

UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING SCIENCES

**FACTORS INFLUENCING IMPLEMENTATION OF RECOMMENDATIONS
GAINED FROM CONTINUING NURSING EDUCATION IN CLINICAL
PRATICE BY NURSES IN KENYATTA NATIONAL HOSPITAL.**

**A RESERCH PROPOSAL SUBMITTED IN PARTIAL FULFILMENT OF
REQUIREMENTS FOR THE BACHELOR OF NURSING DEGREE OF THE
UNIVERSITY OF NAIROBI.**

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H32/10843/06

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DECLARATION

I Okusimba Ignatius hereby declare that this research proposal is my original work and that it has not been presented for a degree in any other university or any other award.

Name... Okusimba Ignatius

Sign... 

Date... 26/7/2010

CERTIFICATE OF APPROVAL

This research proposal has been submitted in partial fulfillment for the award of a degree in BSC-Nursing with my approval as the University of Nairobi internal supervisor.

Name

Date

Titles

Signature

DEDICATION

This project is dedicated to my parents Mr. & Mrs. Machanja. He has all been so encouraging, supportive and cheered me through my education. God bless you abundantly.

ACKNOWLEDGEMENT

This research would be null and void without the wisdom of the academician professor Karani, for her wealth of knowledge in research that she shared willingly, she took her time to review and lead me through my work. More thanks to my very enthusiastic lecturer Mrs. Lucy Bitok who whole heartedly took us through the process of research and ensured that all is ready for us to go ahead.

Thanks to my father Mr. Howard Wellington Machanja for making it possible to produce this paper through his financial support. I extend my gratitude to my best friends Rose, Milimo and classmates for their moral support.

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ABBREVIATIONS

BSCN	-Bachelor of Science Nursing
CME	- Continuing Medical Education
CNE	-Continuing Nursing Education
KNH	-Kenyatta National Hospital
OSHE	- Occupational Safety and Healthy Environment
SPSS	- Statistical Package for Social Sciences
SONS	- School of Nursing Sciences
WHO	- World Health Organization
UON	- University of Nairobi

OPERATIONAL DEFINITIONS

Continuing nursing education - Activities which serve to maintain, develop or increase knowledge, skills, professional performance and relationship that one uses to provide services to patient public or profession mostly referred to broadly as continuing medical education(CME).

Didactic- criticism for work that seems overly burdened with instructions or information.

Guideline-it is a guidance written down to set standard or determine the course of action, often produced by experts and reflects the literature and current best practice.

Fad -form of behavior that develop in a group and is collectively followed by individuals with enthusiasm for some time and then it fades away.

Implementation- to put into effect or to use a particular procedure

Recommendations- this are suggestions or guidelines that are based on research findings.

Self-efficacy- belief or one's own judgment he /she is capable of executing the courses of action required to manage particular situation.

Trend- is more permanent form of a fad

ABSTRACT

Studies have shown that there is a widespread emphasis of continuing nursing education (CNE). There is an increase in number of seminars, workshops and conferences to improve and promote clinical practice guidelines and to ensure that nurses are knowledgeable and skilled about the changing trends in patient care and management; however the implementation or utilization in practice is not optimal. (Lugtenberg et al, 2009).

Therefore to improve adherence and implementation the analysis of facilitators and barriers is advocated for (Forsner et al, 2010).

This study is a descriptive cross sectional study whose main objective is to determine the factors influencing implementation of CNE recommendations in practice by nurses. The study will be done at Kenyatta national Hospital in Nairobi, Kenya. The study populations are nurses working at KNH and the research hypothesis is that there is no change in clinical practice by the nurse before and after attending a CNE. Data will be collected using self-administered questionnaire to nurses and observation checklists before and after attending a particular CNE.

Data will then be cleaned and analyzed by SPSS. The study is of benefit to CNE providers because it will help them come up with implementation strategies that are appropriate depending on the type CNE. It will benefit the nurses if barriers to implementation are addressed because they will be satisfied with their job and will be motivated because their time in CNE was well spent. The patients will benefit because they will receive best possible care if the barriers are dealt with. The management will benefit because the time they give nurses to go and participate in CNE will be well accounted for. The study will take 4 months and will use a total of Kenya shillings 137,240.

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

This chapter gives the background information of this title, problem statement, justification, objectives, variables under study, conceptual framework, the study hypothesis and benefits of the study.

1.2 BACKGROUND OF THE STUDY

Studies from developed countries

Health professionals have always been encouraged to update their knowledge and maintain their clinical competence. The rapid change currently taking place in the health care systems have increased the pressure from direct care providers, professional bodies and general public for nurses to engage in continuing education programs. Despite the growing body of empirical research on this topic, the effectiveness and impact of continuing education remains underexplored. Continuing education is meant to ensure that the health care practitioner's knowledge is current but it is difficult if those who attend these courses are not implementing what they have learnt. Furthermore learning methods are often didactic. A concerted effort should be made to ensure it is attainable and realistic (Odette & Nova, 2006).

