

**KNOWLEDGE, ATTITUDES AND PRACTICES OF REGISTERED  
NURSES ON SCIENTIFIC NURSING RESEARCH AT THE KENYATTA  
NATIONAL HOSPITAL //**

**BY:**

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF NURSING SCIENCES IN  
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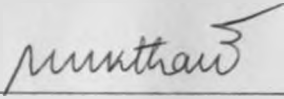
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## DECLARATION AND APPROVAL


### DECLARATION

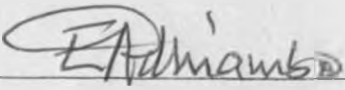
I declare that this thesis is my original work and neither has it been presented to any other institution for the purpose of obtaining a degree nor been published in any journal.

Signature  date OCTOBER 6<sup>TH</sup> 2006  
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### APPROVAL

This thesis has been submitted for examination with the approval of the following supervisors.  
This research proposal has been submitted for examination with my approval as university supervisors.

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## DEDICATION

This thesis is dedicated to my wife, Dorcas Chepchirchir Mukthar and my son, Eugene Kipruto for their patience and moral support. I also dedicate it to my parents Mr. and Mrs. Matthew and Annah Lang'at for their motivation and educating me during my formative years.

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## ABSTRACT

Scientific Nursing Research is defined as the systematic process of investigating phenomena related to nursing with the aim of adding to the nursing body of knowledge, to improve practice and for better health care outcomes (Endrawes, 2000).

This was a descriptive cross-sectional study aimed at assessing the knowledge, attitude and practice of RNs on Scientific Nursing Research at the Kenyatta National Hospital.

The study was undertaken in 36 weeks, sample selection was by both stratified and convenient sampling. Data collection instrument was Structured Questionnaires.

The findings were summarized, and presented in form of tables, graphs, and pie charts. Data analysis was done using Chi Square test of significance.

The study findings indicate that whereby most of the RNs had been introduced to basic research concepts during training, only a minority (23%) had undertaken research, which corresponded with the percentage that undertaken update course. Over 50% of the respondent had positive attitudes and over 50% agreed that the factors hindering the access to research are lack of funds, lack of time and lack of supportive authorities. It was also established that only 30% had used research findings in their practice.

In conclusion, most of the registered nurses are knowledgeable and have positive attitudes towards research. Though most of them exude confidence in performance of research, their practice is limited by factors of access to research e.g. funds, time and supportive authorities. The RNs use of research findings in their practice and attendance of update courses in research is wanting. The factors that significantly influenced the practice of research include ward placement, professional training background and attendance of update courses.

## TABLE OF CONTENTS

DECLARATION AND APPROVAL.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS .....	vi
LIST OF TABLES .....	viii
LIST OF FIGURES.....	ix
ABBREVIATIONS AND ACRONYMS.....	x
OPERATIONAL DEFINITIONS.....	xi
<b>CHAPTER ONE: INTRODUCTION AND BACKGROUND INFORMATION</b>	
1.1 Introduction.....	1
1.2 Historical Background information .....	3
1.3 Statement of the problem .....	5
1.4 Justification .....	6
1.5 Significance of the study.....	6
1.6 Objectives.....	7
1.7 Hypothesis.....	7
<b>CHAPTER TWO: LITERATURE REVIEW</b>	
2.1 Practice of scientific nursing research. ....	8
2.2 Knowledge of scientific nursing research .....	11
2.3 Attitudes of nurses towards scientific nursing research.....	13
2.4 Theoretical framework – Systems Theory.....	16
<b>CHAPTER THREE: STUDY METHODOLOGY</b>	
3.1 Study Area .....	18
3.2 Study population .....	18
3.3 Study design.....	18
3.4 Sampling .....	19
3.4.1 Sample size.....	19
3.4.2 Sampling method .....	20
3.4.3 Inclusion criteria .....	20
3.4.4 Exclusion criteria .....	20
3.5 Study instrument.....	21
3.6 Data collection .....	21
3.7 Data management .....	22
3.8 Ethical issues in the study.....	23
3.9 Study limitations .....	23

**CHAPTER FOUR: FINDINGS**

4.1. Socio-Demographic Characteristics..... 24  
4.2. Knowledge and Update Courses..... 27  
4.3. Attitudes..... 29  
4.4. Factors of access to research..... 29  
4.5. Practice..... 29  
4.6. Association of Socio-demographic characteristics with the practice of research.35  
4.7. Association of Knowledge and attendance of update courses with the practice of scientific nursing research..... 36  
4.8. Association of attitudes and factors of access with the practice of scientific Nursing research..... 37

**CHAPTER FIVE: DISCUSSION CONCLUSION AND RECOMMENDATION**

5.0 Discussion..... 38  
5.1.1 Socio-demographic characteristics..... 38  
5.1.2 Knowledge and updates courses ..... 39  
5.1.3 Attitudes..... 39  
5.1.5 Undertaking of scientific nursing research..... 40  
5.1.6 Use of scientific nursing research findings ..... 41  
5.2 Conclusion ..... 42  
5.3 Recommendations ..... 43

REFERENCES..... 45

APPENDIX I \_RESEARCH PARTICIPATION CONSENT FORM..... 49

APPENDIX II\_QUESTIONNAIRE..... 50

APPENDIX III\_APPROVAL LETTERS..... 54

## LIST OF TABLES

Table 1: Sample Distribution (Proportionate Stratified Sampling) .....	20
Table 2: Socio-demographic findings .....	25
Table 3: Research concepts introduced during training.....	27
Table 4: Research concepts covered in the update courses .....	28
Table 5: Attitudes and the RNs responses on a Likert scale of 3 .....	29
Table 6: Factors of access and the RNs responses on a Likert scale of 3.....	29
Table 7: Comparing socio-demographic characteristics with practice of nursing research .....	35
Table 8: Comparing Knowledge and Update Courses Attendance with the Practice of Research.....	36
Table 9: Comparing factors of access and attitudes to the practice of scientific nursing research. .....	37



## LIST OF FIGURES

Figure 1: Nursing educational level.....	26
Figure 2: Introduction of basic research concepts during training .....	27
Figure 3: Attendance of update courses.....	28
Figure 4: Practice of scientific nursing research.....	30
Figure 5: Frequency of research .....	30
Figure 6: The practice of scientific nursing research in different educational levels .....	31
Figure 7: Motivation for the studies.....	32
Figure 8: Areas of research interests.....	32
Figure 9: Perceived confidence to undertake research .....	33
Figure 10: Frequency of using research findings.....	34
Figure 11: Ward placement and the involvement in research.....	34

## ABBREVIATIONS AND ACRONYMS

- RN** -Registered Nurse  
A nurse who has been trained at least at Diploma level and duly registered with the Nursing council of Kenya.
- EN** -Enrolled Nurse (EN) –  
A nurse who has not been trained beyond the certificate Level and enlisted in the roll of Nursing Council of Kenya.
- KNH** -Kenyatta National Hospital  
A leading public teaching and referral hospital in Kenya located in Nairobi city
- WHO** -World Health Organization  
United Nations Organization’s specialized agency for health.
- OJIN** -Online Journal of Issues in Nursing  
Journal on nursing issues published on the web and can be accessed without any cost.
- MDH** -Mbagathi District Hospital  
The only district hospital in Nairobi city located less than a kilometer away from KNH.
- SoNS** -School of Nursing Sciences.  
One of the four administrative units (Schools) of the College of Health Sciences in the University of Nairobi.
- ICN** -International Council of Nurses.  
The highest global regulatory nursing body.
- COBES** -Community Based Education and Services.  
A form of research subject that encompasses community service offered in faculty of Health Science at Moi University
- KMTC** -Kenya Medical Training College  
A public institution training health related courses and has 27 satellite stations across the country.

## OPERATIONAL DEFINITIONS

**Years of practice** – refers to the number of years one has been working since qualifying as an RN and not on the current station (KNH).

**Research Support mechanism/unit** – any authority, administrative unit or organization that is specifically put in place to promote research.

**Nursing research practice** – Refers to the undertaking and use of nursing Research findings in nursing practice.

**Nursing Research** – refers to any study undertaken by nurses following the research process.

**Nursing Theories** -A theory developed by nurses that acts as a framework for nursing practice, nursing education and nursing administration.

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## CHAPTER ONE

### INTRODUCTION AND BACKGROUND INFORMATION

#### 1.1 Introduction

Research is diligent inquiry or critical examination of a given phenomenon. It implies exhaustive study, investigation or experimentation following some logical sequence (Mugenda & Mugenda, 2003).

Oloo (1980) defines Scientific Nursing Research as systematic study and assessment of nursing problems or phenomena; findings to improve nursing practice and patient care through creative studies; and implementing the new knowledge to be useful in nursing.

Scientific Nursing Research is handy in staying abreast with global trends in changing knowledge and technology (Karani et al, 2003). It is worth noting that research process is rigorous and involving a lot of resources (Cormark, 1991).

Scientific Nursing Research is least developed area in nursing profession. Registered nurses (RNs) seldom use Scientific Nursing Research as an argument to support nursing view on health policy formulation and implementation (Rodger, 1989)

Since Scientific Nursing Research is the best way to test and validate the usefulness of knowledge (Chitty, 1997), this study aimed at assessing knowledge, attitudes and practices of RNs towards Scientific Nursing Research at the Kenyatta National Hospital(KNH).

Kenyatta National Hospital (KNH) was purposively selected for being a leading public teaching and referral hospital in Kenya. It is situated in the capital city of Kenya, Nairobi. KNH has one thousand four hundred nurses with approximately six hundred being Registered Nurses while the rest are Enrolled Nurses (KNH, Personnel Department, December 2005).

This dissertation has five chapters. Chapter one deals with introduction and background information. This includes historical background of research in nursing, statement of the problem, justification and significance of the study, study objectives and the set hypothesis to be measured.

Chapter two is broadly about literature review. The literature review has been categorized into four major sections these are other published work on practice, on attitudes, on knowledge of scientific nursing research and finally on the preferred theoretical framework ;the Systems Theory.

Chapter three concerns the study methodology. It covers study area, design, population, sampling, study instruments, data collection, ethical issues and limitations of the study.

Chapter four elaborates on the study findings. The findings have been categorized as follows: socio-demographic characteristics, knowledge and update courses, attitudes towards research, factors of access towards undertaking of research, the practice of scientific nursing research, and associations between the practice of scientific nursing research with socio-demographic characteristics, knowledge and attendance of update courses, attitudes and factors of access to research.

Lastly is chapter five which gives discussions of the results, conclusion of the study and finally the recommendations made.

