THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

DEPARTMENT OF POST-BASIC NURSING

A STUDY TO DETERMINE THE KNOWLEDGE, ATTITUDE, AND PRACTICE OF NURSES TOWARDS THEIR OWN HEALTH PROMOTION

BY

DOROTHY CHINWENDU OSIGWE CHANDA

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF POST BASIC NURSING, SCHOOL OF MEDICINE, IN PARTIAL FULFILLMENT FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING

NOVEMBER, 1998

ACKNOWLEDGEMENTS

My deep gratitude goes to our deserving Head of Department, Ms E Lambwe, for creating a conducive environment for studies.

To our Community Health Nursing (CHN) lecturers Mrs Mwewa our Chief Nursing Officer, and Miss Kongwa, for uplifting of the CHN image.

To the Bursaries Committee of the Ministry of Education, for sponsorship that enabled me to do this course.

To my husband Professor M.W. Chanda, for all his support, and for his sincerest desire to please and encourage. And especially for his prudence at using the right soothing words at the right moments.

To our sons Mutale, Shula-Malindi, Mboloma and Mwamba, who are my cheering corner, and for all their help.

To my parents, Reverend F.D. and Mrs Lucy Osigwe, for their continued prayerful support.

To Mr Kathandiko L Soko from the Vice-Chancellors's office, for his unsurpassable dedication to duty.

To the Library staff for all their help and support.

To the Secretary of Department of Pathology and Microbiology, UTH, Mrs J.I.I. Mwanza, for her unlimited patience and ability to decipher my writings and for her friendship.

To the Health Information Systems staff, Mr Tumeo, Ms Bweupe, and to JICA and the Virology Laboratory staff.

To all the friends that I made while in school, for their companionship.

To Chewe Stanslous, the Head of the Medical Illustration Unit, for all his patience and help in binding all my reports.

To the Sister-in-Charge of Casualty, for letting me use her office for my extra studies when the library is closed.

To Mr Timothy N.M. Kantenga (Chief Medical Laboratory Technologist), for his support.

My sincere gratitude goes to all faculty members, Mrs Jumbe, Mrs Ngoma, Ms Hilda Kaunda, Mrs Ndele, and especially to Mr Ndubani, for all the consultations in his home, and to his wife, for her sweet welcoming attitude.

I send all of you my most sincere grateful thanks. May the good Lord bless all of us.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

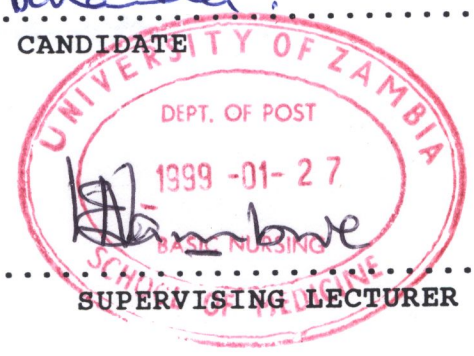
LIST OF APPENDICES

DECLARATION

I declare that the work presented in this dissertation for the degree of Bachelor of Science in Nursing, has not been previously presented either wholly or in part, for any other degree, and is not currently being submitted for any other degree.

SIGNED:.....

CANDIDATE



APPROVED BY:.....

SUPERVISING LECTURER

STATEMENT

I hereby certify that this study is entirely the result of my own independent investigation. The various persons and sources to which I am indebted, are clearly indicated in the reference.

Signed:.....

DEDICATION

To Reverend F.D. and Mrs Lucy Osigwe, my prayerful corner.

To my husband, Professor M.W. Chanda, my morale booster.

To our children Mutale, Shula-Malindi, Mboloma and Mwamba, who are my cheering corner.

To all Researchers, and the researched for increasing the knowledge-base of the readership.

ABSTRACT

The study was about how nurses maintain their health in the presence of adverse health-care environment, and poor socio-economic status. The study also shows how the attitude of the nurse has been affected towards her own health maintenance through health promotion and disease prevention activities, and its main objective was to assess and determine the knowledge, attitude and practice of nurses; and what they actually do in real life situation in health promotion and disease prevention practices and activities.

The study was conducted in the Surgical, Medical, Paediatrics, Operating Theatre, the Obstetric Units and Specialist Clinics and Renal Dialysis Unit of the University Teaching Hospital, Lusaka, Zambia.

