

**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPARTMENT OF POST BASIC NURSING**

**RESEARCH REPORT**

**COURSE: RN 420**

**COMPUTER No. 22020683**

**TITLE: A STUDY TO DETERMINE THE FACTORS  
ASSOCIATED WITH THE INADEQUATE STAFFING LEVELS  
OF NURSES AT U.T.H LUSAKA, ZAMBIA.**

**BY**

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**2006**

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ZAMBIA.

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This Research Study is submitted to the Department of Post Basic Nursing,  
school of Medicine, University of Zambia in fulfilment of the requirement  
for the Degree of Bachelor of Science in Nursing.

2006

## ACKNOWLEDGEMENT

My deep gratitude goes to our deserving Head of department, Mrs.C.Ngoma, for creating a conducive environment for studies.

Mrs. D. Chanda lecturer at the University of Zambia, School of Medicine, Department of Post Basic Nursing, my supervising lecturer for her patience and direction, valuable advice and guidance.

Dr .M. Maimbolwa lecturer at the University of Zambia, School of Medicine, Department of Post Basic Nursing, for guiding the course in Nursing Research.

The In Service Department of UTH for sponsorship that enabled me to do this course.

Mrs.Mbewe (Director of Nursing) and Matron Malewa (Nursing Services Manager) at UTH for their guidance and support during my search for statistics about nurses.

Mr. Mukuka *Human* Resource officer at UTH for providing me with statistics on nurse's turnover.

Mr. Mpondela Finance Director at UTH for his assistance on the research references.

My husband Stephen for his love, support and encouragement through out the study.

Our two daughters, Naomi and Grace for their moral support.

The library staffs for all the help the rendered to me.

My late sister Angela for the moral support she gave me during the course of my training before she was called home in Glory.

Mr. and Mrs. Namakando for their spiritual, physical and material help which they rendered to me through out my training.

The Deeper Life Campus Fellowship for their spiritual support through out my training.

My friend M.Masumo for allowing me to stay in her room during the first year of my training and for her continuous help in my academics.

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## LIST OF ABBREVIATIONS

AIDS	Acquired immune Deficiency Syndrome
CBOH	Central Board of Health
CSO	Central Statistics Office
DRC	Democratic Republic of Congo
ERP	Economic Recovery Program
GNC	General Nursing Council
HIV	Human Immune Deficiency Virus
HIPC	Heavily Indebted Poor Countries
HSRC	Human Sciences Research Council
ICU	Intensive Care Unit
JCTR	Jesuit Centre of Theological Reflection.
LHEC	London Health Emergency Council
MoH	Ministry of Health.
MMD	Movement for Multiparty Democracy
RN	Registered Nurse
SAP	Structural Adjustment Program
UK	United Kingdom
UNZA	University of Zambia
USA	United States of America
UTH	University Teaching Hospital
WHO	World Health Organization
ZNA	Zambia Nurses Association.

## STATEMENT

I here by certify that this study is the result of my own labour and independent investigations. The various sources, to which I am indebted, are clearly indicated throughout the text and bibliography.

Signed: *[Signature]*

Date: *03/04/06*

## DEDICATION

This study is dedicated to my Heavenly Father who gave me the grace and strength to carry out the study.

To my husband Stephen, who proved to be a source of moral and spiritual support in my life.

To our two daughters, Naomi and Grace, who endured staying, without a mother at a tender age.

## ABSTRACT

There is a growing concern about the inadequate staffing levels of nurses at the University Teaching Hospital (U.T.H) Lusaka Zambia. Occasional press reports have reported on the magnitude and effects of the inadequate staffing levels of nurses at U.T.H, but research and information on issues relating to the cause of the inadequate staffing levels has been scanty. It was, therefore, deemed necessary to undertake research to determine factors associated to the inadequate staffing levels of nurses at U.T.H and to provide evidence of the magnitude of the problem so as to enable policy makers to plan ahead using accurate information.

The aim of the study was to determine factors associated to the inadequate nursing staffing levels at UTH.

Data was collected from a sample of 50 respondents drawn from the hospital departments, comprising of 25 Enrolled Nurses, 15 Registered Nurses and 10 Ward Managers,

A non-interventional descriptive qualitative and quantitative research design was used. An interview schedule was used to collect data.

Data was processed and analysed manually using the data master sheet with the help of a pocket calculator. Diagrams and comparisons of proportions were used for quantitative data, while qualitative data was analysed according to themes.

Literature for the study looked at the inadequate nursing staffing levels as a global problem hence information was obtained on a global, regional and national perspective.

The results of the study showed that, 70% of the respondents had poor conditions of service. Majority of the respondents 56%, in this study indicated that lack of transport and inadequate accommodation has contributed largely

to the migration of nurses from the institution leading, to inadequate levels of nursing staffs at the institution.

The study also revealed that 72% of the respondents had unacceptable psychosocial status. This unsatisfactory psychosocial status has made to make most of the nurses not to be available for work there by contributing to the inadequate staffing levels of nurses at the institution.

It was revealed that 96% of the respondents had good health status, however it is worthy noting that a number of nurses had died according to 40% of the respondents, this shows that death of nurses is also a cardinal factor that contributed to the inadequate staffing levels of nurses. It was also revealed by 75% of the 40% respondents who mentioned about nurses who died; stated that the nurses who died suffered from HIV/AIDS related diseases. This indicates the impact of HIV/AIDS on the staffing levels of nurses at the institution.

Majority (54%) of the study respondents indicated that part-time allowance is minimal and therefore, needs to be increased to attract other nurses to work part-time duties at the institution.

It is hoped that this report will generate interest in further studies of the issues relating to the shortage of nurses at the institution. The report provides useful insights and details that can assist policy makers in making evidenced based decisions. In view of the important effects of the inadequate staffing levels of nurses at the institution, the study proposes comprehensive and integrated approaches that, if implemented should be able to reduce the out ward flow of nurses from the institution.

In addition the findings of this study have been used in making recommendations on strategies to be used to retain nurses at UTH.

The MoH needs to come up with some form of incentives and motivational strategies to retain this important workforce in the hospital.

# **CHAPTER ONE**

## **1.0 INTRODUCTION**

### **1.1 BACKGROUND INFORMATION**

Zambia is a landlocked country covering an area of 752,612 square kilometers (about 2.5% of Africa). It shares borders with the Democratic Republic of Congo (DRC) and Tanzania in the north; Malawi and Mozambique in the east; Zimbabwe and Botswana in the south; Namibia in the southwest and Angola in the west (CSO, 2002).

For administrative purposes, the country is divided into nine (9) Provinces and seventy-three districts. Lusaka and Copper belt Provinces are predominantly urban. The remaining Provinces namely Central, Eastern, Northern, Luapula, Western, Northwestern and Southern Provinces are predominantly rural.

Zambia lies between 8 and 18 degrees south latitude and between 20 and 35 degrees east longitude. It has a tropical climate and vegetation with three (3) distinct seasons; the cool dry winter from May to August, a dry season during September and October and a hot and wet season from November to April. The country has a Savannah type of vegetation. Among the main river water sources in Zambia are the Zambezi, Kafue, Luangwa, and Luapula. The country also has major lakes such as Tanganyika, Mweru, Bangweulu and Kariba. The northern part of the country receives the highest rainfall with annual averages ranging from 1,100 millimeters to over 1,400 milliliters. The southern and eastern parts of the country have less rainfall ranging from 600 mille-liters to 1,100 mille-liters annually and are prone to draughts (CSO, 2002).

The country has a population of 10.3 million people with a growth rate of 2.9 percent per annum. The population density ranges from 65 people per square kilometers in Lusaka province to five people per square kilometers in Northwestern province (CSO, 2002). The population is concentrated along the line of rail because major towns are along this route. The rural populations are mostly peasant farmers and fishermen. The rural area is underdeveloped, as a result most of the youth move to urban area in search of employment and livelihood.

Zambia has a mixed economy consisting of a modern urban sector that, geographically, follows the rail line and a rural agricultural sector. For a long time, the modern sector has been dominated by parastatal organizations, while private businesses had predominated in construction and agriculture sectors. Since 1991, with the introduction of a liberalized market-oriented economy, the parastatals have been privatized and, in some cases, liquidated.

Copper mining was the country's economic activity, accounting for 95 percent of export earnings and contributing 45 percent of government revenue during the decade following independence (1965 -1975). In the mid-1970s following a sharp decline in copper prices and a sharp increase in oil prices, the country's economy deteriorated. Attempts were made to minimise dependency on copper by diversifying the economy through the creation of import substitution parastatals. This did not achieve the desired results.

The Zambian Government has put in place a national health care system to service its population. The government's commitment to the objective of improving the quality of life of all Zambians has been demonstrated through its effort to improve health care delivery by reforming the Public Health Sector through the Health Reforms. In 1991, the Zambian

government articulated radical health policy reforms characterized by a move from a strongly centralized health system in which the central structures provided support and national guidance to the peripheral structures (CBoH, 1991). These Health Reforms established government's commitment to improve the health of the population by progress towards achievement of targets that were set. The MOH, 1991 states that careful utilization of financial material and human resources is necessary in order to meet the health needs of the population (CBoH, 1991).

The human resources in the Ministry of Health mainly comprise of health professionals. These include doctors, nurses and paramedical staff. Nurses comprise about 75% of all health care professionals in the health care delivery system in the country (GNC, 2004). This means that nurse who are the majority in the health care delivery system implement most of the health care programmes.

The Zambian health care system has two (2) categories of nurses namely the Registered Nurses and the Enrolled Nurses. The levels of training differentiate the two (2) categories. The Enrolled Nurses undergo a two (2) year training programme and graduate with a certificate. Thereafter, they have an opportunity to specialize in Enrolled midwifery within the country. The Registered Nurses undergo training for three (3) years and graduate with a diploma. They can then, specialize locally in Registered Midwifery, Operating Theatre Nursing, and Mental Health Nursing, (GNC, 2004). The University of Zambia, offers a Bachelor of Science in nursing degree programme for Registered Nurses who upon graduation are skilled to become researchers, administrators, educators and clinical specialists. In 2004, the University of Zambia, School of Medicine introduced a master's degree programme in nursing for graduates. (UNZA, School of Medicine, 2004). Nurses have an opportunity to go up to Doctor of philosophy level in nursing, though this programme is not offered locally.

Over the years we have seen the economy deteriorate and with it the country `s health system. The population, meanwhile, has increased (MOH, 1994). The poor economy coupled with population increase has rendered social services such as health to be inadequate. This has been attributed to reduction in budget allocation over the years, leading to inadequate supply of drugs, medical equipment and other resources (MOH, 1992). Poverty, inadequate education, health facilities, information and inability for communities to pay for health services and shortage of nurses and other health professional are some of the problems affecting the quality of health services in Zambia today. MOH, (2005) states that Zambia has around 10,000 nurses in practice as against a population of more than 10 million, leaving a ratio of about 1 nurse to 1,000 Zambians. This ratio is inadequate to meet the health needs of the Zambian population. For some years it has been noted that most of our nurses are leaving the country for greener pasture in foreign countries. There are many reasons for the attrition of nurses in general, and at UTH in particular. It is widely believed that Britain, South Africa, USA and Australia are currently large drawers of Zambian nurses, who are well trained but unable to make ends meet working at home. The Minister of Health noted that 2000 nurses in the UK General Nurses Council Register are Zambians, ([wwwpostnewspaper2004](http://www.postnewspaper2004)).

The University Teaching Hospital, where the study was conducted, is Zambia `s largest health institution. It has 1803 bed capacity. Extra ward have also been created to cater for more patients including high cost patients. Redistribution of beds was also done to decongest in certain departments e.g. pediatrics and medical wards. According to UTH records, the establishment is supposed to have over 1,290 nurses but currently there are only about 684 nurses, leaving a balance of 606, as shown in table 1. This has led to a situation where one nurse attends to

more than 40 patients instead of five. For this reason, nurses-aides (ward attendants) are becoming more widely used, a situation that is an understandable 'stop gap' measure, but undoubtedly not a long –term solution, (UTH statistics 2004)

TABLE 1

**NUMBER OF NURSES ACCORDING TO THEIR POSITIONS**

<b>POSITION</b>	<b>ESTABLISHMENT</b>	<b>ACTUAL</b>	<b>VARIANCE</b>
Director of nursing	01	01	0
Nursing Services Manager	01	01	0
Senior Nursing officer	02	01	-1
Nursing Officers	09	09	0
Senior Night Superintendents	0	1	1
Night Superintendents	08	04	-4
Theater Superintendents	02	01	-1
Ward Managers	56	35	-21
Night Sisters	0	3	3
Registered Nurses	320	136	-184
Registered Midwives	100	31	-69
Registered Theaters Nurses	80	16	-69
Registered Mental nurse	01	01	0
Registered Endoscope-Nurse	0	0	0
Registered ICU Nurse	0	4	4
Enrolled Nurses	550	394	-156
Enrolled Midwives	160	46	-114
<b>Total</b>	<b>1,290</b>	<b>684</b>	<b>606</b>

(UTH statistic 2005)

(Table 1) shows a disparity in the staffing levels of the nurses who are the essentials workers of health.

Kapolo states that UTH has the major medical and surgical specialties in Lusaka where the population is about 2 million. Moreover, despite referral modifications, UTH, still receives patients from all over the country as a national referral hospital owned by the government in the absence of another government owned big hospital. It therefore, acts as a district, general as well as national referral hospital. (Kapolo, 1992) the result of all these multiple roles and the growing population with corresponding expansion in the health facilities, has been; unacceptable levels of patients congestions, overstretched human and material resources and standards of care that are less than acceptable.