Translating scientific evidence into practice is complex, clinical evidence can improve health delivery, but there are a number of challenges in guideline adoption and implementation (Forsner *et al*, 2010).

According to Lugtenberget *al*, (2009) despite wide distribution and promotion of clinical practice guidelines, adherence among Dutch general practitioners (GPs) was found to be suboptimal. To improve adherence to guidelines, an analysis of barriers to implementation is advocated.

A study was done by the University of Arizona to determine whether associate degree nursing programs were implementing innovations in their curricula, to identify recent clinical innovations in nursing programs and to identify attributes of innovations that influence innovation adoption (Haines, 2004).

While methods for bringing information/ recommendations to practitioners have expanded, interventional designed behaviors have had at best mixed results of consensus conference, yet rarely do they improve practice. In instances where dissemination strategy addresses knowledge and skills there is little change of clinical behaviors. Therefore to achieve long lasting change in practice behavior, practitioners must have

appropriate knowledge and skills to implement change and structures within their organization must enable and maintain these new behaviors(Cerview, 2000).

Studies from developing countries

Studies from 42 low income countries found out that 60% of 9.7 million deaths among children could be prevented by use of effective and affordable interventions that are not being utilized (Haines, 2004).

For example several studies have shown that introduction of a structured admission forms improve documentation and performance of health provider and information is more complete and concise however a survey conducted in Kenya to assess the performance of district hospitals in the year 2002 demonstrated significant short coming in the care of admitted children. One of the problems identified in the survey was that data required for even crude health systems performance indicators were of poor quality and potentially misleading (Mwakyusia et al, 2006).

1.3Problem statement

There is a wide distribution and promotion of clinical practice guidelines though adherence is not optimal. To improve adherence to guidelines an analysis to barriers to implementation is advocated(Lugtenberg et al, 2009).

Other studies have consistently demonstrated that nurses are increasingly recognizing the role research has to play in their practice. Despite this recognition the actual application of research findings in clinical setting is still poor. Several barriers to implementation have been recognized which include; Organizational, educational, personal characteristics (Markussen& Kristin., 2007).

Three variables organization, culture and leadership are thought to influence the adoption of best practice guidelines (Marchionni, 2008).

Some of common findings from the health care research are failure to routinely translate research findings into daily practice (Grimshaw, 2004). There is a widespread evidence of failure to implement interventions that have been shown to be cost-effective by high-quality research. Studies in both the United States of America and Europe have shown that around 30–50% of patients fail to receive clinical interventions that are justified according to the best scientific evidence. A recent study looking at primary care in the United

Kingdom showed that only around 40% of patients received care that adhered to guideline recommendations for prescribing for four common conditions(Haines, 2004).

In Kenya currently nurses are required by the nursing council to renew their license after 3 years having attended 50 hours of CNE sessions annually through seminars, workshops and conferences these is a good policy because studies show that CNE has to be made mandatory in order to gain full participation, otherwise most professionals will not make an effort to attend to activities organized (OngMek, 2009). But, the impact of this is yet to be seen when it comes to implementation because according to Wood (n.d) in Kenya there is a high proportion of people who practice old skills having attended formal training 5, 10, or 20 years back.

Kenyatta national hospital has in place a training and research department which is responsible for all continuing medical education (CME)activities. Occupational safety and healthy environment(OSHE) is a department in Kenyatta national hospital that is concerned with teaching nurses standard procedures that need to be applied to prevent nurses from getting occupational injuries or infection from the patients. However, a nurse in ward 6C an orthopedic ward(Nduati) says that the application of some recommendations are not possible because of limited resources and pressure of work due to staff shortage and large number of patients, and hence one is not able to do the procedure as required. For example turning of the patient requires at least 2 nurses and yet most of time you find yourself alone since there are 4-6 nurses for 105 patients in this ward. Therefore it is clear that there is difficulty in applying what has been taught appropriately.

1.4Study justification

This research is aimed at finding out the factors that impede implementation of recommendations taught to be ideal into clinical practice by nurses, because studies have shown that;-

The technological advancements have made the job of a nurse evolve continuously. In the past few years, several changes have been made in the methods of providing treatment, surgical procedures and even medications prescribed. To ensure nurses properly updated most hospital and medical agencies offer regular training seminars(Teresa, 2009).