## 1.2 Historical Background information

Nursing has existed since the origin of man with the females taking the roles of mothers. However, formally organized nursing came into being in 1860 when Florence Nightingale realized the need for the training of nurses (Karani et al, 2003).

It is recorded that Florence Nightingale practiced nursing with the principles of research close to her heart. Florence Nightingale collected data and organized record keeping system and used this information as a tool to improve military hospitals. It is also worth mentioning that Florence Nightingale used her mathematical prowess to analyze her collected data to yield measures such as mortality rates at the hospitals where she practiced her nursing (O'Connor and Robertson, 2001).

The ICN published guidelines for Scientific Nursing Research development in 1985. This was a demonstration of its commitment to development of Scientific Nursing Research worldwide. Since then nursing research has been included directly or indirectly in nursing curricula. Isabel Hampton in the United States presented the first nursing scientific paper (Karani et al. 2003).

The development and maturation of nursing research in United States underwent four phases: the stimulated, the individualistic, the unified and the balanced phases. The stimulated phase was characterized by enthusiasm for nursing research. In the individualistic phase, individual nurses embarked on conducting research with technical assistance from statisticians or pure researchers. In unified phase, nurse-researchers contributed numerous research studies related to some phenomenon such as pain and stress. Collaborative scholarly programs that are adequately supported by well-developed infrastructure exemplify the balanced phase (Glazer and De Keyser, 2000).

According to WHO (2001) report majority of Scientific Nursing Research in the African region are either part of school experience or are investigations conducted by physicians with nurses and midwives serving as data collectors. It also reports that only nine countries in Africa have undertaken new research initiative since 1992.

Scientific Nursing Research came into being with introduction of post-basic programs in 1960s. Though nurses were introduced to research principles and methods, it only served academic purposes. In Kenya, the Ministry of Health under the guidance of the expatriate Nurse-Consultant Bylon conducted the first major scientific nursing research, in 1976 on *Nursing Manpower Development* (Karani et al, 2003).

Glazer and De Keyser (2000) and Kivuti-Bitok & Karani (2005) assert that there are many nurses in research institutions and institutions of higher learning globally and in Kenya respectively, however literature could not be accessed/traced on the quantity and quality of these studies.

### **1.3 Statement of the problem**

Currently, there is pressure to move to evidence-based practice (Hick, 1997). It reports that evidence base of nursing and midwifery is growing but at its infancy stage (WHO, 2001).

Ndune (1995) asserts that very little scientific nursing research has been done in Kenya and even where it has been done; it has not translated to improve nursing practice. Documentation of scientific nursing research in the KNH is not available. However, it is estimated that the proportion of RNs in KNH who have undertaken research is less than 20% (KNH, Training unit / Rahimtulla Wing as at December 2005).

It is a forgone conclusion that Scientific Nursing Research is the obligation of every nurse. Whereby the principles and methods of Scientific Nursing Research was introduced 25 years ago in Kenya in the post-basic nursing curricula ( Karani et al, 2003), there is knowledge gap as to why the proportions of nurses who undertake scientific nursing research is still minimal.

Since minimal research has been done by the RNs in Kenya and particularly at the KNH, this study aims at assessing the knowledge, attitudes and practices of Registered Nurses on Scientific Nursing Research at the KNH.



#### **1.4 Justification**

The study has addressed the knowledge-practice gap of Scientific Nursing Research. The information gathered is handy in streamlining Nursing Education in Kenya particularly in development and/or evaluation of Nursing Curricula with the view of addressing the apparent knowledge-practice gap of Scientific Nursing Research.

Oloo (1980) adds that if nurses do not undertake Scientific Nursing Research, they will continue using the knowledge acquired during their training years and nursing knowledge will remain stagnant. Then this study contributed new information to growing nursing body of knowledge and theory development.

#### **1.5 Significance of the study**

This study was worth it because the study came up with vital information and recommendations on factors influencing Scientific Nursing Research and by extension evidence-based care which the healthcare managers will use it to set up structures/units, policies and/or strategies that facilitate Scientific Nursing Research which forms the basis of evidence-based practice (Endrawes, 2005) in Kenya. The end product of this study was rejuvenated evidence-based practice in Kenya and specifically in KNH. Some of the benefits of the consequent evidence-based practice are; the cost of healthcare will be reduced, inpatient hospital stay will be grossly reduced, and there will be better healthcare outputs in terms of reduced morbidity and mortality rates by the Kenyan public.

## **1.6 Objectives**

### **Broad objective**

To assess knowledge, attitudes, and practice of RNs on Scientific Nursing Research at KNII.

### **Specific objectives**

1. To determine the socio-demographic characteristics of the RNs at the KNII.
2. To assess the attitudes of the RNs towards Scientific Nursing Research at the KNII.
3. To assess the level of knowledge of the RNs on Scientific Nursing Research.
4. To determine the practices of Scientific Nursing Research among the RNs at the KNII.
5. To determine factors influencing access of RNs to scientific nursing research.
6. To relate socio-demographic characteristics, level of knowledge and attitudes of RNs towards Scientific Nursing Research to their practice of Scientific Nursing Research at the KNII.

## **1.7 Hypothesis**

1. There is no significant relationship between the training background of RNs at KNII and their practice of Scientific Nursing Research.
2. There is no significant relationship between attitudes of RNs towards Scientific Nursing Research and their practice of scientific nursing research.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Practice of scientific nursing research.

The nursing discipline has been actively seeking opportunities to improve clinical practice. However, nurse leaders have professed that a large gap exists between research and its implementation in the practice setting. Unfortunately this consensus among nursing leaders appears to be an intuitive guess since there is little empirical data to support the existence or depth of such knowledge practice gap in nursing (Rose and Parker, 1997).

In the recent past there has been pressure to move towards evidence-based practice. However, considerable proportions of nursing interventions continue to be founded on time honored tradition and historical precedent (Hick, 1997).

Most of the Scientific Nursing Research is concentrated and well developed in North America and Europe. Although some Scientific Nursing Research exists in other parts of the world, work has often not been published, translated or disseminated. Furthermore, the adoption of Scientific Nursing Research findings to different cultural background is lacking. Although evidence base for nursing and midwifery is growing, it is still at its infancy stage (WHO, 2001).

In Germany Scientific Nursing Research has dealt mainly with shortages, fluctuations, motivation, stress and working conditions. neither on characteristics of working nursing care nor on specific group of nurses. A milestone in Scientific Nursing Research in German was the completion of the first government funded Scientific Nursing Research project entitled *"Assessment and development of holistic and rehabilitation nursing care on the example of people with stroke"* according to German Nurses Association in 1991 (Bartholomeyczak et al, 1992).

In Europe there has been broad and diverse range of Scientific Nursing Research activities over the past two to three years. However, Scientific Nursing Research has been hindered by limited funding, strained research infrastructures, limited supply of nursing and midwifery researchers and lack of acknowledgement by higher authorities of the importance of such research initiatives (WHO, 2001).

Fetham and William (2004) assert that until recently, few nurse researchers have achieved strong interdisciplinary collaboration as a mechanism to support Scientific Nursing Research. One reason for this may be that lower funding level for Scientific Nursing Research resulted in cost-containing effort that severely curtailed nursing involvement in highly technological interdisciplinary research.

In the United States, Professional Associations have established databases of researchers and research libraries, journals, conferences and meetings. The planning, development, performance and evaluation of Scientific Nursing Research as well as dissemination of Scientific Nursing Research via publication and presentation takes time and therefore individuals need to sacrifice their time for Scientific Nursing Research. Creating an environment for Scientific Nursing Research to flourish is a long process. Institutions can begin by including research activities in role description, rewarding nurses involved in research, establishing research peer review process comprised of nurses, providing consultation and making library resources available (Cantril et al 2003).

Fetham (2004) argued that though nurses represent the largest number of health professionals globally and are most often at the frontline at the delivery of health care. However, their numbers don't assure nursing at many policy tables. She encourages deliberate and diligent actions by nurses in order to gain positions and to be heard in their efforts to inform policy.

Gilazer and De Keyser (2000) identified seven major areas omitted in Scientific Nursing Research as follows; research on nurse researchers, why nurses do the research, what is being

produced, research about nursing associations, research about non-responsive patients and master plan for research. They believed that it is important to acknowledge achievements and omissions in order to project for the future.

Scientific Nursing Research on the experience of illness is well developed and seems as a testament to the commitment of Australian Nursing profession to understanding the human response aspect of health care delivery (Stein-Parbury 2000).

In Brazil, the National forum of Graduate program coordinators met in Salvador, Bahia in June 2005 and recommended research in areas of nursing practice, nursing profession and organizational nursing. The recommendations served as a basis for establishment of research priorities (Robinson, 2005).

Robinson (2005) reports that the response of nurses to a call for Scientific Nursing Research abstracts for the ICN Conference in Taiwan in the year 2005 was overwhelming. There were 2500 abstracts from 52 different countries and only four had originated from Africa and only one from Kenya.

Rose and Parker (1997) reported that a Journal of Advanced Nursing (1981) recorded why nurse practitioners do not put research into practice as follows: -

- Nurses do not know about research findings.
- Nurses do not understand the research findings.
- Nurses do not believe in the research findings.
- Nurses do not know how to use the research findings.
- Nurses are not allowed to use the research findings.

In Senegal research is part of nursing and midwifery education, but it is only developed to a very small extent. Mozambique also reports increasing participation in research activities but such studies are linked to educational or academic programs (WHIO, 2001).

Very little nursing research seems to have been done in Kenya and thus it is recommended that research methods section be created for Scientific Nursing Research. Research in nursing will provide the profession with a base, which can be depended on grounds of scientifically established knowledge (Ndune, 1995).

Scientific Nursing Research is least developed area of nursing profession in Kenya and indeed nurses are extremely limited in their ability to use research as an argument to support nursing view on health policy. The communication of research findings is another area that requires concerted effort by the profession. For nursing knowledge to be effectively and efficiently communicated both between nurses and the general public, Scientific Nursing Research findings needs to be translated into the simple language (Rodger, 1989).

The best evidence for practice in nursing comes from Scientific Nursing Research.

The public has lots of expectations of the nurses and for this to be guaranteed, evidence based practice needs to be put in place (Maina, 2004).

## **2.2 Knowledge of scientific nursing research**

In the study done by Estabrook et al (2003) on individual determinants of research utilization, one of the potential determinants of research utilization is educational preparation.

Australian nurses in clinical settings undertake clinical research as an educational endeavor that is completed on their own time with the constraints of limited resources (Stein-Parbury, 2000).

