research and enhanced quality nursing care. The nursing theories have stimulated new researchable questions and inspired research methods and approaches leading to global expansion of nursing as a science.

According to Bultemeier & Baumann, (2012), the nursing frameworks provide direction in the development and articulation of the role of nurses in the health-care institutions. They have also provided nurse educators and practicing nurse's direction in their quest to guide the nursing education and practice in their countries. Therefore nursing theoretical frameworks have helped to articulate what is the essence of nursing and what nurses bring to the patient and health- care team

In addition nursing theoretical frameworks have revolutionized nursing to become an independent profession. They have also provided means for the delineation of the specific role of the nurse in the wider healthcare team including their role to the patient. Theories have also given a language and a structure to the training of nurses as professionals as they move towards advanced practice in the developing countries (Bultemeier & Baumann, 2012).

Though theory and practice are inseparable concepts, a theory practice gap has not been bridged in nursing profession. This is because though a lot of research has been done on the subject, nursing theory still means very little to most practicing nurses. This could be attributed to the fact that most of the theories have been developed by and for nursing academics (Lathlean, 1994). This leaves many nurses without training or an understanding on how to apply the abstract concepts presented by nursing theories in their practice.

Aggleton and Chalmers (2000) have also argued that some nurses have continued to esteem the medical knowledge and practice as being more superior to nursing practice and wanting to align the practice of nursing accordingly. This distorted view of the superiority of medical knowledge among nurses could in part also explain the reason why nursing has taken long to embrace its own knowledge base and also accompanying professional status advanced by the nursing theories (Fatchett, 1994).

Aggleton and Chambers, (2000) also emphasized that until nurses themselves appreciate the unique contribution that the nursing profession makes to health care and the unique body of knowledge that guides nursing practice, the subordinate role adopted by many nurses will continue. This poses many threats to the achievement of high quality patient centered care.

Nursing can be likened to a package of goods which is to be delivered. The package or nursing itself is the model which guides the process and contains the

components of which nursing is made (Pearson and Allan, 2005). A nursing model represents what nursing actually is. It represents the actual services which are to be delivered to the patient. Since all goods require a vehicle through which they are to be delivered, then the nursing process serves this function (Pearson and Alan, 2005).

Therefore for nurses to effectively deliver quality patient centered care, they need to incorporate the nursing theories to nursing process. This will provide a holistic view of the patient by taking into consideration the psychological, social, cultural, and economic differences between individuals. Nursing theories will also prevent the nurses from basing the nursing process on the biomedical model which emphasis restoration of the altered pathophysiology but does not consider the whole person.

A theory that focused on the role of the nurse and the patient with a view to enhance patient participation in care was therefore needed. This was developed by Dorothea Orem in 1959. According to Meleis (1991), Orem's theoretical model focused not just on the role of the nurse in care but also the patient hence emphasizing the role of each during the recovery process.

2.10. Orem's Self-Care Deficit Nursing Theory

Orem's theoretical model focuses on the concept of self-care. The theory was a radical shift from the prevailing notion of nursing where nursing care was considered to be "care for the patient' and when bedside nurses let alone

patients made few decisions regarding nursing therapy. The model was highly appreciated as it emphasized individual responsibility in provision of care (Meleis, 1991).

Orem (2001) states that "the condition that validates the existence of a requirement for nursing in an adult is the health associated absence of the ability to maintain continuously that amount and quality of self-care that is therapeutic in sustaining life and health, in recovering from disease or injury or in coping with their effects. With children, the condition is the inability of the parent or guardian associated with the child's health status to maintain continuously for the child the amount and quality care that is therapeutic."

Orem (1991) described self-care, as care that is performed by oneself for oneself when one has reached a state of maturity that is enabling for consistent, controlled, effective and purposeful action. It is learned behavior aided by intellectual curiosity, instruction and supervision from others and experience in performing self-care measures. Therefore nurses who appreciate the concept of self-care as a guide for nursing practice, will definitely value the role of the patient participation in meeting their self-care needs. This is because the emphasis is not on informing the patients what they should do to achieve health goals or performing activities for them. The emphasis however is on the role of the nurse in enabling the patient make decisions and performs self-care activities for themselves except when this is impossible (Bennet, 1980).

Mullin (1981) described Orem's' self-care model as one of the greatest

contribution that has been made to the practice of medical and surgical nursing. This is because it heralded positive and great reforms in the way nursing care was provided. The changes have resulted in responsibility for self-care shifting from the nurse to the patients. The self-care deficit theory proposed by Orem is a combination of three theories, i.e. theory of self-care, theory of self-care deficit and the theory of nursing systems.

2.10.1. Theory of Self-care

According to Orem, this theory denotes that self-care is a fundamental need for every human being since they have an inward desire to carry out for themselves activities that can help them maintain life and improve their health. Orem also stated that self-care is the practice of activities that individual initiates and perform on their own behalf in maintaining life, health and well-being while self-care agency is that human ability for engaging in self-care. She also defined therapeutic self-care demand as the totality of self-care actions to be performed for some duration in order to meet self- care while the self-care requisites are the reasons for which self-care is undertaken. The self-care requisites express the intended or desired results and include the universal, developmental and health deviation requisites.

According to Orem, the universal self-care requisites are associated with life processes and the maintenance of the integrity of human structure and functioning and are common to all. She identified these requisites as maintenance of sufficient intake of air, water, food, provision of care associated with elimination process, balance between activity and rest, between solitude

and social interaction, prevention of hazards to human life well-being and promotion of human functioning. The developmental self-care requisites are associated with developmental processes derived from a condition or associated with an event (Alligold, 2002)

Health deviation self-care requisites are those required in conditions of illness, injury, or disease and they include seeking and securing appropriate medical assistance, being aware of and attending to the effects and results of pathologic conditions, effectively carrying out medically prescribed measure, modifying self-concepts in accepting oneself as being in a particular state of health and in specific forms of health care and Learning to live with effects of pathologic conditions (Zerwekh, 2006).

2.10.2. Theory of self-care deficit

The central concept in this theory describes why nursing is required. Nursing is required when an adult (or in the case of a dependent, the parent) is incapable or limited in the provision of continuous effective self-care. Orem identifies 5 methods of helping that a nurse may use. These includes; Acting for and doing for others, guiding others, supporting another, providing an environment promoting personal development in relation to meet future demands and teaching another (Current Nursing, 2011).

2.10.3. Theory of Nursing Systems

This theory describes how the patient's self-care needs will be met by the nurse, the patient, or both. It Identifies 3 classifications of nursing system to meet the self-care requisites of the patient:-Wholly compensatory system, partly compensatory system and supportive – educative system. Wholly compensatory nursing system is represented where individuals are unable to engage in self-care actions requiring self- directed and controlled ambulation and manipulative movements or under medical prescription to refrain from such. Therefore the nurse provides total care to the patient.

In partly compensatory system both the nurse and patient perform care measures while in supportive educative system the patient is able to perform or can and learn to perform required measures of internally of externally oriented therapeutic self-care but cannot do so without assistance. The patient can do all of self-care only requires skills and knowledge (Pearson and Allan 2005).

2.10.4. Research gaps identified

Providing quality is the goal of every health care institution in order to meet the ever increasing consumer demands. However users' (both internal customers, in this case nurses and the external customers in this case patients) perspectives of health care quality and their role still has gaps that needs to be addressed. Also the medical model has critically influenced the practice of nursing especially in Kenya where even most of the wards are named depending on the anatomical or physiological system that has been affected for example, medical, surgical, orthopedic and gynaecology among others. Also the patients in the same ward

are placed in beds depending on the anatomical or physiological system that has been affected e.g. orthopedic, burns, and cardiac.

The nursing process has been adopted as the scientific model for providing nursing care in most health facilities in this country. However the nursing process most often has been used to plan and provide nursing care based on the medical model since most nurses are unaware of the nursing theoretical frameworks. Therefore if nursing is to continue to grow as a distinct profession, the nursing theory and models should drive the nursing practice.

Our progress as a profession and as a discipline need to focus on utilization and application of theory to nursing practice. Nurses need to recognize the value of theory in nursing practice for quality outcomes. The shift from procedure oriented nursing to patient centered care can only be achieved if nursing theories are embraced, since theories clearly explain the nursing metaparadigm.

Metaparadigm is the most abstract level of knowledge since they specify the main concepts that encompass the subject matter and the scope of a discipline. The Person, (in this case the patient/client, the environment (where care is provided), health and nursing actions have been proposed as both nursing phenomena and the first metaparadigm concepts of nursing. Most nurse theorists have utilized these metaparadigm as the main organizing concepts for the discipline of nursing and the profession. They clearly define who the patient is, the role of nursing, the environment in which care is provided and the understanding of health. Therefore in providing care using the nursing theory,

the nurse provides holistic care to the patient and in contrast to nursing a diseased system or physiological alteration.

Dorothea Orem has clearly defined the role of the nurse and the role of the patient in ensuring that both the nurse and the patient role change as the patient condition changes. The theory indicates the decreasing role of the nurse as the patient improves from being wholly compensatory, to partially compensatory and finally supportive educative. Hence the self-care ability of the patient improves leading to an increased, role hence the adoption of the theory in this study.

2.11.   Integration of Orem's theory to the Nursing Process

In order to investigate the effect of patient participation on quality of nursing care, the researcher aims at adopting Orem's approach to the nursing process in the provision of nursing care. This presents a method to determine the self-care deficits and then to define the roles of the patient or nurse to meet the self-care demands. The steps within the approach are considered to be the technical component of the nursing process as shown in Figure 2.

OREM THEORETICAL MODEL AND THE NURSING PROCESS

ASSESSMENT
First Stage; History taking and physical examination
The nurse to determine the deficit between the individual's Self-Care Abilities and the demands for Self-care being made? **Second Stage**
Is the deficit due to:
a. Lack of knowledge?
b. Lack of Skill?
c. Lack of motivation?
d. Limited ability to carry activities

FORMULATING NURSING DIAGNOSIS ACCORDING TO IDENTIFIED NEEEDS
  a. Actual
  b. Risk
  c. Potential
  d. Wellness
  e. Syndrome

PLANNING;
draw care plan Set goals with patient to achieve Self-Care. Plan intervention to be:
a. wholly compensatory
b. partly compensatory
c. supportive-education

FORMATIVE EVALUATION
Has the patient been able to maintain or re-establish Self- Care?

INTERVENTIONS
Intervention to be:
a. doing for or acting for the patient
b. guiding and directing
c. providing physical support
d. Providing psychological support.
e. Providing an environment which supports development.
f. Teaching the patient

FINAL EVALUATION

Effectiveness of Orem's Self- Care deficit model in improving quality of care through patient participation

Figure 2: Orem's theory and the nursing process

Adopted from: Aggleton and Chalmers (1986). *Nursing models and the nursing process*

During the assessment stage according to Orem, the nurse should obtain data from the patient who will guide the planning of care and its implementation. First the nurse needs to assess those demands being made on the individual self-care, determine the person's self-care and dependent care agency and finally evaluate self-care or dependent-care deficit including its magnitude and the primary reason for it. These may include identifying whether an individual possess the knowledge necessary to respond to self-care demands and assessing his or her motivation, development and past experience (Aggleton P, 2000).Also during assessment the nurse must also assess whether the individuals present state allows for safe involvement in self-care. Finally the nurse assesses the patient potential for re- establishing self-care in the future.

Though Orem does not include the step of formulating the nursing diagnosis in the nursing process, this will be critical before a plan of care can be arrived at. The nursing diagnosis will be derived from data gathered during the assessment. The main outcome of care is to establish the patient self-care ability. Depending on the nursing diagnosis the nurse should establish the nursing outcome and also the expected patients' outcome.

During the planning and goal setting phase all goals will be patient centered. The long term goal is the restoration of balance between self-care abilities and self-care needs.

The nurse discusses with the patient whether nursing intervention is to be wholly compensatory, partly compensatory or Supportive – educative.

During intervention phase, Orem's model assumes that patients are willing and able to adopt certain roles and that they desire to achieve self-care. Orem identifies 5 methods of helping that a nurse may use; acting for and doing for others, guiding others, supporting another, providing an environment promoting personal development in relation to meet future demands or teaching another. Therefore, the main goal of nursing during the intervention phase to ensure that self-care is re-established or maintained. After the interventions the nurse should evaluate whether the goals of nursing have been achieved. During the formative evaluation the nurse should focus on determining whether the patient has been able to maintain or re-establish the balance between self-care abilities and self-care demands.

By setting goals that are patient centered nurses put themselves in a position to evaluate whether patients have achieved self-care at the end of specified periods of time, rather than whether or not nursing intervention has been carried out. Hence moving from nursing interventions that are wholly or partly compensatory to those that are broadly supportive-educative by ensuring patient participation would also indicate effective nursing care.

2.12.   Theoretical framework

The theoretical framework for this study will be based on Donabedian quality of care model (Marquis 2003) and the Kenya quality model (2002). This also incorporates the concepts of Orem's theory and the nursing process.
This is as shown in figure 3
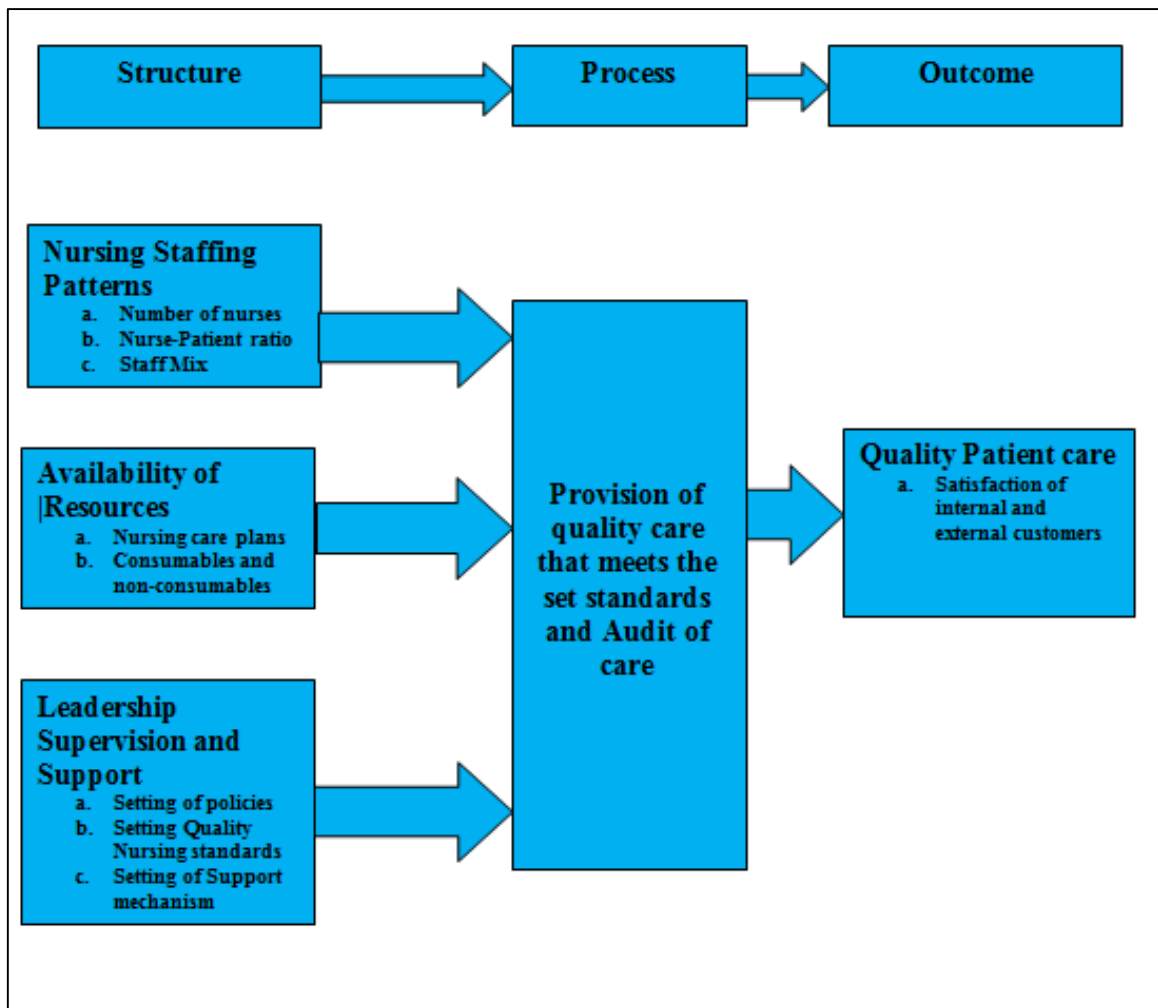
*Adapted from Donabedian quality of care model (Marquis 2003) and
the Kenya quality model (2003)*

Figure 3: Theoretical framework

Structure consists of the interaction between the health care system and the

patient. Structure evaluation will include assessment of number and category of

nursing staff, nurse-patient ratio, patient characteristics, availability of nursing

care plans and staff training on the nursing process based on Orem's theory of

nursing. Structure and process are inextricably linked in continuous interaction.

Process will refer to all the interventions and interactions between patients and

the nurse. The process measurement will include an assessment of the

procedures performed to and for the patients. These will include; nurses' application of the nursing process based on Orem's theory, use of nursing procedure manual, nurse-patient relationship and documentation of nursing care.

Both structure and process will determine the outcome. Outcome measurement will focus patient outcomes as a result of the care received and also to the nurse after the implementation of care. These will include; improved job satisfaction among nurses, improved level of patients' satisfaction with care provided and improvement in the level of patient participation in care.

2.13.   The Epistemological Perspectives for the Study

The research design for this study was based on an objectivism perspective. The researcher believed that empirical facts exist and that they are governed by laws of cause and effect. Therefore this study was anchored on the understanding that the provision of nursing care using the nursing process improves the quality of nursing care provided to patients. In addition objectivism emphasis that patterns of social reality are stable and that knowledge of them is additive. This belief prompted the researcher to integrate the Orem's theory to the nursing process, in order to improve the level of patient participation in care. This integration also was hoped to add more knowledge to the nurses on the use of the nursing process

 Objectivism is also based on the believe that the goals of science is to develop the most objective methods possible to get the closest approximation of reality

This is because the researcher sought to explain in quantitative terms how variables interact, shape events and cause outcomes. This has been eluded with the development of the conceptual framework. By moderating the independent variables through training on the use of Orem's theory, the outcome was anticipated to be improvement of the quality of nursing care on. This quality was measured by the level of nurses and patient satisfaction, increase in knowledge and practice of the nursing process and increase in the level of patient participation in care. Objectivism maintains that reliable knowledge is based on direct observations of natural phenomenal through empirical means hence the adoption of a quasi-experimental study design for this research study

2.14.   The conceptual framework

The researcher aimed at combining the above theoretical framework and Orem's theoretical framework to come up with the conceptual framework for this study as shown in Figure 4.
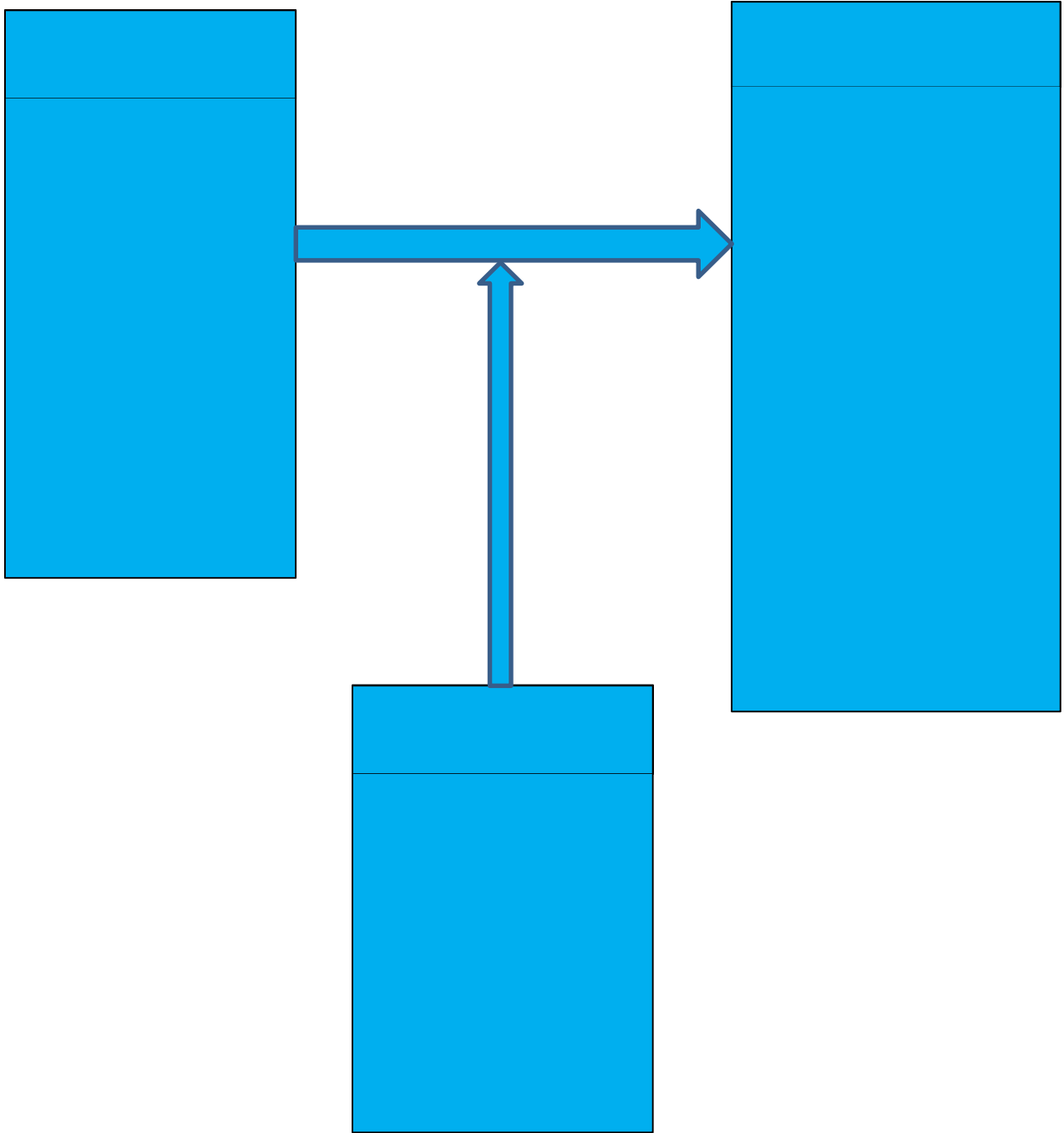
Source: Author

Figure 4: Conceptual Framework, GT Model

3. CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes the research design adopted for the study and also the study population. The sampling design and the sample size have also been explained. The study variables and how they have been operationalized has been clearly outlined. The chapter also describes the data collection process and analysis

3.2. Research design

This was a quasi-field experimental study since it was carried out in a natural environment in which work goes on as usual, that is Kiambu Hospital and Thika Hospital. Kiambu and Thika Hospitals were implementing the nursing process as a model of patients' care. Every patient's file had a nursing care plan and this showed the commitment of the institutions in ensuring quality nursing care using the nursing process. This therefore provided a baseline upon which to evaluate care after implementation of the nursing process based on a theoretical model.

