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**University of Malawi**  
**KAMUZU COLLEGE OF NURSING**

**FACTORS THAT INFLUENCE NURSES UTILIZATION OF  
KNOWLEDGE GAINED FROM IN-SERVICE EDUCATION AT LILONGWE CENTRAL  
HOSPITAL**

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**(EDUCATION)**

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## DECLARATION

I hereby declare that this dissertation is a result of my own work and effort. This work has not been presented for any other degree and is not currently being submitted in candidature for any other degree.

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## DEDICATION

This dissertation is dedicated to my loving husband Happy and the children Rosemary and Cornelius for their support, encouragement and endurance.

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## ABSTRACT

In-service education for nurses often result in improved quality of patient care as well as personal and professional growth of the participants. These outcomes are not achieved if nurses encounter barriers in an attempt to implement the knowledge gained from in-service education into practice. This quantitative study aimed at determining factors that inhibit or encourage the use of knowledge gained from ISE. The study was conducted at Lilongwe Central Hospital in December 1999. A sample of 35 participants; 15 Registered nurses, 7 senior enrolled nurses and 13 Enrolled nurses completed an anonymous semi-structured questionnaire developed by the researcher. The Force field theory provided the framework of the study.

Data was analyzed using the computer through the Statistical Package of Social Sciences (SPSS) windows release 8.0. The findings indicated that the participants regarded in-service education as important. However, 40% of the participants had attended in-service education only once despite having been practicing in the nursing profession from one year to 14 years..

The data suggests that 74% of the nurses lack adequate resources and supplies to enable them to put into practice what they had learnt from in-service education. Support from fellow staff members was singled out by 60% of the participants as a major encouraging factor. Other determining factors to use of knowledge were follow up by facilitators, reduced workload and proper ward allocation. However almost all

the nurses indicated that they were able to implement whatever knowledge they get from in-service education.

The study has implications to nursing practice, education, research and management. The findings suggest the need for participant involvement from the planning phase of in-service education programs to implementation since nurses cannot make use of knowledge if they encounter any barriers in the process of implementing the knowledge.

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## CHAPTER 1

### INTRODUCTION

Nursing education in Malawi can be traced back as far as 1931 when the white missionaries were training nurse midwives at Zomba, Nkhotakota, Blantyre Mission, Mlanda and Livingstonia (Sagawa, 1998). Since then, government and mission nursing schools throughout the country have been offering basic nursing education through the training of enrolled and registered nurse midwives (Sagawa, 1998). Harrington (1989) defines basic nursing education as "a planned educational program that provides a broad and sound foundation for the effective practice of nursing and a basis for advanced education" (p 28).

In Malawi enrolled nurse midwives undergo a three-year training at Zomba and Blantyre school of nursing which are run by the Government. The others are mission schools and these include Mulanje, Nguludi, Ekwendeni, St. Johns, Trinity and Nkhoma (Sagawa, 1998). Registered nurse midwives are trained at university level at Kamuzu College of Nursing which was the National School of Nursing from 1964 to 1979 (Sagawa, 1998). Upon completion of training, both the enrolled and registered nurses are deployed in different hospitals within the country. The basic nursing education however prepares the nurses for many but not every situation in the practical setting hence there is need for continuing education.

Continuing education involves all the education that takes place after the completion of basic education (Harrington, 1989). It encompasses post basic education, refresher courses, seminars, symposia and in-service education. In Malawi, continuing education is not mandatory, but it is a requirement by the Nurses and Midwives Council (Nurses and Midwives Council of Malawi Act, 1995). Continuing nursing education programs are offered within and outside the country. Every nurse is required to participate in in-service education not less than once within every 2 years. Despite this requirement, the Malawi Nurses and Midwives Council leaves the responsibility of arranging and taking part in continuing education into the hands of the individual nurses and their managers at hospital or institutional level.

### **Background of the Study**

In-service education is a form of continuing nursing education and takes place in the work environment. Mellish (1987) describes in-service education as short courses or education given to members of staff in full time employment, who need to acquire updated or improved knowledge and skills.

In Malawi, in-service education started in 1981 at the country's two referral hospitals of Queen Elizabeth and Lilongwe Central (In-service Education Department Document, 1999). The introduction of in-service education was after the government had identified problems in nursing care in these hospitals. Sister Thyangathyanga introduced in-service education in 1982 at Lilongwe Central Hospital and an in-service education department was since established (In-service Education



Document 1999). The aim of the program was to provide nurses with updated knowledge and skills so as to improve the quality of patient care.

In-service education aims at improving the effective functioning of nurses, leading to their further development both personally and professionally. However, from the writers experience working as a nurse at Lilongwe Central Hospital, it seems the in-service education program is not achieving its intended outcome of developing nurses professionally. Despite nurses having gone for in-service education they are not providing quality care, which is contrary to the aim of in-service education.

However, there is no mechanism, which has been put in place to help nurses utilize the knowledge they gain from in-service education. No studies have so far been conducted to find out whether or not the nurses are implementing the knowledge they gain from in-service education into their nursing practice.

### **Statement of the Problem**

Since 1982, more than 400 nurses have attended in-service education at Lilongwe Central Hospital (In-service Education Register, 1989-1999). The training sessions have focused on patient care, care of equipment, ward management, midwifery emergencies, professional matters and other topics. The problem is that the quality of care that nurses are rendering to patients in most of the areas that they received in-service education seems not to be improving. A lot of money and time is involved in planning and arranging for the in-service education sessions to take place. Duty rosters are re-scheduled leading to some departments facing acute staff shortages

in order to accommodate the ISE sessions. However despite this, many patients are dying due to poor quality of nursing care, because it appears nurses are not implementing what they learnt from the in-service education.

### **Significance of the Study**

The findings from this study can be of significance to in-service education planners, nurse managers and researchers. The findings can assist in-service education planners to develop in-service education programs that can serve as vehicles for the personal and professional growth of nurses. They can also be used in nursing education so as to find ways of coming up with ISE programs that can help to make ISE a success and improve patient care in the practice of nursing. The nurse managers can be able to come up with ways of prompting nurses' implementation of knowledge gained from ISE. The results can serve as a basis for further research in in-service education for nurses.

### **Purpose of the Study**

The purpose of the study was to identify factors that influence nurses to implement the knowledge they gain from in-service education in providing nursing care at Lilongwe Central Hospital.

### **Objectives of the study**

The general objective of the study was to establish factors, which influence nurses to implement the knowledge they gain from in-service education. The specific

objectives were:

- to find out if nurses consider ISE as being important or not
- to find out from the nurses the benefits of using the knowledge they gain from ISE
- to identify the barriers in using knowledge from ISE

### **Definition of Terms**

**Basic Nursing Education**    A planned educational program that provides a broad and sound foundation for the effective practice of nursing (Harrington, 1989)

**Continuing Education**    All the education that takes place after the completion of basic education (Scheller, 1993)

**In-Service Education.  
(ISE)**    The education given to members of staff in the work place to update and improve their knowledge and skills. (Mellish, 1987).