It is argued (Stein-Parbury, 2000) that the factor, which has led to the proliferation of Scientific Nursing Research in Australia, is creation of clinical professor's positions. Clinical professors hold positions in the academies but are placed in clinical settings and funded by the Government or private endowments. These innovative roles have enabled suitable qualified academic nurses to work closely with nurses in clinical settings in research endeavors, thus serving the theory –

practice gap. They provide technical consultation and conduct research that is relevant to the nurses on the ground.

Most developing countries lack critical masses of nurses and midwives with strong knowledge and research skills. Constraints that still prevent access to and application of existing evidence are: lack of publishing skills, few national journals, moderate access to technology and limited translation/adaptation of findings to different cultural/healthcare contexts (WHO, 2001).

In Zimbabwe academic nursing programs at various levels include Health Assessment, Nursing Process and Scientific Nursing Research. The master's degree student carry out dissertations utilizing Co-relational Research analysis methods to enable examine the relationship nursing variables in the clinical majors and health outcome in order to provide basis for evidence-based practice. Scientific Nursing Research provides understanding of clients' vast health problems and forms a sound basis for the appropriate nursing care. It is anticipated that there will be regular research conferences to facilitate research dissemination of findings and enhance evidence-based practice (Mapanga and Mapanga, 2000).

A study by Kangethe et al (2005) in Faculty of Health Science in Moi University, (document analysis for research courses), established that there is no research course offered entirely. However, some content is offered with research content in the innovative approach known as the Community Based Education and Services (COBES). It further adds that the curricular at the Kenya Medical Training College except for Diploma in Medical Education exposed trainees to research knowledge not by actual coursework, but by allowing the student to do what is referred to as Research Project.

Undergraduate nurses are better prepared in Research and Management and are therefore expected to do intensive and continuous Scientific Nursing Research in their areas of practice. Scientific Nursing Research goes hand in hand with application of its evidence in clinical decision-making as a step towards evidence based practice (Kivuti-Bitok and Karani 2005).

Mungai (2002) recorded a speech by Mrs. Muiva a renowned nurse educator while launching mobile libraries for nursing and health in which she encouraged nurses to venture into areas inadequately addressed in Scientific Nursing Research which will enhance the now acceptable approach of evidence-based practice to improve care.

National Nurses Association of Kenya has been producing nursing journal since 1972 to date. However, there was a two-year break in the years (1998 and 1999) due to shortage of Scientific Articles (Kivuti-Bitok and Karani, 2005).

### **2.3 Attitudes of nurses towards scientific nursing research**

The study done by Estabrook et al (2003) on individual determinants of Scientific Nursing Research utilization, one of the potential determinants of research use is beliefs and attitudes of nurses.

Sentiments have been expressed that nursing research does not address real issues in nursing practice (Stein-Parbury, 2000).

In Australia, O'Callaghan (2001) suggests that lip service has been given to evidence based policies and healthcare decisions are often based upon tradition, opinion, common sense and intuition without proper attention to the best available evidence.

A study done by Estabrook et al(2003) in United Kingdom on individual determinants of Scientific Nursing Research utilization reported attitude as the most pronounced determinant.

Positive attitudes towards Scientific Nursing Research were recorded in studies done in Korea (Hakhoechi, 2005), in Northern Ireland (Parahoo, 1999) and in Finland (Kivipappelomakim and Tuomi 2005). However, the perception of use of Scientific Nursing Research in practice indicates that evidence-based practice is far from being realized (Parahoo, 1999).



Happel (2004) records that the available literature suggest that nurses engaged in clinical practice hold a somewhat ambivalent attitude towards nursing research its value is acknowledged in one hand but on the other its relevance to clinical practice is questioned.

Cormack (1991) thought that nurses felt insecure assuming research roles and attempt to evade it by creating roles and attempt to evade it by creating other more urgent demands for their time.

Chitty (1997) asserts that nurses acquired the attitude that research is boring and composed of non-sensical syllables that they have to memorize just for the sake of passing exams.

Though Scientific Nursing Research is acknowledged there are still many arguments in favor of leaving research in nursing well alone. Some of this arguments stress the agency of other nursing activities at a time of scarce resources (Cormack 1991).

A study by Hicks(1995) as recorded by Endrawes(2000) showed that age difference among nurses played a role in nurses attitudes towards the use of evidence-based practice with younger nurses (21-30years) being more likely to value, conduct and use research findings in their practice than others. It is also records that fear of the unknown prevent nurses from exploring new ideas and change in their practice.

# THEORETICAL FRAMEWORK

## SYSTEM THEORY

### INPUT

- 1) Training Cost
- 2) Human being with their characteristics
  - Socio-demographic
  - Experience
  - Attitudes
- 3) Time Availability
- 4) Technological resources e.g computers
- 5) Informational resources e.g library resources

### THROUGHPUTS

- Training / educational process
  - Research methods and principles
  - Nursing theories
  - Change personal characteristics in favour of research
  - Update courses

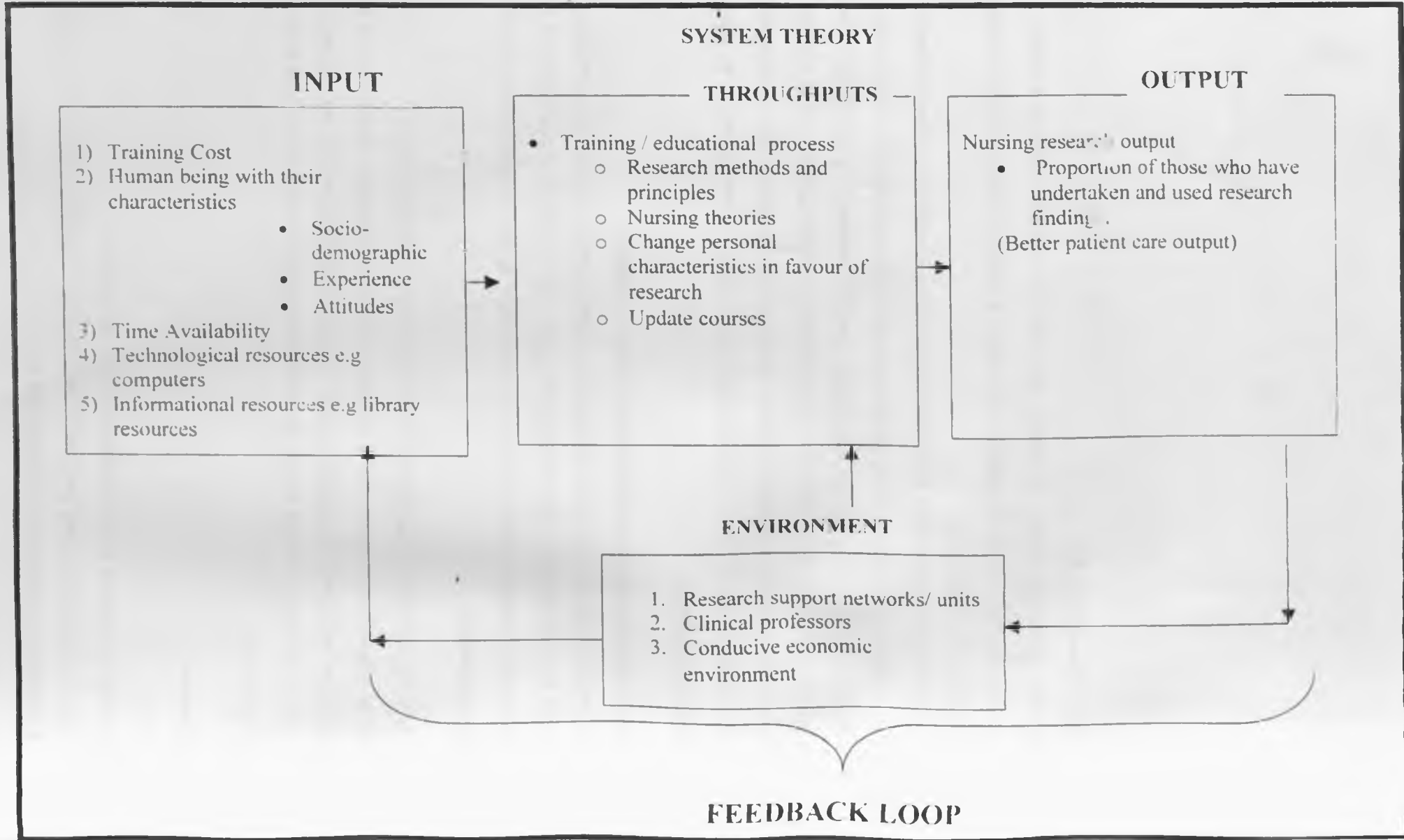
### OUTPUT

- Nursing research output
- Proportion of those who have undertaken and used research finding .  
(Better patient care output)

### ENVIRONMENT

1. Research support networks/ units
2. Clinical professors
3. Conducive economic environment

### FEEDBACK LOOP



## **2.4 Theoretical framework – Systems Theory**

A system is set of interrelated and interdependent parts. A subsystem is part of a system combination of systems forms a supra system (Gillies, 1994).

### **Subsystems**

#### ***Input Subsystem***

The input subsystems consist of all the resources that are needed for performance of Scientific Nursing Research (Gillies, 1994). Scientific Nursing Research takes financial resources, technological resources e.g. computer facilities, information resources (such as libraries, conferences and professional organizations) and time availability.

#### ***Output Subsystem***

These are the outcomes or end products of the system; in our case the outputs are the Scientific Nursing Research findings (Gillies, 1994). These outputs can be measured in the proportion of nurses who have undertaken nursing research, proportion of registered nurses who have accessed and applied nursing research findings.

#### ***Throughput Subsystem***

This subsystem represents the processes that take place so that elements of input subsystem are converted to output subsystems elements (Gillies, 1994). One of the major processes of this subsystem is training. Training involves empowering the RNs with the knowledge necessary for conducting Scientific Nursing Research. Training/education will also enhance the conversion of human resources characteristics (such as attitudes, beliefs, values and social-demographic characteristics) are converted to favor production of Scientific Nursing Research.

Education or training of nursing theories will form a knowledge base for doing nursing professional which will hence be tested, validated or otherwise rejected through a systematic research process.

### *Environment Subsystem*

The process of converting the inputs to outputs happens within a particular context called the environment (Gillies, 1994). It adds that the inputs and outputs come from and go back to the environment. The environment may have negative or positive effect to the system and vice versa via a feedback communication model (Gillies, 1994). The environment influences directly or indirectly the inputs and the throughput subsystems. Some elements of the environment subsystem are in this case research facilities, managers' support and economic environment. The vibrant economic environment encourages Scientific Nursing Research, while poor economy does the opposite. The presence of research facilities will support research by providing consultation services, empowering the nurses with research knowledge and motivation to undertake Scientific Nursing Research.