Clinical practice guidelines are promising tools for closing the research evidence practice- gap, yet effective and timely implementation of guidelines into practice remains fragmented and inconsistent particularly in

nursing. A sound understanding of barriers and facilitators is critical for development of effective and targeted guideline implementation strategies (Ploegat *al*, 2007)

In another study it was found out that factors influencing the effective implementation of guidelines remain poorly understood. Understanding of barriers and facilitators is important for development of effective implementation strategies (Forsneret *al*, 2010).

Implementation of CNE guideline recommendations into practice is essential to provide patients with the most current and appropriate care, services and information, effective CNE helps medical professionals to remain relevant. The present generation has a lot of volume of literature and rapid introduction of new technologies, more demanding patients, deepening concerns about escalating medical costs and increased attention to quality and outcome of medical care (Lowe, n.d)

Continuing education, in service training and retraining is associated with good nursing due to improvement of nurse patient relationship but the curriculum need to be reviewed to address current certain issues both globally and locally (Karani, 2005).

All of researches are being carried out and coming up with guideline recommendations on how to better the nursing skills, how to deal with particular chronic and acute infections, it is therefore important that the guidelines not only be made known to the practitioners but be integrated in practice.

However while many nurses seem updated in new development in nursing research , there is strong need for regular CNE programs especially in referral hospitals, data found out that nurses are not sufficiently informed on evidence based nursing and may not be current on the subject (Misula&Nyangena, 2007).

1.5 Research objectives

1.5.1 General objective

By the end of study I should be able to find out various factors influencing the implementation of continuing nursing education guideline recommendations in clinical practice.

1.5.2 Specific objectives

- i. The study should be able to identify the attributes of guideline recommendations that influence their implementation in clinical practice
- ii. ~~The study should be able to~~ identify the characteristics of a nurse that influence his/her implementation of CNE guideline recommendation in clinical practice.
- iii. ~~The study should be able to~~ identify the implementation strategies in place for CNE guideline recommendation in Kenyatta National Hospital.
- iv. The study should be able to identify the patient's characteristics that influence implementation of ~~CNE guideline recommendation~~.
- v. ~~It should be able to~~ identify the environmental factors that influence the implementation of CNE guideline recommendation.

1.6 Variables

Independent variables;

Attributes of recommendations
Characteristics of the nurse/professional.
Implementation strategies.
Patient characteristics.
Environment factors.

Dependent

CNE guideline recommendation implementation in clinical

Intervening variables:

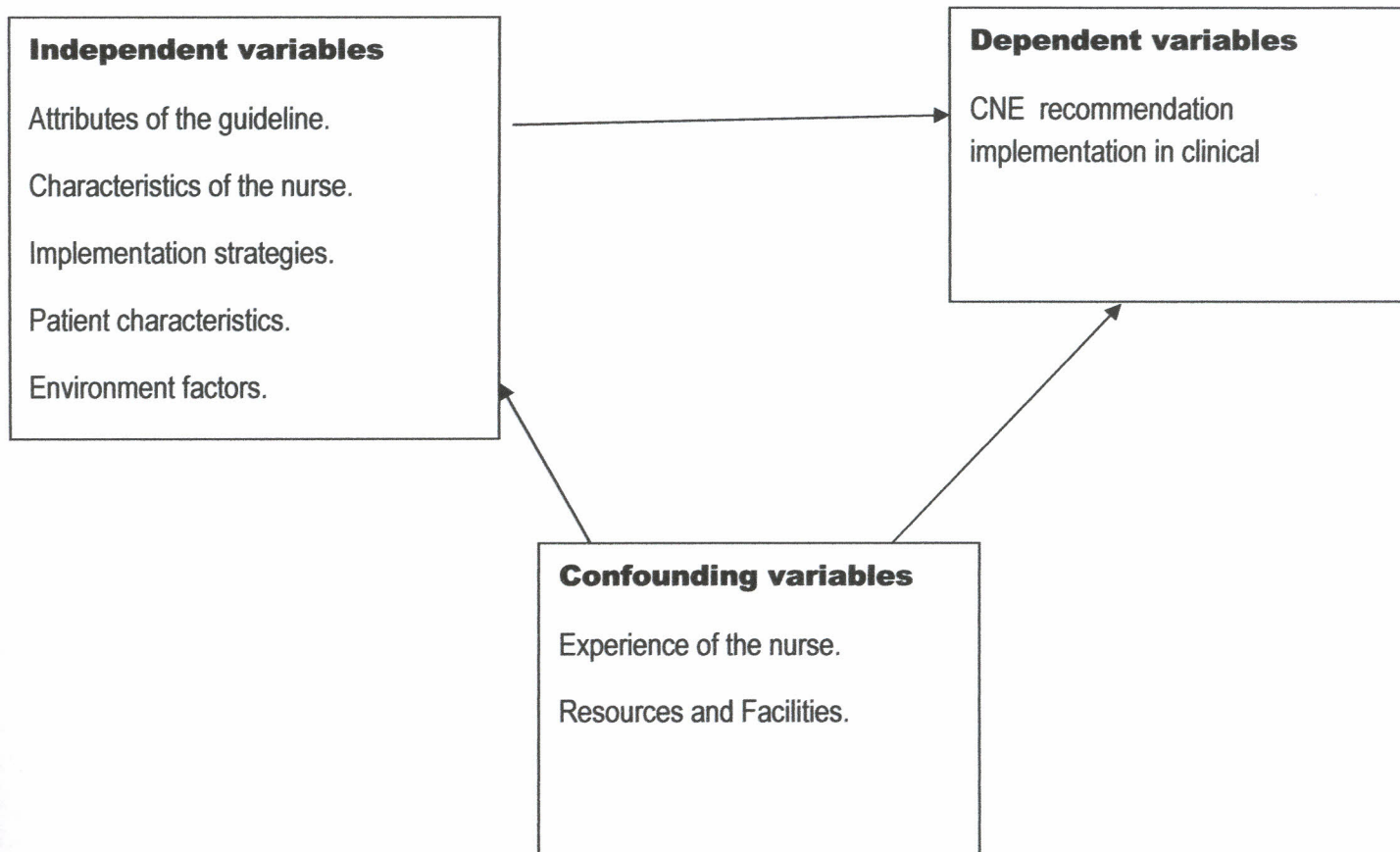
Experience of the nurse.
Resources and Facilities