To maintain internal validity, the study involved both pretest and post-test design with both an experimental and a control group. The experimental group (Kiambu nurses) and the control (Thika nurses), were exposed to the pre and post-tests. The only difference was the treatment during the intervention stage. Exposing the two groups to both pre and post-tests ensured that the effects of history, maturation, testing and instrumentation which could affect the internal validity were controlled.

3.2.1. The pretest stage (baseline study)

During the pretest stage, quality of care was evaluated to provide the baseline data from both the experimental and control hospitals. Data was collected from the patients to establish their level of participation in the care and also their satisfaction with the quality of nursing care. Data was also collected from the nurses on their level of job satisfaction, how they involve patients in the care and also their skills, knowledge and practice of the nursing process and nursing theory. A nursing audit was also done on the patients' document to obtain data on documentation of nursing care on the nursing kardex and the nursing care plans. A checklist was also administered to evaluate the other systems of the structure criteria.

3.2.2. Intervention phase

At the intervention stage, nurses in the experimental group were trained on the nursing process and the application of Orem's theory to the steps of the nursing process which emphasized on patient participation in nursing care. The control group was also trained on the application of the nursing process but without the concept of nursing theory to ensure that the baseline was the same as far as use of the nursing process was concerned. This was done through face to face sessions with the nurses and case presentations on the application of the nursing process and nursing theory. After the face to face presentations the nurses identified the common conditions in the ward and they were trained on how to apply the nursing process and nursing theory in their management.

3.2.3. The post test

The quality of care was evaluated eight months after the intervention phase to determine whether there was any change in the outcome measures of quality. Data was once again collected from the patients to establish their level of participation in the care and also their satisfaction with the quality of nursing care. Nurses were also evaluated on their level of job satisfaction, how they involve patients in the care and also their skills, knowledge, attitude and practice of the nursing process and nursing theory. Another concurrent nursing audit was conducted on the patients' document to obtain data on documentation of care on the nursing kardex and the nursing care plans. A checklist was again administered to evaluate the other systems of the structure to determine the role of the hospital management. Analysis was done by comparing the pretest and post test results and also with the control group to determine whether patient participation in nursing care brought any significant improvement on the quality of nursing care. The analysis of final score was done as shown in Table 1.

Table 1: Pretest and Post-test format of analysis

Group	Pre-test	Treatment	Post-test
Experimental Group	01	X1(Practice of nursing process based on nursing theory)	02
Control group	03	X2 (practice of the nursing process only)	04

Treatment effect= (04-03)-(02-01)

3.3. Study Population

The study was carried out in two public hospitals that is; Kiambu County and Thika County referral Hospitals..

Kiambu County Hospital

The hospital is government owned and is located in Kiambu County, approximately 16km from Nairobi City center. It acts as referral hospital for the health centers and sub-district hospitals within the Kiambu County. It also serves a big population from Nairobi County due to its proximity. The Hospital has a capacity of 329 beds and 44 cots and has several departments and wards with 186 nurses distributed as follows as shown in Table 2.

Table 2: Distribution of Nurses in Kiambu County Hospital

Wards/Units	Number Of Nurses	
	Registered Nurses	Enrolled Nurses
Male Surgical	7	7
Female Surgical	7	6
Male Medical	7	6
Female Medical	8	5
Pediatrics	6	8
Gynaecology Ward	7	6
Amenity – Male & Female	4	5
Casualty	4	3
Eye Clinic	1	-
Theatre	12	4
Maternity	28	14
Outpatient Department	10	7
Maternal and child health clinic	6	4
Comprehensive are center	4	-
Total	**111**	**75**

(Source; Kiambu District Hospital records October 2012)

52

Thika County referral hospital

Thika County referral Hospital is government owned and is located in Kiambu County in Thika town, along General Kago Road. Thika town is approximately 50 km north east of Nairobi. The hospital serves a population of about 454,166 people in Thika county plus population of the surrounding counties like Muranga, Machakos and Nairobi, It also serves as a referral hospital to many None Governmental Organizations, Faith Based Organizations, Government owned facilities and private health facilities within and outside Kiambu county. The hospital had a capacity of 265 beds and 40cots. The hospital also had a total of 219 nurses that were distributed in the various departments as shown in Table 3.

Table 3: Distribution of Nurses in Thika Hospital

Ward	Registered Nurses	Enrolled Nurses
Medical male	6	9
Pediatrics Ward	14	5
Maternity	25	7
Medical Female	11	5
Surgical Male	7	7
Surgical Female	7	6
Gynecology ward	11	2
Casualty	14	3
Eye ward	4	4
MCH	7	6
OPD	7	6
Main theatre	12	1
New-born Unit	6	4
Maternity Theatre	6	4
Amenity Wards	7	6
Total	144	7

(Source: Thika District Hospital   records June 2012)

Experimental group study population

The study subjects were all the nurses working at Kiambu hospitals' medical, surgical, gynecology and pediatrics wards. These were as shown in Table 4.

Table 4: Experimental group study population

WARD	Kiambu District Hospital	
	Registered Nurses	**Enrolled Nurses**
Male surgical	7	7
Female surgical	7	6
Male Medical	7	6
Female surgical	8	5
Gynecology ward	6	8
Pediatrics ward	7	6
Total	**42**	**3**

Control Group study population

The control group comprised of all the nurses working in Thika Hospital similar wards as in the experimental group that is; Medical, surgical, pediatric and gynecology wards as shown in Table 5.

Table 5: Control group study population

WARD	Thika District Hospital	
	Registered Nurses	**Enrolled Nurses**
Male surgical	7	7
Female surgical	7	6
Male Medical	6	9
Female surgical	11	5
Gynecology ward	11	2
Pediatrics ward	14	5
Total	**56**	**34**

3.4. Sampling Design

3.4.1. Selection of nurses

All the nurses in the study wards were selected since quality is organization wide and requires everybody to participate for a better outcome and for continuous quality improvement. The study subjects in both the experiment group and the control groups were considered homogenous since the deployments of nurses in hospital was done by the same county based on service need and hence they were not randomly assigned or matched. Since the groups were homogenous, the factors that could affect internal validity like selection bias, history, maturation, testing and instrumentation were considered to have been controlled. This is because whatever happened to the experimental group in relation to the above extraneous variables was considered to happen to the control group and hence would not affect the end results therefore ensuring internal validity.

3.4.2. Patients' sampling

Stratified random sampling was used to select the patients in each ward. This was done in proportion to the total number in various strata/number of patients for each ward as shown in Table 6 and 7.

Table 6: Daily average number of patients in Kiambu Hospital

Wards/Units	Average No. Of Patients Daily
Male Surgical	37
Female Surgical	32
Male Medical	27
Female Medical	23
Pediatrics ward	74
Gynaecology Ward	17
Total	**210**

(Source; Kiambu District Hospital records June 2012)

Table 7: Daily average number of patients in Thika Hospital

Wards/Units	Average No. Of Patients Daily
Male Surgical	41
Female Surgical	24
Male Medical	26
Female Medical	28
Pediatrics	65
Gynae Ward	23
Total	**207**

(Source; Thika District Hospital records June 2012)

3.4.3. Patients sample size determination

The following formula by Fisher et al (as recorded by Mugenda and Mugenda 2003) will be used to determine the sample size

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

nf is the desired sample size (when the population is less than 10,000)

   N is the estimate population size

n which is the desired sample size will be calculated using the following formula.

$$n = \frac{Z^2 pq}{d^2}$$

Z is the standard normal deviate at required confidence level, set at1.96 which corresponds to 95%confidence interval

P is the proportion in the target population estimated to have characteristics being measured.

q =P which is the proportion in the target population estimated not to have characteristics being measured. (q=1-p)

d is the level of precision set at +0.05.

Since there was no estimate available of the proportion in the target population who had the study characteristics 50% was used as recommended by Fisher et al (Mugenda and Mugenda 2003)

The total patient population (from Thika Hospital is 207 and Kiambu 210) will be subjected to the above formula to obtain the sample size.

$$n = \frac{Z^2 p(1-p)}{d^2}$$ =1.962x0.5   (1-0.5)/0.052=384.16   Therefore

n=384.16

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

Therefore

The sample size from Thika Hospital will be:

 nf=384.16/1+384.16/207=134patients

The sample size from Kiambu Hospital will be:

nf=384.16/1+384.16/210=136 patients

3.4.4. Calculated sample size of patients from each hospital

To get equal representation of the sample in each ward, the sample size was calculated using the ratios of average number of patients daily in the study hospital with the total sample as the multiplication factor as shown in Table 8 and 9

Table 8: Kiambu Hospital patients sample size

Wards/Units	Average No. of Patients Daily	Calculation of The Sample Size	Sample Size
Male Surgical	37	37/210x136	24
Female Surgical	32	32/210x136	21
Male Medical	27	27/210x136	17
Female Medical	23	23/210x136	15
Pediatrics ward	74	74/210x136	48
Gynaecology Ward	17	17/210x136	11
Total	**210**		**136**

Table 9: Thika Hospital patients sample size

Wards/Units	Average No. of Patients Daily	Calculation of The Sample Size	Sample Size
Male Surgical	41	41/207x134	26
Female Surgical	24	24/207x134	16
Male Medical	26	26/207x134	17
Female Medical	28	28/207x134	18
Pediatrics ward	65	65/207x134	42
Gynaecology Ward	23	23/207x134	15
Total	**207**		**134**

3.5. Inclusion and exclusion criteria

3.5.1. Inclusion criteria

All the nurses working in the surgical, medical, gynecology and pediatric wards during the study period were included in the study. During the post-test those nurses who had been in the study area for at least two years were included. Also only those nurses who consented to participate were included. Patients admitted in the ward for at least three days were included in the study in both pre-test and post-test ,since by the third day patients complete assessment should have been taken and care plan drawn.

3.5.2. Exclusion criteria

Those nurses working in the outpatient clinics, maternity, casualty and maternal child health clinics were excluded in the study, the students nurses and also all

those nurses who did not consent to participate. During the post-test, those who had not been in the study area for at least two years were excluded. Patients who had been admitted for less than three days and those who did not consent to participate were also excluded in both pre-test and post-test.

3.6. Study variables

The variables for the study were as follows

Independent variables

1. Nursing knowledge, attitudes and practice of nursing Process in provision of care.

2. Hospital nursing leadership.

3. Availability of resources.

Dependent variable: Quality of nursing care:

1. Nurses satisfaction

2. Patients satisfaction

3. Improvement in the use of nursing process

4. Change of nursing attitude towards nursing process

5. Patient participation in care

Moderating variables

1. Nurses Training on the application of the Nursing Process

2. Application of Nursing Process based on Orem's Theory

3.6.1. Operationalization of the study variables

In order to address the study variables during the data collection and analysis, they were operationalized as shown in Table 10.

Table 10: Operationalization of the study variables

Independent Variables

Variable	Operationalization	Questions
Nursing knowledge of the nursing process	Level of training of the nurse Qualification of the nurse Years of experience of the nurse Training of the nurse on the nursing process Understanding of the steps of the nursing	Section A Section B,Qs 4,5,6,7 Section C,Qs 1,
Nurses attitude towards the nursing process	Nurses perception on the applicability of the nursing process Nurses perception on who should write the nursing care plans Nurses belief on the role of the nursing	Likert's like scale: Section E
Nurses practice of the nursing process	Application of the five steps of the nursing process in patient care Number of patients cared for by the nurse Number of care plans drawn by the nurse Documentation of care provided	Section C:Qs ,2,3
Nurses understanding of the nursing theory	Level of training of the nurse Qualification of the nurse Years of experience of the nurse Training of the nurse on the nursing theory Understanding of the nursing theory by the nurse	Section D: Qs 1,2,3
Hospital leadership	Nursing staffing patterns Leadership supportive supervision Availability of nursing care plans Nursing quality standards availability Number of patients cared for by one nurse Policy on application of nursing process and nursing theory	Section F: Checklist

Dependent Variables

Variable	Operationalization	Questions
Quality of nursing care	Nurses job satisfaction Patients satisfaction with nursing care Increase use of nursing process Change of nursing attitude towards nursing theory and nursing process Increase Hospital performance on documentation of care Improved patient participation in nursing care	Section H Section G: Section E: Likert's like scale Section F Checklist Section : H

Moderating variables

Variable	Operationalization	Questions
Moderating variable 1 Training of nurses on the application of the nursing process	Steps of the Nursing process Assessment Nursing diagnosis Planning and goal setting Nursing outcome Nursing	Training module 1
Moderating variable 2 Training of nurses on integration of nursing process and nursing theory	Nursing theories Orem's theory Application of nursing process based on Orem's theory	Training module 2

3.7. Study tools

Structured self and interviewer administered questionnaires consisting of both open and closed ended questions (Appendix1) were used to collect both qualitative and quantitative data from. These questionnaires were pre-coded using numbers for each hospital. The main subthemes in these questionnaires were on the nurses understanding of the nursing process, nursing theory and their practice of the same. A Likert's like scale with five options; strongly agree, agree, neutral, disagree and strongly disagree was used to evaluate the nurses attitude towards the nursing process. The level of patients' participation in care and satisfaction was also evaluated using interviewer and self-administered questionnaires plus a Likert like scale (Appendix11). Questionnaires were used because they were anonymous hence respondents were free to express their views without fear of victimization. In order to evaluate the implementation of the nursing process an audit checklist (Appendix IV) was used while an observational checklist (Appendix III) was also used to check on the structure criterion.

3.8. Data collection process

The researcher was the principle investigator and eight Bachelor of Science nursing interns were recruited as research assistants.

3.8.1. Recruitment of research assistants

The principle investigator visited the study area to identify the newly posted Bachelor of Science nursing interns from the hospital students training coordinator. There was agreement that they would be involved in the data

collection when they were off duty or during the shift when they were not working. During the pretest and post-test the researcher identified two Bachelor of Science in Nursing interns from each hospital making a total of four during each study period

The Bachelor of Science interns were selected because of they had basic foundations in nursing research and also with the study topic. Also being in the study area they were familiar with the staff and also the environment. The principle researcher trained the research assistants before the start of data collection and after the intervention on the data collection using the developed training module (appendix

VII) at the hospital training room. The purpose of the training was to ensure accurate data collection and reduce the inter-observer variation while filling the checklists.

3.8.2. Pretest data collection

At the start of the study quality of care was evaluated as follows; Pre-coded questionnaires (appendix I) were administered to the nurses in the medical, surgical, pediatrics and gynecology wards (in both the experimental and control groups) in order to collect the baseline data on their understanding of the nursing process and nursing theory. Another questionnaire (appendix II) was also administered to the patients who had been admitted in these wards for at least three days to evaluate their participation and satisfaction with the quality of nursing care. This is because by this time their assessment should have been

completed and have had an interaction with the nurses. This provided the baseline data for later comparison.

A checklist (appendix III) was also filled to evaluate the structure criteria in order to evaluate the role of management since items of the structure criteria are determined by the management. Another checklist (appendix IV) was used to carry out retrospective audit on the application of the steps of the nursing process on the patients' kardex and care plans for those patients who had been admitted in the ward for at least three days and discharged.

3.8.3. Intervention phase

The researcher used a Training module 1 (appendix VII) to train the nurses in the experimental group on the nursing process based on Orem's theory that emphasized on patient self-care and its implementation in the care of patients. The control group was also trained on the application of the nursing process using Training module 11 (appendix VII) but the component of the nursing theory was not being trained to this group. In both cases the researcher trained the nurses on the concept of the nursing process and its application in the management of the common conditions in the ward.

The training was conducted in the morning after the report on Tuesdays and Thursdays in Thika and Monday and Wednesday in Kiambu for a period of three months. The days were selected by the nursing management of each hospital for planning purposes in the ward activities so that nurses were aware and prepare for the same. Also the unit in-charges who were actively involved in ensuring training took place were available on those days. This was to ensure that all nurses were trained even those on night duty. The researcher also gave hand copies of the notes to the nurse managers for reference.

3.8.4. Post test data collection

Post test data was collected after eight months. This period controlled for the maturation effect which could affect the internal validity which can occur due to prolonged period of time. Another set of four Bachelor of Science nurses interns were trained on the post-test data collection process. The training was

similar to the one done before the start of the study in order to ensure reliability of the data collected.

Evaluation of care was done in the hospitals by administering the questionnaire to the nurses in the experimental and control group and also to the patients who had been admitted in the ward for at least three days. A checklist (appendix III) was also filled to evaluate the structure criteria and another checklist (appendix IV) was used to carry out a concurrent audit on the application of the nursing process on the patients files for those patients who had been admitted in the ward for at least three days.

3.9. Pre-testing

The study tools were pretested at Mbagathi District Hospital medical and surgical wards. This is because the hospital offers similar services as the study area and also had similar composition of nursing staff. To undertake this, questionnaires were issued to ten percent of the sample population that is; twenty seven nurses (27) and seventeen patients (17). The tools were then analyzed and edited to ensure validity and reliability before the data collection commenced.

3.10.   Data analysis

The raw data was cleaned by checking for any incomplete or incorrectly administered questionnaire to ensure that only the required and correct data was analyzed. Analysis was performed by use of computer software statistical package for social scientists (SPSS version 22). Descriptive statistics was used

to summarize the qualitative data in order to give meaning to the information and for easy presentation and interpretation.

Data was presented in frequency tables and bar graphs. Chi square test of significance was used to determine the relationships between the categorical outcome variables and in hypothesis testing. (Level of significance was set at $p < 0.05$). Logistic regression analysis was used to evaluate the predictability of the changes on the dependent variable upon the manipulation of the independent variables after the implementation of the nursing process based on Orem's theory of nursing.

3.11.   Study limitations

The main limitations for this study were the nurse patient ratio and hence it proved difficult to hold workshops for nurses since they could not leave patients alone in the ward. Therefore training had to be done in the morning after report for one hour which made the length of intervention to be long. Also the general presentation was made to the nurses during Continuous medical education.

The other limitation was insufficient resources; infrastructures, equipment, consumables and money for recurring expenses. But resource constrains should not be a barrier to quality improvement as there is always something that can be done to improve quality hence the choice of only two hospitals to carry out the study. The researcher aimed to reduce some of the expenses e.g. on training by incorporating the trainings on the already existing weekly Continuous Medical

Education programmes in the hospital. The other limitation was generalization of results but the main goal of this study was to recommend replicability of study findings to other areas.

3.12. Ethical considerations

Authority to carry out the study was obtained from the ministry of medical service, Ministry of Education Science and Technology, Kenyatta National Hospital

/University of Nairobi ethics and research committee and Kiambu & Thika District hospital Medical superintendents. Individual consent was obtained from the study subjects who signed the consent before answering the questionnaires. Confidentiality of the information obtained was maintained since the names of the study subjects were not required.

4. CHAPTER FOUR: RESEARCH FINDINGS

4.1. Introduction

A total of 80 nurses from Kiambu Hospital and 90 from Thika hospital were selected to be included in the study from the medical, surgical, gynaecology and pediatrics wards. The researcher also administered questionnaires to 136 patients in Kiambu and 134 patients in Thika Hospital in the same wards. The similar number of checklists was administered to audit the application of the nursing process in the patients' files. A structure checklist was also administered to evaluate the structure components in each ward.

A total of 69 nurses (86%) participated in pretest and 57 (71%) in the post test in Kiambu. While in Thika 77(85%) participated in the pretest and 69 (77%) in the post test. A total of 132 patients from Kiambu and 134 patients participated in the study during the pre-test. During the post test, 130 patients' questionnaires from Kiambu and 131 from Thika were analyzed. This is shown in Table 11.

Table 11: Nurses' and patients' response rate

Hospital	Selected sample size	Number of nurses who participated		Patient selected sample size	Number of Patients who participated	
		Pretest	Post test		Pre-test	Post-test
Kiambu	80	69 (86%)	57 (71%)	136	97% (132)	96% (130)
Thika	90	77 (85%)	69 (77%)	134	100% (134)	98 % (131)

4.2. Demographic Characteristics of the Respondents

4.2.1. Demographic characteristics of the nurses

The study findings revealed that 46.6% (n=68) of the respondents were aged below 40 years during the pretest while during post-test these were 69% (87). Also majority were female and married in both pre-and post-test. On the job title, majority, 63.7% (93) and 77% (97) were registered nurses in the pretest and post-test respectively. Diploma prepared nurses being directly involved in patient care, were the prevailing characteristics among the study sample in both pre and post- test. Higher diploma prepared nurses constituted the least number of nurses. The findings are as shown in the Table 12.