## **CHAPTER 2**

### **LITERATURE REVIEW**

Nursing literature has attempted to answer questions concerning continuing education as a form of in-service education for nurses (Scheller,1993). Such questions according to Scheller include: whether or not nurses view in-service education as important; influencing factors for nurses to participate in in-service education; whether nurses utilize the knowledge and what influences them to utilize the knowledge into their practice. The following literature review focuses on the importance and effects of in-service education, utilization of knowledge gained from in-service education and areas that encourage use of knowledge gained from in-service education. Themes common to the present study and existing literature in the field of in-service education for nurses will be explored. Particular emphasis has been placed on studies conducted in Africa. However, due to limited number of studies in African context, studies from other countries have been primarily utilized.

However, there are no studies which have been done in Malawi in particular and the literature review is on studies which have been done outside the country mostly in the developed countries.

## **The Importance and Effects of In-Service Education**

In-service education as part of continuing education has become generally accepted as important to nursing practice in helping to improve the quality of patient care (Urbano & Johns 1988). Organizations providing health care have an obligation to their clients and patients to ensure that the nursing care they provide is of high quality. According to Harrington (1989), the quality of nursing care can only be high if the nurses are kept abreast of the modern developments in nursing. Harrington further states that, apart from improving the standards of nursing, in-service education motivates staff to develop personally and professionally.

Waddel (1995) from the United States of America carried out an analysis of 42 case studies to examine the effects of continuing education to nursing practice. The aim of the study was to determine the extent to which continuing education had a positive effect on nursing practice. The author also looked at the extent to which demographics of the characteristics of the learner proposed mediated effects on continuing nursing education. Waddel discovered that information was irrelevant and that learners' motivation to change was significantly related to the degree of change in nursing practice.

Dolphin and Stanton (1986) carried out a similar study. The study revealed that, nurses' participation in in-service education was not affected by age, initial training or parental and marital status. In the study, Dolphin and Stanton studied 377 nurses

in an attempt to find the significant predictors of the nurse's participation in in-service education.

### **Utilizing Knowledge gained from In-Service Education**

In a study to examine nurses' perceptions of factors that influence their use of knowledge gained from continuing education, Scheller (1993) conducted a study on 80 United Kingdom nurses and found out that it is difficult to measure the impact of education on nursing practice and quality of patient care. In this study, Scheller firstly discovered that researchers lack the tools to measure the effects of ISE in terms of skills, knowledge, values and attitudes. Secondly, it is not clear regarding what constitutes use of knowledge. According to Scheller, the concept of using knowledge is addressed without distinguishing between instrumental use (that is direct and observable) and conceptual use, which are related to changes in activities such as thinking, judging and evaluating.

The use of knowledge gained from in-service education programs is influenced by many different factors that interact to affect nursing practice. Nursing research has failed to address the important influence of these factors on the use of knowledge to change nursing practice (Scheller, 1993). In a study conducted to evaluate the use of continuing education knowledge and how it affects nursing practice, Oliver, Hediman and Miller (1987) found no consistent positive relationship between continuing education experiences and the use of knowledge.



### **Factors that Influence use of Knowledge**

Developing a new skill in a nurse through in-service education does not ensure that the practice will be implemented when the nurse returns to the place of work (Scheller, 1993). Peden, Rose and Smith (1990) conducted a quantitative study on 20 registered nurses in order to measure the impact of continuing education on nursing practice. The individual nurse participants' receptiveness to a proposed change, supportiveness of the social system and applied knowledge attempts as measured by the nurse were tested. Findings indicated that a continuing education program is successful only to the extent that a recommended practice or change in behavior is implemented. The authors also discovered that the social system, in which the nurse practices and the nurse's own receptiveness to change, influenced the subjects' application of the new knowledge.

Hughes (1990) conducted a study to explore the impact of a 22-day in-service education session. Eleven nurses and 6 clinical nurse managers were interviewed. Findings indicated that staffing and the work environment influenced the nurse's ability to utilize the knowledge they had gained into practice.

In another study aimed at finding nurses' perceptions on use of knowledge from continuing education, Scheller (1993) found that nurses do not utilize the knowledge from ISE if they perceive that barriers outweigh the benefits and if they view the new knowledge as threatening to their control of nursing practice. Scheller concluded that change in nursing practice is not realistic, unless nurses clearly understand the

benefits of using knowledge for change as it relates to their professional image of self.

Keiner and Henlschel (1992) conducted a study on 443 attendees of ISE aimed at identifying factors that facilitate and hinder the process of incorporating learning into practice. The findings indicated resistance to change, lack of administrative support and lack of time as some of the hindering factors. Peer support and increased new knowledge were identified as facilitative factors. The authors concluded that the level entry qualifications can be the same for every participant to the in-service education program, but what happens when the participants return to their respective work places is what determines their performance.

Kristjanson and Scalan (1992) stressed on the importance of need assessment before conducting continuing educational programs for nurses. The authors argued that unless the nurses' needs are identified and taken care of in the continuing educational programs, it is only then that the knowledge gained can be incorporated into practice. Kristjanson and Scalan emphasized that nurse managers should identify the nurses' real needs, which include; educational and felt needs before embarking on in-service educational programs. Likewise Sungani, Semu, Bomba, Chisale, Ngoma, and Liabunya (1988), supports the idea about the need to identify nurses needs, which could influence nursing care. These were the findings in a study that aimed at investigating factors that influence poor nursing care in a

Malawian hospital. The sample comprised of 330 nurses working at Queen Elizabeth Central Hospital.

Findings indicated that poor working conditions, increased workload and inadequate facilities were some of the factors that influenced poor quality of nursing care.

### **Summary**

The literature review has indicated that utilization of knowledge gained from continuing educational programs is important if effective patient care and personal nursing development is to be achieved. With the increasing changes in health care delivery and advances in scientific knowledge, it is essential that nurses maintain a current knowledge and practice base. The responsibility of planning programs to meet this demand begins with need assessment as the first step in planning in-service education programs for nurses.

The literature also indicates that most of the studies on in-service education have been done in Europe and other developed countries. Little or none have been done in developing countries such as Malawi. The writer therefore intends to study the factors that influence the use of knowledge in a Malawian setting.