Data was collected from fifty (50) nurses who were selected by the systematic sampling method.

1 was a Nurse-Manager
6 were Registered Nurse-Midwives
14 were Registered Nurses
3 were Enrolled Nurse-Midwives
26 were Enrolled Nurses.

Questionnaires were used to collect the data from the nurses. A descriptive explanatory non-experimental study was undertaken.

Empirical and theoretical literature review was based on historical and modern perspectives of attitudes towards health promotion, on current aspects of knowledge and practices of nurses towards disease prevention and health promotion practices and activities.

Results from this study revealed that, nurses do not care to maintain their health through disease-prevention and health promotion practices and activities. This is despite having good knowledge and practice of what to do.

A pre-set marking key (Appendix 2) was used to establish levels of their knowledge, practice and attitude. The result showed that most nurses have negative attitude to health promotion and disease prevention.

Low salaries, poor diet, low socio-economic status, were cited as reasons for negative attitude among nurses. This led to most nurses not caring to maintain their health through disease-prevention and health promotion practices.

The findings show that the younger nurses pay more attention to disease-prevention activities than the older nurses, who tend to practice "short-cuts" in nursing procedures.

The Research also shows that morbidity rate is lowest among nurse-respondents who always undertake exercises.

Only 5(10%) of respondents undergo Medical Examinations yearly and 33(66%) undergo Medical Examinations rarely, mainly because there is no mechanism in place to ensure nurses go for Medical Examinations.

43(86%) of nurses do not request for vaccinations against preventable conditions like TB, Hepatitis B and epidermic meningitis caused by Neisseria Meningitidis.

17(34%) of nurses do not palpate their breasts for lumps while 12(24%) rarely check their blood pressure when Sphygmomanometers and Stethoscopes are everywhere in the hospital departments.

45(90%) of respondents do not undergo Pap-smear tests, reasons ranging from not thinking about it to non-availability of reagents.

22(44%) of nurses interviewed bother to come to work with own soap while 25(50%) wash their hands with any available antiseptic lotion 3(6%) just wash their hands without soap.

Further findings reveal that the Occupational Health Unit does not collaborate with other Agencies, and does not offer any health promotion activities/facilities to the nurses.

Results show that 14(28%) nurses maginalise the Occupational Health Unit even during periods of own illness because they do not carry out investigations, its small size, long waiting hours before being seen and also the absence of a permanent medical Doctor there, leading to no continuity of care.

The study ascertained that there are no vaccination programmes for nurses against TB, Hepatitis B and epidermic Meningitis.

The study also showed that the Environmental Health Department, do not co-ordinate with the horticultural department, to slash grass around the hostels, to discourage the breeding of mosquitoes.

Among other Recommendations were those for the Zambia Nurses' Association in terms of review of nurses' salary structure; to mount health education programmes for nurses.
To set up vaccination programmes for nurses in collaboration with Aid Agencies.
To set up a Fund for nurses during hospitalisation and bereavement.

A list of recommendations were made for the Occupational Health Unit on how to improve levels of practice in the Unit. These are found in the main text.

Lastly, it was recommended to carry out this study on a larger scale so that its findings can be generalised.

CHAPTER 1

1.0 INTRODUCTION

1.1 Background Information

The background information gives the reader a wholistic overview of Zambia with regards to its geography political and socio-economic situation. It is hoped that this scenario will provide an insight of the problems that University Teaching Hospital (UTH) faces. Since the world has become a global village, Zambia is also subjected to the economic fiasco of the world at large.

Zambia is a landlocked country covering an area of 752,612 square kilometers and consists of about 2.5% of the area of Africa. It shares borders with Zaire now the Democratic Republic of Congo, and Tanzania in the North, Malawi and Mozambique in the East, Zimbabwe and Botswana in the South, Namibia in the South-west and Angola in the West.

Administratively, the country is divided into nine (9) provinces and sixty-seven (67) districts, four (4) out of ten (10) Zambians live in urban areas. Most of the urban areas are actually located along the line of rail.

Location of Zambia

Zambia lies between eight and eighteen degrees South latitude and between twenty and thirty-five degrees East

longitude. It has a tropical climate and vegetation with the three distinct seasons; the cool dry winter from May to August, a hot season during September and October and warm wet season from November to April. Zambia has main river water sources eg. Zambezi, Kafue, Luangwa and Luapula. Its major lakes are Tanganyika, Mweru and Bangweulu. It also has a man-made lake called lake Kariba.