1.7 Research questions

- i. What are the attributes of guideline recommendations that influence their implementation in clinical practice?

- ii. What are the characteristics of a professional that influence implementation of new CNE guideline recommendation?
- iii. What are the implementation strategies in place for CNE guideline recommendations?
- iv. What are the patient's characteristics that influence implementation of CNE guideline recommendations?
- v. What are the environmental characteristics that influence implementation of CNE guideline recommendation?

1.7 Conceptual framework



1.8 HYPOTHESIS

There is no change in clinical practice by the nurse before and after attending a continuing nursing education session.

1.9 EXPECTED BENEFITS

This study will have the following benefits.

1.9.1 Continuing nursing education providers

Study will be of benefit to CNE providers since it will help them come up with implementation strategies that are appropriate because they will be able to understand the factors that hinder nurses from implementing what they learn in CNE.

1.9.2 The nurse

It will be of benefit to the nurses if barriers to implementation are addressed because they will be satisfied with their job and will be motivated because their time in CNE was well spent.

1.9.2 The patient

The patients will benefit because they will receive best possible care that is up to date if the barriers are addressed.

1.9.3 Organizational management

And finally of benefit will be the management because their time they give nurses to go and participate in CNE will be well accounted for.

CHAPTER 2; LITERATURE REVIEW

2.1 Introduction

This chapter discusses documented literature about continuing nursing education, its importance and the factors that hinder the nurses from implementing what they learn in continuing nursing education in practice.

2.2 General view of CNE

2.2.1 What is continuing education?

Continuing education is a program of instruction designed primarily for adult students who participate in part-time, in UK and Ireland it is called further education; courses or organized learning experiences usually taken after qualification to enhance personal professional goals; planned organized learning activities or experiences and activities beyond the basic educational or preparatory program; educational programs in order to update or widen ones competencies.

According to Cerview (2000) continuing medical education is a field of practice and study that is directed on the ongoing needs of the professionals.

Continuing education in nursing are activities which serve to maintain, develop or increase the knowledge skills and the professional performance and relationship that one uses to provide services to patient public or profession. Continuing medical education is a field of practice and study that is directed on the ongoing needs of the professionals. The purpose is to certify and improve professional knowledge and practice (OngMek, 2009). Was initiated by American academy of general practice.

2.2.2 The origin of continuing education in nursing

When people think of the history of nursing education many immediately think of Florence Nightingale. However, nursing goes back even further than that. In fact, during the 18th century a slave named James Derham was able to buy his own freedom from the money he earned as a nurse. Nobody knew back then that a nursing education could be obtained in any other way than simply hands on through an apprenticeship. But, today there are many ways to study and learn more about nursing. Great examples of these are online nursing education and nursing continuing education(Aranda, n: d).

2.2.3 Importance of continuing education

Learning doesn't end with a school diploma or degree. Adults all over the world are sitting in classrooms, community halls and cafes, learning new skills or knowledge, for fun or for profit. Therefore continuing nursing education has the following importance;-

- Helps health care professional become aware of new developments in their field.
- Builds and modifies previously acquired knowledge, skills and attitudes of the individual
- Enhances personal and professional goals.

2.3 Factors influencing implementation of CNE guideline recommendations in clinical practice

2.3.1 Characteristics of a nurse/professional Attitude

Haines (2004) says in his study that even with effective continuing medical education it is more difficult to change the attitudes and patterns of thinking in practicing practitioners.