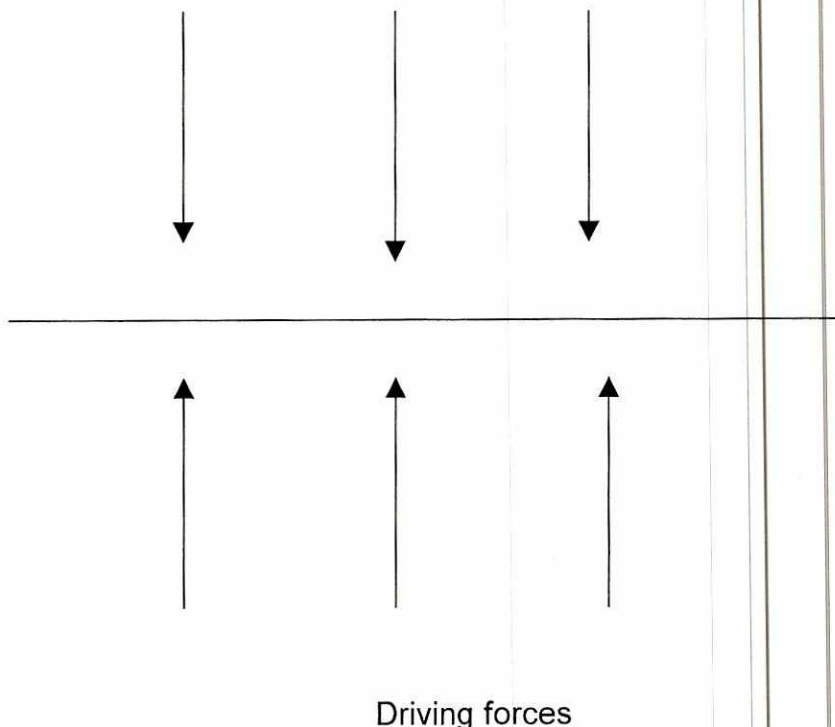


## CHAPTER 3

### CONCEPTUAL FRAMEWORK

The Field theory by Kurt Lewin (1951) as cited by Bushy (1992) was chosen as a conceptual framework for the study. The theory suggests that all behaviors are the result of an equilibrium between forces. Some forces facilitate (drive) while others impede (restrain) the implementation of change. The driving forces push one way in attempting to bring about change. On the other hand, restraining forces push the other way in order to maintain the status quo (Cole 1996). See figure 1.

Figure 1: Restraining forces (maintaining status quo)



Driving forces

(Adapted from Cole 1996, page 195)

In the theory, Lewin views the learner as a purposive person whose view of reality lies in the perception of an event rather than within the event itself (Scheller, 1993). Each person is believed to have a psychological reality, which is grounded in that person's life space. According to Scheller the life space includes the personal and environmental factors that compose the person's perceptual field.

The reality of an event for that person consists of the individual's interpretation of the surrounding and the interaction within those surroundings. Behavior, which includes action, thinking and valuing, is a function of change in some state of perceptual field in a given unit of time (Cole, 1996).

In the theory, Lewin describes learning as a dynamic process that occurs in the individual when there is change in the insights in regards to one's life space. From the figure above, focus therefore will be on removing or weakening the objections and fears on the resisting side. This can be achieved by identifying the objections and finding ways of dealing with them. The investigation on factors that influence the use of knowledge can help to find out the factors that influence the nurses to use the knowledge gained from in-service education and their views toward in-service education.

### **Application of the Field Theory to the Study**

From the theory, the person's motivation or interest to implement what she/he has learnt from in-service education may be influenced by the driving or restraining forces. Therefore, identifying the restraining forces and finding ways of removing or reducing them may enable the nurse to implement change, which is the new knowledge gained from ISE. However, this requires a thorough assessment of the environment and the entire system so as to determine the factors, which are the restraining forces (Scheller, 1993).

This means that the nurses have their own perceptual environment within which the purposefully choose whether or not to use the knowledge gained from in-service education sessions because of interactions within their own environment. By examining the nurses' views it is possible to identify factors in the environment that influence the use of knowledge and try to find ways of dealing with them.



## **CHAPTER 4**

### **METHODOLOGY**

This chapter gives an overview or the plan of how the activities were conducted so as to achieve the research objectives. The methodology comprises of design, sampling, protection of human subjects, data collection that includes tools, which were used, criteria for the selection of subjects and a plan of how data was analyzed.

#### **Design**

The study used a quantitative descriptive design. Quantitative methods were employed in order to allow quantification of the study results. Descriptive research is the most important phase in the development of nursing knowledge, forming the basis for future research as a mechanism of generating questions and hypotheses for future experimental studies (Cormack, 1991). Information originated through descriptive studies can be used to justify and assess current conditions and practices in nursing. The information can also be used to make plans for improving the conditions and practices in nursing (Polit, 1991). A descriptive design was the most appropriate format to study factors that affect nurses' implementation of knowledge gained from ISE as the current situation is unknown.

## **Sampling**

The study was conducted at Lilongwe Central Hospital, which is in the city of Lilongwe. The setting was chosen because it is one of the central hospitals, which has a well-structured in-service education department. The hospital has 400 nurses who have undergone in-service education in various areas of nursing care (Lilongwe Central Hospital In-service education register 1982-1999). The study population comprised of nurses working at Lilongwe Central Hospital and had attended in-service education. In-service education is given to all nurses despite their qualification. A randomly selected sample of 35 nurses who had attended in-service education was used. Out of the 400 nurses only 35 participants were selected by picking every other 11<sup>th</sup> name to take part in the study. Since the study was for learning purposes a sample of 35 subjects was reasonable.

## **Instrument**

A questionnaire developed by the researcher was used to collect data. It consisted of 22 questions out of which 6 were open ended and the rest were close-ended. (appendix 1). The instrument had three sections. The first section consisted of demographic data with 10 questions, the second section contained 6 questions pertaining to the importance of in-service and the last part had 6 questions related to use of knowledge gained from ISE. The questionnaire was in English and the questions were organized in such a way that some had a 4 or 5 point likert scale like questions 14,18 and 22. Others had yes /no and true/false answers, the others required a one word answer and others required ticking the correct response.

### Validity

After development, the questionnaire was presented to a panel of three experts, one in education, one in in-service education, and a statistician for content validity. According to Polit and Hungler (1991), validity refers to the degree to which the instrument measures what it is intended to measure. The panel suggested changes on some of the questions like in section A and C where some of the questions were repeated and adding other questions like question 19 and 21 which were open-ended.

### Reliability

A pilot study was carried out prior to administering the questionnaires to the research subjects. The pilot study was conducted at Kamuzu College of Nursing on 5 mature students. This was done to ensure reliability of the instrument. Reliability refers to the dependability or consistency of a measuring instrument (Polit & Hungler, 1991). Mature students from Kamuzu College of Nursing were chosen because they are practicing nurses and have similar characteristics to the nurses at Lilongwe Central Hospital. They were also nurses who had attended in-service education. Corrections and modifications were made on the questionnaires basing on the responses. The questionnaire served as a guide during data collection in ensuring uniformity of questions for all the respondents.



### **Ethical Considerations**

National clearance to conduct the study was sought through the research unit of the Ministry of Health and Population (appendix 2). A letter was also written to the hospital Director of Lilongwe Central Hospital seeking for institutional clearance (appendix 3).

Prior to data collection participants were informed that there was no physical harm associated with the study and they had the right to either participate in the study or not. They were asked to go through the questionnaire and ask for clarification where the questions were not clear and were left to fill the questionnaire at their own time. The participants then gave consent (appendix 4). The questionnaires did not bear names of the participants for anonymity. The completed questionnaires were collected in sealed envelopes on the agreed dates.

### **Data Collection**

Data collection was done within a period of a period of four weeks. The questionnaires were distributed by hand to the nurses who were on duty during the period of data collection. The nurses had given consent to participate in the study. The respondents were given a period of three days to go through the questionnaire and respond. The questionnaires were collected after four days and the researcher started analysing the completed questionnaires.

## **Data Analysis**

Data was analyzed using the computer in the Statistical Package for Social Sciences (SPSS for windows, release 8.0). Before analysis, data was entered and recorded in the package, then categorised. Descriptive statistics (percentages, means, standard deviation and range) were employed. According to Polit and Hungler (1991) descriptive statistics are used to reduce, summarize and describe data obtained from empirical observations and measurements. The data has been displayed in descriptions, tables and graphs.