For sustained change and assurance of an adequate supply of nurses, solutions must be developed in several areas these include; staff retention methods that is improving the conditions of service and giving incentives, staff replacement by recruiting new staff and also staff development through training, workshops and education, health care delivery system, policy and regulations, and improved image of nurses, hence this study needs to be carried out in order to identify the factors associated with the acute shortage of nurses at UTH .

## **1.2 STATEMENT OF THE PROBLEM**

UTH establishment shows that, each ward in Medical Department (E-Block) is supposed to have 10 Registered Nurses, 15 Enrolled Nurses and a Ward Manager. However at present, most wards in E-Block have only one Registered Nurse, six Enrolled Nurses and a Ward Manager.

UTH statistics also show that one nurse attends to more than 40 patients. This has contributed to frequent sick offs, excuses to be off duty, absenteeism, apathy, and reporting late for work by most of the nurses.

This disparity is shown in (Table 1) . Table 2 shows that there is a high attrition rate of nurses leading to acute shortage of nurses in the UTH between 2003 to 2004. The factors related to the high attrition rate of nurses at UTH include deaths, transfers, resignations, and desertions.

TABLE 2 SHOWING NURSE ATTRITION AT UTH BETWEEN 2003 AND 2004

YEAR	Number of Nurses			Transfer		Resignation		Death		Retirement		Total	%
	Total	EN	RN	EN	RN	EN	RN	EN	RN	EN	RN		
2003	734	455	279	06	06	11	12	08	08	01	02	49	6.7
2004	684	440	254	07	07	21	29	16	04	01	05	90	13

(UTH statistics 2005)

Generally the major contributing factor to the transfers and resignation of nurses has to deal greatly with how much a nurse gets paid. Most of them are concerned about the wages that they receive and feel that it is not sufficient for the workload they perform on a daily basis. In other words they work harder than what their pay actually reflects. At UTH, an Enrolled Nurse salary, including the shift allowance and uniform allowance comes to a total of approximately K664, 000 net pay, and for the Registered Nurse it is approximately K740, 000. Inadequate accommodation and lack of transport has also, to a larger extent, contributed to the resignation and transfers of nurses from UTH there-by creating an acute shortage of nurses.

UTH management is currently trying to combat the shortage of nurses by bonding all the new graduates from Lusaka School of Nursing for 6

months, and they have also increased part-time allowances in order to attract nurses out side of UTH to come and do part-time at UTH. However, these measures have not really accomplished much, as statistics still show that there are usually only one or two nurses on duty taking care of more than 40 patients in most of the general wards at UTH. It, therefore, follows that the hospital needs to come up with staff retention strategies, which include improving conditions of service, giving incentives and staff replacement by recruiting new staff. Hence this study needs to be done in order to identify the factors that are associated to the acute shortage of nurses at UTH

### **1.3 FACTORS CONTRIBUTING/INFLUENCING PROBLEMS**

#### **1.3.1 SERVICE FACTORS**

##### **Poor conditions of service**

Some service factors such as conditions of service have led to the shortage of nurses at UTH. Low wages, inadequate accommodation, lack of transport, and poor working environment are some of the factors that have led to nurses leaving the institution and thus reducing the staffing levels.

Observations and consultation have revealed that each year a number of nurses leave the institution to join other organizations or go to other countries where the working environment is conducive. Congestion in the wards complicated by lack of medical equipment and other resources has made the nurse "toothless" in as far as delivery of care is concerned.

### **1.3.2 PSYCHOSOCIAL FACTORS**

#### **a) Stress due to bereavement**

Stress is a factor that may reduce manpower. Nurses suffer stress caused by bereavement and chronic illness in the family. Culturally, the nurse is expected to attend to these problems. Hence the affected nurse most often may request for urgent leave, in order to attend to these problems. This has affected the staffing levels, because, normally, there is more than one nurse facing these social problems.

#### **b) Peer influence**

Peer influence may cause young nurses to influence one another to move from the institution in search of job satisfaction and good pay.

### **1.3.3 HEALTH STATUS**

The poor health of the nurse is another, important factor. A healthy nurse is an asset where as a sick one is a liability. The sick nurse will be given sick leave very often-creating shortage and inconveniencing others. The number of sick leave days she will be given, can be interpreted as a minus in staffing levels, where more than two nurses have chronic illnesses, it may imply that there will be critical shortage of staff.

Moreover the nurse who is constantly sick will eventually go on early retirement. The sickness can also lead to death, which is a natural wastage of human resource.



Hence this study intends to derive information on contributing factors to the inadequate staffing levels of nurses at UTH. It is hoped that that this information will be used to try to solve the problem of acute shortage of nurses at UTH.

## **1.6 RESEARCH OBJECTIVES**

**Objective** is an aim, especially one that must be worked over a long period. (Longman 1987)

### **1.6.1 General Objective**

To determine the factors associated with the shortage of nurses at UTH..

### **1.6.2 Specific Objectives**

1. To identify the service factors associated with transfers and resignations of nurses at UTH.
2. To identify nurse's psychosocial factors associated with shortage of nurses at UTH.
3. To identify the types of diseases that nurses suffer from, this may lead to early retirement and death of nurses at UTH
4. To make recommendations to UTH Board of Management on staff retention strategies.

## 1.7 HYPOTHESES

**A hypothesis** is a statement of predicted relationships between the variables under investigations. (Polit et al, 2004)

1. Lack of transport and inadequate accommodation will lead to most nurses go on transfer and resign there by leading to inadequate staffing levels for nurses at UTH.
2. Unsatisfactory psychosocial status will lead to absenteeism, thereby contributing to inadequate staffing levels for nurses at UTH.
3. Poor health status will lead to acute shortage of nurses at UTH.

## 1.8 OPERATIONAL DEFINITIONS OF TERMS

1. **Acceptable Conditions of Service** - in this study, it entails that U.T.H provides; adequate accommodation in residential areas which are decent, transport to and from work place, and good salary. It also includes manageable workload.
2. **Enrolled Nurse** – is an individual who has undergone two years of nurse training at a recognized school of nursing and is enrolled with the General Nursing Council of Zambia.
3. **Health status** – satisfactory health status in this study entails that the nurse is not frequently seeking medical attention and that she/he is not suffering from any chronic illness.
4. **Nurse** – someone who is trained to look after people who are ill, or injured.

5. **Registered Nurse** – is an individual who has undergone two years of nurse training at a recognized school of nursing and is registered with the General Nursing Council of Zambia
6. **Resigning** –to officially and permanently leave the job because you want to.
7. **Retire-** stopping to work usually because of age or ill health.
8. **Shortage of nurses** –a situation in which the number of nurses is 50% less than that of the establishment
9. **Staffing levels** – this is the number of nurses delivering nursing care per shift.
10. **Transfer-**the process by which nurses' move, from one place (UTH) to another place.
11. **Unacceptable Conditions of Service** – in this study it entails that U.T.H is not interested in employee's accommodation arrangements or provide inadequate accommodation (e.g. a room which is not even self contained), inadequate monthly salary and employees walk when going for work. It also includes heavy workload

## **1.9 VARIABLES**

**A variable** is a characteristic or attribute of a person or object that varies (i.e., takes on different values) within the population under study (e.g., body temperature, age heart rate)  
(Polit et al, 2004)

This study aims at establishing the relationships between the variables. There are usually two types of variables in a study. The independent variable is the causative factors. They are assumed to cause changes or variations in the problem under investigation. Normally the problem under investigation is the dependent variable.

### **1.9.1 Dependent variables**

The dependent variable is the particular event or phenomenon under investigation. These are affected by the causative factors of independent variables (Polit et al, 2004).

In this study the dependent variable staffing levels for nurses at UTH.

### **1.9.1 Independent variables**

It is the variable that stands alone and is not dependant on any other, (Polit et al, 2004),

In this study the independent variables are as follows:

1. Conditions of service for the nurses
2. Psychosocial factors
3. Health status of the nurses

**Table 3**

<b>VARIABLE</b>	<b>CUT OFF POINTS</b>	<b>INDICATOR CATEGORY</b>	<b>Question numbers</b>
<b>DEPENDENT VARIABLE</b>			
<b>Staffing levels</b>	Very Adequate	5-6 nurses per shift on wards	36 -37
	Adequate	3-4 nurses per shift on wards	36 -37
	Inadequate	1-2 nurses per shift on wards	36 -37
<b>INDEPENDENT VARIABLES</b>			
<b>Health Status</b>	Good	The nurses are not frequently seeking medical advice and/or are not suffering from any chronic illness	29-35
	Poor	The nurses frequently seek medical advice and that he /she has been suffering from a chronic illness.	29-35
<b>Psychosoci al status</b>	Satisfactory	The nurse has no chronically ill family members and does not frequently have family bereavements.	25-28
	Unsatisfactory	The nurse has chronically ill family members and does not frequently have family bereavements.	25-28
<b>Conditions of service</b>	Acceptable	U.T.H provides; adequate accommodation in decent residential areas, transport to and from work place, and good salary. It also includes manageable workload.	8-24
	Unacceptable	U.T.H is not interested in employees' accommodation arrangements or provide inadequate accommodation (e.g. a room which is not even self contained for a state Registered Nurse,), inadequate monthly salary and employees walk when going for work. It also includes heavy workload	8-24

**VARIABLES AND CUT OFF POINTS**

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Introduction

There has been so much literature written about the shortage of nurse's world wide, regional and in Zambia. This shows how crucial the problem of shortage of nurses has become. To review the literature on the shortage of nurses, it is important to consider the, global, regional and the national perspectives.

#### 2.2 GLOBAL PERSPECTIVE

The shortage of nurses is not only in Zambia and Africa; the developed countries have also been affected as well. In the United States, approximately 500,000 positions were believed to be lying vacant in the year 2004, ([www.academic.com/ub/essy](http://www.academic.com/ub/essy) )

Hospitals and care units in USA are faced with an extreme shortage of nurses. There are various reasons why the nursing workforce is diminishing leading to acute shortage of nurses. One of the reasons is that women entering the workforce have more options available and thus few choose to enter Managed Health Care Units. The country is also facing an acute shortage of nurses due to a similar situation globally and lower employment rate locally. Nurses in USA are mostly above the age of 50 and the average age of nurses is 49. This shows that fewer younger people are entering the field, which is a complex issue and needs to be analysed closely in order to seek an effective solution, ([www.academic.com/ub/essy](http://www.academic.com/ub/essy) )

A new law, which permits thousands of foreign nurses on temporal visa in the US to work permanently, was passed in order to ensure the retention of nurses in the country. Those hospitals have to meet conditions before being permitted to recruit nurses and provide evidence that services would suffer substantial disruption unless foreign nurses are employed. Most affected are likely to be New York hospitals. Nearly half the nurses currently working on temporal visas work there. According to this report Berth Israel hospital, in New York, 24 per cent of qualified staff were foreigners and that if they were to lose the source of recruitment, they would not be able to deliver the same amount of care and that they might have to close units. This report reveals that the major cause of shortage of nurses is that few people are joining the nursing profession.

A study conducted by London Health Emergency's (LHEC) Director predicted that at least two London Teaching Hospitals closed in 1992. The pressure group of LHEC was worried that the London health system was understaffed and under resourced. The provision that each patient will have a named nurse was unworkable in most big London hospitals. The prediction in this study indicates that if no strategies for retaining nurses and recruitment were put in place then some hospitals will have to close.

Person et al, in their study aimed at exploring factors contributing to nurse-turnover, saw that turnover may decrease the quality of nursing care due to loss of knowledge. From their work, these authors have clearly indicated that manpower affects quality-nursing care. (Person, etal, 1993). This study showed the impact of frequent nurse-turnover on nursing practice.

Warfield and Manley in their study pointed out that caring for staff is a prerequisite to caring for patients. All staff are helped to identify their personal and professional needs and to select appropriate method to

develop them. They went on to say that nursing is dynamic in that it is sensitive to changes in society, health needs and health beliefs in addition to changing technologies, priorities and information system. Warfield and Manley, (1990.) This study focused on how the nurse can be motivated in order to retain him or her at work

### **2.3 REGIONAL PERSPECTIVE**

In Africa it has been predicted that nursing shortage will be more severe and have a longer duration than has been previously experienced. Traditional strategies implemented by employers have had limited success. In most African countries, the dying workforce from HIV/AIDS, and the "brain drain" of the qualifying nursing staff to the developed countries are the common factors that contribute to the nursing shortage.

A study by Human Sciences Research Council (HSRC) in South Africa showed that the country is steadily losing trained nursing staff. The situation is said to be far worse than what the study was able to show. South Africa statistics shows that, in 2002, the country boasted of having 155,484 practicing nurses, giving a nurse/population ratio of 343 nurses per 100,000 populations, this was favorable when compared to the World Health Organisation (WHO) 's minimum balance of 200 nurses per 100,000 populations. However, there has been a steady fall over the past decade in environments for nursing studies. The RSRC study shows that between 1990 and 2000 nurses qualifying decreased by 1-2 percent, with new entrants to the profession decreasing by almost one percent (1%). This study indicates that people joining the nursing profession in South Africa are reducing by 1% implying that the numbers of nurses practicing will decline since those who are leaving, retiring and dying are not been replaced sufficiently.

The study also revealed that more than 18 percent of nurses registered with the South African Nursing Council are no longer practicing. The reasons for the decline includes migration, work pressure and work environment related factors among the many reasons leading to nursing skill losses. The exact numbers of nurses lost through migration are not known, but more than 700 are officially recorded as having left the country since 1995.