Table 12: Demographic characteristics of the Nurses

Demographic characteristics of nurses		STUDY GROUP	
Age		**PRE-TEST % (n)**	**POST-TEST%(n)**
	40 Years and below	46.6% (68)	69 % (87)
	41-50 Years	37.7% (55)	20.6% (26)
	51 Years and above	15.8% (23)	10.3% (13)
Sex	Male	13% (19)	13.5% (17)
	Female	87% (127)	86.5% (109)
Marital Status	Married	72.6% (106)	57.1% (72)
	Single	20.5% (30)	37.3% (47)
	Widow	5.5% (8)	3.2% (4)
	Widower	0.7% (1)	2.4% (3)
	Separated	0.7% (1)	0.0% (0)
Job Title	Registered Nurse	63.7% (93)	77% (97)
	Enrolled Nurse	36.3% (53)	23% (29)

Demographic characteristics of nurses		STUDY	
		GROUP	
Highest qualification	Masters	0% (0)	0.8% (1)
	Basic degree	10.3 % (15)	27.8 % (35)
	Higher diploma	4.8 % (7)	5.6% (7)
	Diploma	47.9 % (70)	43.7% (55)
	Certificate	37% (54)	22.7% (28)
Years of experience	Less than 10 Years	32.9 % (48)	58.7% (74)
	11-20 Years	24.7% (36)	19% (24)
	21- 30 Years	32.9% (48)	12.7% (16)
	31 Years and above	0.7% (1)	0% (0)

4.2.2. Demographic characteristics of the patients

Majority of the respondents were female constituting 62.35% (n=165) and 56.7% (n=148) in the pretest and post-test respectively. This was because the respondents from pediatric ward were mainly mothers admitted with their children and also gynaecology ward was also a female ward. Majority had been educated up primary level in both pretest and post- tests. On the number of days the patient had been in the ward, majority 50.3% (n=131) during the pre-test and 48.5% (n=136) during the post- test had been admitted for less than five days in the ward. This is as shown in table 13

Table 13: Demographic characteristics of patients

Demographic characteristics of patients		Study Groups	
		Pre-Test% (N)	Post- Test% (N)
Sex	Male	37.4% (99)	43.3% (113)
	Female	62.35 (165)	56.7% (148)
Level of education	University	3.4% (9)	3.8% (130)
	College	11.75 (31)	18.0% (47)
	Secondary	34.6% (92)	34.1 % (89)
	Primary	50.3% (134)	44.1% (115)
Number of day in the ward	Less than 5 days	53.4% (131)	48.5% (136)
	6-10 days	19.7%(52)	18.3% (48)
	11-15 days	9.5% (25)	11.1% (29)
	16-20 days	3.5% (9)	4.6% (12)
	More than 20 days	13.9% (47)	17.5% (36)

4.3. Knowledge, attitude and practice of the nursing process

4.3.1. Knowledge and utilization of the nursing process

Respondents were asked to outline the steps of the nursing process and indicate whether they utilized it in nursing care. The data showed that during the pre-test those who outlined the steps of the nursing process correctly were 52.1% and this increased during the post- test to 84.9 %. Majority of the respondents also reported that they utilize the nursing process in patient care during the pre-test (71.9 %) and this increased to 86.5% during the post test. This is as shown in Table 14.

Table 14: Nurses knowledge and utilization of the nursing process

ITEM		Pre-test % (n)	Post- Test (n)
Outlined all the steps of the nursing process	Yes	52.1% (76)	84.9% (107)
	No	47.9% (70)	15.1% (19)
Utilize the nursing process in patient care	Yes	71.9% (105)	86.5% (109)
	No	28.1% (41)	13.5% (17)

4.3.2. Number of patients cared for per shift

The nurses were asked the number of patients they cared for per shift. From the findings for both pretest and post- test, majority of nurses indicated that they cared for 31-40 patients which was 32.9% (n=48) and 31% (n=39) respectively, followed by between 21-30 patients who were 30.1% and 17.5%. The nurses who cared for the largest number of patients per shift that is 61 and above were 6.2% and 7.9% during the pretest and post-test respectively. This is as shown in the Figure 5.
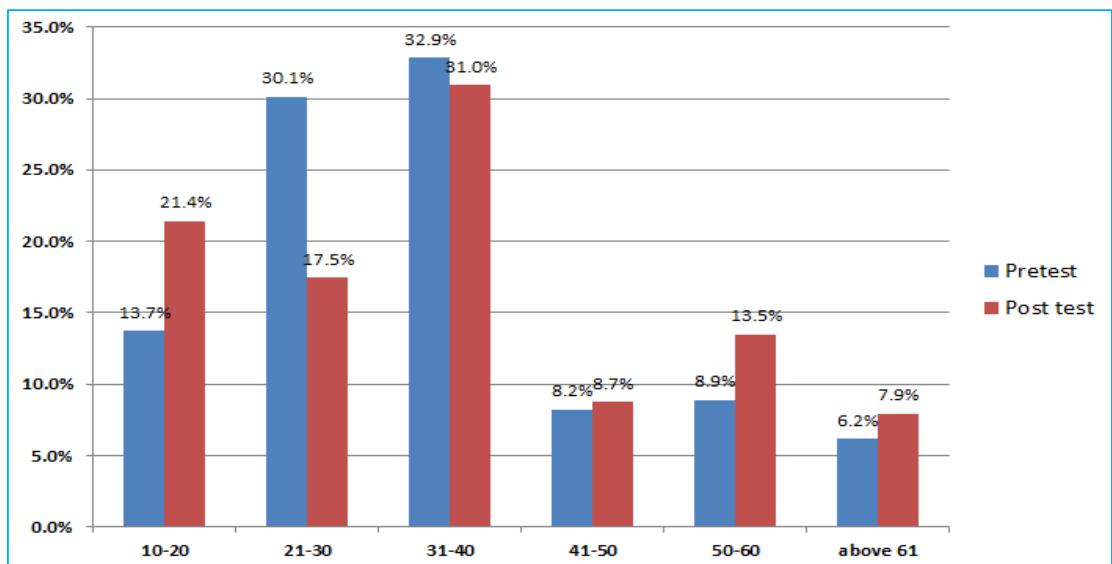
Figure 5: Number of patients cared for per shift

4.3.3. Number of patients drawn for care plans per shift by the nurse

Out of the total number of patients cared for per shift, nurses were asked to indicate the number they drew for a care plan. Surprisingly, the findings revealed majority of the nurses drew care plans for between 0-2 patients in both pre-test and post- test which was 54.8% (80) and 52.4% (n=66) respectively. The least number of nurses 8.2% drew care plans for five patients during pretest. This number however rose to 12.7% during the post test. This meant that the number of patients in the ward did not determine the number of patients drawn for care plan per shift. The findings are shown in the Figure 6.
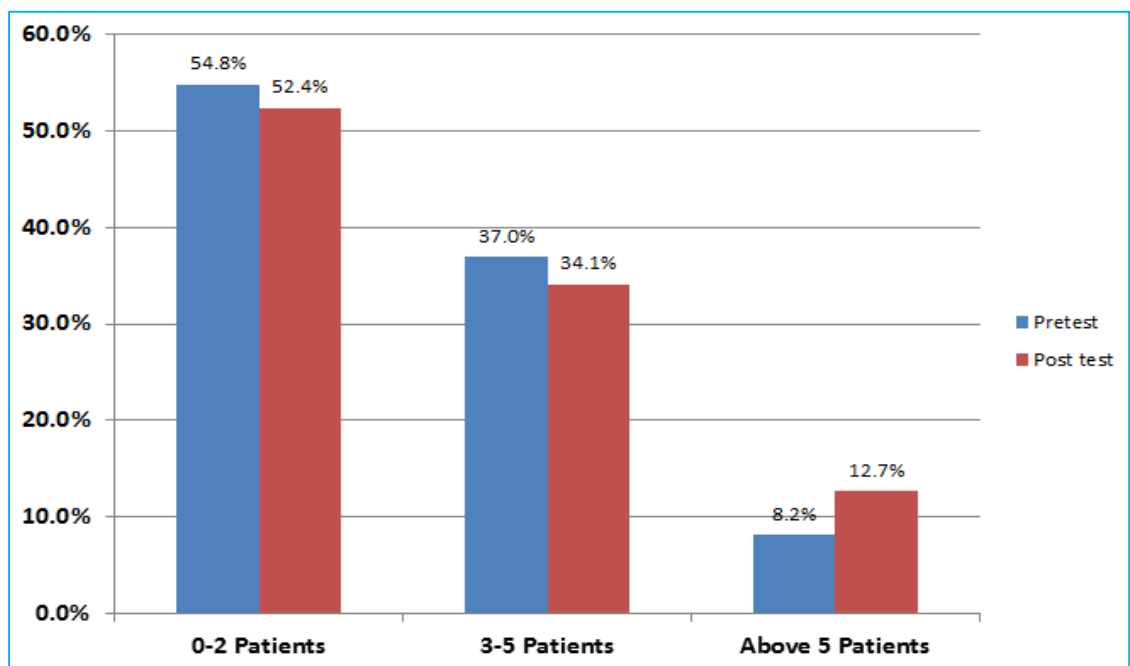
Figure 6: Number of patients drawn for care plans per shift by the nurse

4.3.4. Relationship between pre-test and post-test on utilization of nursing process

A chi-square test was used to determine whether the training on the nursing process brought any significant difference on the knowledge of the steps of the

nursing process and the utilization. The findings revealed significant difference (P<0.05) between pretest and post-test. The number of nurses who outlined of the steps of the nursing process correctly rose from52.1% during the pretest to 84.9% during the post- test. A significant difference (p<0.05 was also observed on the number of nurses who reported to be utilizing the nursing process during the post test (86.7%) against 71.9% during pretest. This is as shown in Table 15.

Table 15: Relationship between pre-test and post-test on nursing process utilization

ITEM		Pre-test % (n)	Post- Test (n)	Statistical test
Outlined all the steps Of the nursing process	Yes	52.1% (76)	84.9% (107)	χ2 value=33.185 df= 1 P=0.000(p<0.05)
	No	47.9% (70)	15.1% (19)	
Utilize the nursing process in patient care	Yes	71.9% (105)	86.5% (109)	χ2 value =4.466 df=1 p=0.003 (p<0.05
	No	28.1% (41)	13.5% (17)	

4.3.5. Nurses Perspectives towards the nursing process

Nurses were asked to indicate their perspectives towards the nursing process and its application on a five point scale ranging from strongly agree to strongly disagree. Those who agreed and strongly agreed were combined together and also those who disagreed and strongly disagreed, for accurate use of statistical test. During the pretest 49.3% agreed that nursing process should

be applied to all patients while during the post-test those who agreed to the statement decreased to 41.3%. Also during the pretest majority (50%) agreed that formulating nursing diagnosis should not be mandatory, while during the post-test the percentage who agreed to the above statement decreased to 35.8%. Majority of nurses had commonly high agreements in both pre-test and post-test that application of nursing process is cumbersome (56.2% and56.1%), it should not be mandatory to draw a nursing care plan (49.3% and 44.8%), nursing care plan should be drawn for the very sick patients only (69.2% and 64.8%) and that writing a care plan is a burden to nurses (40.4%, and 40%).This is shown in Table 16.

Table 16: Nurses perspectives towards the nursing process

Nurses perspectives		Study Group	
		Pre-test % (n)	Post-test % (n)
Nursing process should be applied to all patients	Strongly agree and Agree	49.3% (72)	41.3% (52)
	Neutral	6.8% (10)	4.8% (6)
	Strongly disagree and disagree	43.8% (64)	54% (68)
Application of Nursing process is cumbersome	Strongly agree and Agree	56.2% (82)	56.1% (69)
	Neutral	26.7% (39)	28.5% (35)
	Strongly disagree and disagree	17.1% (25)	15.4% (19)
Formulating nursing diagnosis should not be mandatory	Strongly agree and Agree	50.0 % (73)	35.8% (44)
	Neutral	14.4% (21)	24.4% (30)
	Strongly disagree and disagree	35.6% (52)	39.8% (49)
It should not be mandatory to draw a nursing care plan	Strongly agree and Agree	49.3% (72)	44.8% (46)
	Neutral	17.8% (26)	24% (30)
	Strongly disagree and disagree	32.9% (48)	31.2% (39)
Nursing care plan should be drawn for the very sick patients only	Strongly agree and Agree	69.2% (101)	64.8% (81)
	Neutral	8.2% (12)	10.4% (13)
	Strongly disagree and disagree	22.6% (33)	24.8% (31)
Writing a care plan is a burden to nurses	Strongly agree and Agree	40.4% (59)	40% (50)
	Neutral	28.1% (41)	26.5% (33)
	Strongly disagree and disagree	31.5% (46)	33.6% (42)

4.3.6. Relationship between pretest and post-test on nurses perspectives towards the nursing process

A chi square test was used to determine whether the difference between the variables during pretest and post-test were statistically significant. The findings showed that there was no significant difference (p>0.05) in both the pre-test and post-test on the nurses perspectives about; application of nursing process being cumbersome, it should not be mandatory to draw a nursing care plan, nursing care plan should be drawn for the very sick patients only, nursing process should not be applied to all patients and writing a care plan is a burden to nurses. However there was significant difference (p<0.05) on the variable that formulating nursing diagnosis should not be mandatory majority whereby majority of the nurses during the pre-test had agreed to this while during the post-test majority of the nurses disagreed with this statement showing a positive change on the perspective towards nursing diagnosis. This is shown in Table 17.

Table 17: Relationship between pretest and post-test on nurses' perspectives towards the nursing process

Nurses Perspectives towards nursing process		Study Group		Statistical test
		Pre-test % (n)	Post- test % (n)	
Nursing process should be applied to all patients	Strongly agree and Agree	49.3% (72)	41.3% (52)	χ2 value=2.2892 df= 2 P=0.326(p>0.05)
	Neutral	6.8% (10)	4.8% (6)	
	Strongly disagree and disagree	43.8% (64)	54% (68)	
Application of Nursing process is cumbersome	Strongly agree and Agree	56.2% (82)	56.1% (69)	χ2 value=0.189 df= 2 P=0.910(p>0.05)
	Neutral	26.7% (39)	28.5% (35)	
	Strongly disagree and disagree	17.1% (25)	15.4% (19)	
Formulating nursing diagnosis should not be mandatory	Strongly agree and Agree	50.0 % (73)	35.8% (44)	χ2 value=6.950 df= 2 P=0.031(p<0.05)
	Neutral	14.4% (21)	24.4% (30)	
	Strongly disagree and disagree	35.6% (52)	39.8% (49)	
It should not be mandatory to draw a nursing care plan	Strongly agree and Agree	49.3% (72)	44.8% (46)	χ2 value=1.599 df= 2 P=0.450(p>0.05)
	Neutral	17.8% (26)	24% (30)	
	Strongly disagree and disagree	32.9% (48)	31.2% (39)	
Nursing care plan should be drawn for the very sick patients only	Strongly agree and Agree	69.2% (101)	64.8% (81)	χ2 value=0.677 df= 2 P=0.713(p>0.05)
	Neutral	8.2% (12)	10.4% (13)	
	Strongly disagree and disagree	22.6% (33)	24.8% (31)	
Writing a care plan is a burden to nurses	Strongly agree and Agree	40.4% (59)	40% (50)	χ2 value=0.163 df= 2 P=0.922(p>0.05)
	Neutral	28.1% (41)	26.5% (33)	
	Strongly disagree and disagree	31.5% (46)	33.6% (42)	

4.3.7. Facilitators and inhibitors of the nursing process

The nurses were asked to write down the factors that they felt facilitated or inhibited the application of the nursing process. The responses were grouped according into four major themes that emanated from their responses. These were nurse's factors, workload, patient factors and resources. The study findings showed that nurses' factors like skills, attitude and motivation plus reduced workload were major facilitators of the nursing process while the major inhibitors of the nursing process utilization were lack of resources and increased workload. This shown in the Figures 7 and 8
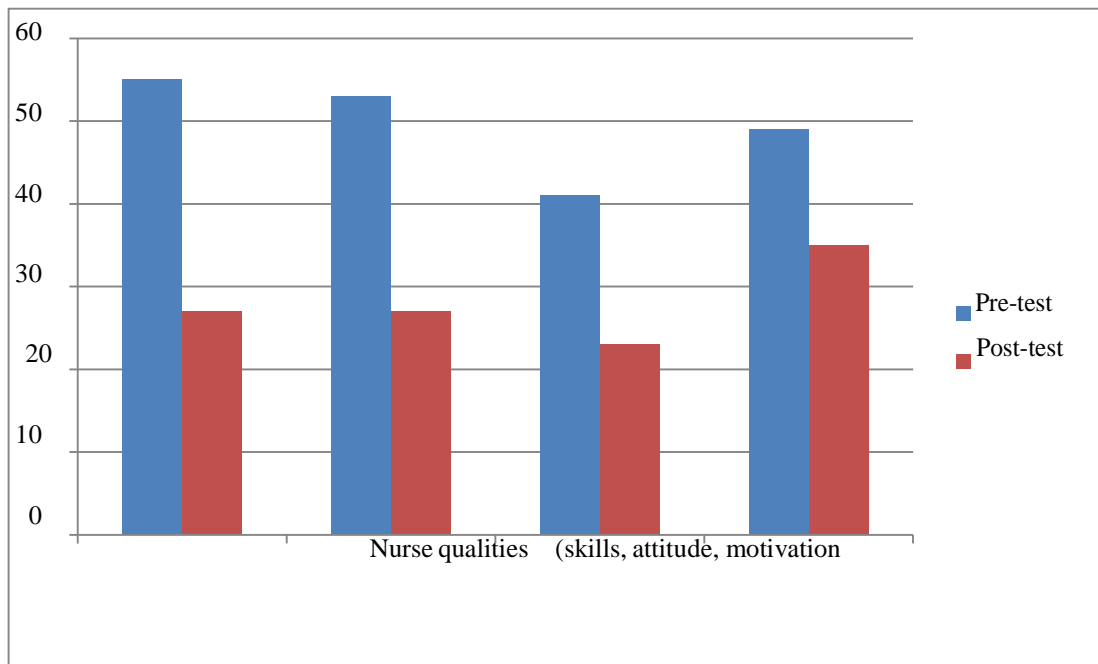
Figure 7: Facilitators of the nursing process
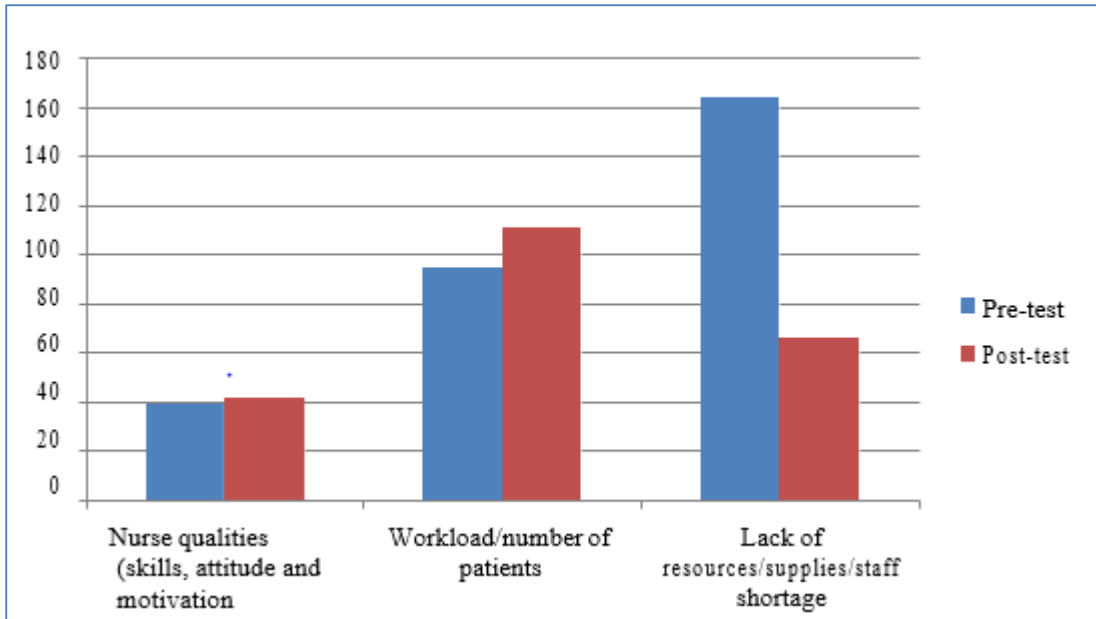
Figure 8: Inhibitors of the nursing process

4.3.8. Nursing audit on the application of the nursing process

A checklist was administered to audit the application of the nursing process in the patients file. The findings showed that the documentation of assessment data was done chronologically in 76.7% of the files audited during the pretest and 91.3% during the post. The chi-square test also revealed significant positive relationship

($p<0.05$). On the documentation of the care plans, the audit showed significant negative relationship ($p<0.05$) on all the variables audited, meaning that there was a drop on the documentation of nursing care plans during the post test. These findings are shown in Table 18 below

Table 18: Nursing audit on the application of the nursing process

Variable		Study Group		Statistical test
		Pre-test % (n)	Post-test % (n)	
Assessment data is recorded chronologically	Yes	76.7% (168)	91.3% (124)	χ2 value=19.602 df= 1 P=0.000(p<0.05)
	No	19.6% (43)	8.7% (23)	
Diagnosis derived from health assessment	Yes	64.4% (141)	28% (74)	χ2 value=64.048 df= 1 P=0.000(p<0.05)
	No	35.6% (78)	72% (190)	
Nursing diagnosis drawn in order of priority	Yes	52.5% (115)	22.3% (59)	χ2 value=47.254 df= 1 P=0.000(p<0.05)
	No	47.5% (104)	77.7% (205)	
Goal and nursing outcome is SMART	Yes	47.3% (104)	19.3% (51)	χ2 value=43.589 df= 1 P=0.000(p<0.05)
	No	52.7% (115)	80.7% (213)	
Nursing interventions documented	Yes	50.7% (111)	26.9% (71)	χ2 value=28.852 df= 1 P=0.000(p<0.05)
	No	49.3% (108)	73.1% (193)	
Nursing Rationale is clearly stated	Yes	37.9% (83)	25% (66)	χ2 value=9.337 df= 1 P=0.002(p<0.05)
	No	62.1% (136)	75% (198)	
Implementation of care is documented	Yes	50.7% (111	20.1% (53)	χ2 value=50.011 df= 1 P=0.002(p<0.05)
	No	49.3% (108)	79.9% (211)	
Evaluation of care is documented	Yes	36.1% (79)	18.2% (48)	χ2 value=19.771 df= 1 P=0.002(p<0.05)
	No	63.9% (140)	81.8% (216)	

4.4. Patient Participation in Care

4.4.1. Patient involvement in decision making by nurses

In order to evaluate whether there was a change on the level of patient participation, nurses were asked whether patients should be involved in decision making regarding their care and whether they involved them. During pretest 80.1% (n=117) agreed that patients should be involved in decision making, though out of these ,only 61% stated that they involve patients in decision making. The post-test findings showed a higher percentage (92.9%) agreeing that patients should be involved in decision making regarding their care and 76.2% (n=96) reporting that they involved patients in decision making. This is shown in Table 19.