The Northern part of the country receives the highest precipitation with an annual average ranging from 1.100 mm to 1.400 mm. The Southern and Eastern parts of the country have less rainfall ranging from 600 mm to 1.100 mm of rain annually which often results in drought.

Vegetation

The vegetation of Zambia is a mixture of trees, tall grass, herbs and other woodlands which are mainly of the deciduous type. The deciduous type of woodlands are mainly found on the main plateau of the country. The forest are found mainly in the North- western, Western and Northern parts of the country.

The population of Zambia stands at 9.340 million, male = 4,640 while female = 4,699 (CSO 1996).

Urban Population

The percentage of Zambian population who live in the urban area was 29.4% in 1969, by 1990 it has shot up to 38.9%. The percentage of population living in an urban area in Lusaka province is also high, it is 83.1%. Projected life

expectancy at birth for Lusaka is 51.33 years for male and 54.55 years for the female (CSO 1996).

The projected growth rate for the whole country will rise to 3.31% in the years between 1996 and 2000. This is a rapid growth rate for a country besieged with economic hardships. This growth rate signifies increase in population. Increased population poses a potential strain on basic services like water, sanitation, housing as well as on social services such as education, health and employment opportunities. In addition compared to the world at large, most urban centres in Africa are growing in a period of considerable economic decline. In the recent past, people migrated to urban areas for work and better life, now the rural-urban drift is also because of the destruction of the rural environment which used to provide a means of livelihood for the rural inhabitants. Now the only option is to flock to the cities. In the cities, they live in shanty compounds which are now mushrooming at an alarming rate. Stephens (1996) stated that about 30 - 60% of people in urban cities live in shanty compounds. These shanty compounds become over populated and the inhabitants are trapped in a complex cycle of deprivation and abject poverty. (CSO 1996)

The inhabitants are locked in poor socio-economic trap which also leads to poor environmental traps. Access to basic needs such as good source of water supply,

sanitation, adequate housing and even land to live on is limited. In these urban shanty compounds, food supplies and storage are inadequate; previously before the political change, medical facilities were free, the people in town benefitted from free medical services, but recently the urban dwellers have found themselves in deep waters they suffer from affluent problems for example deaths from common diseases, such as heart diseases and accidents and neoplasms.

Routine health statistics are rarely perfect but whatever is presented is useful . Below is a table which shows the major causes of mortality among adults in hospitals all over the country between 1993 to 1994.

TABLE 1.

MAJOR CAUSES OF MORTALITY AMONG ADULTS IN HOSPITAL 15 YEARS AND ABOVE 1993 - 1994

	1 9 9 3		1 9 9 4	
DISEASE	**NO. OF DEATHS**	**PERCENTAGE**	**NO. OF DEATHS**	**PERCENTAGE**
PTB	2,693	14.42	3,192	17.23
AIDS, AIDS RELATED COMPLEX (ARC)	2,575	13.79	2,638	14.24
MALARIA	1,819	9.74	1,343	7.24
GASTRO-ENTERITIS	1,656	8.87	953	5.14
NON-INFECTIVE G/E	1,097	8.87	1,215	6.56
HEART DISEASE	961	5.51	975	5.26
PNEUMONIA	916	4.90	1,108	5.98
RESPIRATORY	833	4.46	925	4.99
ANAEMIA	636	3.41	673	3.63
ACCIDENT & INJURIES	512	2.74	551	2.97
ALL OTHER DISEASES	4,977	26.65	4,951	26.73
TOTAL DEATHS	**18,675**	**100**	**18,524**	**100**

CSO 1996

TABLE 2

MAJOR CAUSES OF MORTALITY IN HOSPITAL
1-14 YEARS - 1993-1994

	1 9 9 3		1 9 9 4	
DISEASE	**NO. OF DEATHS**	**PERCENTAGE**	**NO. OF DEATHS**	**PERCENTAGE**
MALARIA	2,033	21.75	1,738	20.98
MALNUTRITION	1,804	19.30	2,334	28.17
ANAEMIA	1,001	10.71	458	5.53
PNEUMONIA	805	8.61	521	6.29
NON-INFECTIVE G/E	723	7.74	781	9.43
RESPIRATORY	476	5.09	479	5.78
GASTRO-ENTERITIS	474	5.07	430	5.19
ENDOCRINE ALLERGY METABOLIC/ALLERGY	447	4.78	430	5.19
PTB	198	2.12	297	3.59
ACCIDENTS	198	2.12	185	2.23
ALL OTHER DISEASES	1,186	12.69	631	7.62
TOTAL DEATHS	**9,345**	**100**	**8,204**	**100**