In 2003 the Human Sciences Research Council (HSRC) study found that almost 80 percent of nurses experienced increased workloads, with 60 percent dissatisfaction with their working environments. This can be reason why the nurses leave the profession or go to work somewhere else where they will be satisfied with their work environment.

Dihlati, of the Department of Health in South Africa said shortages of nurses should not be seen in isolation but as part of greater human resource challenge. He went on to say that there are currently about 32,000 vacant nursing posts in the country hospitals (Dihlati, 2005). The study showed that the shortage of nurses should be seen as human resource problem in order to meet the challenge of staff retention.

Mubudu, Manager of Nursing Services at Tshinozini Hospital in South Africa, reported on the urgent need for implementing retention efforts. She explained that they where experiencing a 'brain drain.' South Africa, Doctors and Nurses are leaving in large numbers to practice in richer countries. The professions are leaving because of poor working conditions and low pay, (Mubudu 2004). Mubudu `s report focused on the urgent need to implement the staff retention plans in order to counter act the 'brain drain' of South African health professions.

Owley, reported that Botswana, a relatively prosperous country compared to its neighbours, has its nurses who were trained under the British system in that country quickly recruited by employers in the United States. The same is true in Swaziland. They noted that they were up to 80 percent of nursing positions still vacant. The report also showed that of the 900 nurses that graduate each year, more than 200 leave the country.

Owley's, report on Botswana and Swaziland showed that their nurses were very marketable since they were trained under the British system and so they could easily find employment in US. It also showed that in Zimbabwe the poor working conditions of nurses would lead to many nurses leaving the country, Owley (2004),

## **2.4 NATIONAL PERSPECTIVE**

A study by Tembo, shows that; in Zambia, there have been no comprehensive reviews of the numbers of nursing staff done, resulting into outdated staff establishment. Staff would have already left the institution but the central office would not have indicated the change. Unclear career structures and lack of properly designated performance appraisal systems leave the nurse not knowing what to do next. A nurse without aspiration quickly gets bored. This has led to resignation for better challenges outside the country or out of Lusaka (Tembo, 1996). The study stated that the consequence of having unclear career structures for nurses has contributed to resignation of most nurses.

A study by Bona reveals that staffing standards for health facilities should reflect both services delivered and the level of technology available. The overall problem is; inappropriate distribution of trained staff, low staff morale due to poor and unfavourable working and living conditions. "Do you

expect nurses to perform efficiently when they are hungry, depressed and frustrated? Are they exploited because of gender, as most are female?" (Bona, 1997). The study focused on the factors contributing to low staffing levels of nurses, which has led to frustration of nurses. This study dealt with the psychosocial effect of poor working condition and poor pay of nurses.

A study by Kabombo showed that, if our health system could look after the nurses very well, the standards of care would improve. Nurses want to make ends meet so they leave the country in search of "greener pasture". Some leave the institution and join others in search of good conditions. Those who cannot quit are engaged in part-time, in order to make ends meet. Part-time is additive the more money you get, the more you want. After all a nurse doing part-time gets more money than the one doing the official shift. So the nurses tend to do more part-time and are very tired, as a result the nursing care is poor,(Kabombo,1998). Kabombo `s study focused on what can be done to improve the standard of care. The study stated that improving the nurses salary can help to retain the nurses; this will lead to appropriate staffing levels that will enhance high standard of care.

## **2.5 CONCLUSION**

The various literatures reviewed have shown important gaps. The global literature reviewed the impact of frequent nurse –turnover on nursing practice. It also showed that few people are joining the profession in some countries due to many work alternatives for women. Another review focused on how the nurse can be motivated in order to retain her/him at work.

Regional literature showed the efforts that are being made by nurses for increased wages despite political interference in their efforts. Another review regionally focused on the 'brain drain' despite good wages, showing that nurses just wanted a change of environment to practice.

Zambian literature review showed that the shortage of nurses is mostly due to lack of motivation, poor career structure, unfavorable working conditions, coupled with high mortality levels among nurses.

These reviews have important gaps because they did not look at the factors that cause the nurses to abdicate their nursing role. Most literature reviews showed how to handle the professional "brain drain" in their home countries that is creating a shortage of nurses. Therefore this study needs to be done in order to create a body of knowledge to fill in this gap.

It is hoped that the result of the study will help UTH Board of Management to come up with short and long-term strategies that would help to retain some nurses at this national referral hospital.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research design**

A research design is a scheme of action or a framework for answering the research question/s. According to, (Treece and Treece, 1986) it includes the research setting, operational definitions, assumptions, sample, sampling procedure, instrument to be used for data collection, approach used for data collection and method of data analysis.

In this study a descriptive cross sectional non-interventional, qualitative research design was used. A descriptive study as defined by (Treece & Treece 1986) is a study in which data is collected to define or describe some group of phenomena.

The study was descriptive in that the investigator randomly collected and presented data giving a clear picture of the situation.

A cross sectional survey is a type of descriptive study in which data is gathered from a variety of subjects at one point in time. A cross sectional type was chosen because it is less expensive and is conducted in a short period of time.

#### **3.2 Research setting.**

Research setting as described by Polit et al (2004) is a physical location and conditions in which data collection takes place in a study.

The study was conducted at University Teaching Hospital (UTH).

UTH is found east of Lusaka town along Nationalist road off Independence Avenue. (UTH statistics)

### **3.3 Study population**

The term population refers to entire number of units under study or the whole or all the inhabitants of the geographical location under study (Treece & Treece 1986).

The study units were comprised of Ward Managers, Enrolled and Registered Nurses working at UTH.

### **3.4 Sample selection**

Sample selection is the "process of selecting a portion of the population to represent the entire population". (Polit et al, 2001).

The researcher sampled 17 wards using lottery method. Then a convenience sampling method was used to choose any 3 nurses per each of the 17 wards found on duty in the afternoon or at night. This helped the researcher to have a sample size of 50 nurses. Afternoon and night duties were chosen because it was the time when the wards were less busy.

### **3.5 Sample size**

A sample size is the number of study participants. (Polit et al, 2001). It is a subset of a population.

The study population was the Enrolled and Registered Nurses working at UTH. From these a total of 50 respondents were sampled. This sample size was feasible in terms of time within which the research was completed and submitted, and also the available resources.

### **3.6 Data collection tool**

Data collection is gathering of information needed to address a research problem (Polit et al, 2001). Data collection tool is an instrument used for collecting data.

In this study a questionnaire was used to collect data. A questionnaire is the most common research instrument. It has a series of questions that are filled in by all participants in a sample. According to Treece & Treece (1986) questionnaires are advantageous in that they are a rapid and efficient method of gathering data and are inexpensive and easy to distribute. However, there are some limitations like inability to probe a topic in depth without becoming lengthy and that the amount of data collected is limited by respondent's available time and interest.

### **3.7 Data collection technique**

Self administered questionnaires were used with both open and closed ended questions to collect data.

Consent was sought from the respondents .The questionnaires were administered to them by the principle investigator herself. Instructions were read to the respondents; purpose of study, use of findings and the assurance of privacy and confidentiality was explained. Questionnaires were checked for completeness before being distributed to the respondents.

### **3.8 Pilot study**

According to Polit et al (2001) a pilot study is a small study or trial run, done in preparation for the major study.

The pilot study was conducted at Chainama Hills Hospital in the month of August, 2005. Chainama Hills Hospital is one of the government hospitals, which have also been affected with the shortage of nurses.

The pilot study was conducted to assess the feasibility of the study and make necessary adjustments to the questionnaire so that it was reliable and valid.

It also helped to determine the reactions of the respondents to the research procedure. 5 respondents were randomly selected, as this number will constitute 10% of the sample size, which is 50.

### **3.9 Validity**

Validity is the degree to which an instrument measures what it is supposed to measure (Polit et al 2001).

The researcher asked questions in relation to the objectives of the study. The questions were asked in a logical sequential manner. And any question that was not clear from the pilot study was changed.

### **3.10 Reliability**

Reliability refers to the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure. (Polit et al 2001).

The Two basic sources of inaccuracy may be present and these are;

- Deficiency in the instrument.
- Inconsistency in taking readings from the instrument.

Reliability of the questionnaire was achieved by carrying out a pilot study in order to test the degree of accuracy with which the tool measured the factors contributing to the shortage of nurses at UTH. The inaccuracies were overcome by making corrections to the instrument accordingly after the pilot.

### **3.11 Ethical and culture consideration**

The development and implementation of research should be ethically and culturally acceptable.

As defined by Polit et al, ethics is a system of moral values that is concerned with the degree to which research procedures adhered to professional, legal and social obligations to the study participants. (Polit et al, 2001).

Confidentiality and anonymity was assured to the respondents. No names appeared on the study tool (questionnaire). The purpose of the study was explained to all the respondents involved so that they could understand the nature of the study to which they were consenting to, as well as enable them participate in the study willingly. The respondents, were interviewed from their usual environment so that they could not be exposed to any physical or emotional dangers or harm.

Permission was sought from the Ward Managers, the UTH Managing Director, the Nursing Director and the Human Resource Manager. Consent was also obtained from the respondents before administering the questionnaires.

### **3.12 Plan for data analysis**

Data analysis is the process of categorizing, scrutinizing and crosschecking the research data (Treece & Treece 1986).

After data collection, the questionnaires were sorted out according to questions. This was being plotted down on the data master sheet to allow for easier analysis. Sorting out data was being done immediately the questionnaires were collected. The data was analyzed manually with the help of the scientific calculator. This assisted in full understanding of the data collected and familiarization with a method that was used. Frequency tables cross tabulations and numerical descriptions were prepared to show the relationship of variables.

### **3.13 Plan for presentation of findings.**

The research findings will be presented on the UTH "Open Day" to which the sponsors will be invited. The information shall also be presented at seminars and workshops.

### **3.14 Plan for dissemination of findings.**

Dissemination of findings entails the measures that would be undertaken to make known to the relevant authorities and study subjects what the study has measured.

A copy of the research report shall be sent to UTH management and UTH Nursing Directorate to enable the institution monitor the levels of nurses and also for them to be able to apply appropriate staff retention strategies.

The UTH In-service Department will be asked to take up the challenge of disseminating the information to the Human Resource Officers and other managers so that they are aware of the results of the study that was done within their setting

## **CONCLUSION**

The study has determined the factors associated with the inadequate staffing levels for nurses at UTH.

Literature review of relevant studies was done which reviewed those poor conditions of service; psychosocial problems and ill health contribute to the high attrition of nurses.

A non-descriptive research design was conducted using a standard questionnaire.

The study was conducted at UTH between August and September 2005. A simple sampling method for selecting a sample of 50 nurses (respondents) was used.

## **CHAPTER FOUR**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 DATA ANALYSIS**

Data analysis is the process of categorising, scrutinizing and crosschecking the research data, Treece and Treece [1986]

Data was fully edited for accuracy and completeness. Responses from open-ended questions were put under themes and later categorised appropriately.

Data was then entered on the data master sheet for manual analysis with the aid of a pocket calculator.

#### **4.2 PRESENTATION OF FINDINGS**

The findings have been presented in tables, pie charts and graphs to give a true picture of the phenomena under study. The findings have been presented under sections A,B,C,D and E.

##### **SECTION A**

The tables and pie charts in this section deals with demographic data of the respondents.

##### **SECTION B**

The tables and pie charts in this section represents data about the conditions of service for the respondents.

### **SECTION C**

The tables and pie charts in this section represents about the psychosocial status of the respondents.

### **SECTION D**

The tables and pie charts in this section represents data about the health status of the respondents.

### **SECTION E**

The table and the pie chart in this section represent data about the staffing levels of the respondents.

**SECTION A****DEMOGRAPHIC DATA.**

SEX	FREQUENCY	PERCENTAGE
Male	04	8%
Female	46	92%
Total	50	100%

**TABLE: 4 SEX OF THE RESPONDENTS**

Majority of the respondents 92% were females while 8% were males.

**Table: 5 AGE RANGES OF THE RESPONDENT**

AGE RANGE	FREQUENCY	PERCENTAGE
20-29	20	40%
30-39	17	34%
40-49	10	20%
50-59	03	06%
TOTAL	50	100%

Majority of the respondents 40% were in the age range of 20-29 years, followed by 34% with the age range of 30-39 years.