Table 19: Patient involvement in decision making

Nurses responses on patients' involvement		Pretest	Post-Test
Do you enquire about patients' Perspective in care?	Yes	78.1% (114)	89.6% (112)
	No	21.9% (32)	10.4 % (13)
Should patients be involved in decision regarding their care	Yes	80.1% (117)	92.9% (117)
	No	19.9% (29)	7.1% (9)
Do you involve patient in clinical decision making	Yes	61% (89)	76.2 % (96)
	No	39% (57)	23.8% (30)

4.4.2. Relationship between pretest and post-test on patient involvement by nurses in decision making

A chi-square test was used to determine the relationship between the pretest and post- test outcomes. A significant difference (p<0.05) was found on whether the nurses enquired about the patients perspective in care with majority in post-test stating yes.

On whether patient should be involved in decisions regarding their care, this was also statistically significant (p<0.05) indicating a change of perspective between pre-test and post-test. A significant difference (p<0.05) was also found on whether nurses involved patients in clinical decision making. This is as shown in Table 20.

Table 20: Relationship between pre-test and post-test on patient involvement in decision making

Nurses responses on patients' involvement		Pretest	Post-Test	Statistical test
Do you enquire about patients' perspective in care?	Yes	78.1% (114)	89.6% (112)	χ2 value =6.451 df=1 p=0.011 (p<0.05)
	No	21.9% (32)	10.4 % (13)	
Should patients be involved in decision regarding their care	Yes	80.1% (117)	92.9% (117)	χ2 value =9.105 df=1 p=0.003 (p<0.05
	No	19.9% (29)	7.1% (9)	
Do you involve patient in clinical decision making	Yes	61% (89)	76.2 % (96)	χ2 value =7.213 df=1 p=0.007 (p<0.05
	No	39% (57)	23.8% (30)	

4.4.3. Areas that nurses involve patients during their care

Nurses were asked to indicate the areas they involve patients during their care. In both study groups they mainly involved patients in giving medication and when obtaining consent. This indicates that the medical model still has an influence in the nursing care because most of the decisions on treatment and consent are in the

alleviation of pathological problems. This is as shown in Figure 9 below.
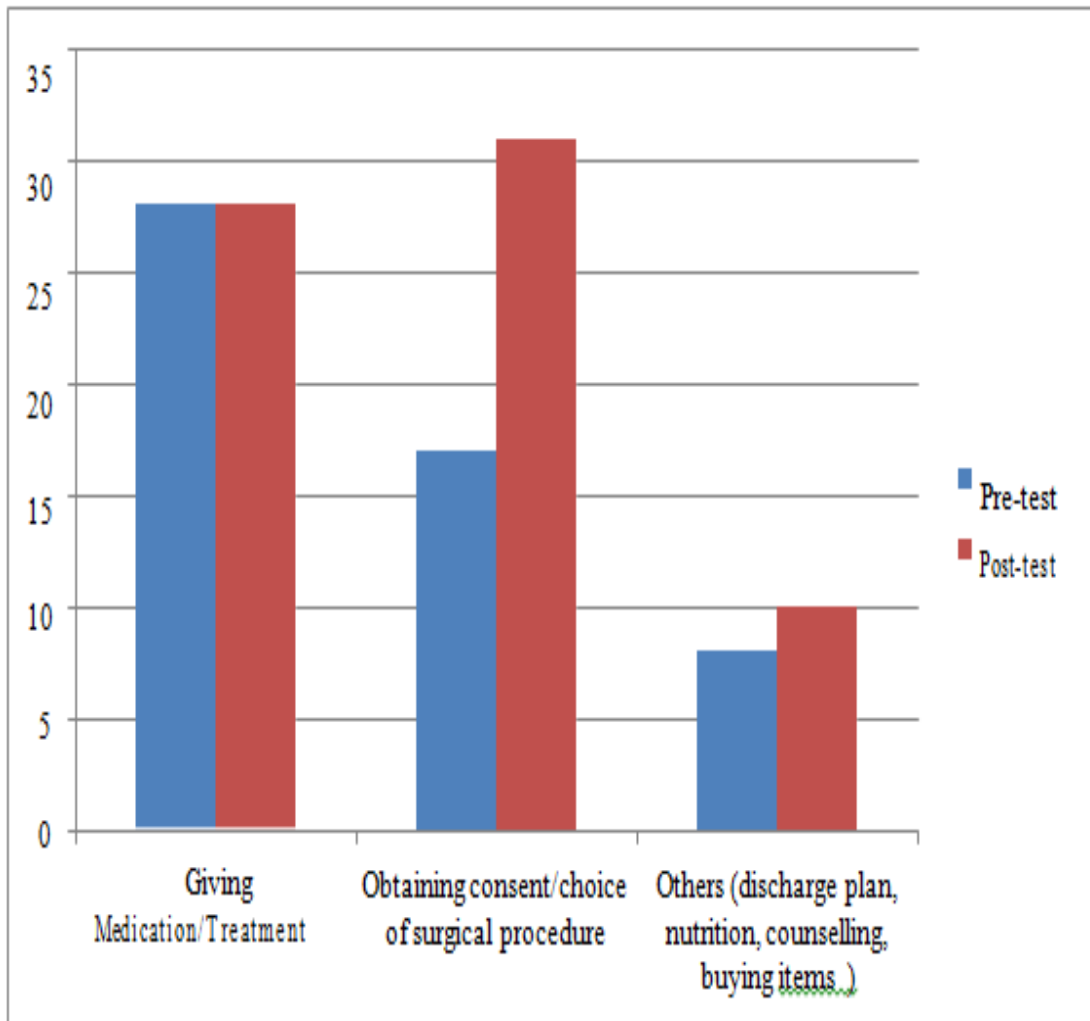
Figure 9: Areas that nurses involve patients

4.4.4. Patients' response on their involvement in the care

From the study findings majority of the patients (81.5%& 60.5%) did not know the name of the nurse who was taking care of them in both pre-test and post-test respectively. Patients were also asked to indicate whether nurses involved them in the care. During the pretest 51.9% (n=138) reported that they were involved in the decisions about the care and during post-test, 75. 9% (n=198) reported involvement. On whether nurses asked the patient about their perspectives in care, 47% (n=125) and 71.3% (n=186) indicated yes during the pre-test and post-

test respectively. This is as shown in Table 21

Table 21: Patient involvement in care

Patient involvement		Study Group	
		Pre-Test % (N)	Post-Test% (N)
Knows the name of the nurse taking care of him or her	Yes	18.5% (49)	39.5% (103)
	No	81.5% (216)	60.5% (158)
Involved by the nurse in the decision pertaining to their care	Yes	51.9% (138)	75.9% (198)
	No	48.1% 9128)	24.1% (63)
Patient asked about their perspective in the care by the nurse	Yes	47% (125)	71.3% (186)
	No	53% (141)	28.7% (75)

4.4.5. Patients perspectives on their involvement in care

Patients were asked to indicate their perspectives on their involvement in the care by the nurses on a five point scale from strongly agree to strongly disagree in both pre-test and post-test. When patient were asked whether the nurse introduced herself or himself to them, majority disagreed (77.4% and 54.4%) with this statement. Also majority of the patients (46.8% and 41.9%) disagreed that the nurses did all the procedures without involving them in the care. There was also common agreement in both pre-test and post-test that the nurse informed patient of their responsibility in the recovery process (54.1% and 70%), demonstrated to them what to do (53.8% and 71.3%) and that the nurse enquired about the patient progress in care (81.6% and 86.5%).

The chi-square test of significance was used to determine whether there was any significance difference between the pre-test and post-test on the above variables. The

analysis showed that there was a significant difference (p<0.05) on whether the nurse introduced herself or himself to the patient. There was significant difference (p<0.05) on whether the nurse informed patient of their responsibility in the recovery process, demonstrated to them what to do in the recovery process and involvement in decision making between the pre-test and post –test. On whether the nurse explained fully the nature of treatment, majority agreed in both studies but there was no significant difference (p>0.05). There was common disagreement in both pre-test and post-test that the nurse did all the procedures without involving patient but there was no significant difference (p>0.05. This is as shown in Table 22

Table 22: Patients' perspectives on their involvement in the care

Patient perspectives on involvement in care		Study Group		Statistical Test
		Pre-Test % (n)	Post-Test % (n)	
Nurse introduced herself or himself to me	Neutral	8.6% (23)	9.6(25)	χ2 value=36.611 df= 2 P=0.000(p<0.05)
	Strongly disagree and disagree	77.4% (206)	54.4% (142)	
	Strongly agree and agree	13.9% (37)	36% (94)	
Nurse explained fully the nature of my treatment	Neutral	16.9% (45)	13.5% (35)	χ2 value=1.365 df= 2 P=0.505(p>0.05)
	Strongly disagree and disagree	16.2% (43)	15.4% (40)	
	Strongly agree and agree	66.9% (178)	71% (184)	
Nurse informed patient of their responsibility in the recovery process	Neutral	14.3% (38)	10.4% (27)	χ2 value=14.291 df= 2 P=0.001(p<0.05)
	Strongly disagree and disagree	31.6% (84)	19.6% (57)	
	Strongly agree and agree	54.1% (144)	70% (182)	
Nurse	Neutral	13.2% (35)	8.0 %(21)	χ2 value=17.215

Patient perspectives on involvement in care		Study Group		Statistical Test
		Pre-Test % (n)	Post-Test % (n)	
Demonstrate to patient what to do	Strongly disagree and disagree	33.1% (88)	20.7% (54)	df= 2 P=0.000(p<0.05)
	Strongly agree and agree	53.8% (143)	71.3% (186)	
Nurse did all the procedures without involving patient	Neutral	16.2% (43)	20.4% (53)	χ2 value=1.960 df= 2 P=0.375(p>0.05)
	Strongly disagree and disagree	46.8% (124)	41.9% (109)	
	Strongly agree and agree	37% (98)	37.7% (98)	
Nurse allowed patient to make decisions about my care	Neutral	20.3% (54)	23.1% (60)	χ2 value=69.147 df= 2 P=0.000(p<0.05)
	Strongly disagree and disagree	61.3% (163)	28.1% (73)	
	Strongly agree and agree	18.4% (49)	48.8% (127)	
Nurse enquired about patient progress in care	Neutral	8.3% (22)	6.2% (16)	χ2 value=2.415 df= 2 P=0.299(p>0.05)
	Strongly disagree and disagree	10.2% (27)	7.3% (19)	
	Strongly agree and agree	81.6% (217)	86.5% (225)	
1 did most of the activities without the assistance of the nurse	Neutral	7.9% (21)	15.0% (39)	χ2 value=6.718 df= 2 P=0.035(p<0.05)
	Strongly disagree and disagree	62.4% (166)	46.8% (146)	
	Strongly agree and agree	29.7% (79)	28.8 (75)	
Discussed with the nurse activities I can do and those I cannot do	Neutral	21.8% (58)	21.5% (56)	χ2 value=47.546 df= 2 P=0.000(p<0.05)
	Strongly disagree and disagree	53.4% (142)	26.9% (70)	
	Strongly agree and agree	24.8% (66)	51.5% (134)	
Patient perspectives on involvement in care		Study Group		

4.5. Application of Nursing Theory in Patient Care

4.5.1. Training and utilization of nursing theory

Respondents were asked to indicate whether they had training on nursing theory and whether they utilized theory in practice. Majority of the nurses during the pre-test (54.8%) reported that they had not been trained on the nursing theory and neither did they apply nursing theory in patient care (79%). During the post-test majority (76.2%) indicated that they had been trained on the nursing theory and also applied theory in patient care (56.2%). These variables also showed a significant difference (p>0.05) between pretest and post-test. This is shown in Table 23.

Table 23: Training and utilization of nursing theory

Variable		Study Group		Statistical test
		Pre-test % (n)	Post-test % (n)	
Have you been trained on the Nursing theory	Yes	45.2% (66)	76.2% (96)	$\chi 2$ value=26.958 df= 1 P=0.0.000p<0.05)
	No	54.8% (80)	23.8% (30)	
Do you apply nursing theory in patient care	Yes	28.1% (41)	43.7% (55)	$\chi 2$ value=7.178 df= 1 P=0.0.007p<0.05)
	No	71.9% (105)	56.3% (71)	

4.5.2. Nurses attitude towards nursing theory

Nurses were asked to indicate their perspectives towards the nursing theory on a five point scale ranging from strongly agree to strongly disagree. Majority of the nurses were in common agreement that, nursing theory should be integrated to the nursing process, nursing theories make it easier to utilize the nursing process,

inclusion of nursing theory to nursing process would increase the nurses workload, nursing management should formulate policies to incorporate nursing theory to nursing process and that they would recommend all hospitals to integrate nursing theory to nursing process during the pre-and post-test. There was no significant difference (p>0.05) between the variables in pre-test and post-test. However though majority agreed that nursing theory should be integrated to the nursing process, there was a significant difference (p=0.015) with the majority in pre-test (87%) agree to this. This is as shown in Table 24.

Table 24: Nurses attitude towards Nursing Theory

Variable		Study Group		Statistical test
		Pre-test %(n)	Post- test % (n)	
Nursing theory should be integrated to the Nursing process	Strongly agree and	87.7% (128)	76% (95)	χ2 value=7.3 df= 2 P=0.015(p>0.05)
	Neutral	8.2% (12)	10.3% (13)	
	Strongly disagree and disagree	4.1% (6)	4.8% (6)	
Nursing theories make it easier to utilize the Nursing process	Strongly agree andAgree	69.9% (102)	60.5% (75)	χ2 value=4.943 df= 2 P=0.084(p>0.05)
	Neutral	27.4% (40)	31.5% (39)	
	Strongly disagree and disagree	2.7% (4)	8.1% (10)	
Inclusion of nursing theory to nursing process would increase the nurse workload	Strongly agree and Agree	44.5% (65)	50.4% (63)	χ2 value=1.258 df= 2 P=0.533(p>0.05)
	Neutral	32.2% (47)	26.4% (33)	
	Strongly disagree and disagree	23.3% (34)	23.2% (29)	
Utilizing nursing theory in care of patients should be mandatory	Strongly agree and Agree	38.4% (56)	36.4% (45)	χ2 value=0.314 df= 2 P=0.855(p>0.05)
	Neutral	35.6% (52)	34.7% (43)	
	Strongly disagree and disagree	26.0% (38)	29% (36)	
Nursing management should formulate policies to incorporate nursing theory	Strongly agree and Agree	68.5% (100)	58.7% (74)	χ2 value=3.162 df= 2 P=0.206(p>0.05)
	Neutral	21.2% (31)	25.4% (32)	
	Strongly disagree and disagree	10.3% (15)	15.9% (20)	
I would Recommend all hospitals to integrate nursing theory to nursing process	Strongly agree and Agree	74% (108)	61.1% (77)	χ2 value=6.138 df= 2 P=0.046(p>0.05)
	Neutral	20.5% (30)	27% (34)	
	Strongly disagree and disagree	5.55 (8)	11.9% (15)	

4.6. Level of Nurses and Patients Satisfaction with quality of care

4.6.1. Nurses Level of Satisfaction

The nurses we asked to indicate their level of satisfaction on a five point scale ranging from very satisfied to very dissatisfied. From the findings for both pre-test and post- test, majority of them reported satisfaction with the care provided to patient, utilization of the nursing process, level of patient satisfaction and with the overall quality of care. There was no significant difference (p>0.05) for both pre-test and post-test in these variable. A greater percentage reported satisfaction with support from management in providing care to patients during pre-test and this was significantly different (p=0.037). This is as shown in table 25.

Table 25: Nurses level of satisfaction

Nurses satisfaction		Group		Statistical test
		Pretest %(n)	**Post-test %(n)**	
Level of satisfaction with the care provided to patients	Satisfied	48.6% (71)	48.4% (61)	χ2 value=0.001 df= 1 P=0.971(p>0.05)
	Dissatisfied	51.4% (75)	51.6% (65)	
Satisfaction with the utilization of the nursing process	Satisfied	57.5% (84)	65.1% (82)	χ2 value=1.619 df=1 P=0.203(p>0.05)
	Dissatisfied	42.5% (62)	34.9% (44)	
Satisfaction with level of patient participation in care	Satisfied	71.9%(105)	65.9% (83)	χ2 value=1.472 df= 1 P=0.22(p>0.05)
	Dissatisfied	28.1% (41)	34.1% (44)	
Satisfaction with support from management in providing care to patients	Satisfied	53.4% (78)	65.9% (83)	χ2 value=4.339 df=1 P=0.037(p<0.05)
	Dissatisfied	46.6% (68)	34.1% (43)	
Satisfaction with the overall quality of nursing care	Satisfied	64.1% (93)	72.2% (91)	χ2 value=2.021 df=1 P=0.155(p>0.05)
	Dissatisfied	35.9% (52)	27.8% (35)	

4.6.2. Patient satisfaction with the quality of care

The level of patient satisfaction with quality of care was also evaluated on a five point scale. Majority of the patients in both study groups reported that they were satisfied with the information they received on admission. They also reported satisfaction with orientation they had received on admission and also with the overall quality of nursing care they received. A chi square test of significance was used to determine the difference between pre-test and post-test. The findings showed a significant difference (p<0.05) between pre-test and post-test on the level of satisfaction with the greater Percentage of patients in the post-test reporting satisfaction with the information

received on admission and the orientation they received. There was also significant difference (p<0.05) on whether the patients would recommend someone else to the same ward. However there was no significant difference (p>0.05) on the overall satisfaction with the quality of care and on whether the patient would like to be readmitted the same ward if they fell sick again. The findings are shown in Table 26.

Table 26: Patient satisfaction with the quality of care

Patient satisfaction		Study Group		Statistical Test
		Pre-Test % (n)	Post-Test % (n)	
Satisfied with the information received on admission	Neutral	27.4% (73)	11.9% (31)	χ2 value=77.422 df= 2 P=0.000(p<0.05)
	Strongly disagree and disagree	34.6% (92)	12.3% (32)	
	Strongly agree and agree	38% (101)	75.9% (198)	
Satisfied with Orientation in the ward	Neutral	27.4%	11.9% (31)	χ2 value=77.422 df= 2 P=0.000(p<0.05)
	Strongly disagree and disagree	34.6% (92)	12.3% (32)	
	Strongly agree and agree	38% (101)	75.9% (198)	
I feel satisfied with the quality of nursing care have received	Neutral	15.4% (41)	20.3% (53)	χ2 value=2.929 df= 2 P=0.231(p>0.05)
	Strongly disagree and disagree	12.8% (34)	14.6% (38)	
	Strongly agree and agree	71.8% (191)	65.1% (170)	
Patient would recommend someone else to same ward	Neutral	7.9% (21)	14.9% (39)	χ2 value=6.491 df= 2 P=0.039(p<0.05)
	Strongly disagree and disagree	18.4% (49)	17.2% (45)	
	Strongly agree and agree	73.7% (196)	67.8% (17)	
Patient would like to be readmitted the same ward if falls sick again	Neutral	15.0% (40)	13.0% (34)	χ2 value=0.707 df= 2 P=0.702(p>0.05)
	Strongly disagree and disagree	20.3% (54)	22.6% (59)	
	Strongly agree and agree	64.7% (172)	64.4% (168)	

4.7. Evaluation of the effect on integrating Orem's theory to the nursing process between Kiambu and Thika

The effect of integrating theory to the nursing process was evaluated by analyzing the difference between Kiambu and Thika hospitals on the outcome variables. This was to determine the effects of theory application in improving the quality of care.

4.7.1. Differences between Kiambu and Thika hospitals on the utilization of the nursing process

The study findings revealed that there was significance difference on the utilization of the nursing process ($p<0.05$) in Thika while in Kiambu there was no significant difference ($p>0.05$). This means that the training on the application of the nursing process revealed significant change on its use in Thika unlike in Kiambu. This could be attributed to the much time spent focusing the training specifically to the nursing process. This is as shown in Table 27 below.