Lugtenberg et al (2009) study found out that there was lack of agreement with guideline recommendation because they feel they are not of applicable. General practitioners feel that benefits of some recommendations often do not outweigh the harms. Lack of **self efficacy** which means there is lack of belief that one is capable of adequately performing the new recommendations; reasons include lack of enough skills having no experience or training, or having more no confidence in expertise. Lack of outcome expectancy meaning though general practitioners agree with content, they do not believe that applying the recommendation would result in a better outcome. Further study by Lautenberg (2009) show that Inertia of previous practice and insufficient motivation to change practice makes it difficult implement new guideline recommendations learnt in continuing nursing education.

Another study carried out in Ontario hospital classified this factors as nurse confidence and willingness to assume responsibility, amount of new learning required, encounter with the patient and additional paper work required (Alvarado K 2007). Basically the focus was on the nurse as professional.

Years of experience

Less experienced professionals are more inclined to use recommendation than older experienced professionals (Lugtenberg, 2009). A survey done about wound dressing found out that the proportion of nurses who knew that wearing of gloves is not necessary to change a dressing tended to increase with years of experience. (Elizabeth *et al.*, 2005).

2.3.2 Attributes of the guideline recommendation.

The increase in the number of clinical guidelines produced and published in different countries has stimulated discussion on their value. Scientist and policy makers need to understand the features of guidelines that relate to implementation of guidelines in decision making in daily practice. Some of the features found in a study by Grol *et al.*, (1998) include;

- Guidelines compatibility with existing values among target groups and not be too controversial, should not demand too much of existing routine and be defined precisely, with specific advice on action and decision on different cases. They should be compatible with current values and routine.
- Scientific basis of the recommendation is also important, study done showed that recommendations were more adhered to when an explicit description of scientific evidence was available and the evidence was straight forward and not conflicting.
- Recommendation was less used if compliance affect the organization and staff in practice, when it demands extra resources or acquisition of new knowledge and skills or when it provoked negative reactions in patients.

Lugtenberg, (2009) said that recommendations that are easy to understand can easily be tried out and do not require specific resources have a greater chance of being used than complex ones, the review concluded that adherence to evidence based guidelines appear to be higher than is the case for guidelines lacking clear scientific base. Whenguidelines are developed by target group in this case nurses as the experts this enhances chances of successful implementation.

Similar findings by Haines A, (2004) study show that recommendations compatible with the existing values of the nursing profession have high chances of implementation. If the recommendations require few new skills and little organizational changes are likely to be embraced than those that require more skills and large organization changes.

According to Richard et al, 1998 the following are the attributes of guideline recommendation influencing their implementation in clinical practice;

The recommendations clarity and convincing arguments that are based on extensive clinical skills and experience;The recommendation is concern with a relevant aspect of care in daily practice ;The recommendation is concerned with difficult decisions or choices in daily care and it makes work easier ;The recommendation provides a concrete and precise description of desired performance- it gives detailed advice on which performance is appropriate in which situation and in what patient group and determines which factors or conditions should be taken into account ;The recommendation is vague and not specific; the recommendation is complexity that is,it is composed of many different elements and contains a complex decision tree or many different conditional factors influencing performance; The recommendation is not compatible with existing norms and values in practice meaning it is controversial and provokes discussion; The recommendation demands the acquisition of new competence (knowledge, skills), it can be followed only when a doctor or nurse has specific knowledge and skills; The recommendation has specific consequences for practice managementit requires adaptations in the organization of care processes or demands extra resources, staff, equipment, etc

The recommendation that demands changing existing routines and habits and leaving what is seen as common practice in the target group, the recommendation will provoke negative reactions in patients because it does not fit their common expectationsit may lead to a conflict of interest between patient and doctor,the recommendation will provoke negative reactions among colleagues because it is not compatible with their views, position, or tasks

The recommendation can be tried without any risks of possible damage for patients -experimenting with the proposed performance will not have negative effects on the health of patients; the recommendation has been mentioned in the media and in implementation programs.

2.3.3Implementation strategies

For recommendations to have an impact on patient care they must be created and evaluated before dissemination to health care providers(Marchionni, 2008).

According to Lugtenberg(2009)investigations done on the effects of combined educational materials as well as well as combined educational material, audit and feedback found out that for single strategies only, there appears to be insufficient evidence to reach conclusions about the relative effectiveness of different strategies in different context.However, other reviews show that strategies requiring active professional participation, and strategies that are closely related to clinical decision makingare more likely to lead to successful implementation in other words; strategies that are closer to end user are more integrated into process of healthcare delivery appear to be most successful.