**TABLE 6: MARITAL STATUS OF THE RESPONDENTS**

MARITAL STATUS	FREQUENCY	PERCENTAGE
Married	22	44%
Divorced	03	06%
Single	22	44%
Widow/Widower	03	06%
TOTAL	50	100%

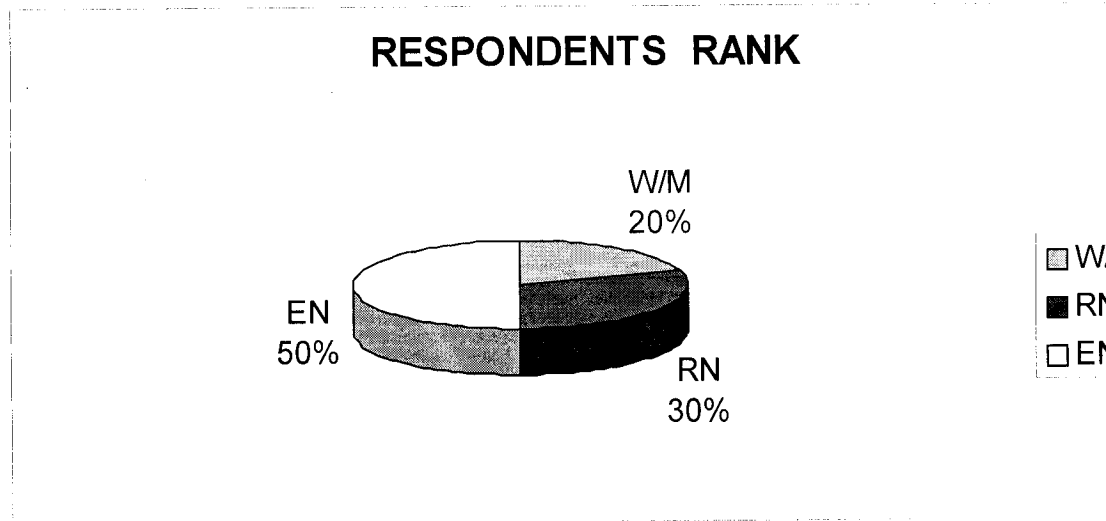
The number of respondents who were married stood at 44%. This was equal with those who have never been married (singles)

**TABLE: 7 NUMBER OF CHILDREN FOR THE RESPONDENTS**

NUMBER OF CHILDREN	FREQUENCY	PERCENTAGE
NONE	21	42%
1-3	21	42%
4-5	8	16%
TOTAL	50	100%

The number of the respondents who had no children and those with 1-3 children was 42% respectively, while 16% of the respondents had four-five children.

**FIGURE: 2**



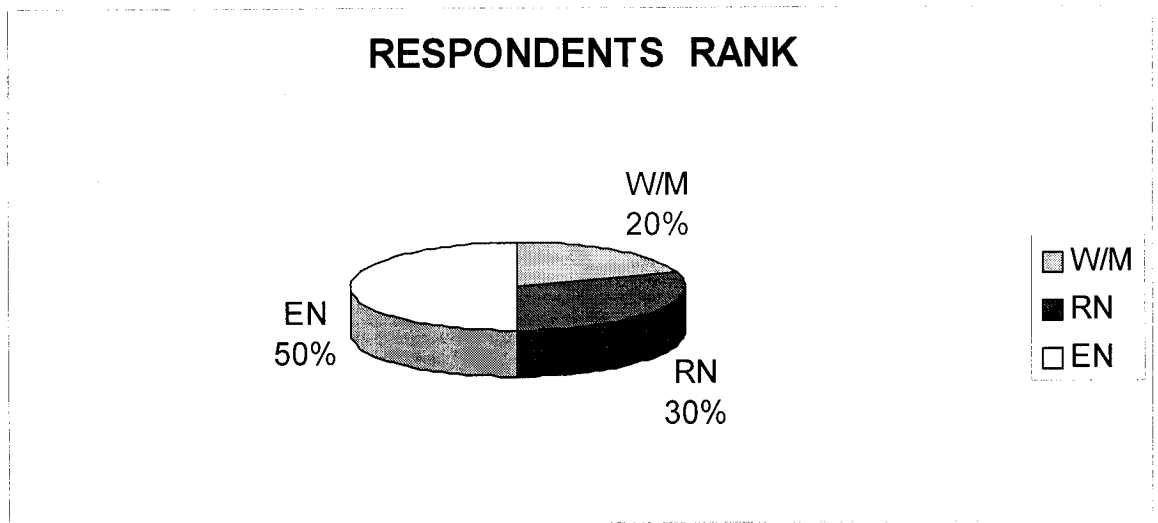
The pie chart shows that the majority of the respondents 50% were Enrolled Nurses, followed by 30% Registered Nurses, while 20% of the respondents were Ward Managers.

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The pie chart shows that the majority of the respondents 50% were Enrolled Nurses, followed by 30% Registered Nurses, while 20% of the respondents were Ward Managers.

**TABLE : 8            NUMBER OF CHILDREN IN RELATION TO MARITAL STATUS.**

NUMBER OF CHILDREN	MARITAL STATUS				TOTAL
	MARRIED	DIVORCED	SINGLE	WIDOW/ WIDOWER	
NONE	3(14%)	1(33%)	16(73%)	1(33%)	21(42%)
1-3	13(59%)	2(67%)	6(27%)	-	21(42%)
4-5	6(27%)	-	-	2(67%)	8(16%)
TOTAL	22(44%)	3(6%)	22(44%)	3(6%)	50(100%)

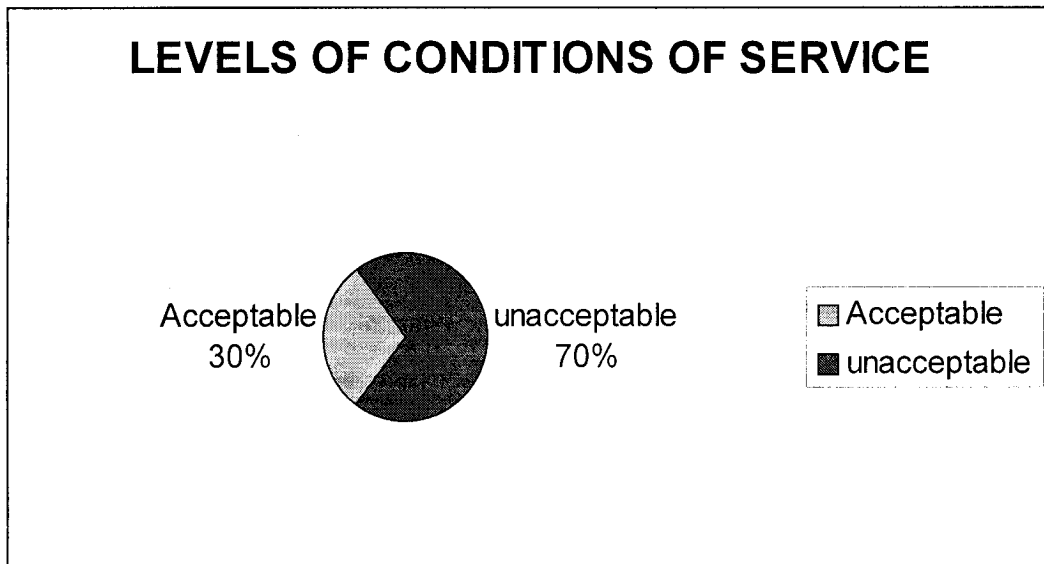
Table 8 shows that majority of the single respondents approximately 73% of the 44% of the single respondents in the study had no children, while 59% of the married respondents in the study had 1-3 children.

**TABLE : 9            AGE OF THE RESPONDENTS IN RELATION TO MARITAL STATUS**

AGE RANGE	MARITAL STATUS				TOTAL
	MARRIED	DIVORCED	SINGLE	WIDOW	
20-29	8(36.4%)	-	12(54.5%)	-	20(40%)
30-39	8(36.4%)	1(33%)	7(31.8%)	1(33%)	17(34%)
40-49	3(13.6%)	2(67%)	3(13.65)	2(67%)	10(20%)
50-59	3(13.6%)	-	-	-	3(6%)
TOTAL	22(44%)	3(6%)	22(44%)	3(6%)	50(100%)

The table shows that most of the single respondents approximately 55% were in the age ranged of 20-29, followed by 36.4% of the 44% married respondents whose age ranged between 20-29 and 30-39 respectively.

**SECTION B      CONDITIONS OF SERVICE.**  
**FIGURE : 3**



This figure shows that majority of the respondents 70% had poor conditions of service at work place, while 30% had good conditions of service.

**TABLE : 10      RESPONDENTS `S    AREA OF RESIDENCE .**

RESIDENCE	FREQUENCY	PERCENTAGE
High density area	11	22%
Medium density area	16	32%
Low density area	06	12%
U.T.H	17	34%
Total	50	100%

Majority of the respondents 34% were accommodated at the U.T.H hostels, followed by 32% who were accommodated in medium density area.

**TABLE: 11      NUMBERS OF ROOMS**

NUMBER OF ROOMS	FREQUENCY	PERCENTAGE
ONE	17	34%
TWO	3	6%
THREE	3	6%
FOUR AND ABOVE	27	54%
TOTAL	50	100%

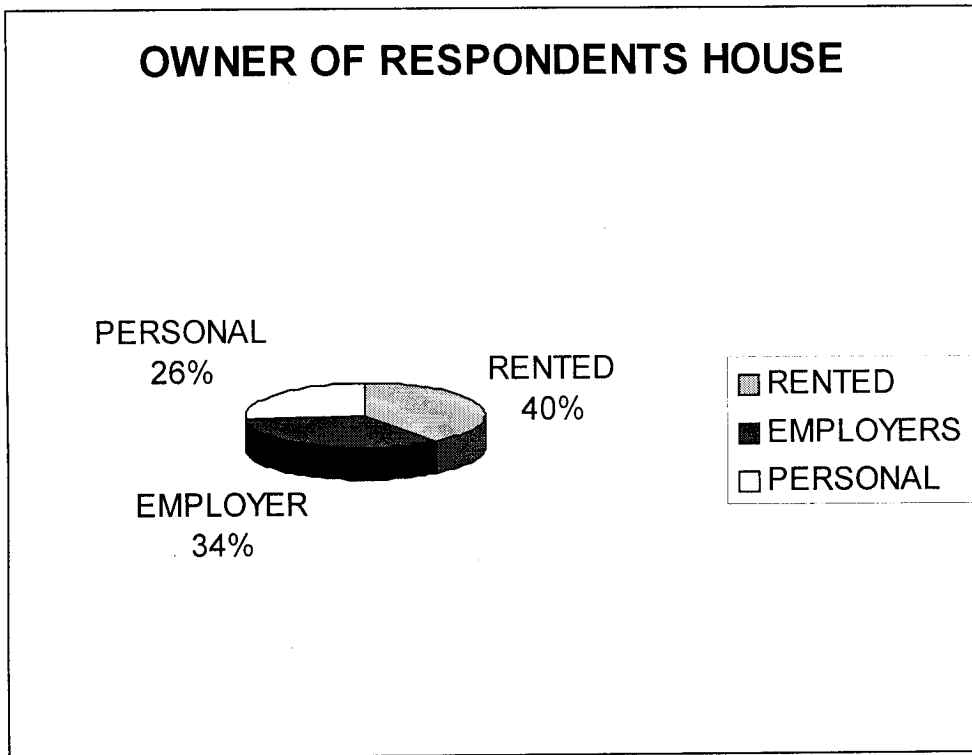
This table shows that the majority of the respondents 54% live in houses with four rooms and above, while 34% live in one room each.

**TABLE : 12      NUMBER OF ROOMS IN RELATION TO RESIDENTIAL AREA.**

NUMBER OF ROOMS	RESIDENTIAL AREA				
	U.T.H Hostels	High density	Medium density	Low density	Total
One	17(100%)	-	-	-	17(34%)
Two	-	2(18%)	1(6%)	-	3(6%)
Three	-	1(9%)	1(6%)	1(17%)	3(6%)
Four and above	-	8(73%)	14(88%)	5(83%)	27(54%)
Total	17(34%)	11(22%)	16(32%)	6(12%)	50(100%)

Table 12 shows that 100% of the 34% respondents accommodated in one room lives at U.T.H. Hostels, while 88% of 16% of the respondents accommodated in medium density area reside in houses with four rooms and above.

**FIGURE : 4**



This figure shows that majority of the respondents 40% lived in rented houses, 34% live in employers accommodation, while 26% live in personal houses.

**TABLE: 13      PAYMENT OF RENTALS**

PAYMENT OF RENTALS	FREQUENCY	PERCENTAGE
U.T.H pays all	3	15%
U.T.H pays part	3	15%
Respondent pays all	10	50%
Spouse's employers pays all	4	20%
Total	20	100%

The table shows that 50% of the 40% respondents living in rented houses pay their own rentals, while 20% of them, their spouse's employers pay all the rentals.

**TABLE 14:                    MEANS OF TRANSPORT**

MEANS OF TRANSPORT	FREQUENCY	PERCENTAGE
Personal car	2	4%
Public transport	20	40%
Hiking	4	8%
Walking	24	48%
Total	50	100

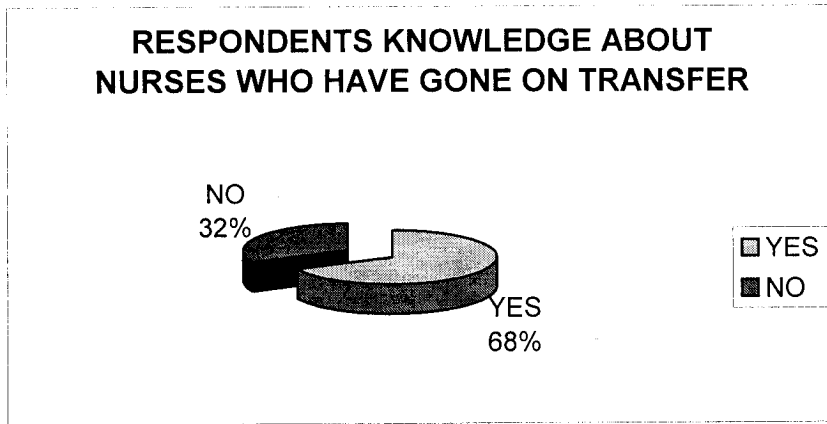
The table shows that the majority of respondents 48% walked, when reporting for work, while 40% used public transport.

**TABLE 15:                    MONTHLY SALARY**

MONTHLY SALARY	FREQUENCY	PERCENTAGE
K600, 000-K800, 000	41	82%
K100, 000-K100, 000	6	12%
Other	3	6%
Total	50	100%

The table shows that the majority of the respondents 82% their salaries ranged from 600,000-K800, 000, while 12% were on K900, 000-K100, 000 salary range.