Table 27: Differences between Kiambu and Thika hospitals on the utilization of the nursing process

Variable		Kiambu		Thika		Statistical test Kiambu	Statistical test Thika
		Pre-test % (n)	Post-test % (n)	Pre-test % (n)	Post-test % (n)		
Outlined all the steps of the nursing process	Yes	62..3% (43)	73.7% (42)	42.9% (33)	94.2% (65)	χ2 value=1.837 df= 1 P=0.175(p>0.05)	χ2 value=43.474 df= 1 P=0.000(p<0.05)
	No	37.7% (26)	26.3% (15)	57.1% (44)	5.8% (4)		
Utilize the Nursing process in patient care	Yes	73.9% (51)	80.7% (46)	70.1% (54)	91.3% (63)	χ2 value=0.812 df= 1 P=0.368(p>0.05)	χ2 value=10.250 df= 1 P=0.001 (p<0.05)
	No	26.1% (18)	19.3% (11)	29.9% (23)	8.7% (6)		

4.7.2. Evaluation of the differences between Kiambu and Thika hospitals on how nurses involved patients in care

The study also evaluated the differences in the two hospitals on how nurses involved patient in the care. The findings showed that there was significant difference (p<0.05) in Kiambu on whether nurses enquired about patient perspectives in care and their perspectives on patient involvement in decision making while there was no significant difference (P>0.05) in Thika. On whether the nurses involved patients in decision making, there was no significant difference (p>0.05) in both hospitals. The results are shown in Table 28

Table 28: Differences between Kiambu and Thika hospitals on how nurses involved patients in care

Patient involvement		Kiambu		Thika		Statistical Test Kiambu	Statistical Test Thika
		Pre-Test % (n)	Post-Test % (n)	Pre-Test % (n)	Post-Test % (n)		
Do you enquire about patients' perspective in	Y	71 % (49)	94.6% (55)	84.4% (65)	85.5% (59)	χ2 value=11.494 df=1 p=0.001(p<0.05)	χ2value=0.034 df=1 p=0.854 (p>0.05)
	N	29% (20)	5.4 % (3)	15.6% (12)	14.5% (10)		
Should patients be involved in decision	Y	71% (49)	96.5% (56)	88.3% (68)	89.9% (62)	χ2value =14.058 df=1 p=0.000(p<0.05)	χ2value =0.089 df=1 p=0.766 (p>0.05)
	N	29% (20)	3.5% (2)	11.7% (9)	10.1% (7)		
Do you involve patient in clinical decisio	Y	62.3% (43)	77.2% (44)	59.7% (46)	75.4% (52)	χ2value=3.231 df=1 p=0.072(p>0. 05)	χ2value =4.024 df=1 p=0.045(p>0.05)
	N	37.7% (26)	22.8% (13)	40.3% (31)	24.6% (17)		

KEY: Y=YES: N=NO

4.8. Evaluation of the Effect of Integrating Orem's Theory on Patients Participation

Chi square test of significance was used to determine whether use of Orem's theory which emphasized patients' participation in care brought any significance difference between Kiambu and Thika hospitals on patients' perspectives about their involvement in the care.

4.8.1. Evaluation of the differences between Kiambu and Thika hospitals on patients' perspectives about level of participation in the care

On the patient's perspectives about the level of participation in their own care, the study findings showed there was significant difference (P<0.05) on the way the nurses involved the patient in their own care on all the variables evaluated for both hospitals. Majority of the patients (72% in Kiambu and 82.1% in Thika) had disagreed that the nurses introduced themselves to them during the pretest. However during the post-test, though still majority (60.8% and 48.1%) of the patients disagreed with this statement the decline was statistically significant (p<0.05). On whether nurses explained fully to the patients the nature of treatment, majority of the patient agreed to this statement during the pre-test in both hospitals. However during the post test, an increase was noted in Kiambu in the number of patients who agreed to the statement, and this was there statistically significant (p<0.05). In Thika however, there was a decline which was also significant (p<0.05). The same trend was observed on whether nurses enquired about patient progress with a positive change in Kiambu and a decline in Thika on the number of patients who agreed to the statement and this also was statistically significant (p<0.05). The findings are as shown in Table 29.

Table 29: Difference between Kiambu and Thika on patients' participation in care

Variable		Kiambu		Thika		Statistical Test Kiambu	Statistical Test Thika
		Pre-Test % (n)	Post-Test % (n)	Pre-Test % (n)	Post-Test % (n)		
Nurse introduced herself or himself to patient	N	15.% (21)	10.8% (14)	1.5% (2)	8.4% (11)	$\chi2$value=12.345 df= 2 P=0.002p<0.05	$\chi2$value=34.476 df= 2 P=0.000p<0.05
	SD &D	72.% (96)	60.8% (79)	82.1% (110)	48.1% (63)		
	AS &A	11.% (15)	28.5% (37)	16.4% (22)	43.5% (57)		
Nurse explained fully the nature of my treatment	N	22.9% (30)	8.5% (11)	11.2% (15)	18.6% (24)	$\chi2$value=19.967 df= 2 P=0.000p<0.05	$\chi2$value=9.128 df= 2 P=0.010p<0.05
	SD &D	21.% (28)	10% (13)	11.2% (15)	20.9% (27)		
	AS &A	56.1% (67)	72.3% (94)	77.6% (104)	60.5% (78)		
Nurse informed me of my responsibility in the recovery process	N	25.8% (34)	6.9% (9)	3.0% (4)	13.8% (18)	$\chi2$value=19.325 df= 2 P=0.000p<0.05	$\chi2$value=20.509 df= 2 P=0.000p<0.05
	SD &D	23.5% (31)	20.8% (27)	39.6% (53)	18.5% (24)		
	AS &A	50.8% (67)	72.3% (94)	57.5% (77)	67.7% (88)		
Nurse demonstrated to patient what to do	N	25% (33)	5.4% (7)	15% (20)	10.7% (14)	$\chi2$value=20.072 df= 2 P=0.000p<0.05	$\chi2$value=25.519 df= 2 P=0.000p<0.05
	SD &D	20.5% (27)	21.5% (28)	45.5% (61)	19.8% (26)		
	AS &A	54.5% (72)	73.1% (95)	53% (71)	56.2% (91)		

Variable		Kiambu		Thika		Statistical Test Kiambu	Statistical Test Thika
		Pre-Test % (n)	Post-Test % (n)	Pre-Test % (n)	Post-Test % (n)		
Nurse allowed me make decision about my care	N	28% (37)	19.4% (25)	12.7% (17)	26.7% (35)	χ2value=39.223 df= 2 P=0.000p<0.05	χ2value=38.435 df= 2 P=0.000p<0.05
	SD &D	53% (70)	24.8% (32)	69.4% (93)	56.9% (74)		
	AS &A	18.9% (87)	55.8% (72)	17.9% (24)	42% (35)		
Nurse enquired about my progress in care	N	14.4% (19)	6.2% (8)	2.2% (3)	6.2% (8)	χ2value=14.719 df= 2 P=0.001p<0.05	χ2value=9.804 df= 2 P=0.007p<0.05
	SD &D	19.7% (26)	7.7% (10)	0.8% (2)	6.9% (9)		
	AS &A	65.9% (87)	86.2% (112)	97% (129)	86.9% (113)		
Discussed with the nurse activities I can do and those I cannot do	N	38.6% (51)	22.5% (29)	5.2% (7)	20.6% (27)	χ2value=14.022 df= 2 P=0.001p<0.05	χ2value=57.786 df= 2 P=0.000p<0.05
	SD &D	28 % (37)	21.7% (28)	78.4% (105)	32.1% (42)		
	AS &A	33.3% (44)	55.8% (72)	16.4% (22)	47.3% (62)		

Key: N=Neutral, SD=Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree

4.8.2. Evaluation of the differences between Kiambu and Thika hospitals on Nurses level of satisfaction

On the level of nurses' satisfaction the study findings showed no significant differences (p>0.05) in both hospitals on the satisfaction with the care they provide to patients and with the utilization of the nursing process. Findings also revealed significant difference (p<0.05) in the overall satisfaction with care

in both hospitals. However there was significant difference (p<0.05) in Kiambu on the satisfaction with the level of patient participation while in Thika hospital this was not significant (p<0.05). On the support received from management there was significant difference (p<0.05) in Thika unlike in Kiambu where there was no significant difference. This is as shown in Table 30.

Table 30: Differences between Kiambu and Thika hospitals on Nurses level of satisfaction

Level of nurses satisfaction		Kiambu		Thika		Statistical test Kiambu	Statistical test Thika
		Pre-test % n)	Post-test % (n)	Pre-test % (n)	Post-test% (n)		
Satisfaction with the nursing care	S	56.5% (39)	43.9% (25)	41.6% (32)	52.2% (36)	χ2 value= 2.002 df= 1 P=0.157p>0.05	χ2 value=1.648 df= 1 P=0.199p>0.05
	D	43.5% (30)	56.1% (32)	58.4% (45)	48.8% (33)		
Satisfaction with the nursing process	S	68.1% (47)	61.4% (35)	48.1% (37)	68.1% (47)	χ2 value=0.619 df= 1 P=0.431p>0.05	χ2 value=5.996 df= 1 P=0.014p<0.05
	D	31.9% (22)	38.6% (22)	51.9% (40)	31.9% (22)		
Satisfaction with patient participation	S	73.9% (51)	56.1% (32)	70.1% (54)	72.5% (50)	χ2 value=4.386 df= 1 P=0.036p<0.05	χ2 value=0.097 df= 1 P=0.756p>0.05
	D	26.1% (18)	43.9% (25)	29.9% (23)	27.7% (19)		
Satisfaction management support	S	52.2% (36)	59.6% (34)	54.5% (42)	71% (54)	χ2 value=0.706 df= 1 P=0.401p>0.05	χ2 value=4.204 df= 1 P=0.040p<0.05
	D	47.8% (33)	40.4% (23)	45.5% (35)	29% (20)		
Satisfaction with the overall quality of nursing care	S	76.8% (53)	59.6% (34)	52.6% (40)	82.6% (57)	χ2 value=4.302 df= 1 P=0.038p<0.05	χ2 value=14.676 df= 1 P=0.000p<0.05
	D	23.2% (16)	40.4% (23)	47.4% (36)	17.4% (12)		

Key: S=Satisfied: D=Dissatisfied

4.8.3. Logistic Regression Model Test on Predictors of Nurses Satisfaction

Logistic regression model was used to determine predictors of satisfaction at post-test by nurses. In this model the hospital, nurses qualification, years of experience, being trained on the nursing process and the job title were used as the dependent variables. The findings revealed that most of the variables evaluated were not significant predictors of satisfaction at post-test. The factors that were significant were that, nurses aged below forty (40) years were more likely to be satisfied with the support from management (**OR** 5.809, **95% CI** 1.049-32.187**).** On the overall satisfaction with quality of care, the results also showed that nurses in Kiambu were less likely to be satisfied with the overall quality of care (**OR** 0.356, **95% CI** 0.151-0.840). This is shown in table 31

Table 31: Logistic regression model test on predictors of nurses' satisfaction

Dependent Variable	Independent variable	Wald statistics	OR	P Value	95% CI
Nurses satisfaction with quality of nursing care they were providing	Hospital (Kiambu ref)	0.812	0.709	0.368	0.336-1.498
	Nurses qualification (diploma ref)	0.101	1.141	0.751	0.506-2.571
	Years of experience (<10yrs ref)	0.783	0.565	0.376	0.160-2.000
	Age (<40years ref)	1.085	2.002	0.298	0.542-7.393
	Trained on Nursing process (ref yes)	0.229	0.741	0.632	0.218-2.524
	Job title (ref registered nurse)	0.088	1.180	0.766	0.397-3.508
Nurses satisfaction with the nursing process	Hospital (Kiambu ref)	0.118	0.872	0.731	0.399-1.904
	Nurses qualification (diploma ref)	0.176	1.205	0.675	0.504-2.882
	Years of experience (<10yrs ref)	0.557	1.630	0.455	0.452-5.883
	Age (<40years ref)	0.150	1.296	0.698	0.349-4.813
	Trained on Nursing process (ref yes)	0.451	0.647	0.502	0.182-2.306
	Job title (ref registered nurse)	0.100	0.831	0.752	0.263-2.624
Nurses satisfaction with the use of nursing theory	Hospital (Kiambu ref)	0.017	0.945	0.896	0.404-2.210
	Nurses qualification (diploma ref)	0.099	1.160	0.753	0.460-2.923
	Years of experience (<10yrs ref)	0.000	0.995	0.995	0.233-4.257
	Age (<40years ref)	0.095	1.267	0.758	0.281-5.716
	Trained on Nursing process (ref yes)	0.154	0.746	0.695	0.172-3.233
	Job title (ref registered nurse)	0.487	0.632	0.485	0.175-2.291
Nurses satisfaction with the level of patient participation in care	Hospital (Kiambu ref)	2.307	0.544	0.129	0.248-1.193
	Nurses qualification (diploma ref)	0.688	01.457	0.407	0.598-3.550
	Years of experience (<10yrs ref)	0.434	1.549	0.510	0.422-5.689
	Age (<40years ref)	0.181	1.337	0.671	0.351-5.100
	Trained on Nursing process (ref yes)	0.193	0.749	0.660	0.207-2.714
	Job title (ref registered nurse)	0.735	0.591	0.391	0.178-1.967
Nurses satisfaction with the support from management in the application of the nursing process	Hospital (Kiambu ref)	0.558	0.737	0.455	0.331-1.642
	Nurses qualification (diploma ref)	0.340	0.767	0.560	0.314-1.872
	Years of experience (<10yrs ref)	0.875	0.456	0.349	0.088-2.360
	Age (<40years ref)	4.057	5.809	0.044	1.049-32.187
	Trained on Nursing process (ref yes)	2.350	0.314	0.125	0.071-1.381
	Job title (ref registered nurse)	0.180	0.768	0.672	0.226-2.605
Nurses satisfaction with the overall quality of care	Hospital (Kiambu ref)	5.559	0.356	0.018	0.151-0.840
	Nurses qualification (diploma ref)	1.012	0.597	0.314	0.219-1.630
	Years of experience (<10yrs ref)	0.692	0.491	0.405	0.092-2.620
	Age (<40years ref)	2.329	3.798	0.127	0.684-21.084
	Trained on Nursing process (ref yes)	0.160	0.751	0.689	0.184-3.061
	Job title (ref registered nurse)	0.189	1.333	0.664	0.365-4.876

4.8.4. Differences between Kiambu and Thika hospitals on patients' level of satisfaction with the care

The study findings showed significant difference (p<0.05) between pretest and post- test on the satisfaction with the information patient received on admission and satisfaction with the orientation in the ward in both hospitals. However there was no significant difference (p>0.05) in Kiambu hospital on the overall satisfaction with the quality of nursing care and on whether patient would recommend someone to the same ward. This is shown in Table 32.

Table 32: Differences between Kiambu and Thika hospitals on patients' level of satisfaction with the care

Patients' level of satisfaction		Kiambu Hospital		Thika Hospital		Statistical Test-Kiambu	Statistical Test - Thika
		Pre-Test % (n)	Post-Test % (n)	Pre-Test % (n)	Post-Test % (n)		
Satisfied with the information received on admission	N	43.9% (58)	11.5% (15)	11.2% (15)	12.2% (16)	χ^2value=73.394 df= 2 P=0.000p<0.05	χ^2value=22.205 df= 2 P=0.000p<0.05
	D& SD	33.3% (44)	13.1% (17)	38.8% (48)	11.5% (15)		
	A& SA	22.7% (30)	75.4% (98)	53% (71)	76.3% (100)		
Satisfied with orientation in the ward	N	30.3% (40)	13.1% (17)	3.0% (4)	19.1% (25)	χ^2value=22.401 df= 2 P=0.000p<0.05	χ^2value=20.349 df= 2 P=0.000p<0.05
	D& SD	35.6% (47)	24.6% (32)	74.6% (100)	8.4% (11)		
	A& SA	34.1% (45)	62.3% (81)	22.4% (30)	72.5% (95)		
I feel satisfied with the quality of nursing care have received	N	24.2% (32)	23.1% (36)	6.7% (9)	17.6% (23)	χ^2value=0.166 df= 2 P=0.920p>0.05	χ^2value=7.996 df= 2 P=0.018p<0.05
	D& SD	15.9% (21)	17.7% (23)	9.7% (13)	11.5% (15)		
	A& SA	59.8% (79)	59.2% (77)	83.6% (112)	71% (93)		
Patient would recommend someone else to same ward	N	11.4% (15)	13.8% (18)	4.5 % (6)	16% (21)	χ^2value=0.368 df= 2 P=0.920p>0.832	χ^2value=9.662 df= 2 P=0.000p>0.05
	D& SD	21.2% (28)	20.8% (27)	15.7% (21)	13.7% (18)		
	A& SA	67.4% (89)	65.4% (85)	79.9% (107)	70.2% (92)		
Patient would like to be readmitted the same ward if falls sick again	N	25.8% (34)	8.5% (11)	4.5% (6)	17.6% (23)	χ^2value=14.087 df= 2 P=0.001p>0.05	χ^2value=12.523 df= 2 P=0.002p>0.05
	D& SD	25.8% (34)	28.4% (37)	14.9% (20)	16.8% (22)		
	A& SA	48.5% (64)	63.1% (82)	80.6% (108)	65.6% (86)		

4.8.5. Logistic Regression test for patient's satisfaction

Logistic regression model was used to determine predictors of patient satisfaction at post-test. The findings from the study showed that females were more likely to be satisfied with the introduction they received in the ward (**OR** 1.82, **95% CI** 1.074 - 3.3098) compared to their male counterparts. Also patients with primary level of education were less likely to be satisfied with the information received on introduction (**OR** 0.568, **95% CI** 0.334 – 0.967). On the same note being in Kiambu the patient was less likely to be satisfied with the introduction (**OR** 0.483, **95% CI** 0.284 -0.821). On the satisfaction with the orientation in the ward female patients were less likely to be satisfied (**OR** 0.428, **95% CI** 0.250-0.734). The findings are as shown in Table 33.

Table 33: Logistic regression test for patient satisfaction

Dependent Variable	Independent variable	Wald statistics	OR	P Value	95% CI
Satisfaction with introduction received in the ward	Level of education (Primary ref)	4.343	0.568	0.037	0.334 – 0.967
	Sex of the patient (Female ref)	4.944	1.824	0.026	1.074 -3.3098
	Hospital (Kiambu ref)	7.238	0.483	0.007	0.284 -0.821
Satisfaction with the information received on admission	Level of education (Primary ref)	0.004	0.982	0.949	0.554-1.739
	Sex of the patient	0.606	0.796	0.436	0.449-1.413
	Hospital (Kiambu ref)	0.007	0.976	0.935	0.551-1.731
Satisfaction with orientation in the ward	Level of education (Primary ref)	4.504	1.817	0.034	1.047-3.154
	Sex of the patient	9.546	0.428	0.002	0.250-0.734
	Hospital (Kiambu ref)	2.404	0.652	0.121	0.380-1.120
The nurse fully explained to me the nature of my treatment	Level of education (Primary ref)	1.223	1.354	0.269	0.791-2.319
	Sex of the patient	0.046	0.943	0.830	0.551-1.613
	Hospital (Kiambu ref)	1.009	1.314	0.314	0.771-2.240
Satisfaction with admission in the ward	Level of education (Primary ref)	0.004	0.982	0.949	0.554-1.739
	Sex of the patient	0.606	0.796	0.436	0.449-1.413
	Hospital (Kiambu ref)	0.007	0.976	0.935	0.551-1.731
Patient would recommend someone in the ward	Level of education (Primary ref)	3.710	1.705	0.054	0.991-2.993
	Sex of the patient	4.995	0.545	0.025	0.320-0.928
	Hospital (Kiambu ref)	0.471	0.830	0.492	0.487-1.414
Patient would like to be readmitted in the ward	Level of education (Primary ref)	2.516	1.528	0.113	0.905-2.580
	Sex of the patient	5.029	0.553	0.025	0.329-0.928
	Hospital (Kiambu ref)	0.063	0.936	0.936	0.557-1.571

4.9. Nurses Perspectives on Nursing Leadership Role on the Nursing Process

In order to evaluate the role of leadership in the application of nursing process, nurses

were asked to indicate their perspective towards the role of the nursing leadership.

From the study findings, majority of the nurses agreed that the nursing administration

support the application of nursing process and nursing care plan in patient care. Interestingly, they were all in common agreement that the management should not overemphasis the use of nursing process, and that shortage of nurses is a big hindrance to the nursing process implementation.