## **CHAPTER 5**

### **FINDINGS**

This chapter presents the results of the study. The results have been presented under demographics, importance of in-service education determinants to implementation of knowledge gained from in-service education, in-service education facilitators, criteria for choosing participants to go for in-service education, important aspects of in-service education, utilization of knowledge and other aspects of in-service education.

#### **Demographic Data**

The sample comprised of 35 nurses, all female aged between 24 and 52 years. The mean age was 35.8 (SD = 6.3). Sixty-eight percent (n = 24) of the participants were married whereas the rest were either single, widowed or divorced. Almost 43% of the participants (n = 15) were nursing sisters (senior Technical Officers or Technical Officers). Twenty percent (n = 7) were senior enrolled nurses (STA) while the rest were enrolled nurses.

A majority of the participants 57% (n=20) had been in the nursing service for 6 to 10 years (Table 1). Mean number of years in the nursing service was 10.5 (SD=5.56)



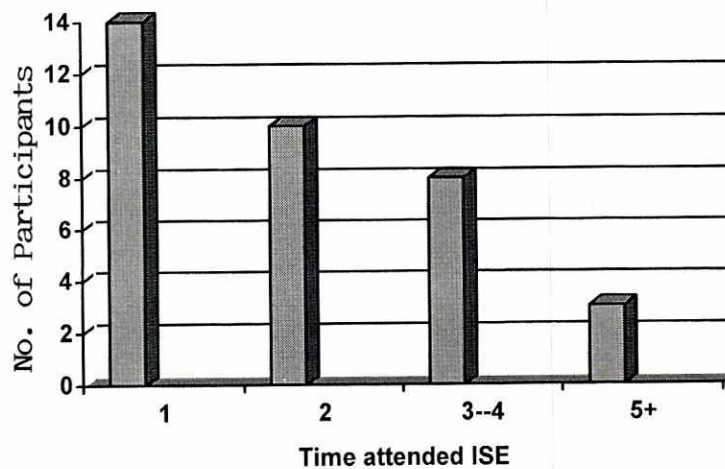
Table 1

Participants' number of years in the nursing service

<b>Years of Service</b>	<b>Frequency</b>	<b>Percentage</b>
1 – 5	8	22.9
6 – 10	12	34.3
11 – 15	8	22.9
16 – 20	7	20.0

The participants have been working at Lilongwe Central Hospital for 1 to 14 years with a mean number of 6.6 years. A majority of the participants 40% had worked at Lilongwe Central Hospital for 2 years, 11.2% (n=4) had worked for 4 years and 14.3% have worked for 6 to 8 years and over. They had attended in-service education between once and 10 times with a majority of the participants having attended only once. Mean number of times that they had attended in-service education was 2.37 (SD = 1.86) (Figure 1).

**Figure 2: Attendance to in-service education**



Most of the participants 56% last attended in-service education a year or 2 years ago. The remaining 34.3% (n= 12) had attended in-service education in the last 3 to 6 years.

Table 2

Relationship between Period of Service at LCH and Number of Times Attended In-service education

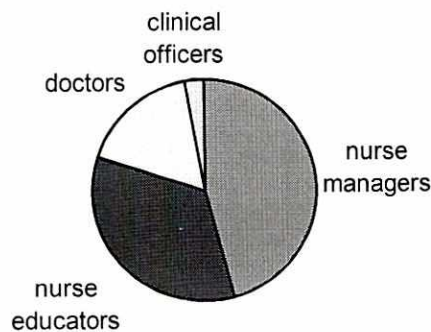
Period of Service at LCH	Number of Times Attended In-Service Education			
	Once	2 times	3 – 4 times	5+ times
1 – 5 years	6 (42.9%)	2 (20%)	4 (50%)	1 (55.5%)
6 – 10 years	6 (42.9%)	7 (70 %)	4 (50%)	2 (66.7%)
11 – 15 years	2 (14.2%)	1(10%)	-	-
Total	8 (100%)	10 (100)	8 (100%)	3 (100%)

Table 2 indicates that the participants who served for 6 – 10 years attended in-service education more than the others.

### In-service Education Facilitators

Forty six percent indicated that primarily, nurse managers facilitated the in-service education that they had attended. Apart from nurse managers, nurse educators, doctors and clinical officers also facilitated the sessions. (Figure 2.)

**Figure 3: In-service education facilitators**



The participants indicated that they were chosen to go for in-service education either through the use of ward roster on who goes next 48.6% ( $n = 17$ ), or by being approached by the nurse managers or sister in-charge that they should attend 37.1% ( $n=13$ ), while (14.3%) did not know how they were chosen.

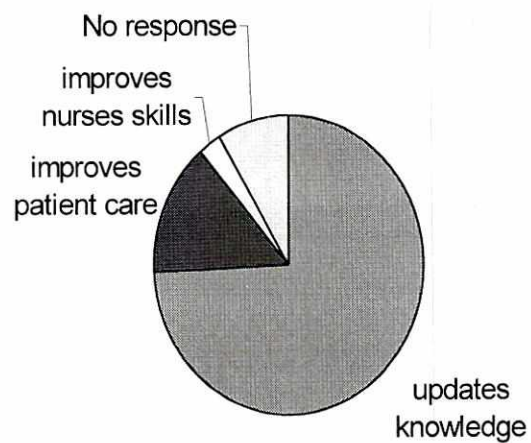
### **Importance of In-Service Education**

The participants were asked to indicate whether they consider in-service education as important to nursing practice or not through a yes or no answer. Almost all the participants indicated that in-service education is important. When asked to give reasons, a majority of the participants, 91.4% indicated that in-service education



updates the knowledge and skills of the nurses, while 8.6% did not respond to the question. (Figure 3).

Figure 4: Importance of In-service education



#### Aspects of In-Service Education

The participants were asked to rate some aspects of in-service education on a 5 point likert scale between 1 which was very poor to 5 which was excellent. These aspects included choice of topics, knowledge of facilitators, and venue for in-service, choice of participants, incentives and follow up by facilitators. (Table 2)

Table 3  
Aspects of In-Service Education

	Frequency (%)		
	Very Poor	Good	Excellent
Choice of topics	14 (40%)	15 (42.9%)	6 (17.1%)
Knowledge of facilitators	4 (11.4%)	2 (71.4%)	6 (17.1%)
Venue of in-service	2 (5.7%)	25 (71.4%)	8 (22.9%)
Choice of participants	26 (74.3%)	28 (22.9%)	1 (2.9%)
Incentives	23 (65.7%)	11 (31.4%)	1 (2.9%)
Follow up by facilitators	16 (45.7%)	19 (54.3%)	-