**FIGURE:5**



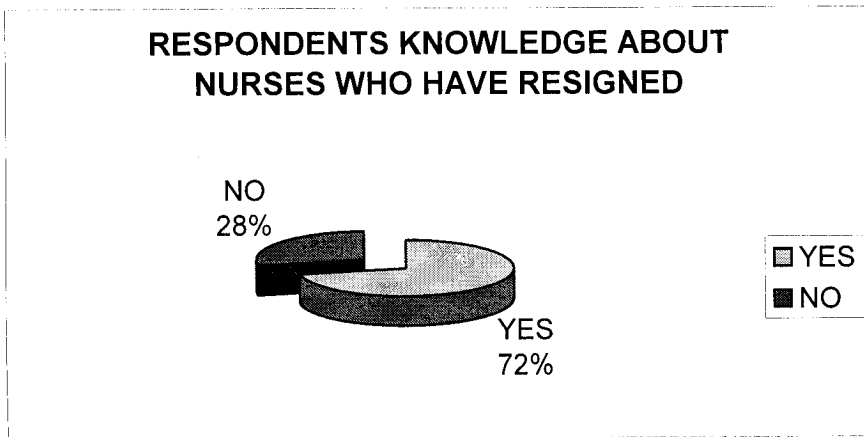
The figure shows that the majority of the respondents 68% knew some nurses who had gone on transfer from their wards, while 32% of the respondents did not know any.

**TABLE: 16**      **REASONS FOR TRANSFER**

REASONS FOR TRANSFER	FREQUENCY	PERCENTAGE
Lack of accommodation and transport	19	55.9%
Low wage	4	11.8%
Transfer of spouse	9	26.4%
Other	2	5.9%
Total	34	100%

This table shows that the majority of the respondent approximately 56% mentioned lack of accommodation and /or transport as the reason why the nurses went on transfer from there wards, while approximately 27% mentioned the transfer of the spouses for nurses.

**FIGURE: 6**



This figure shows that most of the respondents 72% acknowledged having known someone who resigned from their wards, while 28% did not know any.

**TABLE 17** **REASONS FOR RESIGNING**

REASONS	FREQUENCY	PERCENTAGE
Inadequate accommodation/transport	16	44%
Low wages	12	33%
Workload	06	17%
Influenced by friends	02	6%
Total	36	100%

The table shows that the majority 44% of the 72% respondents who acknowledged having known some nurses who resigned from their wards, stated that lack of accommodation and / or transport was the major cause why nurses resigned from their wards, followed by 33% respondents who mentioned low wages.

**TABLE 18 AGE IN RELATIONS TO CONDITIONS OF SERVICE**

AGE	CONDITIONS OF		SERVICE	
	V.GOOD	GOOD	POOR	TOTAL
20 – 29	-	1(7%)	19 (54%)	20 (40%)
30 – 39	-	7 (47%)	10 (29%)	17(34%)
40 – 49	-	5 (33%)	5 (14%)	10(20%)
50 – 59	-	2 (13%)	1 (3%)	3 (6%)
TOTAL	-	15 (30%)	35 ( 70%)	50(100%)

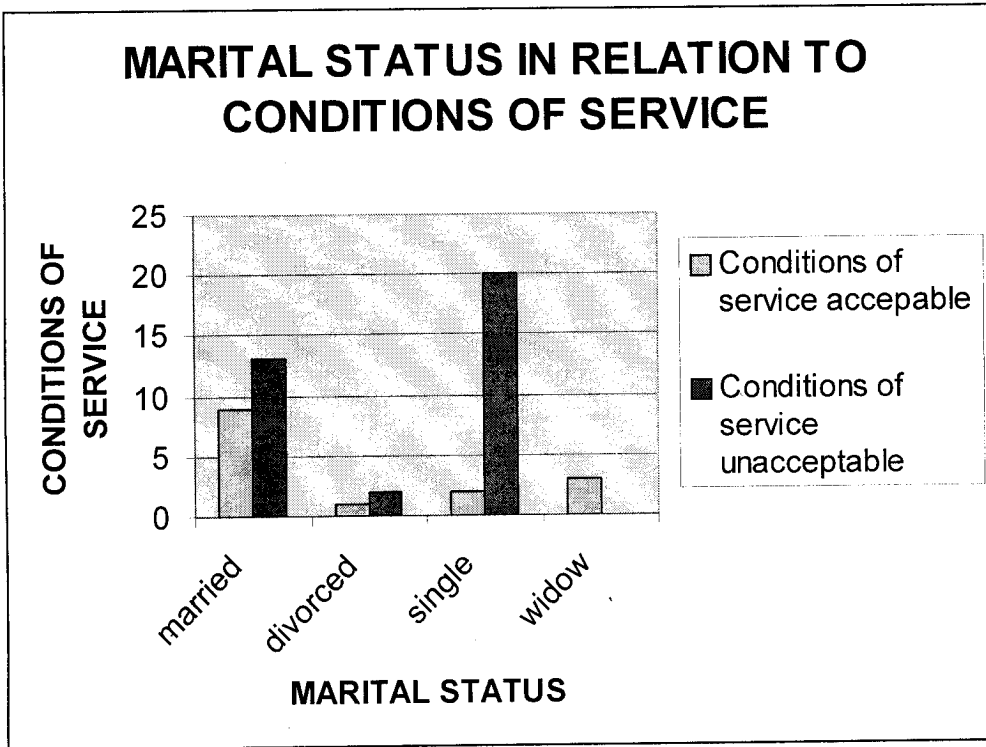
This table shows that the majority 54% of the 40% respondents with the age range of 20- 29 had poor conditions of service, while majority of the respondents 47% of the 30% respondents with good conditions of service were in the age range of 30-39.

**TABLE: 19  
COPING WITH THE VACUUM CREATED BY THE NURSES WHO  
HAVE LEFT.**

COPING WITH THE VACUUM	FREQUENCY	PERCENTAGE
WORK TWO SHIFTS	-	-
TO CLOSE SOME WARDS	7	14%
TO COMMUTE NIGHTS OFF	1	02%
TO INCREASE PART -TIME ALLOWANCE	27	54%
TO IMPROVE CONDITIONS OF SERVICE	15	30%
TOTAL	50	100%

Table 19 shows that the majority of the respondents 54% would want part-time allowances to be increased in order to attract more nurses within and outside the institution to do part-time duties.

**FIGURE: 7**



This graph shows that majority 57% of the 70% of respondents with poor conditions of service were singles, while 60% of the 30% respondents with good working conditions were married.

**FIGURE : 8**

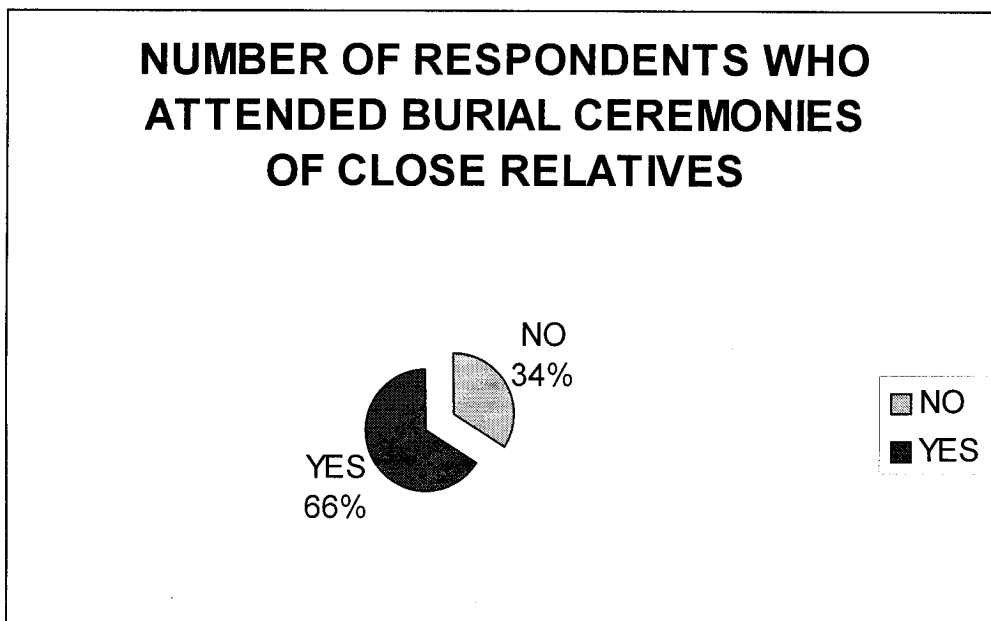


Figure 8 shows that majority of the respondent 66% attended burial ceremonies of their close relatives, while 34% did not.

**FIGURE : 9**

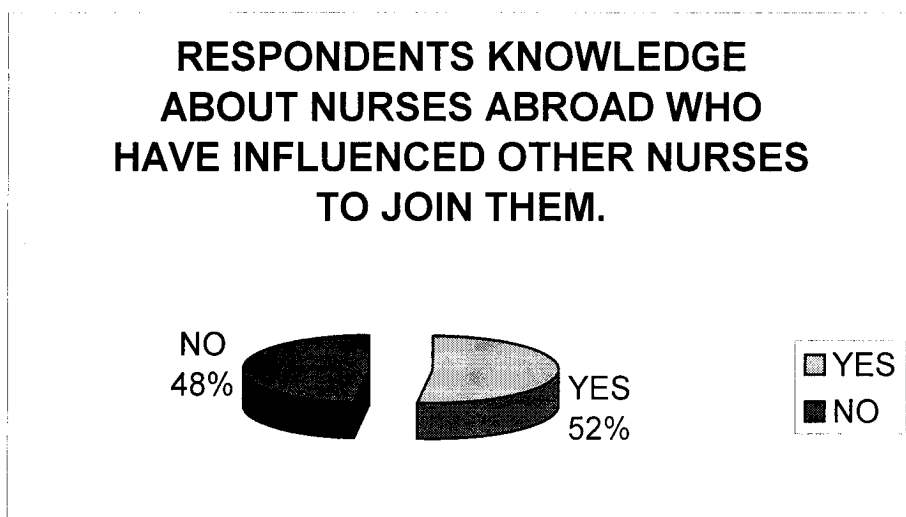


Figure 9 shows that the majority of the respondents 52% had knowledge of some nurses who were influenced by other nurses abroad to join them, while 48% did not know of any.

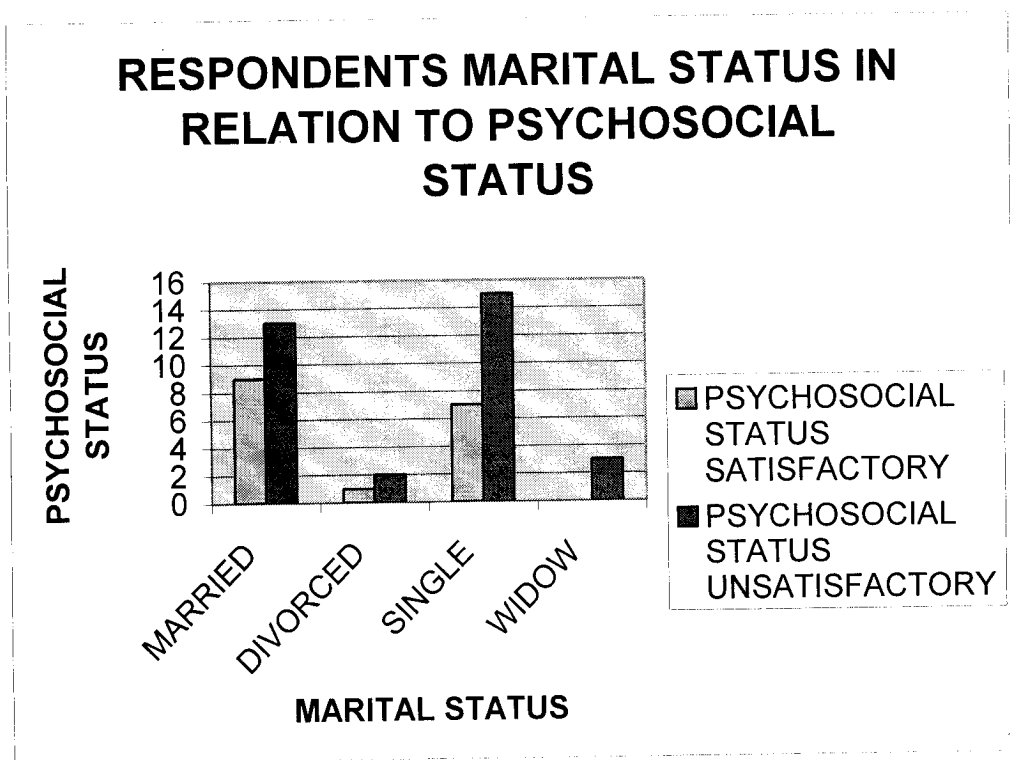
**TABLE : 20**

**AGE IN RELATION TO PSYCHOSOCIAL STATUS**

AGE	PSYCHOSOCIAL STATUS		TOTAL
	SATISFACTORY	UNSATISFACTORY	
20-29	6(35%)	14(42%)	20(40%)
30-39	8(47%)	09(27%)	17(34%)
40-49	3(18 %)	7(22%)	10(20%)
50-59	-----	3(9%)	3(6%)
<b>TOTAL</b>	<b>17(34%)</b>	<b>33(66%)</b>	<b>50(100%)</b>

This table shows that the majority 47% of the 34% respondents with satisfactory psychosocial status their age ranged between 30-39, while 42% of the 66% respondents with unsatisfactory psychosocial status their age ranged between 20-29.