CSO 1996

The University Teaching Hospital is situated at the South-Eastern part of Lusaka. Lusaka has a population of two million (2,000,000) inhabitants. Stephens (1996), states that 30 - 60% of the people, live in the shanty compounds. The hospital has a bed capacity of one thousand eight hundred and fourteen (1,814) of which eighty-three (83) are high cost fee paying. The fee paying scheme provides patients with top quality individualized care from the health care providers. About two hundred and eighty-six thousand one hundred and eighty-five (286,185) patients, both in-patient and out-patients are attended at the hospital yearly. The motto of the UTH is **"Striving to provide quality care"**. Its mission statement is to provide excellent medical treatment and care, rehabilitation teaching and to conduct research (UTH report 1995). It has all the major medical and surgical specialties in Paediatrics and adult medicine and so receives patients from all over the country. Burgess (1987) noted that it serves as both a primary and secondary source of care.

Although the population of the country continues to grow as indicated by its rapid growth rate of 3.31%, there is no corresponding expansion in the health facility. As a result, the health care facility has unacceptable levels of congestion, overstretched resources and standards of care that are less than acceptable. Also being the only major hospital in the city it attracts the majority of the

health professionals who wish to follow social amenities, professional opportunities for professional growth and development.

Its bed capacity stretched from 1,700 in 1989 to 1,814 in 1996 and 1,231,749 in 1997 (UTH Medical records). This increase has been without a corresponding increase in patient care and hospital facilities. The hospital admission policy does not allow the exclusion of patients even if beds are full. Therefore floor beds abound and there is obvious congestion in all service areas.

STAFF SITUATION - NEW CENTRAL BOARD ESTABLISHMENT

AREAS	CENTRAL BOARD ESTABLISHMENT	ACTUAL	OLD UTH
Theatres & recovering rooms	124 Registered nurses	56 RN	72 RN
Neonatal wards	124 Registered nurses	0 RN	0 RN
Zambia Registered Midwifery	230 Registered nurses	99 RN	200 RN
Zambia Registered Nurse	666 Registered nurses	262 RN	274 RN
Zambia Paediatrics Nurse	52 Registered nurses	0 RN	0 RN
Zambia Enrolled Nurse	0 Zambia Enrolled Nurse	507 ENS	499 ENS
TOTAL	**1,196**	**914**	**1,045**

(UTH Nursing Administration Records 1998)

The establishment of 1,120 for nurses of different cadres existed by the end of 1995 at UTH, of these only 874 posts were filled with the creation of the Central Board of Health, 1,196 posts were created for nurses in the hospital, of these only 914 posts were filled (Central administration). Besides this short fall of 282 nurses, there has been a tremendous increase in the number of nurses absenting themselves for reasons varying from sickness to funeral attendances. This absenteeism makes it difficult for the remaining nurses to operate effectively or even have time to visit the occupational health unit during own illnesses. In response to this short fall, the UTH Board of Management introduced part-time nursing. This part-time nursing serves dual purposes, it fills in the short fall as well as boosts the economic power of the nurses.

The manageable number of staff in a ward of 70 in-patients should be eight (8) registered nurses, sixteen (16) enrolled nurses and ten (10) CDEs daily, but currently, a ward may be managed by two registered nurses, an enrolled nurse and a daily paid employee (UTH report 1996).

This background is almost universal in the developing world, so the World Health Organization (WHO) instituted the Health for all by the year two thousand (2000). This does not mean that from then on, there will be no more

diseases or deaths in Africa. It means that, wherever they are, the hospital inclusive, they must benefit from decent social and health services so that the imbalance between the health infrastructure along the line of rail and the rural areas become less marked or if possible disappears completely. It also aims at ensuring that the morbidity and the mortality rates are reduced to their barest minimum levels.

The WHO pronouncement also aims at increasing the possibilities of increasing the recreation facilities at the work place so that finally each country can make greater contribution to their country's economic advancement through health (WHO Afro 78). After this policy pronouncement, each country including Zambia, translated this policy by instituting health reforms to help ameliorate health care delivery system.