2.3.4 Characteristics of the patient

Lugtenberg(2009) said some patient's preferences do not merge with recommendation while others may not be ready to perform required action accurately or may not show up for follow up.

Haines (2004) said if the recommendations address acute rather than chronic conditions are also likely to be taken to account.

Studies of most perceived important aspects of caring were addressed from perspectives of both nurses and patients. Both perspectives are essential since the patients' view of what is important is likely to influence his/her perception of what is important for the patient. It was found that patients are more concerned than nurses about their physical care, while nurses are more concerned about patients' fulfillment of psychosocial needs(Louise & Per- Olow., 1991).

2.3.5 Environmental factors.

Social environment-

A negative attitude or limited support from the peers or superiors also has a negative influence I. There is also influence by social fads and trends (Lugtenberg, 2009).

Poor practice organization-

Perceived constraints within the practice include communication and education and skills among practice assistants (Lugtenberg, 2009).

Time, personnel, resources as well as work pressure—

Lugtenberg (2009) said anurse may not be able to put into use a recommendation learnt in CME because there is not enough time at his/her disposal and besides the patients may be many with few staff and hence

one will prefer applying a cheaper means of intervention without putting into account the new guidelines recommendations they may have been taught..

Educational environment;

-Failure of CME to link up with programs to promote quality of care and Lack of incentives to participate in effective education activities social fads and trends (Haines, 2004).

According to Kolb (1984) nurses like many people tend to be practical or experimental as an educator it good remember the following ;-

- Relate theory to real life,
- Use practical or real life scenarios to bring facts and theories alive
- Allow people to work in groups and give feedback
- Learners to explore
- use visual media such as video, pictures, diagrams etc
- And while learning practical skills psychomotor skills are well developed by doing

What to avoid as an educator according to Raisbeck(2008).

- Not allowing the learner to touch the equipment
- Expecting the learner to be competent with the equipment after few attempts
- Leaving the mistakes uncorrected
- Going through the whole session without breaking it into sessions for learners to digest at their own speed.
- While teaching adults questions are more powerful than answers.

Followingup

Putting learning into practice this can be done by discussing an action plan for example trainee can answer a small questionnaire regarding the learning session as part of the feedback of the experience.

CHAPTER 3; METHODOLOGY

3.1 Introduction

This chapter specifies the nature of this research design and population to be studied. It adopts the following structure: research design, variables under study, Study area ,study population, inclusion and exclusion criteria, sample size determination, sampling method , research instruments, data collection procedure, data management and analysis, study limitations, study assumptions and ethical considerations.

3.2 Study design

This will be a Cross-Sectional descriptive study aimed at determining the factors influencing implementation of continuing nursing education recommendations in clinical practice at KNH.

3.3Study area

This study will be carried out at KNH which is located in Nairobi, Kenya. KNH has got a capacity of 1800 beds and 6000 staff members. It's also a teaching and referral hospital. It is a centre for training nurses from diploma level to philosophy doctorate. It is also involved in training other health care professions like medicine, pharmacy, dentistry, nutrition, orthopedic technology etc.

3.4 Study duration

The study will take 4 months, from the 1st week of February to the last week of April 2010.

3.5Study population

The study population will be nurses working in KNH. The nurses have been chosen because they are involved in a lot of continuing nursing education activities such as seminars workshops and conferences; they also form the bulk of patient care personnel.

3.6Sampling process

KNH has 9 departments namely; medicine, surgery, obstetrics/gynecology, pediatrics, orthopedics, accident and emergency, amenities and specialized units department. The hospital has 35 wards.

4 departments; medical, obstetrics/gynecology,orthopedicsand amenities departments are selected for the study to obtain the sampling frame. The nurses will then be divided into 4 strata based on their level of training after which systematic sampling based on the proportion of each stratum will be used to obtain the sample.

3.7 Sample size determination

Sample size calculation using Fischer's formula (Fischer et al 1991)

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

Where;

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

z= standard normal deviate at the required confidence level

p=proportion in target population estimated to have characteristics being measured

q = 1-p

d= level of statistical significant set

When target population is less than 10,000

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

Where;

n_f = desired sample size when the population is less than 10,000

n = desired sample size when population is greater than 10,000

N = estimate of population size.

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

Z = 1.96

$$P = 50 \text{ or } 0.5$$

$$q = 1 - 0.5 = 0.5$$

$$d = 0.05$$

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384.16$$
$$= 384$$

$$nf = n = \frac{384}{1 + n} = \frac{384}{1 + 246} = 322.15$$
$$N = 2000 = 322 \text{ respondents}$$

3.8 Inclusion and Exclusion criteria

3.8.1 Inclusion criteria

Subjects must fulfill all of the following;

1. Must be working at KNH
2. Must have worked in KNH for 1 year and above
3. Must consent to take part in the study.

3.8.2 Exclusion criteria

Subjects will be excluded if they have potential of any of the following

1. Not working in KNH
2. On internship or worked less than 1 year
3. Not consented to take part in the study.

3.9 DATA COLLECTION

3.9.1 Research instruments

A self administered structured questionnaire will be given to the subjects to fill.