**FIGURE: 10**



This graph shows that the majority of the respondent 53% of the 34% with satisfactory psychosocial status where married, followed by 41% singles, while majority 45% of the 66% with unsatisfactory psychosocial status where singles followed by 39% who were married.

**SECTION D**

**HEALTH STATUS**

**FIGURE: 11**

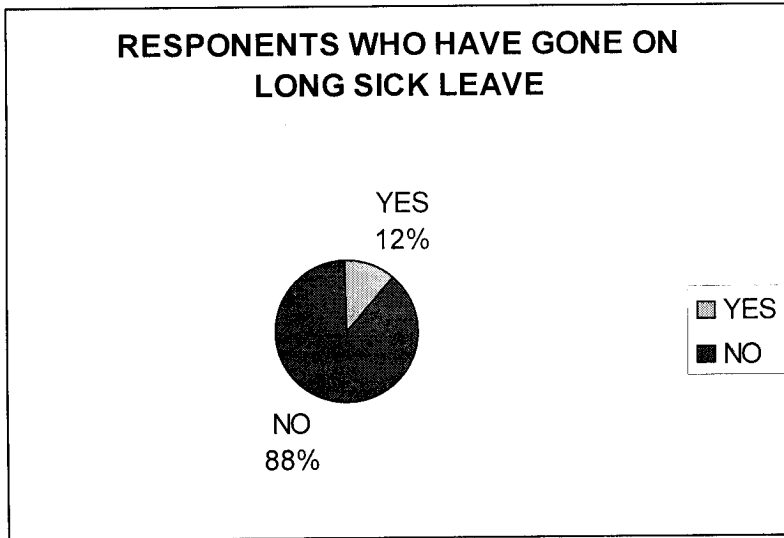


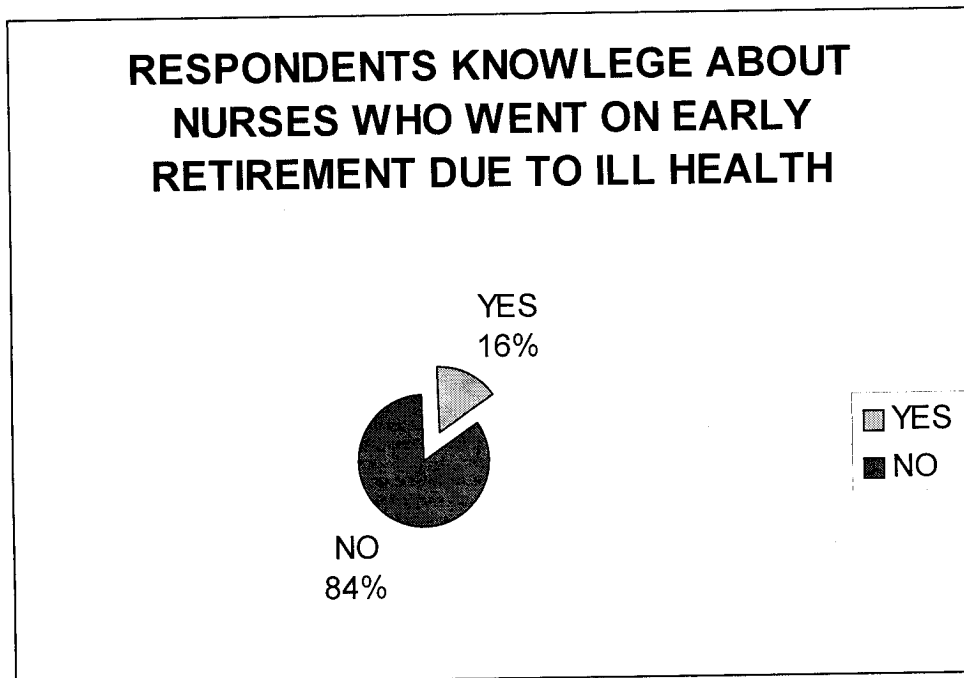
Figure 11 shows that the majority of the respondents 88% did not go on long sick leave while 12% went.

**TABLE 21 SEEKING MEDICAL ADVICES IN A MONTH.**

SEEKING MEDICAL ADVICE	FREQUENCY	PERCENTAGE
0-1	46	92%
2-3	03	6%
4-6	01	2%
TOTAL	50	100%

The table shows that the majority of the respondents 92% sought medical advice only once a month, while 6% sought for medical advance 2-3 times per month.

**FIGURE: 12**



This figure shows that the majority of the respondents 84% did not know of any nurse who went on early retirement due to ill health, while 16% Of the respondents knew some nurses who had gone on transfer due to ill health.

**FIGURE 13**

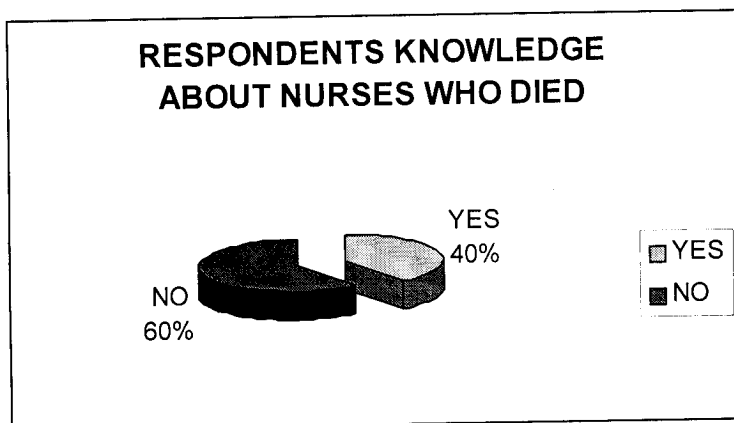


Figure 13 shows that the majority of the respondents 60% did not know of any nurse who died from their wards during the last two (2) years, while 40% Of the respondents knew some nurses who died from their wards during the last two (2) years

**TABLE 22****CAUSES OF DEATH**

CAUSES OF DEATH	FREQUENCY	PERCENTAGE
HIVS/AIDS RELATED CONDITIONS	15	75%
MALARIA	3	15%
CA OF THE EYE	2	10%
TOTAL	20	100%

The table shows that majority 75% of the 40% respondents who knew about the death of some nurses in their wards stated that the nurses who died suffered from HIV/AIDS related conditions, followed by 15% who mentioned malaria and 10% CA of the eye.

**TABLE 23****LEVELS OF HEALTH STATUS**

HEALTH STATUS	FREQUENCY	PERCENTAGE
V.GOOD	21	42%
GOOD	27	54%
POOR	2	4%
TOTAL	50	100%

The table shows that the majority of the respondents 54% had good health status followed by 42% with very good health status while only 4% had poor health status.

**SECTION E**  
**STAFFING LEVELS OF NURSES**

**FIGURE: 14**

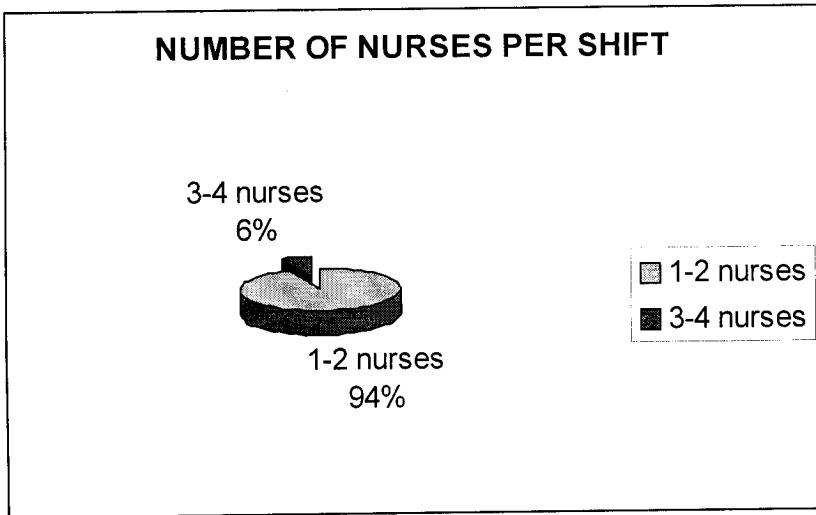


Figure 14 shows that the majority of the respondents 94% had only 1-2 nurses working per shift on their wards, while only 6% had 3-4 nurses working per shift in their wards.

**TABLE: 24**                    **AVERAGE NUMBER OF PATIENTS PER WARD**

AVERAGE PATIENTS PER WARD	NUMBER OF WARD	FREQUENCY	PERCENTAGE
Less than 20		9	18%
20-30		11	22%
31-40		14	28%
41-50		10	20%
Above 50		6	12%
Total		50	100%

This table shows that the majority of respondents 28% had between 31-40 average numbers of patients in their ward, followed by 22% of the respondents who had between 20-30 average numbers of patients.

## **CHAPTER FIVE**

### **5.0 DISCUSSION OF THE FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM.**

#### **INTRODUCTION**

The main objective of this study was to determine the factors associated with the shortage of nurses at UTH Lusaka, Zambia. This was done by assessing the respondents conditions of service, their psychosocial and health status.

#### **5.1 CHARACTERISTICS OF THE SAMPLE**

The sample consisted of 50 nurses who were working in the afternoon and at night from the following departments: Surgical, Medical, Pediatrics, Obstetrics and Gynaecological wards at the University Teaching Hospital. The majority of the respondents 92% were female while 8% were males, (Table 4). This shows that the nursing profession is still dominated by women ever since Florence Nightingale, who is often referred to as the mother of modern nursing. Janet-Beth and Phyllis stated that nursing was originally developed to fulfill the needs of society, and to care for the sick and weak members of the family. Caring for the sick in the home was primarily delegated to women. (Janet-Beth and Phyllis, 1988). That is why, up to now the profession is still dominated by women.

Majority of the respondents, 40%, were in the age-range of 20-29 years, followed by 34% who were in the age-range of 30-39, (Table 5). This shows that many school leavers joined the nursing profession at UTH. This information is contrary to the report in U.S.A where few school

leavers join nursing profession, and as such majority of nurses age-range is above 50 years. The average age for nurses in U.S.A is 49, ([www.academic.com/ub/essay](http://www.academic.com/ub/essay)). In comparison with the two (2) situations the nurses at U.T.H are of younger generation. This younger generation is very vibrant and seeks gratification from their jobs. And, when this is not forth coming, most will opt to leave the nursing profession or migrate to countries where the conditions of service are more gratifying.

(Figure 2) shows that majority of respondents 50% were Enrolled Nurses, followed by 30% Registered Nurses and 20% Ward Mangers. This corresponds with the study of (Chanda, 1998) where the majority of the respondents 58% were Enrolled Nurses. This indicates that the Enrolled Nurses are more, probably due to many training schools (21) for Enrolled Nurses. More over the period for training Enrolled Nurses is shorter (2 years) than for training Registered Nurses. Besides more Enrolled Nurses are needed in the clinical areas, as they are the bedside nurses who provide basic nursing requirements to patients. Further more it is easier to retain Enrolled Nurses at the institution, there by preventing acute shortage of trained nurses at the institution.

The study also revealed that the majority of the respondents approximately 73% of the 44% single nurses had no children, followed by approximately 27% with 1-3 children, while majority 59% of the 44% married nurses had 1-3 children, followed by approximately 14% without children, (Table 8). This indicates positive response to the severe socio-economic deprivation that the nurses are currently going through. The same socio-economic deprivations are the main reasons for nurses migrating to other countries leading to acute shortage of nurses at U.T.H.

## 5.2 DISCUSSION OF VARIABLES.

### 5.2.1 CONDITIONS OF SERVICE.

An acceptable conditions of service in this study entails that U.T.H provides; adequate accommodation in decent residential areas, transport to and from work place, and good salary. It also includes manageable workload. Where as poor conditions of service entails that U.T.H is not interested in employees accommodation arrangements or provide inadequate accommodation (e.g. a room which is not even self contained), inadequate monthly salary and employees walk when going for work. It also includes heavy workload.

(Figure 3) shows that, the majority of the respondents 30% had acceptable conditions of service. The 70% with poor conditions of service indicates that most of the nurses were not happy. These findings are supported by the findings of Kabombo (1998), where majority of the respondents 80% were demoralized due to poor conditions of service.

(Table 10) shows that 34% of the respondents were accommodated at U.T.H hostels. The Post newspaper (2006) reported that it was difficult to imagine that the hostels where occupied by human beings let alone by people who have attained college education. The communal toilets and bathrooms that they use are dilapidated and have cracks in the ceiling, walls and leaking taps. The walls from outside have not been painted for years. (Post news paper, 2005). Judging by these sentiments, these hostels are not fit for human habitation. This has contributed to the nurses' low self-esteem. Accommodation according to Marslow hierarchy of needs is supposed to be a basic human need. Hence inadequate accommodation makes the nurses feel inferior. Moreover, since families are now allowed to stay in the hostels, the noise made by the children

disturbs the nurse's rest and as a result the nurse may even report late for work there by creating shortage since the other nurses would have knock-off in time for fear of being attacked at night.