A chi square test was used to evaluate the relationship between pre-test and post-test. The study revealed a significant difference (p<0.05) on the variables that shortage of nurses is a big hindrance to nursing process implementation whereby fewer nurses agreed to this during the post –test indicating a change of attitude. On whether the management should find a better method of nursing care other than the nursing process, majority agreed to this which was highly significant (p>0.05) with majority in the post test agreeing to this. This is as shown in Table 34

Table 34: Nurses perspectives on nursing administration role on the nursing process

Variable		Study Group		Statistical test
		Pre-test % (n)	**Post- test % (n)**	
Nursing administration should not overemphasis use of nursing process	Strongly agree and Agree	93.2% (136)	85.7% (108)	χ2 value=4.124 df= 2 P=0.127p>0.05)
	Neutral	3.4% (5)	7.9% (10)	
	Strongly disagree and disagree	3.4% (5)	6.3% (8)	
Nursing administration support application of Nursing process and nursing care plan in patient care	Strongly agree and Agree	54.1% (79)	59.5% (75)	χ2 value=1.037 df= 2 P=0.433p>0.05
	Neutral	4.8% (7)	3.2% (4)	
	Strongly disagree and disagree	41.1% (60)	37.3% (47)	
Shortage of nurses is a big hindrance to nursing process implementation	Strongly agree and Agree	95.2% (139)	88% (110)	χ2 value=6.334 df= 2 P=0.042p<0.05
	Neutral	1.4% (2)	7.2% (9)	
	Strongly disagree and disagree	3.4% (5)	4.8% (6)	
Management should find a better method of nursing care other than the nursing process	Strongly agree and Agree	32.2% (47)	54.8% (69)	χ2 value=14.110 df= 2 P=0.001p<0.05
	Neutral	29.5% (43)	19% (24)	
	Strongly disagree and disagree	38.4% (56)	26.2% (33)	

4.9.1. Structure audit on the nurse patient ratio

The researcher sought to evaluate the level of staffing as a factor influencing the use of the nursing process. The nursing council of Kenya recommendations on nurse: patient ratio was used to calculate the ratios in each ward. The council recommends a nurse patient ratio of 1:6 in the medical wards and a ratio of 1:5 in the surgical wards (including gynaecology) and pediatrics ward. The findings revealed that none of the wards had complied with the Nursing council recommended nurse patient ratio. The highest nurse patient ratio was observed in the pediatric wards with a ratio of 1:22 and 1:27 in Kiambu hospital, while in Thika Hospital the ratio was 1:16 and 1: 21 in both pre-test and post-test respectively. This was followed by the male surgical wards in both hospitals where the rations were above 1: 10 in both pretest and post-test. These observational results are shown in Table 35.

Table 35: Structure audit for Kiambu and Thika hospitals nurse patient ratio

Kiambu Hospital

	Pretest			Post test		
	Number of patients	Number of nurses	Nurse patient ratio	Number of patients	Number of nurses	Nurse patient ratio
Male surgical	37	14	1:11	50	13	1:17
Female surgical	32	13	1: 10	30	11	1:13
Male medical	27	13	1:9	35	11	1:15
Female medical	23	13	1: 8	30	11	1:13
Pediatrics	74	14	1: 22	80	13	1:27
Gynaecology	17	13	1:6	25	12	1:9

Thika Hospital

Ward	Pretest			Post test		
	Number of patients	Number of nurses	Nurse patient ratio	Number of patients	Number of nurses	Nurse patient ratio
Male surgical	41	14	1:12	34	14	1:10
Female surgical	24	14	1:7	24	13	1:8
Male medical	26	15	1:7	36	14	1:11
Female medical	28	13	1:9	30	13	1:10
Pediatrics	65	16	1:16	70	14	1:21
Gynaecology	23	11	1:10	30	11	1:13

4.9.2. Audit of the structure criteria on the management role in application of the nursing process

The support from management was evaluated by an observational checklist on the items of the structure criteria which is solely a management role. The findings showed that the management had ensured that every patient file had a care plan to

facilitate the application of the nursing process. There was an overall hospital quality team but in the specific ward this was no ward quality team. During the pretest it was observed that there was nursing process supportive team in both hospitals that provided supervision but this was not so during the post test. There was also no availability of a written policy in the ward on the use of the nursing process. This is shown in Table 36.

Table 36: Audit of the structure criteria

Item	Kiambu		Thika	
	Pretest	Post test	Pretest	Post test
Availability of care plans	Yes	Yes	Yes	Yes
Availability of policy statement on Nursing Process	No	No	No	No
Hospital Quality team	Yes	Yes	Yes	Yes
Nursing process supportive supervision	Yes	No	Yes	No
Ward Quality team	No	No	No	No

5. CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

In this chapter, findings of this study are discussed in line with the objectives of the study. Comparison of the pre-test and post-test findings and also the difference between the Kiambu and Thika hospitals where the studies were carried out has also been made. The results of the study have also been compared with other study findings both locally and internationally. Conclusions from the study findings, recommendations and areas for further research have also been outlined in this chapter

5.2. Discussion
5.2.1. Demographic findings of nurses

The study findings revealed that majority of the respondents were female and men accounted for only 13% in pretest and 13.5% in the post test.. These findings are in line with a study done by the Kenya nursing workforce that showed that out of the 16,371 nurses in the public non-tertiary sector, 76% are women , meaning only 24% are men (Wakaba, Mbindyo, Ochieng et.al, 2014). This shows that the nursing profession in Kenya is still having less male compared to female despite the long existence of nursing as a profession in this country.

The issue of female dominating nursing profession has also been reported elsewhere. Similar findings were reported in Canada by Kellett, Gregory, & Evans (2014). In their study on contextualizing the low numbers of men in nursing, they reported that the proportion of men practicing nursing has persistently remained low despite the relative progress noted in the proportion of women entering professions that were previously the realm of men. This has been significantly attributed to the patriarchal

power structures that situate care giving within the realm of the famine.

On age majority of the nurses in this study were aged below 40 years. This contrasted the findings of the Kenya nursing workforce that showed that majority of nurses were aged between 40-49 years (Wakaba, Mbindyo, Ochieng et.al, 2014). This indicates that, younger nurses are joining the nursing fraternity compared to the attrition rate.

On designation majority of the nurses were registered nurses accounting for 63.7% and 77% in the pretest and post- test respectively. These results are comparable to the Kenyan work force finding that revealed that majority of the nurses were registered nurses at 53% (Wakaba, Mbindyo, Ochieng et.al, 2014). Similar findings were also observed in a study in Naivasha on the implementation of the nursing process. The findings also revealed that majority of the nurses in that study had a diploma (Mangare, Omondi, Ayieko, Wakasiaka, & Wagoro (2016).This high number of diploma holders in Kenya could be attributed to the nursing council of Kenya's effort to upgrade the certificate nurses to diploma level.

5.2.2. Nurses knowledge of the nursing process

Safe and high quality health care is underpinned by health care professionals possessing the knowledge, skills and professional attributes which are necessary for their specific clinical specialty and area of practice. Education is crucial as it enables clinicians to learn and put into practice their specialist knowledge, skills and attributes. These elements will be based on clinical standards, which set the agenda for quality and safety in health care (Baid & Hargreaves, 2015).

In this study the nurses' knowledge of the nursing process was used as a measure of

quality. The respondents were asked to outline the steps of the nursing process before and after the training on the nursing process. The data showed that during the pre-test those who outlined the steps of the nursing process correctly were 52.1% in the pretest while the post- test 84.9% outlined the steps and this was statistically significant (p<0.05). This showed that the training had a significant change on the knowledge of the nursing process which is a major prerequisite to its utilization in patient care.

These findings compares with a study carried out in two hospitals in Saudi Arabia which revealed that majority of nurses had good knowledge of the nursing process (NP) from attended colleges as well as from seminars and workshops. (Mahmoud & Bayoumy, 2014a).It also compares with a qualitative study done in Brazil which revealed that nurses had theoretical knowledge on the meaning of the steps the nursing process after training and they were competent to carry them out successfully (Enfermagem, 2012).

The relationship between knowledge and use of the nursing process was also identified in a study in Namibia. The study evaluated the relative contributions of the four predictor variables to the use of nursing process (knowledge factor, institutional factor, professional factor and attitude factor).The result concluded that the knowledge factor has the most important influence on the use of nursing process (Iita, Iipinge, & Dyk, 2016). Hence the importance that training improves the knowledge in provision of quality of care cannot be over emphasized.

5.2.3. Utilization of the nursing process in the care of patients

On utilization of the nursing process the current study showed that during the pre-test,

(71.9% reported to utilize the nursing process but during the post-test 86.5% reported that they utilized the nursing process in patient care which was significant (p<0.05). This was supported by a study done in Rwanda that revealed that Knowledge and training will increase the utilization of care plans by nurses' and they will add to the existing quality improvement in clinical practice in the hospitals (Banamwana & Mandy, 2015).

The findings also compares with a study carried out among nurses in Najran General Hospital and King Khalid Hospital Saudi Arabia which showed that majority reported confidence in ability to apply nursing process and good understanding as well as willingness to apply the nursing process in patients care after training (Mahmoud & Bayoumy, 2014a). Therefore training of nurses is a major component in improving the use of the nursing process and hence improving the overall quality of nursing care.

The relationship between knowledge and utilization of nursing process is also supported by a report in Brazil that revealed that many health institutions haven't adopted the nursing process as an organization method of providing care due to poor theoretical and practical knowledge of nurses on the nursing process (Enfermagem, 2012).

According to Mahmoud & Bayoumy (2014a), the use of nursing care plans within nursing process is geared to move toward a more systematic approach to human needs assessment. They also stated that, nursing care plan support practice modalities by meeting physical, psycho- logical, social and spiritual needs of patients resulting in quality nursing care. The findings of the current study showed that during the pre-test

those who outlined the steps of the nursing process correctly were 52.1%. After the training those who were able to correctly outline all the steps of the nursing process rose to 84.9 % which was statistically significant (p<0.05).

However despite the significance change in knowledge there was no change in the number of care plans drawn for the patients. The findings showed that majority of the nurses drew care plans for between 0-2 patients in both pre-test and post- test which was 54.8% and 52.4% respectively. Also the checklist that audited the care plan in patients' files did not reveal a positive change in the use of care plans by the nurses.

The findings were consistent with those of a study carried out in Kenya at Naivasha hospital to evaluate the implementation of the nursing process which found out that, nurses had difficulties performing all the phases of the nursing process (assessment, diagnosing, goal identification, planning, implementing, evaluation and documentation) although the nurses had reported that they find all of them easy (Mangare, Omondi, Ayieko, Wakasiaka, & Wagoro (2016).

Similar findings were also observed in a study conducted in Rwanda which revealed that most nurses (96%) felt that the use of nursing care plans increased the nurses' ability to provide high quality care; but only 16% of the audited files had evidence of a care plan (Banamwana & Mandy, 2015).

The inverse relationship between training and practical application of knowledge was also observed in a study conducted in India. The study was on the limits of skills and drills of the practitioners on the interventions to improving obstetric and newborn emergency response. The study findings revealed that there was a modest increase in

provider knowledge and skills, but the intervention appeared not to have achieved its desired results in improvements in clinical practice, either in the identification of cases in need of emergency intervention or in improved response to identified emergencies. Hence other factors could be contributing to the poor skill application need to be investigated in order to align knowledge to practice.

Contrary to the above findings, study by Adeyemo & Olaogun, (2013) on the factors influencing the nursing process in Nigeria found out that, the introduction of educational programmes enhanced nurses' ability to use nursing the process to improve the quality of patient's care. This therefore calls for health care organizations who intend to use the nursing process as model of providing quality nursing care to plan for training programmes that would equip the nurses with the knowledge and hence improve quality. At the same time concurrent nursing audit modalities and corrective measures need to be put in place to ensure practical application of knowledge

The application of the nursing process was assessed by auditing the care plans in the patients' file. The audit showed that the documentation of assessment data was done well 76.7% of the files audited during pretest and 91.3% during post-test showing a significant positive relationship (p<0.05). This meant that the nurses were knowledgeable of the assessment step of the nursing process and the training also enhanced this step greatly. These findings contrasts those of a study done in Namibia where by the areas of concern were found to be in assessment and planning (Iita et al., 2016).

The findings also showed that despite the increase in the documentation of assessment

data, diagnosis was derived from the health assessment in only 28% of the files audited and nursing interventions in only 22,3% . This showed a lack of linkage between documentation of nursing diagnoses and interventions. The findings were similar to those of the study in Namibia on the challenges faced by nurses on the utilization of the nursing process which showed that there was a systematic failure on the use of the nurses process whereby the assessment data did not derive the development of the nursing diagnosis (Iita et al., 2016).

5.2.4. Nurses satisfaction with the quality of care

Health worker satisfaction with the services they provide is key to the efficiency and effectiveness of the services which translates to quality health care. From the findings for both pre-test and post-test, majority of nurses reported satisfaction with the care provided to patient, utilization of the nursing process, level of patient satisfaction and with the overall quality of care. These findings were consistent with studies carried out in three Nordic countries (Norway, Sweden and Finland) on nurses level of satisfaction which revealed that most registered nurses were satisfied with their work and would also recommend other colleagues to work in those areas (Lindqvist et al., 2014).

Logistic regression model (Table 33) was used to determine the predictors of satisfaction with nursing process The findings showed that years of experience was not a predictor of satisfaction (**OR**1.630, **CI** 0.452-5.883, **p**<0.05). These findings contrasts a study in Namibia which showed that registered nurses who had worked for four to ten years at a health facility were rated as doing well, followed by those who had worked at a health facility for more than ten years, while those who worked for

three years or less at a health facility performed the lowest (Iita et al., 2016).

Therefore identifying the factors that can predict satisfaction are important because satisfaction of internal customers is also critical in providing quality care. This was also found out in a study in Manipur India which found out that high job satisfaction among the employees is a precondition for increasing their productivity and also is key to quality customer service. He also emphasized that positive performance of employee in the organisation is an outcome of his satisfactory job experience (Singh, n.d, 2013).

5.2.5. Nurses attitude towards the nursing process

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. Applying nursing process requires understanding of factors affecting its implementation from the perspective of nurses (Mahmoud & Bayoumy, 2014a). The findings of this study revealed that during the pretest, majority of the nurses (49.3%) agreed that nursing process should be applied to all patients while during the post-test majority (54%) disagreed with this statement. Also during the pretest majority (50%) agreed that formulating nursing diagnosis should not be mandatory, while during the post-test 39.8% disagreed with this statement.

Majority of nurses had commonly high agreements in both pre-test and post-test that application of nursing process is cumbersome (56.2% and56.1%), it should not be mandatory to draw a nursing care plan (49.3% and 44.8%), nursing care plan should be drawn for the very sick patients only (69.2% and 64.8%) and that writing a care plan is a burden to nurses (40.4%, and 40%).

122

A chi square test was used to determine the difference between the variables. The analysis showed that there was no significance difference (p>0.05) in both the pre-test and post-test in the following variables: Application of nursing process is cumbersome, it should not be mandatory to draw a nursing care plan, nursing care plan should be drawn for the very sick patients only, nursing process should not be applied to all patients and writing a care plan is a burden to nurses. These results are comparable with study results regarding barriers associated with nurses" perceptions and experiences in Cairo by Mahmoud & Bayoumy, (2014b) which revealed that majority of the study group reported dissatisfaction with the nursing process content,, lack of interest in its use in patients care, not being able to follow patients, a nurse not seeing any purpose for writing the care plan and lack of cooperation among nurses as some of the barriers to application of the nursing process.

However there was significant difference (p<0.05) on the variable that formulating nursing diagnosis should not be mandatory majority whereby majority of the nurses during the pre-test had agreed while during the post-test majority of the nurses disagreed with this statement. The findings also compares with the findings of a study in Kenya on the mainstreaming Kenya nursing process in clinical setting that showed the training of nurses on the nursing process brought a positive change of attitude towards the nursing process among nurses and students (Carole, Wagoro, & Podo, 2015).

Therefore this perspective of nurses towards the nursing process can highly influence their application and use of the nursing process, as a tool to provide quality care. This association is also reported in a study carried out in rural Bangladesh which found out that the most powerful predictor for client satisfaction with services was provider

attitude or behavior, especially showing respect and politeness for patients (Rasheed et al., 2012).

5.2.6. Patient satisfaction with the nursing care

Patients' satisfaction with nursing care has been reported as the most important predictor of the overall satisfaction with hospital care and an important goal of any health care organization (Akhtari-Zavare, Abdullah, Syed Hassan, Said, & Kamali, 2010). The findings of the current study revealed that Majority of the patients in both study groups were satisfied with the information received on admission, satisfied with orientation and with the overall quality of nursing care they received.

This compares with findings of a study done in Tehran hospital in Iran that revealed that a vast majority (82.8%) of the respondents were satisfied with almost all aspects of nursing care they received (Akhtari-Zavare et al., 2010). The findings are also comparable to a study carried out in Jordan that revealed that 77% of the respondents were satisfied with the care they were receiving from Nurses (Alasad, Ahmad, Alasad, & Ahmad, 2009).

A study in Brazil showed similar findings on the patients' perspectives towards the nursing care they were receiving. The study revealed high level of patient satisfaction with the care they were receiving from the nurses in all the nursing domains evaluated (Freitas, Silva, Minamisava, Bezerra, & Sousa, 2014). Therefore satisfaction of the external customers (in this case patient) is key to quality health care outcomes that management should critically look at.

According to Kenya Institute of management (2009), one of the most critical quality management concepts is the customer satisfaction and therefore its importance in the

quest of quality cannot be underestimated. Studies have shown that dissatisfied customers talk more than satisfied customers Therefore addressing the needs of the customer is critical since quality is usually measured from the customers' perspective. Marquis (2012) also added that a key quality indicator is meeting and even exceeding customer expectations especially in health care institutions where in most cases the purchaser of the services is rarely the consumer.

Logistic regression used to evaluate the predictors of patient satisfaction. The study found out that patients with primary level of education were less likely to be satisfied with the information received on introduction (**OR** 0.568, **95% CI** 0.334 – 0.967). This could be attributed to their low level of education and inability to know their rights. These findings compares with the results of a study carried out in Germany which found out that what influenced patients perception of individualized quality care was their level of education and the perceived decision-making process (Köberich, Feuchtinger, & Farin, 2016).

Arije, (2016) also found out that when consumers of health care were aware of their rights and provided with several alternatives on where to receive health care, they tended to opt for services they perceived to be of high quality and this improved their satisfaction. Therefore ensuring an educated population and providing the information required for patients to make informed decisions would enhance their perception of quality and also appreciate it.

5.2.7. Patient participation in their care

According to (Freitas et al, 2014) nurses enhances patient participation in their care by providing information through education activities a practice which is being

125

encouraged nowadays. They further added the satisfaction of the patient with the educational information is an indicator of nursing care quality. The findings of this study revealed that Majority of the nurses enquired about patients perspectives in care in both the pre-test and post-test. On whether patients should be involved in decision making regarding their care 80.1% (n=117) agreed, though only 61% stated that they involve patients in decision making in the pre-test. During the post-test, 92.9% (n=117), agreed that patients should be involved in decision making regarding their care, while only 76.2% (n=96) reported to be involving patients in decision making.

These findings are comparable to a study carried out to evaluate patients' participation in clinical decision making by Florin, Ehrenberg, & Ehnfurs (2006) which found out that, Registered nurses did not successfully involve patients in clinical decision making. A study in Germany also found the need to involve patients in decision making since it influenced the patients' perception individualized care. Since this process is actively influenced by nurses they should be encouraged to promote shared decision making with the patient while providing care (Köberich et al., 2016).

The findings were also comparable with another study carried out in Swedish hospital where inadequate quality of care was identified especially on information given about treatment, examination results and opportunities for patient to participate in decisions related to care and information on self-care (Frojd et al, 2011).

In the current study nurses were asked to indicate the areas they involve patients during their care. In both study groups they mainly involved patients in giving

medication and when obtaining consent. This indicates that the medical model still has an influence in the nursing care because most of the decisions on treatment and consent are in the alleviation of pathological problems.

According to Aggleton (2000) the medical model of care views a person as a complex set of anatomical and physiological system. Within this model much of a person social behavior and many psychological processes are thought to have their origins in physiological and biochemical activity. Therefore the nursing intervention are directed towards restoring the physiological and biochemical functioning but not on the individual patient as a whole.

5.2.8. Application of nursing theory as framework for providing care

The nursing frameworks have been identified to play a key role in the articulation of the specific nursing role in the health care system. They have also provided nurse educators and practitioners with direction in their endeavor to guide the nursing profession. The nursing theoretical frameworks have also enabled the nurses themselves understand their role towards the patient and also among the health care team (Bultemeier & Baumann, 2012).

The findings of the current study showed majority of the nurses were in common agreement that ; Nursing theory should be integrated to the nursing process, nursing theories make it easier to utilize the nursing process, inclusion of nursing theory to nursing process would increase the nurse workload, nursing management should formulate policies to incorporate nursing theory to nursing process and that they would recommend all hospitals to integrate nursing theory to nursing process during the pre-and post-test. There was no significant difference (p>0.05) between the

variables in pre-test and post-test. However though majority agreed that nursing theory should be integrated to the nursing process, there was a significant difference (p=0.015) with the majority in pre-test (87%) agreeing to this.

This agrees with the findings by Alligood, (2011). In her study she stated that Knowledge of the nursing theoretical frameworks has contributed greatly to nursing professional practice by guiding the nursing action and thought. This is because that knowledge has made the nurses to shift their focus from nursing functions to providing individualized patient care. Another study of application of Orem's theory to patients found out that using the nursing agency to facilitate decision-making, patients will feel invested in their health care, thus resulting in better outcomes (Shaughnessy, 2014).

Also Aggleton and Chambers, (2000) concluded that until nurses themselves value the unique contribution that they make to health care and the special body of knowledge that informs their practice, the subordinate role adopted by many nurses will continue. This poses many threats to the achievement of high quality care. Therefore since nurses have embraced the concept of nursing theory this goes a long way in improving the practice of nursing as an independent discipline.

5.2.9. Leadership role in quality of care

The influence of the leadership role in quality was evaluated the items of the structure criteria which is the mandate of the hospital management and also through asking the nurses the factors that facilitated and inhibited their application of the nursing process in patient care. The present study findings showed that the major inhibitors of the nursing process utilization were lack of resources and increased workload. Also

majority of the nurses were in common agreement that shortage of nurses was a big hindrance to nursing process implementation.

These results are in comparable with a study carried out in Najran General Hospital and King Khalid Hospital in Saudi Arabia. Sample: The study revealed that 67.6% of nurses agreed upon several resources barriers, which included inadequate staff in the unit, lack of specified nursing care document and education budget, insufficient equipment and absence of supplies and materials. On the other hand, 62.8% of nurses in the same study reported administrative barriers as obstacles for executing the nursing process (Mahmoud & Bayoumy, 2014b).