3.9.2 Research assistants

3 nurse interns will be recruited and trained to assist in data collection.

3.9.3 Study tool pre-test

These study tools will be pretested for appropriateness in intensive care unit and pediatric wards. The pre-test will be carried out under similar circumstances to those ones of the study. 14 questionnaires will be issued to 14 subjects (7 per ward) and collected back by research assistants after they have been filled and 2 checklists (1 each ward) will be filled by the principle investigator.

3.9.4 Study assumptions

The study assumptions are that I will get subjects who are cooperative and truthful in answering the questionnaires.

3.9.5 Methods of controlling confounders/biases

1. To ensure that all carders of nurses are assessed, the nurses will be put into strata of their level of training then systematic sampling will be used to get the sample from each strata.
2. Statistical controls will be used during analysis.
3. Pretesting will be done to identify biases and then they will be controlled appropriately.
4. Both quantitative and qualitative data will be collected.

3.10 DATA MANAGEMENT

3.10.1 Data cleaning

Every tool will be checked at the point of collection for completeness of information collected from respondents by research assistants.

3.10.2 Data analysis

Data will be coded and entered into SPSS for analysis of quantitative data while likert scale will be used to analyze qualitative data.

3.10.3 Data presentation

Data will be presented in form of frequency distribution tables, pie charts, bar graphs and correlation coefficient diagrams. The findings will be disseminated through seminars, scientific conferences and published in scientific journals.

3.11 ETHICAL CONSIDERATION

Informed consent will be obtained from all those participating in the study. Those not willing to participate in the study will be under no obligation to do so. Respondents' name will not be indicated anywhere in the data collection tools for confidentiality. Approval will be sought from the KNH & University of Nairobi ethics and research committee and authority from KNH management as well as Ministry of Medical Services to do the study.

GHANT CHART

Activity Month	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Proposal development												
Ethical clearance												
Research assistants training												
Pretesting study tool												
Actual study												
Data processing												
Data analysis												
Report presentation												

BUDGET

ITEM	AMOUNT REQUIRED	COST OF EACH	TOTAL COST
STATIONARY			
Assorted pens(bic)	20	15	225
Foolscap	2 reams	400	800
Stapler	1	250	250
Staples	2pkts	100	200
Folders	3	100	300
Flash disk	1	1000	1000
SUBTOTAL			3975
SERVICES			
Proposal typing, printing	40 pages*1	20	800
Photocopy	40 pages*1	2 sh per page	160
Questionnaire typing, printing	3 pages *1	20	60
Photocopy	3 pages*400	2 sh per page	2400
Report typing, printing,	10 pages*1	20	200
binding	10 pages *1		35
photocopying	10 pages*2	2 sh per page	40
computer hire	1 day	500 sh per day	5000
SUBTOTAL			7495
ALLOWANCES			
Principal investigator	1	50000	50000
Supervisor	1	5000	5000
Enumerators	2*10 days	2000	40000
SUBTOTAL			95000
PERSONAL TRAINING			
Enumerators	1*4 days		8000
Principal investigator	1*4 days		8000
Supervisor	1*1 days		2000
SUBTOTAL			18000
TOTAL			127,670
MISCELANEOUS			12,770
GRAND TOTAL			137,240

APPENDIX I; QUESTIONNAIRE

The study is aimed at assessing the factors influencing the implementation of continuing medical education recommendations.

Demographic data

3.1 Age

(a) 25-30 []

(b) 31-35 []

(c) 36-40 []

(d) 46-50 []

(e) 51-55 []

3.2 Gender

Male [] female []

3.3 What is your marital status?

(a) Single []

(b) Married []

(c) Separated / widowed /divorced []

3.4 What is your religion?

(a) Christian []

(b) Muslim []

(c) Hindu []

3.5 What is your cadre in hospital?

(a) No. I []

(b) No. II []

(c) No. III []

3.6 What is your highest level of training in nursing?

(a) Certificate level []

(b) Diploma level []

(c) Degree level []

(d) Master level []

(e) PHD []

Characteristics of the professional

Attitude

	Strongly agree	Agree	Disagree	Strongly disagree
I get enough training in CME				
I feel confident with the knowledge and skills I acquire in CME				
I usually expect a lot to change after CME in terms of practice				
I always belief new guidelines recommendations are for the good of the patient.				
I attend CME for formality				

3.7 For how long have you been practicing

Below 1 yr

1-5 yrs

5-15yrs

15-25yrs

25 and above

3.8 a) Do you follow the new guidelines that come up in your day to day practice of disease management

Yes No

b) If no choose an answer from the below choices

Some do not always work out

I have had a bad experience with a harmful new recommendation

Some do not concur with the nursing beliefs and culture

3.9 a) Are you aware of any nursing practices and careguidelines you used to practice but now have changed recently?