The study also revealed that 22% (table 10) of the respondents were accommodated in high-density residential areas. Usually, people in low-income population and little or no education occupy these areas. Thus, living in such areas demeans the nurses self esteem. Hence, in order to retain nurses, there is need for the U.T.H Board of Management to accommodate the nurses in low-density areas, which are sparsely populated areas. This will help to raise their morale and self-esteem and values. In this era of home ownership, only 26% of the respondents had their own houses (Figure 4). This is because the institution does not help the nurses with loans to buy or build the house. Most of the nurses are frustrated because they feel that management does not care about their accommodation problem. This has contributed to, many of them living the institution to work elsewhere; where they feel they will be appreciated. This has created inadequate staffing levels of nurses at the institution.

Paying of rent if done by the employer directly through paying housing allowance is a motivating factor. However, (Table 13) shows that U.T.H only pays rentals for 15% of the 20 % respondents who live in rented houses. Half of the respondents (50%) who live in rented houses pay their own rentals. Bearing in mind that nurses get meagre salaries, they fail to pay rentals on time, and they are often evicted from the houses. This has really forced many to go to work in private hospitals which pay better than the government; some even go to work out side the country to avoid the embarrassment of evictions at home. This has contributed to the acute Shortage of nurses at the institution. These findings agree with the study on Health Workforce Challenges in Abuja, where it was stated that the major push factors among health workers is the low morale. Poor pay,

unattractive career paths and poor conditions of service, which include housing and workload, are said to be the contributing factors to the low moral. (WHO, 2004).

(Table 14) shows that 48% of the respondents did not use any transport, they walked to work, 40% used public transport, 8% hiked and 4% used personal cars. These findings agree with the findings of Kabombo (1998) where 46% of the respondents used public transport followed by the 44% who walked to and from work, while only 8% used personal cars (Kabombo 1998). This shows that the U.T.H Board needs to consider the urgency of transportation needs for nurses if the management hopes to retain the nurses. Public transport is time consuming. The bus cannot start off until it is full and for a nurse, that may mean arriving late for work. The pushing and pulling, squeezing and long waiting periods on the bus usually erode the nurses' enthusiasm. This lack of enthusiasm makes the nurse to join the private sectors. There-by creating inadequate staffing levels of nurses at the institution. Moreover, the walking nurse will be very tired and sweating by the time she arrives at work, as a result they are often late and dirty. A dirty nurse loses confidence in her because she is not presentable to her clients. This will make her to have apathy and even absent her self from work leading to inadequate staffing levels of nurses.

(Table 15) shows that the majority of the respondents 81% stated that their monthly salary ranged between K600, 000 – K800, 000, while 12% of the respondents, who mainly were Ward Managers their salaries ranged between K900, 000 - K1, 000, and 000. Awases, etal in their study on causes of migration of health workers, from the countries of origin mentioned that, it is low wage compensation which makes it impossible for them to afford the basic necessities of life. The Jesuit Center for Theological Reflection (JCTR) of the Catholic Church shows that an average Zambian family of six members needs K1, 358,990 for their basic

needs basket. This is divided into basic food items (e.g. nshima, kapenta, beans, sweet, potatoes etc) amounting to K513, 590 and essential non-food items amounting to K845, 400. JCTR, (2003). The study shows that the salaries for all the respondents do not meet the basic needs basket. No wonder, most nurses suffer from “burn out” syndrome due to low pay, which is not commensurate with the work they do. This has led many nurses leaving the institution to join the private sectors which pays far much better than U.T.H, some have even opted to go and work abroad, leading to inadequate staffing levels of nurses at the institution.

(Table 18) Shows that 54% of the respondents with poor conditions of service were aged between 20-29 years, While majority of the respondents 47% of the 30% respondents with good conditions of service were aged between 30- 39 years. This shows that majority of the young respondents had poor conditions of service probably due to the fact that they did not benefit in the buying of institution houses and they are mainly accommodated in the dilapidated hostels. The study also revealed that majority of the respondents 57% of the 70% respondents with poor conditions of service were singles, while 60% of the 30% respondents with good conditions of service were married probably because the married were given priority in terms of payment of rentals than the singles and some benefited from the sell of institution houses.

(Figure 5) Shows that the majority of the respondents 68% know of some nurses who had gone on transfer from their wards, while 32% did not know. The findings also revealed that the majority 56% of the 68% respondents who had knowledge about nurses who had gone on transfer, acknowledged that inadequate accommodation/transport was the main reason why the nurses went on transfer from their wards, followed by 27% who mentioned transfer of their spouses since most of the nurses are

females, 12% said it was due to low wages. All the reasons given by the respondents are associated with the factors leading to inadequate staffing levels of nurses at U.T.H. These reasons have highlighted the need for adequate accommodation and provision of transport in order to retain nurses at the institution. It has also proven hypothesis 1.7.1 which says “inadequate accommodation / lack of transport will lead to most nurses going on transfer or resignation”. However this contradicts the findings of Awases, etal where the major push factors for many nurses were desire for more professional developments opportunities, the need for greater wage compensation and in some cases, the issue of personal safety, in the face of political upheavals, (Awases, etal 2004).

(Table 19) Shows that majority of the respondents 54% would want to have part-time allowance increased in order to attract more nurses. Moreover increase of part-time allowance was preferred by majority of the respondents as this would help to increase their monthly income. The increase in monthly income would help them to meet the basic needs, which include accommodation and transport this will help to retain some nurses, there by reducing the inadequate staffing levels of nurses at the institution.

In order to promote staff retention majority of the respondents would want conditions of service to improve, which include largely the provision of accommodation and transport, followed by those who mentioned increase of monthly wage, followed by respondents who mentioned provision of other incentives like bonus, while others said that the senior nurses should stop frustrating the junior nurses. According to these finding it shows that if U.T.H was to serious look in to the accommodation and transport for nurses it can help to retain some nurses thereby combating the inadequate staffing levels.

### 5.2.2 PSYCHOSOCIAL STATUS.

A satisfactory psychosocial status in this study entails that the nurse, has no chronically ill family member and does not frequently have family bereavements.

(Figure 9) shows that the majority of respondent 66% attended burial ceremonies of their close relatives in the last 6 months while 34% did not. Bereaved people like the nurses go through a grieving process, which can go on for some years especially if the departed was the father, mother, spouse or child. The grieving process may reach an extent of the nurse deserting her duties due to 'burnout' syndrome there by leading to shortage of nurses at U.T.H.

Moreover, frequent funeral attendance leads to absenteeism. Absenteeism may create acute shortage and bad feelings among colleagues at work, who may experience heavy workload. Leading to, the nurse having unsatisfactory psychosocial status at work place. This scenario proves hypothesis 1.7.2, which says, "Unsatisfactory psychosocial status, will lead to absenteeism, there by contributing to acute shortage of nurses."

From the study, the findings revealed that the majority of the respondents 52% had knowledge of some nurses abroad who had influenced other nurses from U.T.H to join them, while 48% did not know of any. (Figure 9). These findings agree with the report of Awases, etal where they stated that, the most concerned issue, is that those nursing staff that remain or who have not yet left share the same concerns as the migrant nurses. Therefore, unless the countries begin to address the de-motivating factors, the remaining staff will also be influenced to leave, (Awase etal, 2004).

The study also revealed that majority 47% of the 34% respondents with satisfactory psychosocial status aged between 30-39, while 42% of the 66% respondents with unsatisfactory psychosocial status aged between 20-29 (Table 20). This profile is that of the most productive age groups of young upcoming, professionals, who need to be available to provide service to the public, however, they get frustrated and over taken by family problems such that they even desert their work causing acute shortage of nurses at the institution (U.T.H.).

In addition, the study also shows that the majority of the respondent 53% of the 34% with satisfactory psychosocial status were married, while majority 45% of the 66% with unsatisfactory psychosocial status were singles (Figure 10). This scenario entails that most of the energetic nurses spend time dealing with their personal psychosocial problem like funerals of their relatives and for go the work thereby creating inadequate staffing levels of the nurses at the institution.

### 5.2.3 HEALTH STATUS

Good health status in this study entails that the nurse is not frequently seeking medical attention and that she/he is not suffering from any chronic illness.

(Figure 11) Shows that majority of the respondents 88% did not go on long sick leave while only 6% went on a long sick leave.

The study revealed that the majority of the respondents 92% did not /or only sought for medical advice once in a month, followed by 6% who sought medical advice between 2-3 times in a month and only 2% sought between 4-5 times (Table 21). This finding indicates that most respondents had good health status. This contradicts with hypothesis

1.7.3 that states that, "Poor health status will lead to inadequate staffing levels of nurses at the institution (U.T.H). The finding of this study revealed that the majority of the respondent 94% had good health status, while only 6% had poor health status, (Table 23). This reflects good health status for the majority of the respondents.

However, 40% of respondents acknowledge the death of nurses from their wards during the last two years, this is indicative that the death of nurses can be associated with the inadequate staffing levels of nurses at the institution (U.T.H.) (Figure 13). Majority 75% of the 40% of the respondents, who knew about the deaths of nurses from their wards, mentioned HIV/AIDS, related conditions as the main cause of death, while 25% mentioned other diseases. (Table 22). This finding corresponds with the report by W.H.O. in Abuja, which stated that, "Death of health workers is occurring at unprecedented rates due to HIV/AIDS which is responsible for 19-53 of deaths among government staff in a typical Southern Africa countries. In Zambia and Malawi, death of nurses stood at almost 40% of the annual out put from training, (WHO 2004).

#### **5.2.4 Staffing levels**

(Table 24) Shows that 28% respondents had between 31-40 average number of patients followed by 22% who had between 20-30, 20% had between 41-50, 18% had less than 20 patients, while 12% had above 50 patients. These findings do not correspond with the findings of Kabombo (1998) where majority of the respondents 34% worked on wards with average number of patients between 41-50, 8% worked on wards which had less than 20, and more than 50, respectively. (Kabombo, 1998) The difference could be due to the following reasons; the hospital patient turnover has reduced due to the modified referral systems where only patient who need specialist attention are referred to UTH. Moreover

patients do not stay longer in the wards, even the terminally ill ones due to the establishment of the home-based care system.

However, despite the reduction of patient turnover, the workload is still burdensome as 1-2 nurses manned most of the wards according to 94% respondents, which is not proportionate to the number of patients. While, only 3-4 nurses manned few wards according to 6% of the respondents. (Figure 14.) This implies that most nurses are being overworked. The acceptable nurse patient ratio according to Mbewe is suppose to be 1:2 in a sensitive area like ICU and 1:15 in general wards, (Mbewe, 2004).

Awases, etal in their studies indicated that the workload for the health workers who have remained have generally increased as reported by Cameroon, Ghana and Uganda, while South Africa reported potential workload increase (Awases, etal 2004). The nurses who remain are overburdened and de-motivated, and this leads to inadequate attention given to patients. The increasing workload of the remaining workers amidst the generally unsatisfactory and difficult conditions increases the pace of “burn out” and de-motivation. The end result is absenteeism, sickness, desertion, resignation, transfers or migration to countries abroad that offer better working conditions, thus, contributing to the inadequate staffing levels of nurses at U.T.H.

### **5.3 IMPLICATION TO THE HEALTH CARE SYSTEM.**

The study findings have shown that poor conditions of service which include inadequate accommodation, lack of transport and inadequate monthly pay, are responsible for the inadequate staffing levels of the nurses, created by many nurses who have left the institution by, either going on transfer or obtain a leave of absence for a prolonged period without pay, or they simply resign. What is of most concern is that those

who remain or who have not yet left suffer the consequences of the gaps left by those who have migrated. This has led to work overload and compromise patient care.

Moreover, the psychosocial status of most nurses has also contributed to the acute shortage of nurses at the institution. As shown from the study majority of the respondents had a bereavement of their close relatives. This implies that the nurses will not come for work for the whole period of the bereavement, there by, creating an artificial shortage leading to a crisis situation. This situation actually endangers the patient `s welfare, as the patient welfare lies entirely on a nurse. Therefore, the health care system needs to embark on encouraging people to start nursing agencies from where nurses can be hired during periods of acute nursing shortage.

The study revealed that the number of nurses with poor health status was minimal. However, it is worth noting that a significant number of nurses had since died in the last two years. Most of those who died according to the findings suffered from HIV/AIDS related conditions. Hence, there is need for the health care system to encourage the nurses to opt for voluntary counseling and testing for them to know their HIV/AIDS status. The knowledge of HIV/AIDS status will help the nurses to leave positively, and also, it will help them to start ART treatment earlier.

The study also showed that there is little or no difference in salary scales of the Enrolled Nurses and that of the Registered Nurses. This is a disparity, which the health care system needs to address to encourage more Registered Nurses to be retained at the institution or to attract new ones to join the institution with the better pay, opportunities to own their houses or build own houses with loans from their health institutions and enough money to educate their children

The objectives of the study have been achieved and two hypothesis of the study have been accepted. It was established that the major contributing factors to the acute shortage of nurses at U.T.H were poor conditions of service and unsatisfactory psychosocial status. Death of nurses due to HIV/AIDS related conditions also contributed to the acute shortage of nurses at U.T.H.

#### 5.4 RECOMMENDATIONS

1. Therefore, the health care system needs to embark on serious and urgent staff recruitment and retention strategies by improving the conditions of service.
2. U.T.H Management in conjunction with the nursing directorate to urgently address the issue of accommodation and transport for nurses.
3. Nurses need to be encouraged to do voluntary counseling Test, so that they could start ARVS treatment early, in order to prolong their lives.
4. In order to deal with the "vacuum" created, U.T.H. management need to increase part time allowance so as to attract nurses to book for part time duties
5. Nursing Managers (Ward Managers/Nursing officers), to be sensitive when correcting the already frustrated nurses so as not to provoke them further as this can make them to leave the institution.
6. Compassionate leave for bereavement should be given only when a nurse loses her or his spouse, child, mother or father. For the bereavement of other extended family members they could attend them during their free time.