## CHAPTER THREE

### STUDY METHODOLOGY

#### 3.1 Study Area

The study is in KNH which is in Nairobi, a city in south central Kenya, the capital of the country, located just south of the equator. The city of Nairobi covers an area of about 680 sq km (about 260 sq miles) at an average altitude of 1675 m (5495 ft) above sea level (Maxon, 2000).

KNH has one thousand four hundred nurses with approximately six hundred being Registered Nurses while the rest are Enrolled Nurses (KNH, Personnel Department, and December 2005).

#### 3.2 Study population

All the RNs working at the KNH totaling 600 in number (KNH, Human Resource Department as at December 2005).

#### 3.3 Study design

Broadly, this was both Qualitative and Quantitative research in that it produced both categorical and quantifiable data respectively. Specifically, this was a descriptive cross sectional study in that data was collected from study subjects for a period of a month to assess the current status (then) of the RNs population in KNH with particular interest to their socio-demographic characteristics, their training background, their attitudes and factors limiting access to research on a Likert scale and the proportions who have undertaken research. Consequently, the data obtained was used to test hypothesis earlier stated.

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### 3.4 Sampling

#### 3.4.1 Sample size

The sample size is determined using the following formula;

$$n = \frac{z^2 pq}{d^2} \quad (\text{Mugenda \& Mugenda, 2003}).$$

**p** = is the estimated proportion of RNs with the characteristic being measured (the proportion of RNs who have undertaken Scientific Nursing Research in KNH) being 0.2 (20%)

**q** = is (1-p) or (1-0.2) or 0.8

**d** = the significance level at the confidence interval of 95% being 0.05

**z** = is the Standard Normal Deviate at the confidence interval of 95% being 1.96

$$n = \frac{1.96^2 \times 0.2 \times 0.8}{0.05^2}$$

$$n = 245.9$$

Where the population is less than 10,000 you apply the second formula:

(NB: KNH RNs population is 600)

$$nf = \frac{n}{(1 + n/N)} \quad (\text{Mugenda \& Mugenda, 2003}).$$

**nf** = is the desired sample size.

**n** = is the sample obtained from the first formula above being 245.9.

**N** = is the number of the identified population being 600.

$$nf = \frac{245.9}{1 + 245.9/600}$$

$$nf \approx 174$$

### 3.4.2 Sampling method

Purposive sampling of Kenyatta National Hospital was done for being a national teaching and referral hospital. KNH was stratified into eight strata namely: Orthopedic, General Surgical, Medical, Outpatient/Casualty, Obstetric/Gynecologic, Intensive Care/High Dependency units, Pediatric, and Burns unit RNs.

Number of study subjects from each stratum was proportionate to the total number of RNs in each stratum. Convenient sampling was then used to identify the specific study subjects from each stratum.

**Table 1: Sample Distribution (Proportionate Stratified Sampling)**

STRATA	NUMBER OF RNs	% OF RNs	SAMPLE NUMBER
Orthopedic,	55	9	16
General Surgical	85	14	24
Medical,	95	16	28
Outpatient/Casualty	87	14	24
Obstetric/Gynecologic	77	13	23
ICU/HDU	110	18	31
Burns unit	15	3	5
Pediatric	76	13	23
<b>TOTAL</b>	<b><u>600</u></b>	<b><u>100</u></b>	<b><u>174</u></b>

### 3.4.3 Inclusion criteria

- RNs in the institution under study that voluntarily consented.

### 3.4.4 Exclusion criteria

- Those who did not voluntarily consented.
- Those who were not on duty during the time of data collection.

### **3.5 Study instrument**

The chosen study instrument was Structured Questionnaires based on the fact that they are easy to administer, to analyze and are economical in terms of time and money. The two major disadvantages of the Structured Questionnaire was that the responses (options) provided may not be exhaustive and may also not be clear. This instrument limitation was tackled in two ways; first, by including the open category of 'Other' option to take care of the responses not included and secondly, by Pre-testing the instrument in a selected health facility. The instrument was pre-tested for clarity and to ensure it includes all the relevant information to the study. The pre-testing was done at the Mbagathi District Hospital (MDH), which was not part of the ultimate study. The sample pre-tested represented 10% of the study sample (around 17 RNs) who were conveniently identified in MDH.

### **3.6 Data collection**

The data was collected using self-administered Structured Questionnaires with the help of four trained Research Assistants who had been trained prior to the study. In each Questionnaire was a Consent Form which every consenting study subject was to voluntarily append their signature before filling it. The study population of 600 RNs was stratified proportionately into eight sections based on where they worked namely; Orthopedic wards/units, General Surgical wards/units, Medical wards/units, Outpatient/Casualty wards/units, Obstetrics/Gynecologic wards/units, ICU/HDU, Burns unit and Pediatric wards/units strata. A total of 174 study subject was conveniently identified proportionate to the RNs population within each stratum.



### **3.7 Data management**

The raw data was be cleaned to identify and eliminate incomplete and incomprehensible Questionnaires. Each and every response in the Questionnaire was then coded and entered into a computer for analysis using Statistical Package for Social Sciences (SPSS).

Frequencies were then obtained for each and every question item in the Questionnaire. Descriptive statistics were used to summarize the findings these are the Measures of Central Tendencies used to display the expected measurements or group of measurements and secondly Percentages used to compare groups or categories with regard to variables under study.

The results were presented in form of tables, pie charts and graphs.

Associations between Categorical Variables will be determined using Chi Square test of significance.

### **3.8 Ethical issues in the study**

- Approval to carry out the study was obtained from:
  - 1) The Ethics and Research Committees overseeing Kenyatta National Hospital.
  - 2) The Ministry of Health to do the pre-test in Mbagathi District Hospital.
  - 3) The Ministry of Science and Technology.
  
- The participation in the research was voluntary.
- Privacy and confidentiality principles was upheld (anonymous questionnaires, information gathered from the study was used only for the intended purpose and with utmost confidence)
- A feedback on the research findings was given to the relevant authorities.
- Consent was obtained from the study subjects.

### **3.9 Study limitations**

- Recall biases by the RNs during data collection affected the quality of data.
- The study was done in a public teaching and referral hospital and therefore the findings may not be generalized to private hospitals and other lower level public hospitals (Provincial Hospitals, District Hospitals, Health Centers and Dispensaries).

## CHAPTER FOUR

### FINDINGS

This was a descriptive study aimed at assessing knowledge, attitudes and practices of scientific Nursing research among the Registered Nurses in Kenyatta National Hospital. Among the 174 questionnaires administered 157 questionnaires were returned, representing around 90% of the target sample size.

This chapter of findings is divided into eight major parts; socio-demographic characteristics, knowledge and update courses, attitudes, factors of access to research, the practice of research, association of the RNs socio-demographic characteristics with the practice of research, association of knowledge and update courses with the practice of research and association of attitudes and factors of access with the practice of research.

#### **4.1. Socio-Demographic Characteristics.**

About sixty four percent (64.3%) of the respondents were females and 35.7% were male. Most of the respondents were married (61.1%) compared to 38.9% who were unmarried (not in marriage). On religious affiliation most of the respondents were Christians (93.0%) while only 7% were Muslims. (Refer to Table 2)

Most of the respondents (96.2%) had been introduced to the basic concepts of Scientific Nursing Research during their formative training; however, 3.8% of the respondents indicated they never had an introduction to scientific nursing research concepts during their formative training. (Refer to Table 2)

About eighty five percent (84.7%) of the respondents were under the age of forty years while the remaining 15.3% were over the age of forty years. (Refer to Table 2)

Experience of the respondents was distributed as in Table 4a, 77.1% of the respondents had worked for a period of less than 10 years, 19.1% had the experience of between 11 years to 20 years, and only 3.8% had worked for over 20 years. (Refer to Table 2)

On ward placement 63.7% of the respondents were from the General wards while the rest were from the specialized units. (Refer to Table 2)

**Table 2 : Socio-demographic findings**

<b>Gender</b>			
	<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
	Male	56	35.7
	Female	101	64.3
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Marital status</b>			
		<b>Frequency</b>	<b>Percent</b>
	Married	96	61.1
	Unmarried	61	38.9
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Religion</b>			
		<b>Frequency</b>	<b>Percent</b>
	Christianity	146	93
	Islam	11	7
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Years of practice</b>			
		<b>Frequency</b>	<b>Percent</b>
	0 - 10 Years	121	77.1
	11 - 20 Years	30	19.1
	Over 20 Years	6	3.8
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Age group</b>			
		<b>Frequency</b>	<b>Percent</b>
	20 - 29 Years	62	39.5
	30 - 39 Years	71	45.2
	40 - 49 Years	19	12.1
	50 - 59 Years	5	3.2
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Years of practice</b>			
		<b>Frequency</b>	<b>Percent</b>
	0 - 10 Years	121	77.1
	11 - 20 Years	30	19.1
	Over 20 Years	6	3.8
	<b>Total</b>	<b>157</b>	<b>100</b>
<b>Ward placement</b>			
		<b>Frequency</b>	<b>Percent</b>
	General wards/Units	123	73.3
	Specialized wards/units	34	21.7
	<b>Total</b>	<b>157</b>	<b>100</b>

The respondents had three levels of professional training and the distribution was as follows: Registered nurses at Diploma level (92.4%), RNs at Bachelors Level (6.5%), and Registered Nurses at Masters Level (1.3 %). (Refer to FIG 1)