1.2 Funding for University Teaching Hospital

The country's health reforms has entailed the institution of cost-sharing measures as a source of raising funds for the day to day running of the hospital, in addition to the Government supplementation.

This economic constraint places more burden on the hospital which has to share its meagre resources among all the departments of the hospital in order to meet its mission statement. As a result, the nursing budget is always

drastically cut. The nursing department has found it increasingly difficult to win arguments to increase the nursing budget particularly when meagre resources are being shared among all the units of the hospital. This results in a mixture of chronic shortage of human and material resources, therefore provision of nursing services becomes quite a complex issue.

Political Influence

There is political commitment to improving health care services with the passage of the Zambia Nurses and Midwives Act 1997 in parliament, policy changes are currently to be undertaken, resolutions to improve the image of nursing as a profession and the services that hospitals provide, the public interest in the hospitals, the nurses are compelled to look for ways of developing new concepts which would help nurses to meet new challenges and act as deserving mentors for the public.

In addition, the democracy ushered in by the Movement for Multiparty Democracy (MMD) government has empowered the people to self assertiveness due to the cost-sharing measures. The expectations of the health care consumers, who are now partners in health care provision, have risen notably without an equivalent increase in the nursing and material resources.

Disease Distribution Change

The distribution of disease patterns have also changed placing additional demands on nursing resources. HIV/AIDS and the epidemics have also compounded the situation. Currently, dysentery, epidemic meningitis, measles and tuberculosis which never seem to relent are occurring concurrently.

World Economic Front

On the world economic front, the International Monetary Fund (IMF) continues to knock on Zambia's doors for major economic reforms, the latest being the wage freeze in the face of rising costs, all these are bound to affect the client and the nurses health status. The hospital is no longer accessible to the urban poor who also fail to maintain their medical scheme. Some clients remain ignorant about their disease processes. They just sit and wait for their diseases to resolve on their own. Those who can afford their medical care continue to flood the hospital. The nurse continues to render care in clinical areas that are poorly equipped.

Psychological Warfare

The health reforms is playing a psychological warfare on nurses. The delinkage process of the health reforms has formed a source of great anxiety for the nurse. Anxiety on how to maintain the family and the significant others.

Anxiety affects the nurses performance to a down-ward trend. Increasing anxiety levels predispose the nurse to accidents and disease at the service areas, morbidity and mortality among nurses rise against this background.

Libetwa et al (1996) noted that between 1992 to 1995 sixty-three (63) (36.6%) out of one hundred and seventy two (172) deaths were of nurses. The highest number of deaths occurred in 1993 when forty-seven percent (47%) of the dead were nurses. They stated that "this trend is expensive in terms of lost manpower needed for quality health service provision and resources during the funeral process, therefore there is need to find the route cause of these deaths and remedial measures put in place." (Libetwa et al 1996).

Nursing being a unique profession, it has something special to offer to its clientele. In order to do this, the frontliners - the nurses - are required to adapt to changes within their environment. The nurses should develop new concepts that pertain to quality living to enable them meet the challenges facing the profession today. In reality the records show a high morbidity and mortality rate amongst nurses.

TABLE 3

MORBIDITY AMONGST NURSES (OCCUPATIONAL HEALTH UNIT 1998)

DISEASE	NUMBER OF NURSES	PERCENTAGE
HEADACHE	80	36.2
HIGH BLOOD PRESSURE	28	12.7
COUGHING	26	11.8
DIARRHOEA AND VOMITING	20	9.0
MALARIA	19	8.6
ABDOMINAL PAIN	15	6.8
SORE-THROAT	15	6.8
ALLERGIC CONDITIONS	15	6.8
VAGINAL SWELLING	03	1.4
TOTAL	**221**	**100**

UTH - Occupational Health Unit Records 1998.

Out of 914 nurses, 221 (25.4%) reported to the occupational health unit in 1998. Previous year's data were not available.

TABLE 4

MORTALITY RATE AMONG NURSES (PERSONNEL DEPARTMENT 1998)

YEAR	ENROLLED NURSES	REGISTERED NURSES	TOTAL
1993	19	6	25
1994	13	6	19
1995	13	7	20
1996	18	9	27
1997	18	5	23
TOTAL	**81**	**33**	**114**

(UTH Personnel Department, 1998)

TB Morbidity as an opportunistic infection

From January 1982 to March 1984, eight (8) nurses were treated for Tuberculosis. Since the chest clinic does not designate "staff" in their records because of ethical consideration, the data had to be obtained from the wards.