7. This study requests the Ministry of Health in conjunction with Zambia Nursing Association (Z.N.A) to renew nurses' salary structure and conditions of service, as soon as possible in order to retain some nurses, so as to prevent the inadequate staffing levels of nurses from becoming a crisis.
  
8. The UTH management needs to change the record-keeping culture radically to allow for monitoring of the transfers, resignation and death on routine bases.

### **5.5 DISSEMINATION OF FINDINGS**

The results of this study will be disseminated by sending a copy of the report to U.T.H. management and nursing directorate to enable the institution to come up with appropriate staff retention strategies and also staff recruitment.

The U.T.H. In-service Department will take up the challenge of disseminating the information to the Human Resource Manager and other Managers. This will help the managers to combine efforts and ideas in order for them to solve the problem of the acute shortage of nurses at the institution.

Copies of research will be sent to the Medical Library UNZA and the department of Post Basic Nursing.

The study finding will also be presented at the Grand Round in the main lecture theatre through Dr Mwaba Head of Department Internal medicine.

## **5.6 LIMITATIONS OF THE STUDY**

1. The sample size used (50 nurses) was too small and therefore not representative of the population of nurses at U.T.H. this was due to limited resources in terms of finances and time.
2. It was difficult to interview the nurses, as they were very busy. As such the researcher even interviewed the night nurses.
3. Most nurses were not willing to participate in the study. This was due to the fact that they said that they are tired of being asked questions without results.
4. It was difficult to establish with certainty the numbers of nurses migrating, as most do not report their intention to migrate. Most simply vacate their position or obtain a leave of absence for prolonged periods without pay, or resign. This makes it difficult for employers to keep track of the departures unless the

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**APPENDIX 1**

**SELF ADMINISTERED QUESTIONNAIRE FOR**

**QUESTIONNAIRRE**

**Nº...22O20683**

TOPIC: A STUDY TO DETERMINE THE FACTORS ASSOCIATED WITH THE INADEQUATE STAFFING LEVELS OF NURSES AT U.T.H LUSAKA, ZAMBIA.

DATE:.....

TIME:.....

**INSTRUCTIONS TO THE RESPONDENT**

1. No name should appear on this questionnaire
2. Information given will be kept strictly confidential
3. Tick your responses in the appropriate box/boxes provided.
4. For responses without alternatives, write the responses on the spaces provided
5. Answer all the questions please.

SECCION A  
DEMOGRAPHIC DATA

1. What is your sex?

- a) Male [    ]
- b) Female [    ]

2. How old are you? .....

3. What is your marital status?

- a) Married [    ]
- b) Divorcee [    ]
- c) Single [    ]
- d) widow/widower [    ]

4. How many children do you have?

- a) None [    ]
- b) 1-3 [    ]
- c) 4-5 [    ]
- d) 6 and above [    ]

1. State your rank in nursing

- a) Enrolled Nurse [    ]
- b) Registered Nurse [    ]
- c) Ward Manager [    ]
- d) Others specify .....

6. Have you done any other training?

- a) Yes [    ]
- b) No [    ]

7. If your answer to question 6 is "yes", what was the training?

- a) Midwifery [    ]
- b) Theatre nursing [    ]
- c) Counseling [    ]
- d) Others specify .....

**SECTION B**  
**CONDITION OF SERVICE**

8. Where do you live?

.....

9. How many rooms are there in your house?

- a) One room
- b) Two rooms
- c) Three rooms
- d) Four and above

10. Who owns the house you live in?

- a) Personal [    ]
- b) Rented [    ]
- c) Your employers [    ]

11. If it is a rented house who pays rent for you?

- a) Your employer pays rent [    ]
- b) Your employer pays part of the rentals [    ]
- c) You pay all the rent [    ]
- d) Your spouses' employer pays all the rent [    ]

12. Does your employer provide you with transport/transport allowance?

- a) Yes [    ]
- b) No [    ]

13. If the answer to question 12 is "No" what type of transport do you use?

- a) Personal car [    ]
- b) Public transport [    ]
- c) Hiking [    ]
- d) Walking [    ]
- e) Cycling [    ]

14. What is your monthly salary?

- a) K600, 000 –K800, 000 [    ]
- b) K900, 000 – K1000, 000 [    ]
- c) K1, 100,000 – K1, 200,000 [    ]
- d) Others specify .....

15. Does your monthly earning enable you to pay all your bills and meet the basic requirements?

- a) Yes [    ]
- b) No [    ]

16. If the answer to question 15 is "No" how do you make ends meet?

- a) Working part time at the station. [    ]
- b) Working part time at a private hospital [    ]
- c) Business [    ]
- d) Nothing [    ]

17. Which ward are you currently working in?

.....

18. How long have you been working in this ward?

- a) Less than 1 year [    ]
- b) 1-2 years [    ]
- c) 3- 4 years [    ]
- d) 5-6 years [    ]
- e) Over 6 years [    ]

19. Have some nurses gone on transfer from the time you came to this ward?

- a) Yes [    ]
- b) No [    ]

20. If the answer to question 19 is "Yes" what was the reason for transfer.

- a) Lack of accommodation/transport.
- b) Low wages
- c) Transfer of spouse
- d) Others specify.....

21. Have some nurses' resigned/deserted from the time you came to this ward?

- a) Yes [    ]
- b) No [    ]

22. If your answer to question 21 is yes what do you think was the reason for their resignation?

- a) Lack of the accommodation [    ]
- b) Low wages [    ]
- c) Work load [    ]
- d) Influenced by the friends abroad [    ]
- e) Others specify .....

23. What do you think should be done to cope with the 'vacuum' created by those who have left the institution?

- a) Work only two shifts that is; day and night. [    ]
- b) To close some wards so as to merge the few nurses available [    ]
- c) To commute night off days [    ]
- d) To increase part time allowance in order to attract nurses from other hospitals to book for part time [    ]
- e) Others specify

.....  
.....

24. What do you think should be done to prevent the nurses from resigning and also going on transfer from this institution?

.....  
.....

**SECTION C**  
**PSYCHOSOCIAL STATUS**

25. Did you attend any burial ceremony of your close relatives in the last six (6) months?

- a) Yes [    ]
- b) No [    ]

26. If your answer to question 25 is "Yes" how many times did you attend?

- a) 1-2 times [    ]
- b) 3-4 time [    ]
- c) 5-6 times [    ]

27. Do you know of any nurse abroad who has influenced the other nurses to join him/her?

- a) Yes [    ]
- b) No [    ]

28. If the answer to question 27 is "Yes" how many has he/she influenced to go?

- a) 1-2 [    ]
- b) 3-4 [    ]
- c) Above 5 [    ]

**SECTION D**  
**HEALTH STATUS**

29. Have you ever been on a long sick leave?

- a) Yes [    ]
- b) No [    ]

30. If the answer to question 29 is "Yes" what was the sickness?

- a) Meningitis [    ]
- b) Tuberculosis [    ]
- c) Malaria [    ]
- d) Others specify .....

31. How many times do you seek for medical advice in a month?

- a) 0-1 [    ]
- b) 2-3 [    ]
- c) 4-6 [    ]

32. Did you know of any nurse on your ward that went on early retirement due to ill health?

- a) Yes [    ]
- b) No [    ]

33. If the answer to question 32 is "Yes" how many retired early due to ill health?

- a) 1- 2 [    ]
- b) 3- 4 [    ]
- c) 5 -6 [    ]
- d) 7 and above [    ]

34. Do you know of any nurses who have died from your ward during the last past two years?

- a) Yes [    ]
- b) No [    ]

35. What was the cause of death?

- a) HIV/AIDS related conditions [    ]
- b) Obstetric/Gynaecological conditions [    ]
- c) Malaria [    ]

**SECTION E**  
**STAFFING LEVELS FOR NURSES**

36. What is the average total number of patients on your ward?

- a) Less than 20 [    ]
- b) Between 20 and 30 [    ]
- c) Between 31 and 40 [    ]
- d) Between 41 -50 [    ]
- e) Above 50 [    ]

37. How many nurses work per each shift on your ward?

- a) 1-2 [    ]
- b) 3-4 [    ]
- c) 5- 6 [    ]
- d) 6 and above [    ]

THANK YOU FOR ANSWERING THE QUESTIONNAIRE.

GOD BLESS YOU

**APPENDIX 2**  
**WORK SCHEDULE**

<b>TASK TO PERFORMED</b>	<b>WEEKS</b>	<b>DATES</b>	<b>PERSONNEL ASSIGNED TO TASK</b>	<b>PERSON DAYS REQUIRED</b>
Formulation of research proposal	Weeks 1 to week 10	02/05/05 to 11/07/05	Researcher	1 x 10 weeks 10 x 7 = 70days
Formulation of data collection tool	Weeks to 11 week 12	12/07/05 to 26/07/05	Researcher	1 x 2 weeks 2 x 7 = 14days
Data collection	Weeks 13 to week 17	27/07/05 to 31/08/05	Researcher	1 x 5 weeks 5 x 7 = 175days
Data analysis	Weeks 18 to week 20	01/09/05 to 22/09/05	Researcher	1 x 3 weeks 3 x 7 = 21days
Report writing	Weeks 21 to week 24	23/09/05 to 14/10/05	Researcher	1 x 4 weeks 4 x 7 = 28days
Draft report	Weeks 25 to week 26	15/10/05 to 29/10/05	Researcher	1 x 2 weeks 2 x 7 = 14days
Preparation of a final report	Weeks 27 to week 29	30/10/05 to 31/11/05	Researcher	1 x 3 weeks 3 x 7 = 21days
Monitoring the project	Continuous by the researcher			

APPENDIX 3  
GANTT CHART

Task to be performed	Responsible Person	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. Clearance for funding from UTH board of management	Researcher	←→						
2. Finalize Research Proposal	Researcher		←→					
3. Clearance from school authorities	Researcher			←→				
4. Permission to conduct research from UTH hospital.	Researcher			←→				
5. Collection of data	Researcher				←→			
6. Preliminary data analysis	Researcher				←→			
7. Data analysis and Report Writing	Researcher					←→		
8. Finalize report	Researcher						←→	
9. Discuss recommendations / plans of action with Hospital Management	Researcher						←→	
10. Monitor research Progress	Researcher	←→						

**APPENDIX 4**  
**BUDGET FOR A RESEARCH STUDY**

Budget category	Unit price (K)	Quantity	Amount (K)
<b>A. STATIONERY</b>			
Typing paper	25 000.00	4 reams	100 000.00
Note book	10 000.00	1	10 000.00
Diskettes	5 000.00	2	10 000.00
Pencils	6 000.00	1 packet	6 000.00
Pens	12 000.00	1 packet	12 000.00
Tip-Ex corrective fluid	15 000.00	1	15 000.00
Stapler	25 000.00	1	25 000.00
Staples	8 000.00	1 packet	8 000.00
Markers	7 000.00	5	35 000.00
Calculator	50 000.00	1	50 000.00
Eraser	16 000.00	1 packet	16 000.00
Flip chart	40 000.00	2	80 000.00
Ruler	5 000.00	1	5 000.00
Cello-tape	8 000.00	1	8 000.00
Folder	20 000.00	1	20 000.00
<b>Total stationery cost</b>			<b>400,000.00</b>
<b>B. SECRETARIAL SERVICES</b>			
Typing research proposal	3000.00	40 pages	120, 000.00
Typing Questionnaires	3,000.00	10 pages	30, 000.00
Photocopying Questionnaires	200.00	550	110,000.00
Binding research proposal	40, 000.00	1 copy	40, 000.00
Typing report draft	3,000.00	100 pages	300, 000.00
Typing final copy	3,000.00	100 pages	300, 000.00
Photocopying	200.00	200 pages	50,000.00
Binding final report	60, 000.00	3 copies	180, 000.00
<b>Total secretarial cost</b>			<b>1,130,000.00</b>
<b>C. PERSONNEL</b>			
Meal allowance	10, 000.00	32 Days	320,000.00
Transport to & from	3,200.00	32 days	102,400.00
<b>Total personnel cost</b>			<b>422,400.00</b>
<b>Total costs</b>			<b>1952400.00</b>
<b>10% contingency</b>			<b>195240.00</b>
<b>Grand Total</b>			<b>2,147640.00</b>

## BUDGET JUSTIFICATION

In order for me to successfully carry out this research study, I am going to need stationery, typing services and personal, which include my transport money to and from UTH as well as lunch allowance. Above is the breakdown of my research budget.



THE UNIVERSITY OF ZAMBIA  
SCHOOL OF MEDICINE  
DEPARTMENT OF POST BASIC NURSING

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29<sup>TH</sup> July 2005

P.O. Box 50110  
Lusaka

The Executive Director  
University Teaching Hospital  
LUSAKA

UFS: The Head of Department  
Post Basic Nursing  
Box 50110  
Lusaka.

Approved  
M. Ngoma

Dear Madam,

RE: RESEARCH STUDY REQUEST TO COLLECT DATA

I am a 4<sup>th</sup> year student pursuing a BSc degree in Nursing at the University of Zambia, School of Medicine. As part of the fulfillment of a Degree Programme.

I am required to carry out a research Study as partial fulfillment for the award of Bachelor of Science in Nursing. My Topic of study is ***"To determine the Factors associated with the acute shortage of Nurses at University Teaching Hospital, Lusaka"***

I am hereby requesting for permission to collect data from UTH Hospital from 29th August to 9<sup>th</sup> September, 2005.

Thanking your in advance.

Yours faithfully,

Judith Kayanda Chipili