These findings also compares with a study done in Namibia on application of the steps of the nursing process. The study showed that shortage of registered nurses; registered nurses not provided with the necessary transport needed to carry out their functions ; Registered nurses are not exposed to certain activities for lengthy periods of time, for example outreach; Heavy workload, including large numbers of patients/clients to manage as some of the constraints the nurses faced (Iita et al., 2016)

However the findings contrast those of a study in USA nursing homes that revealed that there was weak relationship between nursing hours spent per resident per day and the adequacy of nursing care process (Hyer, Temple, & Johnson, 2009). Another study in Korea which examined the relationship between nurse staffing and quality of care in Korean hospitals found consistency in the effects of staffing on resident outcomes acceptable (Shin & Hyun, 2015). Interestingly a study done in Norway showed an inverse relationship between the staffing levels and quality of nursing care. The researchers found out that there was no significant change in quality

of care when the ratio of registered nurses was above a certain level. (Havig, Skogstad, Kjekshus, & Romøren, 2011).

In this current study, the support from management was also evaluated by an observational checklist. The findings showed that the management had ensured that every patient file had a care plan. There was a hospital quality team that was not replicated to the ward. During the pretest there was a nursing process supportive team in both hospitals and provided supervision but this was not so during the post test. There was no availability of a written policy in the ward on the use of the nursing process which is critical in ensuring quality of care.

Similar findings were observed in a study in South Africa's hospital on quality of nursing care. The study showed that management strategies such as regular monitoring and feedback to nursing teams, monitoring meetings in the format of perinatal mortality review meetings, and special incentives strategies are indicated for indicated for higher quality of care (Africa et al., 2004). Findings from a study in Nigeria found that Institutional factor ranks the second highest predictive value in the use of nursing process but currently, many institutions do not use nursing process for the care of their clients (Adeyemo & Olaogun, 2013).

The role of the management therefore is critical in provision of quality care since they provide the structures within which patient care is provided. The Kenya institute of management (2009) emphasizes that, because top management create the organization systems that determine how products and services are produced, the quality improvement process must begin with managements' own commitment to total quality management.

5.3. Conclusion

From the study findings, the training of nurses on the nursing process showed significant change on knowledge of the steps of the nursing process and also in the number of nurses who stated that they utilize the nursing process in the care of the patients. Number of patients cared for did not determine the number of patients drawn for care plan though majority stated that workload was a big hindrance to the application of the nursing process. On the other hand training did not show significant difference on the nurses' perspective towards the nursing process. The only significant difference was on whether the formulating of nursing diagnosis should not be mandatory which most nurses in the post test disagreed too. Also the training did not bring a positive change on the use of care plans as was shown from the patients' files audited.

On the nurses perspective towards the nursing theory in both pretest and post test, majority of the nurses were in common agreement that nursing theory should be integrated to the nursing process and that nursing theories make it easier to utilize the nursing process. They also agreed that nursing management should formulate policies to incorporate nursing theory to nursing process and that they would recommend all hospitals to integrate nursing theory to nursing process.

On the application of nursing theory to the nursing process the findings revealed significant change in Kiambu on nurses' perspective about patient involvement in the care. There was also significant difference in Kiambu on the nurses' level satisfaction with the patients' participation in care. Therefore integration of theory to the nursing

process improved patients' level of participation in their own care.

The role of the leadership was critical in ensuring the provision of care as most the hindrance to nursing process application were structure related. The nurses were in agreement that the management supports the use of the nursing process. However they reported that shortage of nurses was a big hindrance to the application of the nursing process and also one of the major hindrances to use of the nursing process was workload. The same was reflected in the structure audit that showed that the nurse patient ratio did not comply with the nursing council recommendation in all the wards. The patients reported satisfaction with the care provided though there was no significant difference between pre-test and post-test. On the level of nurses 'satisfaction, the findings did not reveal significant difference between pre-test and post-test.

5.4. Study Recommendations

5.4.1. Recommendations for practice

Knowledge and practice should go hand in hand in the achievement of quality patient care. This is because nurses reported higher knowledge of the nursing process and also stated to utilize the nursing process but the same was not reflected in the files audited. The study therefore recommends close monitoring of the application of knowledge to practice through frequent retrospective and concurrent nursing audits of the care being provided to patients by the hospital management.

The study also recommends that nursing council the renewal of practice license should not only be based on the number of hours of continuous education but also

include an evaluation of the translation of that knowledge to practice. This can be done by ensuring that the accredited institutions to offer continuous professional education should also give a proficiency examination after training.

The hospitals should also establish quality teams at every level of management up to the ward level in order to ensure that the established policies are implemented at every level. The nurses reported that workload is a major hindrance to the application of the nursing process and also the nurse patient ratio was high. Therefore the hospital should facilitate the recruitment of more nurses in line with the nursing council recommendations of staffing ratios as they endeavor to provide quality nursing care. Also the integration of theory to nursing process brought significant difference on the level of patient participation. The study therefore recommends that the practice of the nursing process should be based on a theoretical model

5.4.2. Recommendations for Policy

Quality of nursing care is key to the positive outcomes in health care and therefore stakeholders' involvement is important in its achievement. The nurses were in common agreement that the use of nursing process is critical and also the need to integrate the theory to the nursing process. This therefore implies that the hospital nursing management, Nursing council as a regulatory body, training institutions and the National Hospital Insurance Fund as the accrediting institution have to work together to ensure that what has been taught is practiced and that quality is regularly evaluated and gaps bridged.

The nursing management at the Ministry of health headquarters and at the county level should establish policies to incorporate nursing theory to the nursing process.

This will improve patient involvement in their care and also shift from the influence of medical mode that has influenced nursing practice for many years.

The nursing council should also formulate policies that will require all hospitals adopts a nursing theory relevant to their area of specialty. This will clearly define who the patient is, the role of nursing, the environment in which care is provided and the understanding of health. Therefore in providing care using the nursing theory, the nurse will provide holistic care to the patient and in contrast to nursing a diseased system or physiological alteration which has been influenced by the medical model.

Also the study recommends that the nursing council should incorporate the requirement of hospitals to adopt nursing theory in the use of nursing process in the approval of the hospitals to train nurses. This will ensure that there is integration of theory to practice. The study also recommends that the criteria for accreditation of hospitals by the National hospital insurance Fund should also include the use of Nursing process and nursing theory since they are critical in ensuring provision of quality nursing care.

The training institutions should also be closely involved in determining the criteria for accreditation and also participate in the monitoring and evaluation of the same so that they are able to evaluate whether what is taught in class is also practiced in the hospitals.

5.5. Dissemination of Study Findings

The findings of the pretest findings were presented to the Nursing Services Manager

before the start of the intervention phase and gaps identified were highlighted. The researcher also intends to disseminate the final findings to the study area that is Kiambu and Thika Hospital management and also the nurses

Also the findings of the study will be shared with the stakeholders who will include the Ministry of health (MOH), The National commission for Science, Technology and Innovation (NACOSTI) and the Kenyatta National Hospital/University of Nairobi Ethics and Research committee who provided the Ethical approval to carry out the study

The findings will also be shared with the Nursing Council of Kenya who are the main stakeholders in the training and regulation of nursing practice in Kenya. The research findings will also be shared through conferences and publications in the local and international journals.

5.6. Future Research Areas

Majority of the nurse had the perspective that management should identify other methods of providing care other than the nursing process. This needs to be investigated further to determine why nurses would want another method other than the nursing process which is a tool identified to provide quality care

The number of patients cared for did not determine the number of care plans drawn for the patients though the major inhibitor to use of care plans was increased workload. Further study need to be done to identify what other activities have increased the nurses workload inhibiting them to draw care plans for patients

6. REFERENCES

Adeyemo, F. O., & Olaogun, A. A. A. E. (2013). *Factors affecting the use of nursing process in health institutions in Ogbomoso town* , Oyo State, *3*(1), 89–96.

Africa, S., Uys, L. R., & Naidoo, J. R. (2004). *A Survey of the quality of nursing care in several health districts in South Africa.* BMC nursing 7, 1–7.

Aggleton, P& Chalmers, H. (1986). *Nursing models and the nursing process.* London : Macmillan press

Aggleton, P & Chalmers, H. (2000). *Nursing models and nursing practice.* (2nd edition). New York : Palgrave

Alasad, J. A., Ahmad, M. M., Alasad, J. A., & Ahmad, M. M. (2009). Patients ' satisfaction with nursing care in Jordan. http://doi.org/10.1108/09526860310495660

Alligood, M. R. (2011). The Power of Theoretical Knowledge. *Nursing Science Quarterly, 24*(4), 304–305. http://doi.org/10.1177/0894318411419221

Alligood Martha (2010). *Nursing Theory Utilization and Application.* (4th edition). Mosby Elsevier, USA

Alligood Martha (2002). *Nursing Theorists and Their Work.* (5th edition). London: Mosby Inc.

Akhtari-Zavare, M., Abdullah, M. Y., Syed Hassan, S. T., Said, S., & Kamali, M. (2010). Patient satisfaction: evaluating nursing care for patients hospitalized with cancer in Tehran teaching hospitals, Iran. *Global Journal of Heath Science*, *2*(1), 117–127. Retrieved from http://www.ccsenet.org/journal/index.php/gjhs/article/view/3892

Arden, H., Michele. I.& Bernard, T. (2001). A Conceptual Framework to Measure

Performance of the Public Health System. .*American journal of Public Health*;91:1235–1239)

Arije, O. (2016). Quality in primary health care services in sub-Sahara Africa: right or privilege? *Journal of Community Medicine and Primary Health*, *28*(1), 25–30. Retrieved from http://www.ajol.info/index.php/jcmphc/article/view/139399

Baid, H., & Hargreaves, J. (2015). Quality and safety: Reflection on the implications for critical care nursing education. *Nursing in Critical Care*, *20*(4), 174–182. http://doi.org/10.1111/nicc.12182

Banamwana, G., & Mandy, A. S. (2015). Evaluation of the Use and Value of Nursing Care Plans in Nursing Practice at a Referral Hospital , Kigali , Rwanda : Nurses ' Perspectives, *2*(2), 4314.

Brink, H. (2002).Fundamentals of research methodology for health care professionals. Cape town: Juta & Co, ltd

Burhans, L. M., & Alligood, M. R. (2010). Quality nursing care in the words of nurses, (Iom 2000). http://doi.org/10.1111/j.1365-2648.2010.05344.x

Bultemeier, K. I., & Baumann, S. L. (2012). Nursing in Malawi: Nursing Theory in the Movement to Professionalize Nursing. *Nursing Science Quarterly*, *25*(2), 184–186. http://doi.org/10.1177/0894318412437953

Cahill J. (1998). Patient participation—a review of the literature. Journal of Clinical Nursing. 7(2):119-128.

Carole, M., Wagoro, A., & Podo, C. (2015). Mainstreaming Kenya-Nursing Process in clinical settings : The case of Kenya*, International Journal of Africa Nursing Science*s *3*, 31–39. http://doi.org/10.1016/j.ijans.2015.07.002

Chin, P. & Kramer, M. (1995). *Theory and Nursing: A systematic approach*. St Lois: C.V. Mosby

Cody, W. K. (2003). Paternalism in nursing and healthcare: central issues and their relation to theory. *Nursing Science Quarterly*, *16*(4), 288–296. http://doi.org/10.1177/0894318403257170

Cole Gerald A and Kelly Phil (2011). *Management theory and practice* (7th Edition) U. K Cengage Learning EMEA

Cole G.A (2011). *Management theory and practice*, 7th edition Cengage learning, United Kingdom

Comley, A. (1994). A comparative analysis of Orem's self-care model and Peplau's interpersonal theory. *Journal of Advanced Nursing* 20, 755-760

Coulter, A & Ellins, J. (2006). Patient-Focused Interventions: A Review of the Evidence. London, England: The Health Foundation and Picker Institute Europe ;7-20.

Craven, R. F., & Hirnle, C. J.(2000). *Fundamentals of nursing: human health and function.* (3rd edition). Philadelphia: Lippincott Williams & Wilkins.

Christensen Paula J, Kenny W. Janet (1990). *Nursing process. Application of conceptual models*. 3rd edition St. Louis, CV Mosby

Department of Nursing (2009). *Nursing sub-sector strategic plan 2008–2013: Nurses can make a difference in "Reversing the Trends"* Afya House-Ministry of health, Kenya

Devkaran, S. (2014). Patient experience is not patient satisfaction: understanding the fundamental differences, 1–48. Retrieved from http://www.isqua.org/docs/default-source/education-/isqua-webinar_november- 2014_subashnie-devkaran.pdf?sfvrsn=0

Driel, M., Sutter, I.& Christiaens, T. (2005). Quality of Care: the need for medical, contextual and policy evidence in primary care. *Journal of evaluation in clinical practice;* 11: 417

Enfermagem, D. E. (2012). Nurses' perception in front of the implementation of nursing diagnosis and prescription, *6*(6). http://doi.org/10.5205/reuol.2365-18138-1-LE.0606201211

Emanuel, E. & Emanuel, L. (1992).Four models of the physician-patient relationship. *JAMA*. 267(16):2221-2226.

Ehnfors, M. (2004). The Phenomena of Participation and Non- Participation in Health Care-Experiences of Patients Attending a ..., (October). http://doi.org/10.1016/j.ejcnurse.2004.05.001

Fatchet, A. (19940). *Politics, Policy and Nursing*. London: Bailliere Tindall

Florin, Y., Ehrenberg, A.& Ehnfurs, M. (2006). Patient participation in clinical-decision making in Nursing : A comparative study of nurses and patients perception: *Journal of Clinical Nursing* : (12) 1498 – 508)

Freitas, J. S. De, Silva, A. E. B. D. C., Minamisava, R., Bezerra, A. L. Q., & Sousa, M. R. G. De. (2014). Quality of nursing care and satisfaction of patients attended at a teaching hospital. *Revista Latino-Americana de Enfermagem*, *22*(3), 454–460. http://doi.org/10.1590/0104-1169.3241.2437

Frold, C., Swenne, C., Robertson, C., Gunningberg, L.& Wadensten, B. (2011). Patient information and participation still in need of improvement. Evaluation of patients' perception of quality of care: *Journal of Nursing management*. 19 (2) 226 – 236.

Gillon, R. (1994). Medical ethics: four principles plus attention to scope. BMJ. 309(6948):184-188.

George, Julia B (2002). *Nursing theories. The base for professional nursing practice*. (5th edition) Pearson education, New Jersey

Handerson, V. (1966) The Nature of Nursing: *A definition and its implication for practice, research and educatio*n. New York: Macmillan

Handler, A., Issel, M., & Turnock, B. (2001). A Conceptual Framework to Measure Performance of the Public Health System, *91*(8), 1235–1239.

Havig, A. K., Skogstad, A., Kjekshus, L. E., & Romøren, T. I. (2011). Leadership, staffing and quality of care in nursing homes. *BMC Health Services Research*, *11*(1), 327. http://doi.org/10.1186/1472-6963-11-327

Helena, M., Moraes, B. De, Higa, R., José, M., Tocoginecology, M., & Oliveira, N. R. De. (2010). Evaluation of the Nursing Process Used at a Brazilian Teaching Hospital, 21(3). http://doi.org/10.1111/j.1744-618X.2010.01157.x

Hewison, A. (1995). Nurses' power in interactions with patients. *Journal of Advanced Nursing*. 21(1):75-82.

Hyer, K., Temple, A., & Johnson, C. E. (2009). Florida's Efforts to Improve Quality of Nursing Home Care Through Nurse Staffing Standards, Regulation, and Medicaid Reimbursement. *Journal of Aging & Social Policy*, *21*(February 2015), 318–337. http://doi.org/10.1080/08959420903166910

Hyrka, Koivula, Lehti k & Paunonen –Ilmonen. (2003). Nurse managers' perceptions of quality management as promoted by peer supervision. *Journal of Nursing Management* 11, 48–58

Iita, H., Iipinge, S., & Dyk, A. Van. (2016). The level at which registered nurses utilize the nursing process in local - level primary health care practice in Namibia, *5*(1), 65–75. http://doi.org/10.14419/ijans.v5i1.5600

Kellett, P., M. Gregory, D., & Evans, J. (2014). Patriarchal paradox: gender performance and men's nursing careers. *Gender in Management: An International Journal*, *29*(2), 77–90. http://doi.org/10.1108/GM-06-2013-0063

Khamis, K., & Njau, B. (2014). Patients' level of satisfaction on quality of health care at Mwananyamala hospital in Dar es Salaam, Tanzania. *BMC Health Services Research*, *14*, 400. http://doi.org/10.1186/1472-6963-14-400

KIM (2009), *Total quality management; theory, concepts and practice* Moran (E.A) Nairobi, Kenya

Köberich, S., Feuchtinger, J., & Farin, E. (2016). Factors influencing hospitalized patients ' perception of individualized nursing care : a cross-sectional study. *BMC Nursing*, 1–11. http://doi.org/10.1186/s12912-016-0137-7

Komashie, A., Mousavi, A., & Gore, J. (2005). Quality improvement, quality methods, industry, healthcare.

Lathlean, J. (1994). *Unifying Nursing Theory and Practice*. Oxford: Butterworh-Heinemann

Lindqvist, R., Alenius, L. S., Runesdotter, S., Ensio, A., Jylhä, V., Kinnunen, J., … Tishelman, C. (2014). Organization of nursing care in three Nordic countries : relationships between nurses ' workload , level of involvement in direct patient care , job satisfaction , and intention to leave.

Leigh, J., Douglas, C.,& Douglas, M. (2005). A case study of a preceptorship programme in an acute NHS Trust – using the European Foundation for Quality Management tool to support clinical practice development. *Journal of Nursing Managemen*t 13, 508–518

Lindberg, J. (1998). *Introduction to Nursing* ;3rd edition ; Lippincott, Philadelphia

Mahmoud, M. H., & Bayoumy, H. M. (2014a). Barriers and Facilitators for Execution of Nursing Process From Nurses â€™™ Perspective. *International Journal of Advanced Research*, *2*(2), 300–315.

Mahmoud, M. H., & Bayoumy, H. M. (2014b). Barriers And Facilitators For

Execution Of Nursing Process From Nurses Perspective, *2*(2), 300–315.

Mangare, N. L., Omondi, A. L., Ayieko, O. A., Wakasiaka, S., & Wagoro, M. C. A. (2016). Implementation of the Nursing Process in Naivasha District, *5*(4), 152–157. http://doi.org/10.11648/j.ajns.20160504.15

Marquis, B.(2003). *Leadership roles and management functions in nursing:* Theory and application; Lippincott Williams; Philadelphia

Marquis, B.(2012). *Leadership roles and management functions in nursing*: Theory and application; Lippincott Williams; China

McLoughlin, V., & Leatherman, S. (2003). Quality or financing: what drives design of the health care system? *Quality & Safety in Health Care*, *12*(2), 136–142. http://doi.org/10.1136/qhc.12.2.136

Meleis, A. (1991). *Theoretical Nursing: Development and progress*. Philadelphia: Lippincott

Mboya, T.(2003). *Health professionals'handbook on Quality management in healthcare in Kenya*. MOH Nairobi

MOH (2012). *Kenya Health Sector Strategic and Investment Plan* (2013-2017)

Mugenda & Mugenda. (2003), *Research Methods Quantitative and qualitative approaches* Acts Press Nairobi

Murray, E., Davis, H., Tai, S., Coulter, A., Gray, A.& Haines. (2001). A Randomized controlled trial of an interactive multimedia decision aid on hormone replacement therapy in primary care. BMJ. 323(7311):490-493

Nursing Council of Kenya. (2006). *Code of ethics and professional conduct for nurses;* Nairobi: Chania Printers

Nursing Council of Kenya. (2007. *Standards of Nursing Education and Practice;* Nairobi Chania Printers,

Nursing Council of Kenya. (2008). *Procedure manual for nurses*; Nairobi: Chania Printers

Oliveira, L. S., & Moura, C. D. C. (2013). Integrative Review Article Nursing Process and its Application in an Intensive Care Unit : Integrative Review, 7, 4183–4191. http://doi.org/10.5205/reuol.4134-32743-1-SM-1.0705esp201311

Orem, D. (1991) *Nursing- Concepts of practice*. (4th edition). New York: McGraw

Orem, D. (2001) *Nursing- Concepts of practice*. (6th edition). London: Mosby

Pearson &Allan. (2005). *Nursing models for practice* ; 3rd edition, Butterwoth Heinmann ; China

Pearson, M., Lee, J.& Elliot, M. (2000). Déterminants of quality of nursing care. Medicare 38: 1074-1091

Rasheed, N., Arya, S., & Acharya, a. (2012). Client Satisfaction and Perceptions About Quality of Health Care at a Primary Health Centre of Delhi, India. … *Journal of Community Health*. Retrieved from http://www.iapsmupuk.org/journal/index.php/IJCH/article/view/236

Sale, D. (2000). Quality Assurance: A Pathway to Excellence. London, Macmillan. 1-4, 45-46

Shaughnessy, M. O. (2014). Patient on Peritoneal Dialysis, *41*(5), 495–499.

Shin, J. H., & Hyun, T. K. (2015). Nurse Staffing and Quality of Care of Nursing Home Residents in Korea. *Journal of Nursing Scholarship*, 47(6), 555–564. http://doi.org/10.1111/jnu.12166

Singh, R. G. (n.d.). Factors Explaining Job Satisfaction Among Hospital Employees.