## NURSING EDUCATION LEVEL

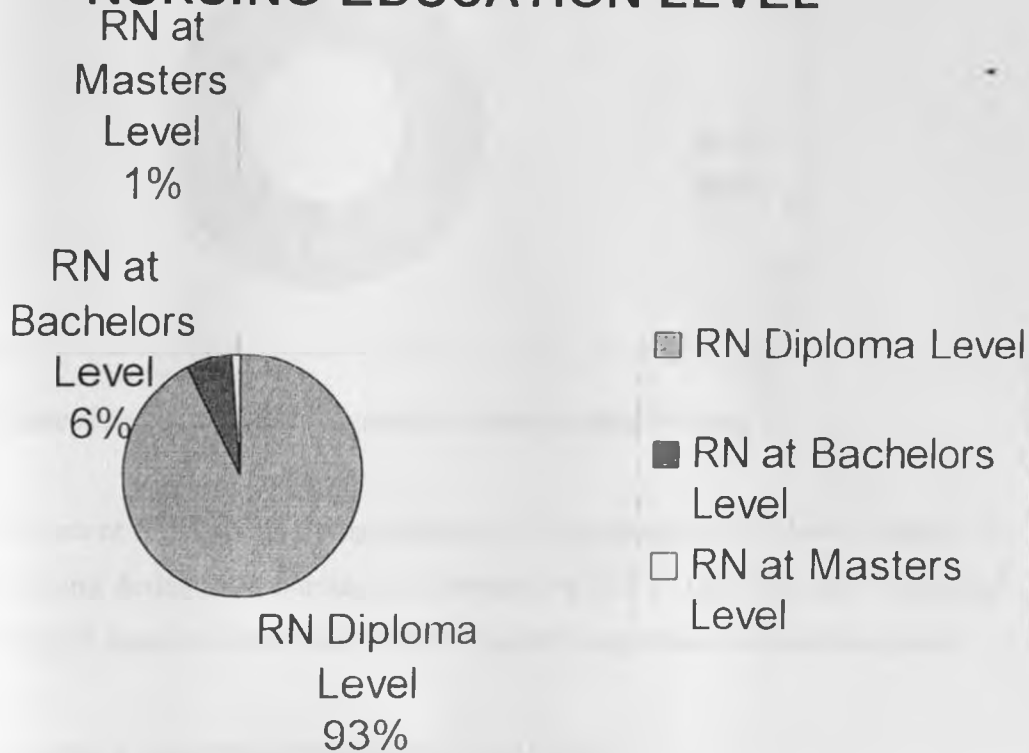
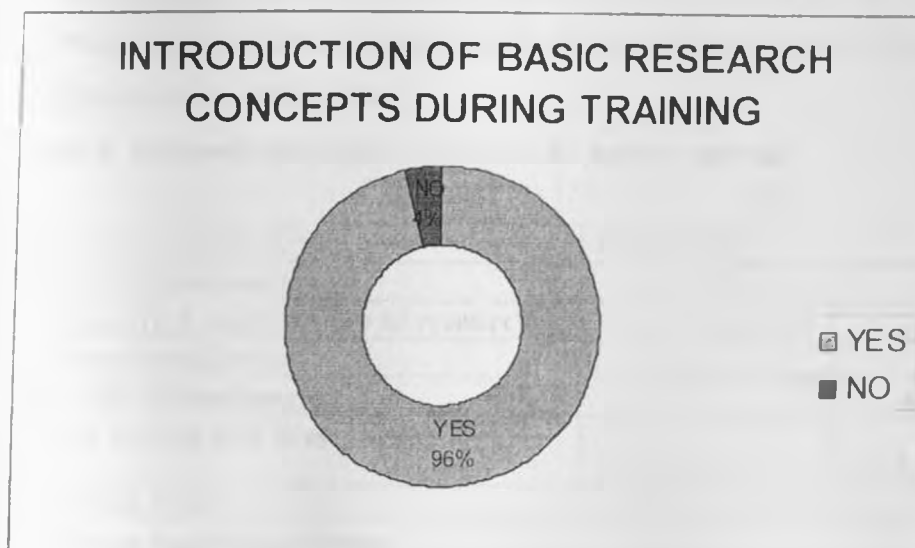


Figure 1: Nursing educational level

## 4.2. Knowledge and Update Courses.



**Figure 2: Introduction of basic research concepts during training**

Ninety six percent (96%) of the respondents had been introduced to basic concepts of scientific nursing during their training as illustrated by FIG 2. They had been introduced to the 8 concepts listed below in Table 3 based on their magnitude in descending order.

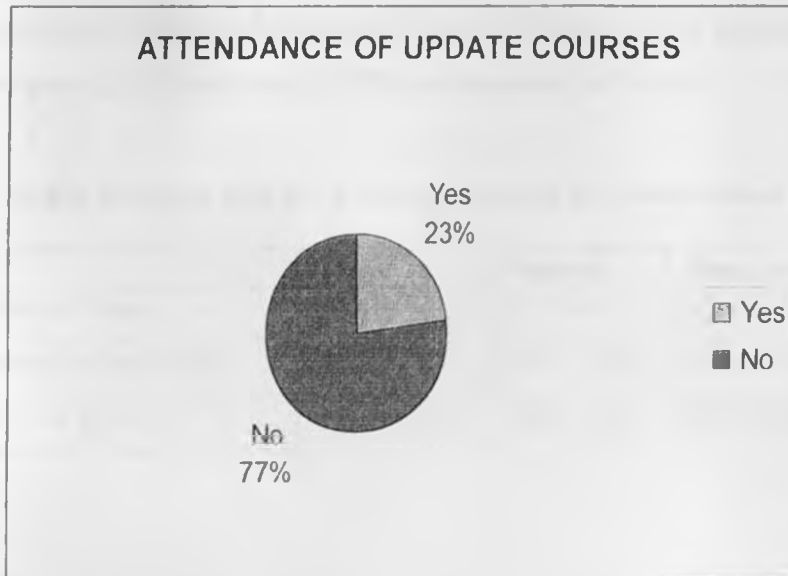
**Table 3: Research concepts introduced during training**

RESEARCH CONCEPTS	PERCENT
<b>Research Methodology</b>	<b>92.1%</b>
<b>Method of data analysis</b>	<b>83.4%</b>
<b>Report writing and presentation</b>	<b>83.4%</b>
<b>Problem identification</b>	<b>67.5%</b>
<b>Literature review</b>	<b>59.6%</b>
<b>Meaning, type and purpose of research</b>	<b>58.9%</b>
<b>Research instrument development</b>	<b>46.4%</b>
<b>Limitation and ethical issues</b>	<b>40.4%</b>

Only about twenty three percent (22.9%) of the respondents indicated they had attended refresher courses since they started practicing as illustrated in FIG 3. Those who had update courses had the 8 concepts listed below in Table 4 based on their magnitude of attendance in descending order.

**Table 4: Research concepts covered in the update courses**

RESEARCH CONCEPTS	PERCENT
Method of data analysis	69.4%
Meaning, type and purpose of research	69.4%
Problem identification	66.7%
Research Methodology	66.7%
Report writing and presentation	63.9%
Literature review	50.0%
Limitation and ethical issues	47.2%
Research instrument development	41.7%



**Figure 3: Attendance of update courses**

### 4.3. Attitudes

Table 5 indicates the perceptions of the respondents on what they feel are the factors limiting the performance of scientific nursing research. Most, over fifty percent disagreed with the statements in the table.

**Table 5: Attitudes and the RNs responses on a Likert scale of 3**

	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>TOTAL</b>
Complexity of research concepts	43(27.4%)	43(27.4%)	71(45.2%)	157(100%)
Boredom of research	20(12.7%)	26(16.6%)	111(70.7%)	157(100%)
Insignificance of nursing research	13(8.2%)	5(3.2%)	139(88.5%)	157(100%)
Irrelevance of research to nursing	7(4.5%)	3(1.9%)	147(93.6%)	157(100%)

### 4.4. Factors of access to research

The major limitations of access to undertaking of scientific nursing research as indicated by the respondents are unavailability of funds (91.7%), lack of supportive authorities (80.9%) and unavailability of time (57.3%) as illustrated in Table 6.

**Table 6 : Factors of access and the RNs responses on a Likert scale of 3**

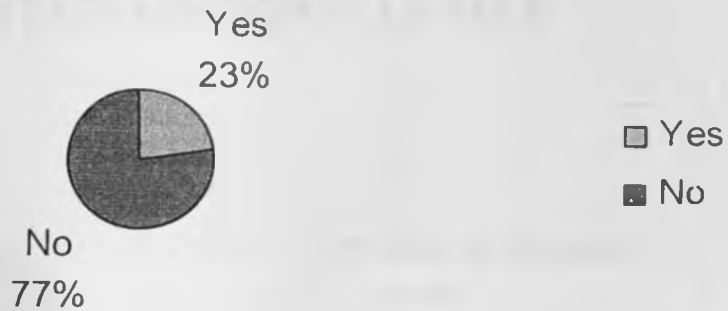
	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>TOTAL</b>
Unavailability of funds	144(91.7%)	8(5.1%)	5(3.2%)	157(100%)
Lack of supportive authorities	127(80.9%)	20(12.7%)	10(6.4%)	157(100%)
Unavailability of time	90(57.3%)	18(11.5%)	49(31.2%)	157(100%)

### 4.5. Practice

Only about twenty three percent (22.9%) of the respondents had undertaken at least one scientific nursing research while the remaining 77.1% had not as illustrated by FIG 4.

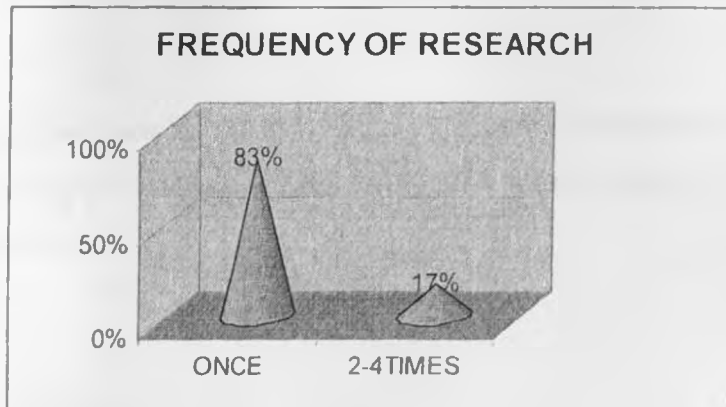


## PRACTICE OF SCIENTIFIC NURSING RESEARCH



**Figure 4: Practice of scientific nursing research**

On further inquiry, majority about eighty three percent (83.4%) had undertaken it once and only 16.6% had done it between 2-4 times in their professional life. (Refer to FIG 5)

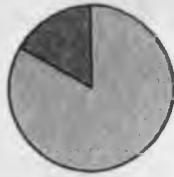


**Figure 5: Frequency of research**

On further inquiry, eighty four percent (84%) of the studies had been done by the RNs at Diploma level compared with 16% that had been done by the RNs at Bachelor's and Master's level as illustrated by the following FIG 6.