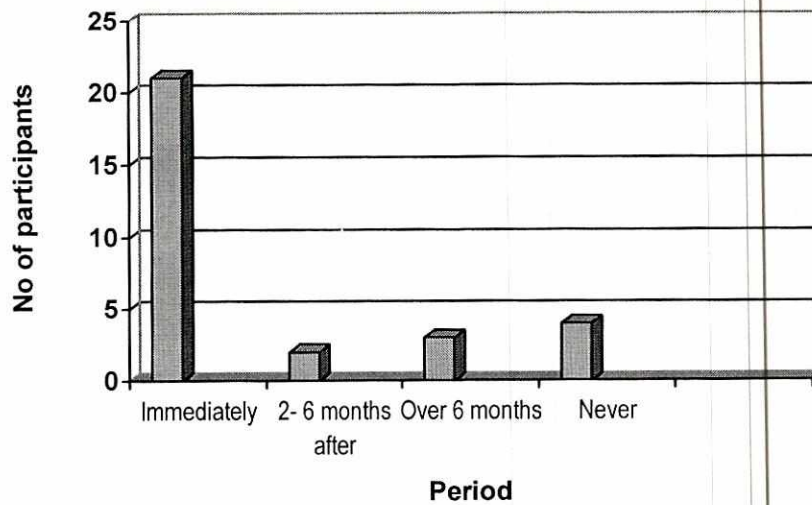
Choice of participants was regarded as very poor among the other aspects of in-service education

The findings also indicated that after attending ISE 40% of the participants were entrusted with responsibility, 42.9% (n=15) were commended by their seniors while 14.3 were regarded as a threat to the senior positions. However, no one was promoted after attending in-service education.

### **Utilization of Knowledge**

The participants were asked whether they were able to use the knowledge after attending in-service education. A majority of the participants 54% were able to utilize the knowledge immediately while 20% never utilized the knowledge (Figure5)

Figure 5: Period for utilisation of knowledge after ise



A relationship between age, period of implementing knowledge was tried (Table 4)

Table 4

Relationship between age and period of using knowledge

Age	Immediately	2-6 Months	Over 6 Months	Never
27-32	6 (28.6%)	-	-	2 (28.6%)
33-38	12 (57.2%)	2 (66.6%)	1 (25%)	2 (28.6%)
40-45	2 (9.5%)		2 (50%)	2 (28.6%)
46-52	1 (4.7%)	1 (33.4%)	1 (25%)	1 (14.2%)
Total	21 (100%)	3 (100)	4 (100%)	7 (100%)

#### Areas Where Knowledge was Implemented

The participants were asked how often they utilize knowledge from in-service education when performing their nursing activities. They were asked to rate how



often they utilized the knowledge when performing the following nursing activities; documentation, client teaching, student teaching, counseling, staff meetings and when providing nursing care in general. A majority of the participants 82.4% indicated that they primarily utilized knowledge during documentation (Table 5).

Table 5  
Implementation of Knowledge on Nursing Activities

	Frequency (%)		
	Never	Sometimes	Always
Nursing Care	5 (15.2%)	12 (36.4%)	16 (48.5%)
Documentation	-	6 (17.6%)	28 (82.4%)
Client Teaching	9 (26.5%)	24 (70.6%)	1 (2.9%)
Student Teaching	3 (8.8%)	7 (20.6%)	24 (70.6%)
Counseling	4 (11.8%)	9 (20.5%)	21 (61.8%)
Staff Meetings	5 (14.7%)	7 (20.6%)	22 (64.7%)

#### **Factors that Encourage Implementation of Knowledge**

The participants were asked to indicate the factors that encouraged them to utilize the knowledge, and the participants came up with several factors. A majority of the participants 60% (n=21) came up with support from other staff members as the major encouraging factor to utilization of knowledge while adequate staffing was least. (Table 6)

Table 6

Encouraging Factors to Implementation of Knowledge

<b>Encouraging Factors</b>	<b>Frequency</b>	<b>%</b>
Support from fellow staff	21	60
Enough supplies	13	37
Enough time	11	31
Follow up by facilitators	10	28.5
Improvement of care	6	17
Being entrusted with responsibility	5	14
Proper ward allocation	5	14
Teach patient new things	5	14
Adequate staff	2	5.7

**Inhibiting Factors to Implementation of Knowledge**

The participants were asked to indicate what discourages them from using the knowledge in their practice. Responding to an open-ended question, a majority of the participants (75%) singled out inadequate resources in terms of equipment and supplies as their major discouraging factor. The participants came up with several other factors (Table 7).

Table 7

Inhibiting Factors to Implementation of Knowledge

<b>Discouraging Factors</b>	<b>Frequency</b>	<b>%</b>
Inadequate resources	26	74
Inadequate time	21	60
Inadequate staff	20	57
Lack of support from staff members	13	37
Lack of follow up	7	20
Poor ward allocation	5	14
Lack of incentives	5	14
Resistance from patients	2	5.6
Resistance from seniors	2	5.6
Lack of supervision	2	5
Few nurses going for in-service	2	5

Receiving Cooperation when Implementing Knowledge

The participants were asked whether they receive cooperation from nurse managers, sister in-charges, fellow nurses, clinical officers and doctors when utilizing knowledge from in-service education by ticking any of the mentioned health workers. They indicated that they receive cooperation from all these members. However, 82% of the participants indicated that they receive cooperation from the sister in-charge. Seventy one percent agreed that they receive cooperation from clinical officers, 65.7% receive cooperation from fellow nurses whereas 60% agreed that they receive cooperation from nurse managers and doctors.



## Important Aspects to Effective Use of Knowledge Gained from In-service

### Education

The participants were asked to rate the importance of some aspects towards their implementation of knowledge. The aspects were rated from the most important to the least important. Frequent in-service was rated the most important aspect. Seventy one percent indicated adequate staff and appropriate topics for area of work as important aspects. (Table 8)

Table 8

### Important Aspects

Aspects	Frequency (%)	
	Not Important	Important
Frequent in-service education	-	33 (94.3)
Appropriate topics from area of work	1 (2.9)	33 (94.3)
Support from other staff	10 (29.4%)	24 (70.6%)
Supervision from seniors	1 (2.9%)	34 (97.1%)
Adequate staff	2 (5.7%)	33 (94.3%)
Adequate time	7 (20%)	27 (77.1%)
Proper ward allocation	12 (35.3%)	22 (64.7%)
Reduced work load	10 (28.5%)	24 (68.6%)
Low number of patients	12 (34.3%)	22 (62.9)
Recognition	15 (42.8%)	18 (51.4%)

### **Summary**

The sample comprised of nursing sisters, senior enrolled nurses and enrolled nurses. The findings identified that several factors influenced the nurses' use of knowledge gained from in-service education. Some of the major factors cited by the

participants were inadequate resources, inadequate time, inadequate staff and lack of support. The results further indicated that despite the problems that discourage the nurses, at times the nurses manage to implement the knowledge they gain from ISE in their nursing practice. However, the majority of the participants indicated that follow up by facilitators and supervisors was lacking.

## **CHAPTER 6**

### **DISCUSSION**

This chapter presents a discussion of the research findings in relation to studies that have been conducted in Africa and other countries. The study findings in relation to demographics, importance of in-service education and determinants to implementation of knowledge gained from in-service education at Lilongwe Central Hospital will be examined. An application of the theoretical framework to the study will also be incorporated

#### **Demographic Factors**

The study sample comprised of 35 participants with an age range of 24 to 52 years and all were female. This means that the nursing population at Lilongwe Central Hospital is mostly female since male nurses are few. According to Deloughery (1991), nursing has been regarded a female profession. Forty three percent ( $n = 15$ ) of the participants were nursing sisters while senior enrolled nurses were 20% ( $n = 7$ ) and 34% ( $n = 13$ ) were enrolled nurses. The findings showed that there are more registered nurses, however from the hospital records, there are more enrolled nurses than registered nurses .