Shongwe . (2002). Quality assurance: an evaluation of the quality of nursing care in Swaziland at the ECSACON 6th Scientific Conference- Dar-es Salaam

Souraya, S. (2010). Relationships between processes and outcomes of nurse practitioners in acute Care; An Exploration. *Journal of nursing care quality* vol. 25, no. 1, pp. 31–38

Weingart, S., Zhu, J., Chiappetta, L.& Stuver, S. (2011). (Hospitalized patients participation and its impact on quality of care and patient safety (pub med) date accessed: April 2011

Wakaba, M., Mbindyo, P., Ochieng, J., Kiriinya, R., Todd, J., Waudo, A., …English, M. (2014). The public sector nursing workforce in Kenya : a county-level analysis, 1–16.

Williams, S. (1998). The delivery of quality nursing care: a grounded theory study of the nurse's perspective; *Journal of nursing management*, Volume 27, Number 4, April 1998, pp. 808-816(9)

World Health Organization (1997). The Vienna Recommendations on Health Promoting Hospitals

World Health Organization. (2006). Quality of care: A process for making strategic choices in health systems. *The Journal of the American Medical Association*, *267*, 1–50. http://doi.org/10.1542/peds.2010-1791

Zerwekh, J.(2006). *Nursing today. Transition and trends*. 5th edition. USA, Elseviers

7. WORK PLAN

Activity	Start Date/	Completion Date
Review and correction of the proposal	October 2011	June 2012
Proposal ethical approval	June 2012	September 2012
Seeking authority to conduct research	October 2012	November 2012
Pretesting of questionnaires and review	March 1st 2013	March 31st 2013
Baseline data collection	May 2013	July 2013
Analysis of Baseline data	August 2013	September 2013
Intervention phase and follow up	March 2014 (started late due to the health workers strike)	August 2015
Post-test data collection	April 2015	July 2015
Data cleaning and coding	August 2015	December 2015
Analysis of study findings and report writing	January 2016	31st July 2016
Report writing	October 2016	May 2017
Dissemination and publication of findings	June 2017	July 2017

8. BUDGET

ITEM	UNIT COST (KSH.)	TOTAL (KSH)
Stationery		
20 realms of photocopying papers	600	12000
100 writing pads	110	11000
100 biro pens	15	1500
10 Flip Charts	500	5000
2 flash disks	2000	4000
10 white board pens	50	500
1 stapler	250	250
1 packet of staples	75	75
100 pencils	20	2000
1 paper punch	350	350
10 rubbers	15	150
2 packets of paper pins	50	100
Sub-total		**32925**
Personnel and services		
Transport and lunch for 4 research assistants for 60 days	1000 per day	240000
8Training workshops snacks	10,000	80,000
Out of pocket allowance for 4 research assistants for 60 days	1000 per day	240000
Allowance for 2 data entry clerks for 20 days	1000 per day	40,000
1 Principal investigator allowances	2000 per day for 60 days	120,000
4 research assistants training	4000 per day for 3 days	12.000
Statistician consultancy fee	30,000	30,000
Secretarial services	20,000	20,000
Sub total		**782,000**
Dissemination of findings two days workshop	10,000	20,000
Report writing and binding	20000	20000
Sub total		**40,000**
Miscellaneous (15%)		128287.75
GRANDTOTAL		**983,163.75**

9.   APPENDIX 1: NURSES QUESTIONNAIRES

QUESTIONNAIRE 1

Questionnaire for nurses

Section A

Part 1: Demographic information

1. Age

30 yrs and below ☐

31 yrs – 40 years ☐

41 yrs – 50 years ☐

 51yrs -60 years ☐

2. Sex

Male ☐

Female ☐

3. Marital Status

Married ☐

Single ☐

Separated ☐

Widow/Widower ☐

Any other (specify)--

Section B

4. Job Title

Registered nurse ☐

Enrolled Nurse ☐

5. Highest qualification

Masters degree and above ☐

Basic Degree ☐

Diploma ☐

Certificate ☐

Any other (specify--------------------------------------)

6. Years of experience in Nursing practice:

Less than 10 years ☐

11 yrs – 20 yrs ☐

21 yrs – 30 yrs ☐

Above 30 years ☐

Section C

Knowledge and practice of the nursing process

1(a) Have you been trained on the nursing process?

Yes ☐

No ☐

(b) If yes above, when did you receive the training

During the basic training in college ☐

During continuous medical education in the Hospital ☐

Any other---

2. Do you utilize the nursing process in the care of your patients?

Yes ☐

No ☐

2a) If yes above , outline the stages of the nursing process

_____

3a) How many patients do you care for per shift_____

3b) Out of these how many do you draw the nursing care plans
for?_____

Section D

Nurses understanding of the nursing theory

1a) Have you have been trained on the nursing theories

Yes ☐

No ☐

b) If yes above where did you receive the training ? -------

    i.   During the basic training ☐

    ii. During post Basic training ☐

    iii. During continuous medical education in Hospital ☐

    iv. Any other-specify---

2) Do you apply any nursing theory in the Hospital or in your ward?

Yes ☐

No ☐

Section E

Nurses Attitude towards nursing process

Please indicate your rating on the following.

Nos.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	The nursing process Should be applied in the care of all patients.					
2.	All nurses should be trained on the nursing process.					
3	Only the Registered nurses should apply the nursing processes					
4.	The application of the Nursing process is cumbersome					
5.	It should not be mandatory for nurses to draw the nursing care plans					
6	Only the very sick Patients should be drawn for a nursing care plan.					
7	I feel very confident of my ability to draw a nursing care plan.					
8	Writing a nursing care plan is a burden to the nurses					
9	The nursing administration should not over-emphasize the use of nursing process and nursing care plans.					
10.	I feel very confident Implementing the nursing process					

11	I would like to be able to write better nursing care plans for my patients.					
12.	I would like to be trained on the nursing process.					
13	The nursing officer supports the nurses in the implementation of the nursing process.					
14	The nursing administration supports the application of the nursing process in the care of patients					
15	The role of the nursing administration in the application of the nursing process is majorly supervisory					
16	The nursing administration have no interest in the application of the nursing process					
17	Shortage of nurses in the hospital is a big hindrance to the implementation of the nursing process in the hospital					

NURSES JOB SATISFACTION QUESTIONNAIRE

Part 1 Demographic information

1. Hospital

Thika ☐

Kiambu ☐

1. Ward

Male Surgical ☐

Male Medical ☐

Female Surgical ☐

Gynecology Ward ☐

Pediatric Ward ☐

2: Age

40 years and below ☐

41 yrs – 50 years ☐

51 yrs---60 years ☐

3: Sex

Male ☐

Female ☐

3: Marital Status

Married ☐

Single ☐

Separated ☐

Widow/Widower ☐

Any other-------------

4: Job Title

Registered nurse ☐

Enrolled Nurse ☐

5: Highest qualification

Masters degree and above ☐

Basic Degree ☐

Diploma ☐

Certificate ☐

Any other (specify---------------------------------------)

2.   Years of experience in Nursing practice:

 Less than 5 years ☐

6 yrs – 10 yrs ☐

11 yrs – 15 yrs ☐

16 yrs – 20yrs ☐

21 yrs – 25 yrs ☐

26 yrs – 30 yrs ☐

Above 31 yrs ☐

3. Number of years at the District Hospital:

Less than 5 years ☐

11 yrs - 15 yrs ☐

16 yrs - 20 yrs ☐

21 yrs – 25 yrs ☐

26 yrs – 30 yrs ☐

Above 30 years ☐

Please indicate your level of satisfaction with the following

Nos	Item	Very Satisfied	Somewhat satisfied	Satisfied	Dissatisfied	Very dissatisfied
1	With the care that you are providing to the patients					
2	With nursing care modality that you are using you					
3	With the support that you are receiving from the nursing administration					
4	With the level of patient participation in care					
5	How satisfied are you working with your colleagues					
6	With the work environment					
7	With the overall quality of nursing care in your ward					

10. APPENDIX 11: PATIENTS QUESTIONNAIRE

QUESTIONNAIRE 3

PATIENTS SATISFACTION QUESTIONAIRE

Demographic information

1. Ward

Male Surgical ☐

Male Medical ☐

Female Surgical ☐

Female Medical ☐

Gynecology Ward ☐

Pediatric Ward ☐

2: Date of admission-------------------------------

3: Date of discharge----------------------------------

4: Sex

Male ☐

Female ☐

5; Highest level of education

University degree ☐

College ☐

Secondary education ☐

Primary education ☐

Any other (specify---------------------------------------

DURING ADMISSION TO THE WARD

Indicate your level of Satisfaction with the following:

Nos.	Item	Very Satisfied	Somewhat satisfied	Neutral	Dissatisfied	Very dissatisfied
1	How satisfied were you with the easy admission					
2	How satisfied were you with the explanation you received regarding the need for admission					
3	How satisfied were you with the amount of information gathered concerning your condition					
4	How satisfied were you with the orientation you received after admission					
7	Overall how do you rate the quality of nursing care you received on admission?					

IN THE WARD

Indicate how you rate the following

Nos.	Admission	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	My primary nurse introduced herself to me					
2	The nurse fully explained to me the nature of my treatment.					
3	The primary nurse fully answered all my question					
4	The nurse always informed me my responsibilities in the recovery process					
5	The nurse always, demonstrated to me on what do to improve myself-care					
6	The nurse always inquired about by progress.					
10	The nurse did all the Procedures without involving me in the recovery process.					
11.	I did most of the things for myself without assistance from the nurse.					
12	We always discussed with the nurse the activities that I could do and the ones I needed assistance.					
13	The nurse demonstrated to me the activities that I didn't know and then allowed me to do.					

14.	The nurse provided me with all the information I required.					
15	The nurse allowed me to make more decisions regarding my care					
16	I was a passive recipient of nursing care					
17	I was very satisfied with the quality of nursing care I received					
18	I would recommend this ward to another person.					
19	I would like to be readmitted in this ward incase I fall sick another time.					
20	I would like to be attended by the same nurse in case I am readmitted					
21	I would recommend this hospital to another person					

11. APPENDIX III: STRUCTURE CHECK LIST.

1. Ward

Male Surgical ☐

Male Medical ☐

Female Surgical ☐

Gynecology Ward ☐

Pediatric Ward ☐

2. Number of patients in the ward per day _____

3. Number of nurses in the ward

4: Categories of nursing Staff : _____

Registered nurses _____

Enrolled Nurses _____

5. Number of Nurses per shift: _____

6. Nurses Patient ratio per shift _____

7. Availability of nursing care plans _____

8. Availability of nursing quality standards on the nursing process_____

9. Availability of nursing procedure manuals_____

10. Availability of a job description for nurses_____

11. Availability of policy statements on the application of nursing process and nursing

theory_____

12. Supportive supervision for nursing process available in the hospital

13. Active supervision of nursing process

13. Quality teams available in the wards

12. APPENDIX IV: NURSING PROCESS CHECK LIST

NOS.	ITEMS	YES	NO
1.	Collecting patients data is systematic :		
2	The data is recorded chronologically:		
3	Nursing diagnosis are derived from the health status		
4	Nursing care plan is drawn in order of priority		
5	Nursing actions are implemented as per NCK procedure manual		
6	The nursing rationale is clearly stated		
7.	Evaluation of care is documented		
8.	The patient goals are indicated		
9.	The care plan is drawn daily		

13. APPENDIX V: TRANSLATED PATIENTS QUESTIONNAIRE

MASWALI YA WAGONJWA JUU YA URIDHIKAJI

Maswali ya utangulizi

1. Wodi

Wodi ya upasuaji ya wanaume Wodi ☐

ya matibabu ya wanaume Wodi ya ☐

upasuaji ya wanawake Wodi ya ☐

magonjwa ya kina mama Wodi ya ☐

watoto ☐

2: Tarehe ya kulazwa-------------------------------

3: Tarehe ya kupewa ruhusa --------------------------------

4: Maumbile

mwanaume Mwanamke ☐

5; Kiwango ya masomo Chuo ☐

Kikuu ☐

College ☐

Shule ya Upili ☐

Shule ya msingi ☐

Ingine yeyote---------------------------------------

URIDHIKAJI WA WAKATI WA KULAZWA

Onyesha ngazi yako yakuridhiswa na yafuatayo

No	Kipengele	Kuridhika sana	Kiasi kuridhika	Upande wowote	Kutoridhishwa	Kutoridhishwa sana
1	Jinsi gani uliridhika na urahisi wa kulazwa					
2	Jinsi gani uliridhika na maelezo ulipokea kuhusu haja ya kulazwa					
3	Jinsi gani uliridhika kwa kiasi cha muda wewe alichukua kukamilisha mchakato wa kulazwa					
4	Jinsi gani uliridhika wewe kwa kiasi cha taarifa muuguzi ameokota kuhusu hali					

No	Kipengele	Kuridhika sana	Kiasi kuridhika	Upande wowote	Kutoridhishwa	Kutoridhishwa sana
5						
6						
7						
No	Kipengele	Kuridhika sana	Kiasi kuridhika	Upande wowote	Kutoridhishwa	Kutoridhishwa sana

Kati

Onyesha kiwango chako kwa yafuatayo

Numbari	Kipengele	Nakubaliana sana	Nakubaliana	Upande wowote	Sikubaliani	Sikubaliani kamwe
1	Muuguzi wangu alijitambulisha mwenyewe kwangu					
2	Muuguzi alinieleza kikamilifu asili ya matibabu yangu.					
3	Muuguzi aliyajibu kwa kikamilifu maswali yangu yote					
4	Muuguzi daima alinieleza majukumu yangu katika harakati za matibabu					
5	Muuguzi daima,					

	alionyesha yale ninayostahili kufanya ili kuboresha huduma zangu mwenyewe					
6	Muuguzi daima alikuwa anaulizajinsi nilivyokuwa nikiendelea					
7	Muuguzi daima alinishughulik iwa mimi kwa kitaalam.					
8	Muuguzi daima alihakikisha kwamba nilipata matibabu yangu kwa wakati					
9	Muuguzi aliniangalia kwa uadilifu mimi mara kwa mara.					
10	Muuguzi alifanya taratibu zote					

	bila kunishirikisha katika harakati za ufufuzi.					
11.	Mimi nilifanya mambo yangu mwenyewe bila msaada kutoka kwa muuguzi ..					
12	Mimi nilijadiliana naMuuguzi kuhusu shughuli ambazo mimi naweza kufanya na zile nilihitaji msaada.					
13	Muuguzi alionyesha shughuli ambazo mimi sikujua na kisha kuniruhusu nifanye mwenyewe					
14.	Muuguzi Alinipatia maelezo yote					

	niliyoyahitaji					
15	Muuguzi aliniruhusu kufanya maamuzi zaidi kuhusu huduma yangu					
16	Nilikuwa mtazamaji tu kwenye huduma ya uuguzi wangu					

Maswali Baada ya kutoka kwenye wodi

No	*Kipengele*	Nakubaliana sana	Nakubaliana	Upande wowote	Sikubaliani	Sikubaliani kamwe
1.	Mimi niliridhika sana na ubora wa huduma ya uuguzi nilioupokea kwenye wodi .					
2.	Ningependa kupendekeza hii wodi kwa mtu mwingine					
3.	Ningependa kulazwa tena					

	Katika wodi hii nikiwa mgonjwa wakati mwingine. .					
4	Ningependa kuhuduma na muuguzi ambaye alikuwa ananihudumia kama ningelazwa tena					
5	Ningependa kupendekeza hii hospitali kwa mtu mwingine					

14. APPENDIX VI: TRAINING MODULE FOR RESEARCH ASSISTANTS

RESEARCH ASSISTANTS TRAINING MODULE FOR DATA COLLECTION

Objective 1:

To provide the background of the study to enable them understand the reason

why the details were required.

Objective 2

Ensure understanding of the ethical considerations in the data collection process.

Objective 3

Provide clear practical demonstrations on how to complete the questionnaires.

Objective 4:

To discuss the terms and conditions of the data collection

The goal of the study

The main goal of the study which was to evaluate the quality of care provided to

the patients from nurses and patients perspective.

Ethical consideration

Principal of veracity

The collected data should be as truthful as possible and should reflect what is

happening on the ground. The same should be done when they are not on duty or

they are off shift.

The principle of self-determination

- The patients and the nurses have the right to accept or refuse to

    participate in the study. Therefore their rights had to be respected.

- The overview of the informed consent first for the nurses in order to ensure understanding

- The overview of the patient consent administration both for interviewer administered and also on how to explain to the patient and seek consent

- Practical demonstrations of how to administer the question

- Overview of the study tools with the participants by going through each item of the questionnaire

- To fill the questionnaire practically with each of the participant and evaluating the responses

- Going through each item of the checklist to identify the appropriate response

Terms and conditions of data collection:

- The data collection process period will be for one month.

- The filling of the checklist to go hand in hand with the administration of questionnaire

- The principle researcher will be doing visits at random to monitor data collection

- All questionnaires filled to be collected at the end of every week

- 50% of the appreciation token will be given at the beginning to facilitate travel and lunch during the data collection process

15. APPENDIX VII: TRAINING MODULES FOR THE NURSES

TRAINNING MODULE OUTLINE I
The nursing process

Objectives

By the end of this module the learner should be able

☐ To define the nursing process

☐ To state the characteristics of the nursing process

☐ To explain the steps of the nursing

☐ To draw and implement a nursing care plan

☐ To utilize the nursing process in the care of the patients with various

disorders in the wards

Content

1; Definition of the Nursing process

2: The characteristics of the Nursing

process 3: The steps of the Nursing

Process Assessment

☐ History taking and Physical Examination

Formulating Nursing diagnosis

☐ Actual nursing diagnosis

☐ Potential nursing Diagnosis

☐ Risk Nursing diagnosis

☐ Wellness nursing

diagnosis Planning

☐ Setting priorities

☐ Expected outcome

- Goal setting

- Formulating nursing actions

- Drawing the Nursing

care plan Implementation of

care

Evaluation of nursing care

4: Documentation of nursing care

5: Case presentations for the common conditions in the ward

TRAINNIG MODULE 2 OUTLINE
Nursing theories

Objectives

By the end of this module the nurse should be able to:

- To explain the meaning of the nursing theories

- To state the importance of the nursing theories to the practicing Nurse

- To explain the four metaparadigm that a nurse theorist must identify

- To explain the components of nursing theory according to Dorothea Orem

- To integrate Orem's theory and the nursing process

Content

The concept of nursing theory

The Importance of nursing theory to the practicing

nurse The four metaparadym of nursing

- Environment

- Health

- Person

- Nursing

Orem's theory of nursing

- Theory of self-care self-care

- Theory of self-care self-care deficit

- Theory of nursing systems

- Integration of Orem's theory and the nursing process during assessment, formulating nursing diagnosis, planning, implementation of nursing care

CASES IDENTIFIED FOR CASE PRESENTATIONS IN THE WARDS
GENERAL PRESENTATIONS

- Patient categorization an integration of nursing theory to the nursing process
- The nursing process definition, characteristics and the steps
- Patient assessment to include history taking and physical examination
- Documentation of nursing care
- Role of leadership in the application of nursing process

CASE PRESENTATIONS

MEDICAL WARD

- Management of patients with Heart Failure (HF) using the nursing process
- Management of patients with anemias using the nursing process
- Management of patients with anemias due to bleeding to using the nursing process
- Management of meningitis using the nursing process
- Management of diabetes using the nursing process

SURGICAL WARD

- Management of patients with burns using the nursing process
- Management patients with fractures using the nursing process
- Management of post-operative patients using the nursing process

PAEDIATRIC WARD

- Management of patients with meningitis using the nursing process
- Management of a patient with diarrhoea and dehydration using the nursing process
- Management of preterm infants using the nursing process
- Management of babies with jaundice using the nursing process
- Management of patients with pneumonia using the nursing process

GYNAECOLOGY WARD

Pre and post-operative management of patients with Ectopic

pregnancy Pre and post-operative management of patients with

Fibroids

Management of patients with hypertensive disorders of pregnancy using the

nursing process

Management of a patient with spontaneous abortion using the nursing process

Management of a patient with postpartum hemorrhage using the nursing

process

16. APPENDIX VIII: LETTERS OF AUTHORITY

1. Consent by the study subjects.

2. Letter of authority to ministry of Education Science and Technology

3. Letter of authority to the ministry of medical services.

4. Letter of collaboration from the study hospitals

NURSES CONSENT FORM

My name is Grace Githemo, a student at the University of Nairobi undertaking my postgraduate studies. Am carrying out a study to determine the impact of the implementation of the nursing process based on Orem's theory on the quality of nursing care provided to patients in this hospital. The study will be provide useful information on the improvement of quality of nursing care that you provide to patients and also on policy formulation regarding quality nursing care. Your participation to the study is completely voluntary and you will not be compelled to answer any question. You will suffer no consequences or risk by your decision to participate. All the information will be held in strict confidence. Your name is not required in the questionnaire or the checklist. I will appreciate your honest answers and cooperation. In case of any question regarding this study please feel free to contact.

The Chairman, KNH/UON Ethics and research committee on 020-2726300 Ext 44355

Signature of Respondent……………………….
Date…………….

Witness signature ………………………….
Date……………..

PATIENTS' CONSENT FORM

My name is Grace Githemo, a student at the University of Nairobi undertaking my postgraduate studies. Am carrying out a study to determine the impact of the implementation of the nursing process based on Orem's theory on the quality of nursing care provided to patients in this hospital. The study will provide useful information on the improvement of quality of nursing care that you and other patients will receive in the hospital. Your participation to this study is completely voluntary and you will not be compelled to answer any question. You will suffer no consequences or risk by your decision to participate. All the information will be held in strict confidence. Your name is not required in the questionnaire or the checklist. I will appreciate your honest answers and cooperation. In case of any question regarding this study please feel free to contact.

The Chairman, KNH/UON Ethics and research committee on 020-2726300 Ext 4435

Signature of Respondent………………………. Date…………….

Witness signature …………………………. Date……………..

17. APPENDIX 1X: ANTIPLAGARISM CERFITICATE

18. APPENDIX X: PUBLISHED ARTICLES