## THE PRACTICE OF RESEARCH IN DIFFERENT EDUCATIONAL LEVELS

RNs at Bachelor's & Master's level, 17%

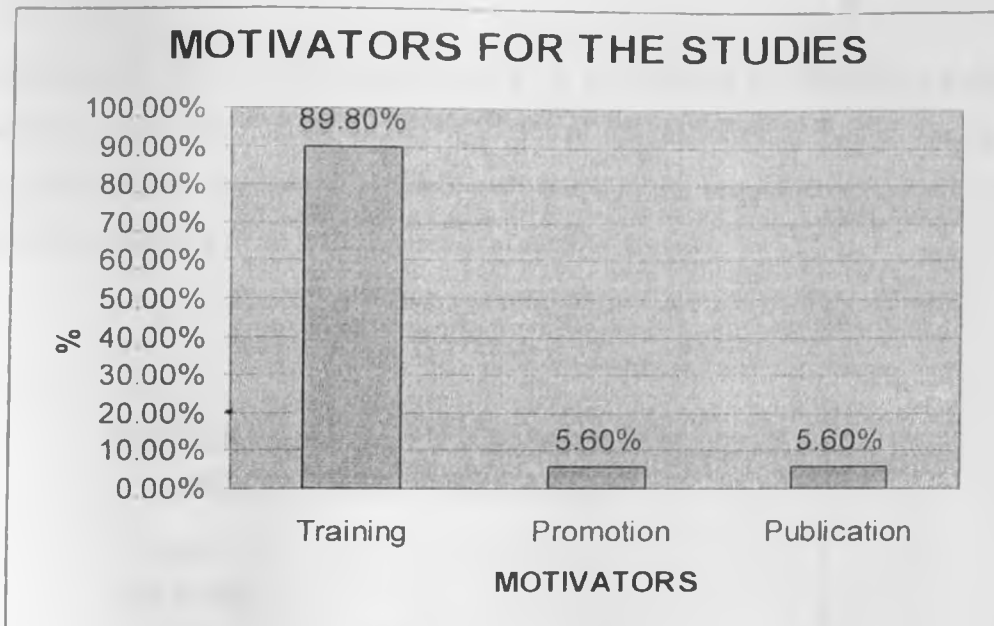


RNs at Diploma level, 83%

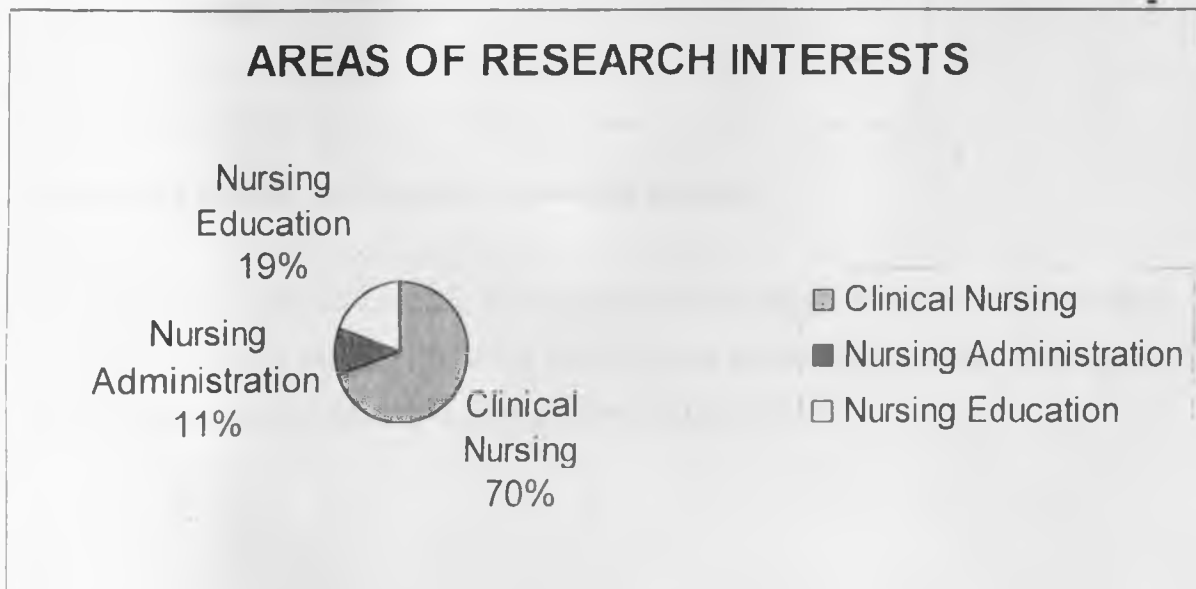
- RNs at Diploma level
- RNs at Bachelor's & Master's level

**Figure 6 : The practice of scientific nursing research in different educational levels**

About eighty nine percent (88.8%) of the respondents did research because it was mandatory part of their training process, and the rest did it either for promotion (5.6%) or for publication (5.6%) as illustrated by FIG 7.



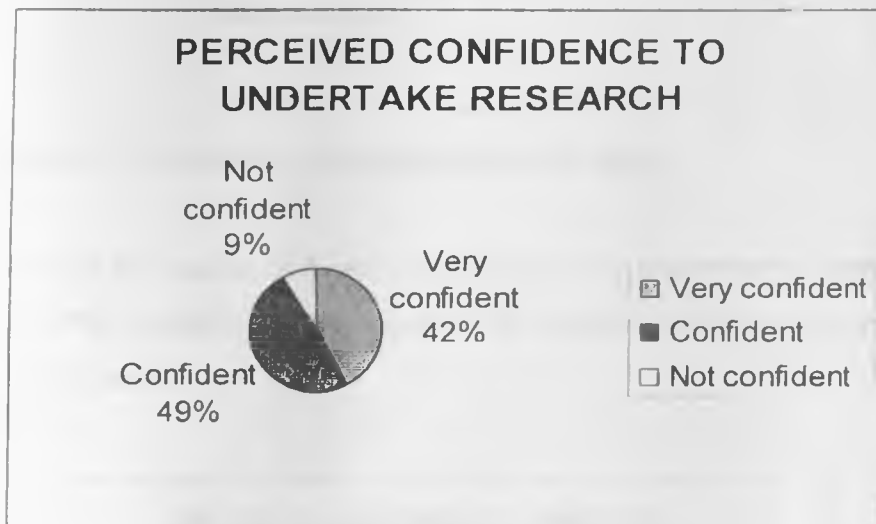
**Figure 7: Motivation for the studies**



**Figure 8: Areas of research interests**

In areas in which the respondents who had undertaken scientific nursing research, the leading was clinical nursing (69.5%) followed by Nursing Education (19.4%) and the least was Nursing Administration with 11.1% as illustrated by FIG 8.

As illustrated by FIG 9, it was amazing how the respondents perceived their confidence to undertake scientific nursing research; 91.1% of the respondents thought that they are either confident or very confident while only 8.9% of the respondents thought that they lacked the confidence to undertake scientific nursing research.



**Figure 9: Perceived confidence to undertake research**

On frequency of use of scientific Nursing Research findings, 29.9% of the respondents indicated they have never used, 51.4% indicated they use sometimes, while 18.5% of the respondents indicated they use it often as illustrated by FIG 10.

## FREQUENCY OF USING RESEARCH FINDINGS



Figure 10 : Frequency of using research findings

Most of the studies had been done by the RNs placed on the Specialized units/wards (55.56%) compared to those placed on the General Units/wards (44.44%) as illustrated by FIG 11 below.

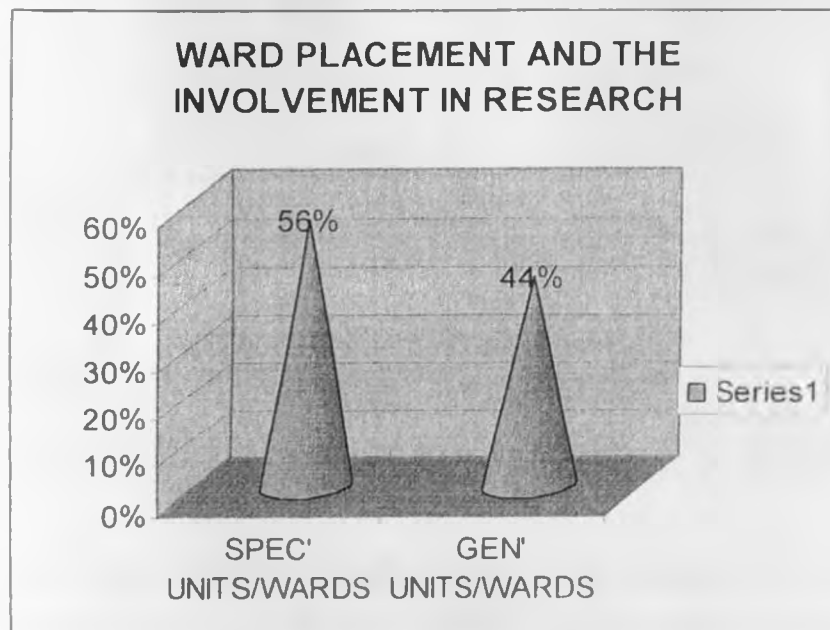


Figure 11: Ward placement and the involvement in research

#### 4.6 Association of Socio-demographic characteristics with the practice of research.

Table 7: Comparing socio-demographic characteristics with practice of scientific nursing research

	UNDERTAKEN RESEARCH YES	UNDERTAKEN RESEARCH NO	Total	Chi square	DEGREE OF FREEDOM	P value
<b>Ward placement</b>						
Specialized wards/units	20(35%)	37(65%)	57(100%)	7.485	1	0.006
General wards/units	16(16%)	84(84%)	100(100%)			
<b>Nursing education</b>						
RN at Diploma level	30(21%)	115(79%)	145(100%)	5.388	1	0.031
RN at Bachelor's and Master's level	6(14%)	37(86%)	43(100%)			
<b>Age group</b>						
20-29 years	10(16%)	52(84%)	62(100%)	3.328	2	0.189
30-39 years	18(25%)	53(75%)	71(100%)			
Over 40 years	8(33%)	16(67%)	24(100%)			
<b>Gender</b>						
Male	12(21%)	44(79%)	56(100%)	0.111	1	0.739
Female	24(24%)	77(76%)	101(100%)			
<b>Marital status</b>						
Unmarried	18(30%)	43(70%)	61(100%)	2.443	1	0.118
Married	18(19%)	78(81%)	96(100%)			
<b>Experience</b>						
Under 10 years	26(22%)	95(78%)	121(100%)		1	
Over 10 years	10(28%)	26(72%)	36(100%)	0.621		0.431

There was *statistically significant* relationship between RNs ward placement and Registered nurses practice of scientific nursing research with research practice being favored by 35% of all RNs in the specialized wards/units compared with 16% of all RNs in the General wards/Units. ( $X^2=7.485>3.841$ , P value =0.006 with 1 degree of freedom) as illustrated by Table 7.