Number of years in the nursing service was not related to attendance to in-service education.

The results also show that in-service education at Lilongwe Central Hospital is facilitated mainly by nurse managers and nurse educators (Figure 2). This is a positive development because issues concerning nurses are best addressed and controlled by the nurses themselves if the nursing profession is to maintain its autonomy. However, other health workers like doctors and clinical officers are important in planning patient care since the main goal for all the health workers is to promote the health of the clients.

### **Importance of In-Service Education**

The results showed that nurses at Lilongwe Central Hospital consider in-service education as important to nursing practice. The nurses indicated that in-service education updates and improves the knowledge of nurses; improves patient care and improves the skills of the nurses. This finding is similar to what Harrington (1989) found that the quality of nursing care can only improve if the nurses are equipped with better knowledge and skills. The participants also considered that ISE improves patient care. Likewise, Robinson (1994) also reported that high quality care for patients and clients depends on the improved knowledge and skills from continuing education of those responsible for providing the care. Scheller (1993) reported that in-service education for nurses often results in improved quality of patient care as well as their personal development since they improve their

knowledge.

Although the participants indicated that in-service education is important, 40% (n = 14) had attended in-service only once despite having worked at Lilongwe Central Hospital from 1 to 15 years (Table 8). These results signify that there is a discrepancy between period of service at the hospital and the number of times the nurses attended in-service education. The longer the years of service the more the nurses were supposed to attend ISE. This may be due to the limited number of the in-service education sessions held per year. The nursing officer who is in-charge of the in-service department at Lilongwe Central Hospital reported that the number of in-service education sessions conducted each year is determined by the availability of funds. The Nurses and Midwives Act (1995) however stipulates that within two years of service and registration, every nurse is supposed to at least attend in-service education in any field of nursing. However this might not be so because of lack of funds and shortage of staff in the hospitals. This finding relates to the finding where 65.7% (n = 23) of the participants indicated that the choice of the participants to attend in-service education was poor. This may be the reason why the number of nurses who have attended in-service education is low.

Despite the nurses not having attended in-service education several times, they were able to utilize the knowledge they gained always during documentation and sometimes during student teaching, client teaching, counseling, in staff meetings and when providing care in general (Table 9). This finding indicates that there is

need for all the nurses to be attending in-service education for them to be implementing the knowledge gained when conducting their nursing activities. However, the nurses who were unable to implement the knowledge may have been allocated in departments or wards where they were unable to implement the knowledge, since one of the inhibiting factors was poor ward allocation.

### **Facilitating Factors to Implementation of Knowledge Gained from In-Service Education.**

The finding on the facilitating factors to implementation of knowledge gained from in-service was that 60% (n = 21) of the participants indicated support from other staff members as the main factor (Table 5). This shows that for the nurses to provide quality patient care, their knowledge alone is not enough apart from the support from other members. This finding is similar to what Hupcey (1993) reported, that support from either co-workers or superiors is an important factor in influencing nurse practitioners role in their performance. This means that support from the social system is a key element in applying knowledge in the work place.

Enough staff and supplies were also found to be among the facilitating factors. Similarly Hogston (1995) reported that enough supplies facilitate the performance of nurses. This means that one cannot expect the nurses to implement the knowledge they acquire from in-service if they lack the necessary supplies. Keiner and Hentschel (1992) however argued that resources account for a minor percentage of



the facilitating factors to use of knowledge. However, necessary resources and supplies are important for nurses to function effectively.

The other facilitating factor was availability of time to put what the participants had learnt into practice. The results identified that the nurses thought having adequate time could enable them to implement what they learnt. This finding is similar to what Scheller (1993) found, that time is required to integrate knowledge into practice. The finding might suggest that the nurses could have effectively implemented the acquired knowledge to improve patient care only if they had adequate time. The situation however at Lilongwe Central Hospital is that most of the time one nurse looks after not less than 20 patients in an 8 hour shift. This implies that the nurses may not be able to implement what they learnt from in-service. However, even though the study identified that adequate time is important, the finding contradicts that of Hughes (1990) who had identified that the participant's desire is the most important factor as far as making use of knowledge is concerned. In his study it was found that the participant's desire and the right job climate were the facilitating factors to implementation of the new knowledge and skills into practice and that time was not an important facilitating factor.

The results also show that 28.5% (n = 10) of the participants regarded follow up by facilitators as a facilitating factor. Similarly, Oliver (1984) found that nurses do not demonstrate skills that they have acquired from in-service when they do not receive follow up and feed back on how they are fairing. This means that nurses may start

using the knowledge they acquire from in-service but for them to be motivated to continue using the knowledge, they require constant follow up from the facilitators who can monitor and evaluate their performance. This finding supports Nugent (1990) who reported that follow up acts as a reinforcer to performance. However, from the experience after working at the hospital for 5 years, follow up by facilitators is very minimal if at all it is there. This may be due to shortage of staff on the part of the facilitators or lack of proper planning.

### **Inhibitors to Implementation of Knowledge Gained from In-Service Education**

About 74% of the participants (n = 26) indicated that they lack the necessary resources in terms of supplies and equipment for their effective implementation of knowledge gained from in-service. There is also the issue of inadequate staff (Table 5). This means that despite having acquired the knowledge and skills from in-service, lack of supplies, equipment and inadequate staff prevents the nurses from using the knowledge in their practice. This finding is similar to the finding of Scheller (1993) who had identified that use of knowledge from in-service education is not a priority due to time constraints, staffing and lack of resources. The field theory in support of these finding states that the reality of an event for a person consists of the individual's interaction and interpretation with the environment, which is the work place in this case. This means that what constitutes one's environment is what facilitates interaction and performance.

Lack of support from fellow staff members was also found to be an inhibiting factor to implementation of knowledge. In an attempt to identify how competency can be ensured in practice, Nugent (1990) identified that lack of support from administrators and other health care providers makes it difficult for nurses to provide nursing care effectively. This as a result may lead to nurses being perceived as ineffective. Likewise, Keiner and Hentschel (1992) also reported that lack of support is a primary discouraging factor to implementing what one has learnt. In support of this finding, the field theory asserts that for change to take place the driving forces which are the encouraging factors have to be strong so as to overcome the inhibiting factors which are the resisting forces.

#### **Other Important Aspects that Influence Implementation of Knowledge Gained From ISE**

Frequent in-service programs for nurses and relevant topics are other aspects of in-service which can influence the use of knowledge. The participants regarded the two as important to effective use of knowledge. This implies that to some extent, the nurses require frequent in-service education and relevant topics to their field of work to enable them continue updating their knowledge and skills. This means that the area of work is also an important aspect in terms of utilization of knowledge. This finding is similar to what the field theory states; that the life space of an individual, which includes the physical, social and psychological environment, is an important factor to the individual's performance.