Yes No

b) If yes did you change to incorporate in the new recommendation or you still use the old approach?

c) If no choose an answer from the below choices

I have not come across one yet

I am not interested in new recommendations

Patient's characteristics

3.10 a) Approximately how many patients do you attend to everyday?

.....

b) Do you think this is affecting you from performing procedures according to new recommendations learned in CME?

Yes No

|

3.11 a) Does the demands and will of the patient influence your practice using new recommendations?

Yes No

b) What are some of these cases with the patients you have encountered?

Attributes of recommendations

3.12 Have you ever come across a new recommendation that did not work out well?

Yes No

3.13 What did you do in the above case?

3.14 a) Have ever read a recommendation and you did not understand what it meant?

Yes No

b) Then what did you do?

Environmental characteristics

3.15 a) Do the hospital come up with guidelines on the implementation of new recommendations when they come up?

Yes [] No []

b) If yes name some of the guidelines

.....

3.15 When a new recommendation requires more time than the current practice does it affect its utilization?

Yes [] No []

3.16 Have you ever learnt a new recommendation but you could not utilize it because there were no required resources/facilities?

- a) Many times []
- b) Few times []
- c) Never []

THANK YOU FOR YOUR ACTIVE PARTICIPATION

APPENDIX II; CONSENT EXPLANATION

UNIVERSITY OF NAIROBI

SCHOOL OF NURSING SCIENCES

STUDY TITLE:FACTORS INFLUENCING THE IMPLEMENTATION OF RECOMMENADTIONS GAINED FROM CNE IN CLINICAL PRACTICE BY NURSES IN KNH.

TO: THE RESPONDENTS

I am Okusimba Ignatius a level IV student in the University of Nairobi, currently pursuing a bachelor degree in Nursing.

I am conducting a research on factors influencing implementation of recommendations gained from CNE in clinical practice by nurses in KNH.

There are no risks in participating as there are no any invasive procedures involved or names that will appear on the questionnaire, it is confidential.

Research results from this study will be communicated to the hospital and relevant authorities to come up with strategies to enhance implementation of the research findings.

Your participation is voluntary and you may leave questions that you are uncomfortable with unanswered. If you agree to participate please sign below.

APPENDIX III;RESPONDENTS CONSENT FORM

I.....have read the consent form and agreed to participate in the research.

Signature of respondent..... Date.....

Signature of enumerator..... Date.....

APPENDIX IV; LETTER SEEKING REVIEW OF PROPOSAL FROM ETHICS & RESEARCH COMMITTEE

Okusimba Ignatius,
University of Nairobi,
School of Nursing sciences,
P.O. Box 13197,
Nairobi.
25/1/2010

The chairman,
University of Nairobi & KNH Ethics and Research Committee,
P.O. Box 20723-00208,
Nairobi.

Dear Sir/Madam,

RE: REVIEW OF RESEARCH PROPOSAL ON FACTORS INFLUENCING IMPLEMENTATION OF CNE GUIDELINE RECOMMENDATION IN PRACTICE.

My name is Okusimba Ignatius fourth year BSc-Nursing student at the University of Nairobi. I would like to carry out a study entitled as above. The study does not involve invasive procedures and no risks are associated with it.

I kindly request you to review my proposal. Your suggestions; recommendations and corrections that will improve this study will be highly appreciated.

Attached please find a copy of my research proposal.

Thanks in advance.

Yours faithfully,

Okusimba Ignatius.

**APPENDIX V; LETTER SEEKING AUTHORITY FROM KENYATTA
NATIONAL HOSPITAL**

Okusimba Ignatius
University of Nairobi
School of Nursing sciences
P.O. Box 19676
Nairobi 25/1/2010

The Deputy Director
Kenyatta National Hospital
P.O. Box 12572-00208
Nairobi

Dear Sir

RE: PERMISSION TO CARRY OUT RESEARCH

I am a fourth year Bachelor of Science nursing student at the University of Nairobi. I am kindly requesting your approval to carry out a research on factors influencing the implementation of CME recommendations by nurses in KNH. The study does not involve invasive procedures and no risks are associated with it. Attached please find my research proposal for examination and approval. Research findings will be used to evaluate the implementation of CME recommendations by the providers and policy makers.

Your approval will be highly appreciated, thanks in advance.

Yours faithfully,
Okusimba Ignatius.