As illustrated in Table 7 there was a *statistically significant* relationship between RNs nursing education background and their practice of scientific nursing research with research practice being favored by 21% of all the RNs with Diploma background compared with 14% of RNs with either Bachelor's or Master's degrees. ( $\chi^2=5.3385 > 3.841$ , P value =0.031 with 1 degree of freedom).

As illustrated in Table 7 there was *no statistically significant* relationship between the age (P value =0.189), gender (P value =0.739, marital status (P value =0.118) and work experience (P value =0.431) with the Registered nurses practice of scientific nursing research.

#### 4.7. Association of Knowledge and attendance of update courses with the practice of scientific nursing research.

**Table 8: Comparing Knowledge and Update Courses Attendance with the Practice of Scientific Nursing Research**

	UNDERTAKEN RESEARCH	UNDERTAKEN RESEARCH	Total	Chi square	DEGREE OF FREEDOM	P value
	YES	NO				
<b>Introduction to research concepts</b>						
Yes	35(23%)	116(77%)	151(100%)	0.138	1	0.710
No	1(17%)	5(83%)	6(100%)			
<b>Update courses</b>						
Yes	27(75%)	9(25%)	36(100%)	71.665	1	0.000
No	9(7%)	112(93%)	121(100%)			

As illustrated in Table 8 there was a *highly statistically significant* difference between attendance of update courses by the RNs and Registered nurses practice of scientific nursing research with research practice being favored by 75% of all the RNs who had attended update courses compared with 7% of RNs who had not attended. ( $\chi^2=71.665 > 3.841$ , P value =0.000 with 1 degree of freedom).

However, as illustrated by the Table 8, there was *no statistically significant* relationship between the introduction of basic research concepts during training of RNs and their practice of scientific nursing research (P value =0.710).

#### 4.8. Association of attitudes and factors of access with the practice of scientific Nursing research.

There was *no statistically significant* relationship between all factors of access to research and attitudes as compared to the practice of scientific nursing research (i value >0.05).

**Table 9: Comparing factors of access and attitudes to the practice of scientific nursing research.**

	UNDERTAKEN RESEARCH YES	UNDERTAKEN RESEARCH NO	Total	Chi square	DEGREE OF FREEDOM	P value
<b>Nursing research is insignificant to nursing</b>						
Agree	2 (29%)	5(71%)	7(100%)	1.022	2	0.600
Neutral	0(0%)	5(100%)	5(100%)			
Disagree	34(23%)	113(77%)	147(100%)			
<b>Irrelevance of nursing research</b>						
Agree	4(31%)	9(69%)	13(100%)	1.940	2	0.375
Neutral	0(0%)	5(100%)	5(100%)			
Disagree	32(22%)	107(78.2%)	147(100%)			
<b>Boredom to research</b>						
Agree	7(35%)	13(65%)	20(100%)	5.187	2	0.075
Neutral	2(8%)	24(92%)	26(100%)			
Disagree	27(24%)	84(76%)	111(100%)			
<b>Complexity of research</b>						
Agree	11(26%)	32(74%)	43(100%)	1.483	2	0.476
Neutral	7(16%)	36(84%)	43(100%)			
Disagree	18(16%)	53(84%)	111(100%)			
<b>Lack of support</b>						
Agree	32(25%)	95(75%)	127(100%)	2.310	2	0.310
Neutral	2(10%)	18(90%)	20(100%)			
Disagree	2(20%)	8(80%)	10(100%)			
<b>Unavailability of time</b>						
Agree	16(18%)	74(82%)	90(100%)	5.589	2	0.061
Neutral	3(17%)	15(83%)	18(100%)			
Disagree	17(35%)	32(65%)	49(100%)			
<b>Unavailability of funds</b>						
Agree	33(23%)	111(77%)	144(100%)	1.317	2	0.518
Neutral	1(33%)	2(67%)	3(100%)			
Disagree	2(29%)	5(71%)	7(100%)			



## CHAPTER FIVE

### DISCUSSION CONCLUSION AND RECOMMENDATION

#### 5.0 Discussion

Generally, ward placement, professional training background, attendance of update courses and factors of access to research had a significant influence on the practice of scientific nursing research.

#### 5.1.1 Socio-demographic characteristics

Out of all socio-demographic attributes, only ward placement and registered nurses educational background had significant relationship to the practice of scientific nursing research.

Most (35%) of the registered nurses who are placed on specialized units/ward had a greater tendency to undertake scientific nursing research compared to those rotating in the General Wards/units (16%). This may be attributed to specialized courses attended before being placed in the specialized units/ward and the motivation in the setting.

On registered nurses educational background, a lesser proportion (14%) of those prepared at Bachelor's and Master's level had undertaken scientific studies compared to 21% of those prepared at Diploma level (21%). Estabrook (2003) and Kivuti & Karani (2005) disagree with the findings and assert that the fact that undergraduate (and postgraduate) nurses are better prepared in research and management and therefore expected to do intensive and continuous scientific research in their areas of practice. However this dubious revelation of graduate and postgraduate nurses practice of research could be attributed to the fact that most of them are either newly appointed and therefore have limited financial resources or have been given positions of responsibility thus limiting on their time to do research.

Other attributes like age, marital status, religion, gender and years of practice had no significant relationship with the practice of scientific nursing research.

### **5.1.2 Knowledge and updates courses**

It was established that almost all the Registered nurses (96.2%) had gone through introduction to basic scientific nursing research studies during their training. WHO (2001) contradicts this finding by claiming that nursing profession has suffered from shortage of nurse and midwife researchers. This could be attributed to change in time of the two studies.

Though most of registered nurses had been introduced to scientific nursing research concepts during their training, it was shocking that only less than a third had attended update course on scientific nursing research. The proportion of those who had undertaken the update courses correlates to the proportion of registered nurses who had undertaken scientific nursing research. This may be linked to the fact knowledge is dynamic and needs to be constantly updated. This means there a direct proportionality between update courses and the practice of scientific nursing research.

### **5.1.3 Attitudes**

It was encouraging to note that the attitudes of Registered Nurses towards scientific nursing research is positive; around ninety four percent (93.6%) of the respondents conceded that research is relevant to nursing, around eighty nine percent (88.5%) of the respondents conceded that research has significance in nursing, around seventy one percent (70.7%) of the respondents conceded that research is not boring and around forty five percent (45.2%) of the respondents conceded that nursing research is not complex.

Positive attitudes towards scientific nursing research had earlier been recorded in other studies done in Korea (Hakhoechi, 2005), in Northern Ireland (Parahoo, 1999) and in Finland (Keupeppelomakim & Tuomi, 2005). However, this results contradicts with other published work particularly WHO (2001) which states that one of the limitation of scientific nursing research is lack of acknowledgement by nurse managers on its significance. The results on attitude also contradicts Chitty(1997) idea that argument that nurses acquired the attitude that research is boring and composed of non-sensical syllables that they have to memorize just to pass exams.

#### **5.1.4 Access to scientific nursing research**

Though most (91%) of the registered nurses are either confident or very confident to undertake research, at least 50% of the registered nurses indicated they have been grossly limited by the factors of accessibility to scientific nursing research such as unavailability of funds, lack of supportive authorities and unavailability of time.

In Europe the performance of scientific nursing research has been hampered by limited funding and strained infrastructure (WHO, 2001; Fetham & William, 2004). Cormack (1991) agrees with the results in the assertion that nurses prioritize other 'nursing activities' at the expense of scientific nursing research thanks to scarce time and financial resources. This simply means that the registered nurses are not prioritizing their valuable time and meager financial resources to doing research. They are also not being motivated or rewarded by their nurse managers/administrators to pursue scientific nursing research.

#### **5.1.5 Undertaking of scientific nursing research**

The study established that only 22.9% had undertaken scientific nursing research which positively corresponded with Ndune (1995) that very little nursing research has been done in Kenya.

The fact that most of the registered nurses did scientific nursing research as part of their training means they are barely motivated for it. This agrees WHO (2001) report that most of the scientific studies undertaken by the nurses in Senegal, Mozambique and Zimbabwe are only part of academic programs.

Among the three major branches of nursing profession, around 70% of the scientific studies had been done in Clinical Nursing compared to Nursing Education and Nursing Administration. This indicates that clinical nursing is better developed compared to nursing education and nursing administration. This agrees with Australia's case where nurses have been extremely engrossed in scientific nursing research on the experience of illness/clinical nursing research (Stein-Parbury, 2000).

### 5.1.6 Use of scientific nursing research findings

It is very shocking to discover that around 30% have never used scientific nursing research findings since they started their practice at this era of changing knowledge, this findings concurs with Rose & Parker (1997) assertion that there exist a large gap between research and its implementation in the nursing practice setting. This means the registered nurses are practicing obsolete nursing which may hinder evidence-based nursing.

Rodgers (1989) also concurs that though nurses have done some research, they are extremely limited in their ability to use its findings to support nurse's view on health policy and he argues that scientific nursing findings should be translated to simple language for easy comprehension.

## 5.2 Conclusion

The study brings to the fore the following facts that are of concern to all those in the nursing profession:

- ◆ Most of the Registered Nurses have had an introduction of scientific nursing research basic concepts in their training.
- ◆ Educational background, attendance of update courses on scientific nursing research concepts and work placement of the RNs may have influenced the practice of scientific nursing research in a way.
- ◆ Majority of the registered nurses perceived they had the confidence to undertake scientific nursing research yet they did not walk the talk.
- ◆ Majority of the registered nurses positive attitude to scientific nursing research yet they did not undertake it.
- ◆ Issues of access of scientific nursing research such as unavailability of funds, unavailability of time and lack of supportive authorities may have influenced negatively the practice of scientific nursing research.

There is a significant relationship between registered nurses training background and the practice of scientific nursing research ( $P = 0.031$ ). Hence the Null hypothesis that there was no relationship between registered nurses training background and the practice of scientific nursing research was *rejected*.

There is no significant relationship between registered nurses attitudes and the practice of scientific nursing research ( $P > 0.05$ ). Hence the null hypothesis of no relationship between attitudes and the practice of scientific nursing research is *accepted*.