The results also indicated that choice of topics to be taught during in-service was regarded as not very good by the participants. This relates to the finding where 68.6% (n = 24) of the participants indicated that appropriate topics for area of work are an important aspect to use of knowledge. Kristjanson (1992) also reported that for continuing education programs to be viable they have to be responsive to the needs of the learners. Kristjanson emphasizes the need for addressing the personal and working needs of nurses. This means that the learning needs of the nurses have to be considered when providing in-service education. The nurses can utilize the knowledge if it covers areas where they are deficient.

Choice of participants was another aspect, which was regarded as important. This finding relates to the previous result where it was found that 40% (n = 14) of the participants had attended in-service once, despite having been working at the hospital for a mean period of 6.6 years. This may be due to the way the participants are chosen to go for ISE. The findings indicated that 48.6% of the participants were chosen following the use of ward roster on who goes next. The remaining percentage was either approached or they had applied.

### **Limitations of the Study**

1. Since the study was for academic purposes, there was a time limit attached due to pressure of work from other courses.



2. The study sample was 35 nurses from Lilongwe Central Hospital. As such, the results can not be generalizable to all nurses and to all the hospitals where ISE is provided in Malawi.
3. Literature from Malawi was limited. As a result, the literature used was mainly from the developed countries. This limits comparisons between the literature from developed countries to findings from a developing country like Malawi.

## **CHAPTER 7**

### **CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH**

#### **Conclusion**

The study aimed at identifying the factors that influence nurses utilization of knowledge gained from in-service education. The study sample was 35 nurses and data was collected using a questionnaire. Findings of the study have demonstrated that there are several factors that influence the nurses' use of knowledge they get from ISE at Lilongwe Central Hospital. Adequate resources, support from other staff members and follow up by facilitators are some of the encouraging factors to the use of knowledge.

Discouraging factors such as in adequate time and resources lack of support and follow up are some of the barriers to use of knowledge. Providing support and motivation to the nurses in their day to day practice is likely to assist in the nurses' use of knowledge gained from ISE. These factors are consistent to what the field theory claims. The theory asserts that for a change in behaviour to occur, there is need to overcome the forces on the resisting side. The nurse managers and educators should make an assessment to determine the barriers and remove or reduce them. This will enable the nurses to make use of the knowledge they gain from in-service education. It is important to note that many carefully planned and

much needed changes have failed because restraining and driving forces were not adequately addressed during the planning stage.

### IMPLICATIONS & RECOMMENDATIONS

Nurses do not make use of in-service education knowledge in their practice if they do not perceive that benefits of using knowledge to improve delivery of care outweigh the barriers they encounter when attempting to incorporate knowledge into practice. If nurses do not perceive reinforcement and support, they may be less likely to use the knowledge in their practice.

The nurses are affected by problems of implementing the knowledge in practice and these problems if not addressed may defeat the purpose of in-service education. The cost effectiveness of in-service education programs in their attempt to improve the quality of patient care may be questioned, hence the need to strengthen the purpose of the programs.

- In-service education programs should be carried out continuously and every nurse should attend yearly or once in every two years to update knowledge and skill.
- Learning needs of the nurses should be identified through needs assessment for them to be able to associate the use of knowledge with meeting work-related needs in their day-to-day practice. A careful needs assessment can help in-

service planners to develop program content that also teaches nurses how to reduce the barriers they encounter when providing nursing care.

- The in-service educators and nurse managers should involve nurses when planning the programs so as to identify the barriers, which the nurses encounter when using the knowledge. Through this approach both parties can discuss ways of eliminating or minimizing the barriers. This may enable the nurses to visualise how the knowledge and skills acquired from in-service can be effectively incorporated into practice.
- Nurse managers together with hospital management should provide resources and support to strengthen in-service education programs at Lilongwe Central Hospital.
- The Nurses and Midwives Council of Malawi should make it a mandate that hospitals should have well structures and functioning in-service education departments and every nurse should attend in-service as stipulated in the act.
- Nurse managers and educators should evaluate the effectiveness of their in-service education programs and plan according to identified needs.
- Hospital management should aim at providing necessary resources and supplies to nurse practitioners for them to perform effectively.



- Hospital management and health planners should make an effort to increase the nursing staff so that the nurses are able to provide quality care.
- The ISE facilitators and nurse managers should follow up the nurses in their respective wards and encourage support among health workers. The choice of participants should give every nurse a chance to attend ISE equally.

### **Suggestions for Further Research**

- It would be worthy extending the present research study to a large scale so that generalization can easily be made basing on the findings.
- A study should be done to find the effectiveness of in-service education among nurses in Malawi.

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## APPENDICES

Appendix 1

**QUESTIONNAIRE**

ID CODE

UNIVERSITY OF MALAWI: Kamuzu College of Nursing

**TITLE: An investigation into factors that influence nurses utilization of knowledge gained from in-service education on nurses working at Lilongwe Central Hospital.**

INSTRUCTION: You are not required to write down your name.

**Part A: Demographic Data**

1. Age.....[Please specify in years]
2. Gender [Tick the correct response]  
Male [ ]  
Female [ ]
3. Marital Status  
[a] Single [ ]  
[b] Married [ ]  
[c] Widowed [ ]  
[d] Divorced [ ]



4. What is your current nursing position?
- [a] Nursing Sister (STO/TO) [ ]
- [b] Senior Enrolled nurse (STA) [ ]
- [c] Enrolled nurse (TA) [ ]
- [d] Other, please specify.....
5. How many years have you been in the nursing service?
- .....(Please specify number of years or months)
6. For how long have you worked at Lilongwe Central Hospital?
- .....(Please specify years/months)
7. When did you last attend in-service education?
- (Please specify year).....
8. How many times have you attended in-service education?
- .....(Specify number of times)
9. Who facilitated the in-service education?
- [a] Nurse managers [ ]
- [b] Nurse educators [ ]
- [c] Doctors [ ]
- [d] Clinical officers [ ]
- [e] others, please specify.....
10. How were you chosen to attend the in-service education?
- [a] I applied [ ]
- [b] I was approached [ ]
- [c] Through the use of ward roster on who goes next [ ]
- [d] I do not know [ ]
- [d] Others, specify.....

**Part B: Importance of in-service education**

11. Do you think in-service education is important?

(Tick the response that answers the question)

Yes

[ ]

No

[ ]

If yes, move to question 12

If no, move to question 13

12. Why do you consider in-service education important?

.....

.....

.....

.....

13. Why do you consider in-service education not important?

.....

.....

.....

.....