### 5.3 Recommendations

- 1) The revelation that there some RNs (around 4%) had went through nursing education system without being taught research principles and concepts, points to the need to harmonize curricula of all nursing training institutions to ensure research process is included and its teaching supervised accordingly.
- 2) The revelation that there was a significant relationship between attendance of update courses and the actual undertaking of research, points to the need of strengthening update courses, therefore it is critical to organize more update courses and staff development on research and to motivate the registered nurses to attend them.
- 3) The revelation that at least 50% of the study subjects considered that lack of time, lack of funds and lack of supportive authorities are the major limitations to access of research, points to the need to motivate nurses in the following ways:
  - a. Provision of 'Nurses Research Fund' financed by the various hospitals, Nursing Council of Kenya (NCK), National Nurses Association of Kenya (NNAK), well wishers or any other research organization to aid registered nurses in undertaking of nursing research.
  - b. Granting them one to two days off per week to give them time to concentrate in the said studies.
  - c. Having 'Nurse's Research Peer Support Group' which facilitates undertaking of research in the clinical area. This will provide technical know-how and even coordinate the update courses.
- 4) Based on the fact that one of the study's limitation is generalization of the findings, points to the need to do kind of study in private and/or lower cadre public hospitals.

5) On consideration of the revelation that a lesser proportion (14%) of those prepared at Bachelor's and Master's level had undertaken scientific studies compared to 21% of those prepared at Diploma level (21%), points to the need to:

- a. Carrying out another study into factors influencing the practices of scientific nursing research by the undergraduate and postgraduate nurses in KNH.
- b. Implementation of Proposals/Protocols written by the undergraduate nurses is made mandatory to inculcate appreciation of research culture in its entirety to the undergraduates.

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## APPENDIX I

### RESEARCH PARTICIPATION CONSENT FORM

I, Mukthar Vincent Kiprono, is a postgraduate student at the University of Nairobi in the School of Nursing Sciences and I am undertaking a study on assessment of knowledge, attitudes and practice of Registered Nurses on Scientific Nursing Research at the KNH.

Your participation in this study is purely voluntary and that there shall be no direct benefits to the participants linked to it. However, the study has long-term benefits to the nursing profession. There are no risks involved in this study and you are free to accept or reject the request to participate without any consequences.

The identity of the study subject shall remain anonymous and any information obtained from the study subjects shall be treated with utmost confidentiality.

Incase of any queries conduct me through mobile number 0722216266 or the Kenyatta National Hospital Ethics and Research Committee through telephone number 726300-9 or email [KNHplan@ken.healthnet.org](mailto:KNHplan@ken.healthnet.org)

I have understood the objectives of this study and do hereby voluntarily give my informed consent to participate in this study.

\_\_\_\_\_ On \_\_\_\_\_  
(Participant's signature) (Date)

\_\_\_\_\_ On \_\_\_\_\_  
(Principal investigator's signature) (Date)

APPENDIX II  
QUESTIONNAIRE

Questionnaire No: \_\_\_\_\_ Ward No \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS**

- 1) This questionnaire has four sections. Please answer all questions.
- 2) Do not write your name in this questionnaire.
- 3) Please tick (✓) the most appropriate answer or score appropriately

**A) SOCIODEMOGRAPHIC DATA**

1. What is your age group?

20 – 29 Years       40 – 49 Years

30 – 39 Years       50 – 59 Years

2. Indicate your gender.

Male       female

3. Indicate marital status.

Single       Married       Divorced       Widowed

4. Indicate your religion.

Christianity       African Traditional Religion

Islam       Atheist

Others (Specify) \_\_\_\_\_

5. Indicate your years of practice

0-10 Years       11 – 20 Years       over 20 years

**B) TRAINING**

6. Indicate your highest nursing education level.

RN at Diploma Level       RN at Masters Level

RN at Bachelors Level       RN at Doctorate Level

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7. Were you introduced to nursing research concepts during your training?

Yes

No

8. If yes, which concept(s) were you introduced to? *(Tick the appropriate ones)*

- Meaning, types and purpose of research
- Problem identification
- Literature reviewing
- Research methodology
- Research instrument development
- Methods of data analysis
- Research report writing and presentation
- Limitations and ethical issues of research.

9. Have you had any refresher course in nursing research since you started your practice?

Yes

No

10. If yes, in which area(s) of Scientific Nursing Research?

- Meaning, types and purpose of research
- Problem identification
- Literature reviewing
- Research methodology
- Research instrument development
- Methods of data analysis
- Research report writing and presentation
- Limitations and ethical issues of research.

### C) PRACTICE

11. Have you ever carried out any research in your area of practice?

- Yes                       No

12. If yes to question 11, how many times?

- Once                       2-4 times                       5- 10 times  
 Over 10 times                       Not Applicable

13. If yes to question 11, for what purpose did you do that research?

- As part of training                       for publication  
 For promotion                       Not Applicable

14. If yes to question 11, in which major areas of nursing profession did you undertake your research?

- Clinical Nursing                       Nursing Education  
 Nursing Administration                       Not Applicable

15. How frequently do you use Nursing Research findings in your practice?

- Never  
 Sometimes  
 Often

## D) ATTITUDES

16. The following statements could be influencing the undertaking Scientific Nursing Research. Indicate on the scale of 1-5 if the following statements could be hindering the undertaking of research on the by ticking (√) on the appropriate cell.

*The numbers represents the following responses.*

*1--Strongly Agree. 2-Agree. 3-Neutral. 4-Disagree 5-Strongly Disagree*

	<i>1 Strongly agree</i>	<i>2 Agree</i>	<i>3 Neutral</i>	<i>4 Disagree</i>	<i>5 Strongly disagree</i>
Lack of funds					
Lack of time					
Lack of supportive authorities					
Complexity of research concepts					
Boredom of research					
Irrelevance of research to nursing					
Nursing research is insignificant to the nursing profession					

17. Are you confident to undertake operational research in your area of practice?

- Very confident     
  Confident     
  Not confident



**APPENDIX III**  
**APPROVAL LETTERS**

- 1) Ethics and Research Committee
- 2) Ministry of Health
- 3) Ministry of Education/Science and Technology



**KENYATTA NATIONAL HOSPITAL**

Hospital Rd. along, Ngong Rd.

P.O. Box 20723, Nairobi.

Tel: 726300-9

Fax: 725272

Telegrams: "MEDSUP", Nairobi.

Email: [KNHplan@Ken.Healthnet.org](mailto:KNHplan@Ken.Healthnet.org)

**Date: 29<sup>th</sup> March 2006**

**Ref: KNH-ERC/ 01/ 3393**

Mr. Mukthar Vincent Kiprono  
Dept. of Nursing Sciences  
Faculty of Medicine  
University of Nairobi

Dear Vincent

**RESEARCH PROPOSAL: "KNOWLEDGE, ATTITUDES AND PRACTICES  
OF REGISTERED NURSES ON SCIENTIFIC NURSING RESEARCH AT THE  
KENYATTA N. HOSPITAL" (P17/01/2006)**

This is to inform you that the Kenyatta National Hospital Ethics and Research Committee has reviewed and **approved** revised version of your above cited research proposal for the period 29<sup>th</sup> March 2006 -- 28<sup>th</sup> March 2007.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the deadline given.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely

**PROF A N GUANTAI**  
**SECRETARY, KNH-ERC**

c.c. Prof. K.M.Bhatt, Chairperson, KNH-ERC  
The Deputy Director CS, KNH  
The Dean, Faculty of Medicine, UON  
The Chairman, Dept.of Nursing Sciences, UON  
The HOD, Medical Records, KNH  
Supervisors: Dr. A.K. Karani, School of Nursing Sciences, UON  
Mrs. E.A. Odhiambo, School of Nursing Sciences, UON

When replying please quote

Ref No

and date



REPUBLIC OF KENYA

MINISTRY OF HEALTH

DEPARTMENT OF STANDARDS AND  
REGULATORY SERVICES (DSRS)

Aiya House, Cathedral Road,

P.O. Box 30016, Nairobi, Kenya

Tel 254-20-717077 Fax 254-20-722986

E-mail. dsrs@afriicaonline.co.ke

DSRS

RES/18/A VOL.XIII

14<sup>th</sup> June, 2006

Mukhtar Vincent Kiprono

P.O. Box 74

KAPSABET

**RE: AUTHORITY TO PRETEST STUDY TOOLS IN MBAGATHI DISTRICT  
HOSPITAL**

Authority is hereby granted for you to pre-test study tools in Mbagathi District Hospital.

Submit a summary of your research finding to this office for record.

Dr. J. E. Bwonya

Head, DSRS

C.C. The Medical Superintendent

Mbagathi District Hospital

NAIROBI.

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# MINISTRY OF SCIENCE & TECHNOLOGY

Telegrams: "SCIENCE TEC", Nairobi

Fax No.

Telephone No: 318581

When replying please quote

**MOS&T 13/001/36C 398/2**



REPUBLIC OF KENYA

JOGOO HOUSE "B"  
HARAMBEE AVENUE  
P.O. Box 60209 00200  
NAIROBI  
KENYA

16<sup>th</sup> June 2006

MUKTHAR VINCENT KIPRONO  
UNIVERSITY OF NAIROBI  
P.O.BOX 30197  
NAIROBI

Dear Sir

## RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *'Knowledge, Attitudes and Practices of Registered Nurses on Scientific Nursing Research at the Kenyatta National Hospital'*

I am pleased to inform you that you have been authorized to carry out research in Kenyatta National Hospital for a period ending 30<sup>th</sup> August 2006.

You are advised to report to the Director, Kenyatta National Hospital before commencing your research project.

On completion of your research, you are expected to submit two copies of your research report to this office.

Yours faithfully

  
B. O. ADEWA

FOR: PERMANENT SECRETARY

Copy to:

The Director, Kenyatta National Hospital  
NAIROBI

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss MUKHTAR  
VINCENT KIPRONO

of (Address) UNIVERSITY OF NAIROBI  
P.O. BOX 30197 NAIROBI

has been permitted to conduct research in.....  
KENYATTA NATIONAL HOSPITAL, Location,

NAIROBI District,

NAIROBI Province,

on the topic KNOWLEGE, ATTITUDES AND  
PRACTICES OF REGISTERED NURSES  
ON SCIENTIFIC NURSING RESEARCH AT  
THE KENYATTA NATIONAL HOSPITAL

for a period ending 30TH AUGUST 2006

Research Permit No. MUST 13/001/36C 398

Date of issue 15.6.2006

Fee received SHS, 500, 00



For PERMANENT SECRETARY  
MINISTRY OF EDUCATION  
SCIENCE AND TECHNOLOGY

*Mukhtar*  
Applicant's  
Signature

For PERMANENT SECRETARY  
MINISTRY OF EDUCATION  
SCIENCE AND TECHNOLOGY  
for: Permanent Secretary  
Ministry of  
Science and Technology

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice



REPUBLIC OF KENYA

RESEARCH CLEARANCE  
PERMIT