14. How do you rate the following aspects of in-service education?

	Very poor	Poor	Not sure	Good	Excellent
[a] Choice of topics	[ ]	[ ]	[ ]	[ ]	[ ]
[b] Knowledge of facilitators	[ ]	[ ]	[ ]	[ ]	[ ]
[c] Venue for in-service	[ ]	[ ]	[ ]	[ ]	[ ]
[d] Choice of participants	[ ]	[ ]	[ ]	[ ]	[ ]
[e] Incentives	[ ]	[ ]	[ ]	[ ]	[ ]
[f] Follow up by facilitators	[ ]	[ ]	[ ]	[ ]	[ ]

15. Do you regard the following aspects of in-service education as **True** or **False**? (Tick the best response)

	TRUE	FALSE
In-service education		
[a] Improves patient care	[ ]	[ ]
[b] improves the knowledge and skills of nurses	[ ]	[ ]
[c] Is not necessary	[ ]	[ ]

16. After in-service education I was,

	TRUE	FALSE
[a] entrusted with responsibility	[ ]	[ ]
[b] commended by the seniors	[ ]	[ ]
[c] regarded as a threat to the seniors' positions	[ ]	[ ]
[d] promoted	[ ]	[ ]

**Part c: Utilization of knowledge gained from in-service education**

17. Having attended in-service education, how soon were you able to utilize the knowledge gained? (Tick the response that best answers the question)

- |                      |     |
|----------------------|-----|
| [a] Immediately      | [ ] |
| [b] 1-6 weeks after  | [ ] |
| [c] 2-6 months after | [ ] |
| [d] after 6 months   | [ ] |
| [e] never            | [ ] |

18. How often do you utilize knowledge gained from in-service education?

During:

	Never	Sometimes	Not sure	Often	Always
[a] Counseling	[ ]	[ ]	[ ]	[ ]	[ ]
[b] Providing Nursing care	[ ]	[ ]	[ ]	[ ]	[ ]
[c] Staff Meetings	[ ]	[ ]	[ ]	[ ]	[ ]
[d] Student teaching	[ ]	[ ]	[ ]	[ ]	[ ]
[e] Client teaching	[ ]	[ ]	[ ]	[ ]	[ ]
[f] Documentation	[ ]	[ ]	[ ]	[ ]	[ ]

19. What encourages you to utilize knowledge gained from in-service education?

(List 5 reasons/factors)

1. ....
2. ....
3. ....
4. ....
5. ....



20. Do you receive cooperation when utilizing knowledge from in-service education from the following?

	Yes	No
[a] Nurse managers	[ ]	[ ]
[b] Sister in-charge	[ ]	[ ]
[c] Fellow nurses	[ ]	[ ]
[d] Doctors	[ ]	[ ]
[e] Clinical officers	[ ]	[ ]
[f] Others, please specify.....		
.....		

21. What discourages you to utilize knowledge gained from in-service education?

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

22. How important are the following aspects towards your implementation of knowledge gained from in-service education?

	Not Important	Not very Important	Important	Very Important
[a] Low number of patients	[ ]	[ ]	[ ]	[ ]
[b] Adequate time	[ ]	[ ]	[ ]	[ ]
[c] More frequent	[ ]	[ ]	[ ]	[ ]
[d] Appropriate topics for area of work	[ ]	[ ]	[ ]	[ ]
[e] Supervision from seniors	[ ]	[ ]	[ ]	[ ]
[f] Ward allocation	[ ]	[ ]	[ ]	[ ]
[g] Support from other staff members	[ ]	[ ]	[ ]	[ ]
[h] Recognition	[ ]	[ ]	[ ]	[ ]
[i] Reduced work load	[ ]	[ ]	[ ]	[ ]
[j] Adequate staff	[ ]	[ ]	[ ]	[ ]

THANK YOU FOR RESPONDING

## Appendix 2

Kamuzu College of Nursing  
Private Bag 1  
Lilongwe

19<sup>TH</sup> November 1999

The Secretary for Health  
Ministry of Health and Population  
P.O. Box 30377  
Lilongwe

Attention: The Research Coordinator

Dear Sir,

### APPLICATION FOR NATIONAL CLEARANCE

I am a student currently pursuing a Bachelor of Science in Nursing Degree. In partial fulfillment, I am expected to carry out a research project.

The title of the research project is 'An investigation into factors that influence nurses utilization of knowledge gained from in-service education at Lilongwe Central Hospital'.

The purpose of this letter therefore is to seek national clearance for me to carry out this research at Lilongwe Central Hospital.  
Your consideration will be appreciated.

Yours faithfully,



J.H. Botha (Mrs.)

### Appendix 3

Kamuzu College of Nursing  
Private Bag 1  
Lilongwe

27<sup>th</sup> December, 1999.

The Hospital Director  
Lilongwe Central Hospital  
Box 149  
Lilongwe

Attention: The Chief Matron

Dear Sir,

#### **APPLICATION FOR PERMISSION TO CONDUCT A STUDY AT LILONGWE CENTRAL HOSPITAL**

I am a student at Kamuzu College of Nursing currently studying a Bachelor of Science in Nursing Degree. In partial fulfillment of my studies, I am required to carry out a research study.

The title of the research study is "An investigation into the factors that influence nurses utilization of knowledge gained from in-service education by nurses at Lilongwe Central Hospital".

The purpose of this letter is to ask for your permission to carry out the study at the hospital. Subjects will be nurses who have attended in-service education and are willing to participate intend to carry out the study between 2<sup>nd</sup> and 16<sup>th</sup> January 2000.

Your consideration will be appreciated.

Yours faithfully,



J.H.Botha (Mrs.)



Our Ref. No.: .....

Telephone No.: (265) 721 555

Telefax: (265) 721 018

Correspondence to be addressed to:

Senior Medical Superintendent

E-mail: Ich@unima.wn.apc.org

Healthnet: me-kch@mlw.healthnet.org



MINISTRY OF HEALTH AND POPULATION

LILONGWE CENTRAL HOSPITAL

P.O. BOX 149

LILONGWE

MALAWI

REF.NO.LCH/C2/25

31st December, 1999

Mrs. J. H. Botha  
Kamuzu College of Nursing  
Private Bag 1  
LILONGWE

Dear Madam,

Re: LILONGWE CENTRAL HOSPITAL AS SITE FOR STUDY

Thank you for your application in which you requested to use Lilongwe Central Hospital as a site for your study i.e. 'An investigation into the factors that influence nurses utilization of knowledge gained from in-service education by nurses at Lilongwe Central Hospital'. Permission has been granted.

Yours faithfully,

PP  
Fannie Kachale (Mrs.)  
for: HOSPITAL DIRECTOR

## Appendix 4

### Informed Consent

**RESEARCH TITLE:** An investigation into factors that influence nurses utilization of knowledge Gained from in-service education among nurses working at Lilongwe Central Hospital.

**Researcher:** J. Botha Registered Nurse/ Midwife.

I am an undergraduate student at Kamuzu College of Nursing. I would like to make an investigation into factors that influence nurses utilization of the knowledge gained from in-service education at Lilongwe Central Hospital.

The information could help to identify areas, which can help to improve patient care.

You are required to answer questions on a questionnaire. You are **NOT** required to give your name. This will help to maintain confidentiality. You are free to withdraw from participation if you wish so without being penalized.

### CONSENT

I, the undersigned have read the above information, and wish to give consent for participation in the study.

Signature.....

Witness ..... *Stellen* .....

Date: .....

## Appendix 5

Kamuzu College of Nursing

Private Bag 1

Lilongwe

14<sup>th</sup> November 1999.

Dear Sir/Madam,

### TO WHOM IT MAY CONCERN

I am a student at the above address and in partial fulfillment of my studies I am expected to conduct a research. Enclosed is the research tool for data collection. I would like you to check the questionnaire for validity.

Your consideration will be appreciated.

Yours faithfully



J.H. Botha (Mrs).