Thirty two (32) nurses are currently on TB treatment at the chest clinic (unit record). The morbidity and mortality tables show the urgency of the nurses problems. Clearly the nurses are expressing the need to be cared for. One of the major tasks now is to draw attention to the nurses morbidity and mortality.

Pender (1987) states that "mortality and morbidity data provide information about the prevalence of illness therefore they serve as illness indexes." Nurses need to further their efforts towards disease prevention and health promotion. A healthy labour force will contribute to the development of the country so this resource who are predominantly female, should not be taken for granted, but instead care should be taken to harness and invest in them. Their services are crucial to the efficiency of any health service. Yet they continue to be disadvantaged socially, culturally and economically.

Stephens (1996) states that "health professionals understand the dynamics of urban poverty, the stresses of urban living and the health implications of these factors." The nurses need to be helped to deal with the stresses of urban living and allow them ways out of deprivation traps. Prevention and promotive strategies achieve more than curative strategies.

Nurses Health Seeking Behaviour

Further observations on the health seeking behaviour of nurses reveal that the nurses are playing "martyr" with their lives in the wards due to acute shortage of nurses in the wards. When ill, they self-medicate themselves symptomatically in order to maintain the skeleton staff on duty. Also most nurses turn to religion for solace, some zealous nurses pray to the Almighty God for healing while the lesser zealous ones seek both God's and medical intervention. This health seeking behaviour is also due to their poor financial status since they cannot afford the medical scheme. Most nurses do part-time nursing in order to supplement their income or by venturing into a variety of entrepreneurship as well in order to maintain their self dignity for themselves and their families.

They have to sustain their children and significant others. It must be noted that most nurses are heads of their

households. During the workshop on "changing the image of nursing", conducted by ZNA in December of 1997, at Mulungushi Conference Centre, the public expressed concern over the nurses' health seeking behaviour when they suggested the provision of a "medical corner" in the wards specifically for nurses who fall sick in the wards. (Participants at ZNA Workshop on "Changing the Image of Nursing", December, 1997).

Nurses do not have any recreation facilities and cannot afford good nutrition. In the service area, they are exposed to a lot of infections in the wards. With low immunity status they easily succumb to infections in the wards.

Services already offered to alleviate these problems

With this background, the UTH Board of Management prime-moved the concern by setting up an Infection Control Committee in the hospital (HICC). The Hospital Infection Prevention and Control Committee aims at keeping sickness levels low among nurses. Its policies are health care-worker oriented e.g maintenance of basic hygiene policy, precautionary measures and guidelines on prevention of blood and blood products, the fumigation policy. The HICC goal is for safe practice in a safe environment.

The education, monitoring and evaluation of standards strategy were put in place to ensure nurses compliance to

HICC guidelines and policies. When infection out-break occurs, a thorough epidemiological investigations are carried out to identify causative organism(s) treatment and prevent further occurrence and spread and then institute a research or study into the disease occurrence.

A staff occupational Health Unit attends to sick staff. It also carries out pre-employment and periodical medical exams. The HICC has a vision of developing a core group of nurse-researchers in Infection Control. They will be required to develop a research-based nursing practice which should be injected into practice.

The main aim of this study is to conscientise nurses on how to focus on health promotion and disease prevention activities in order to maintain high level wellness. Nurses as role models in health care should modify their life-style in the face of the HIV/AIDS on the horizon and other emerging micro-organisms. The nurse should make a conscious effort to develop a healthy life-style as Pender (1987) states that "every human being has the potential for becoming more purposeful in life and more competent in managing their health and more self-actualized through developing unique personal resources".

The period of health reforms is an exciting time to be in or entering the nursing profession. Career options are quite varied and present challenges and opportunities for

nurses. This is the period for nurses to go for high-level wellness in order to deal constructively with the multiple and conflicting roles of the nurse.

It is not a period for nurses to expose themselves to ill-health though many authors have written about how nurses are predisposed to ill-health as a result of nursing activities and the ward environment. Scholey (1983). Coleman (1982) supported this notion when he said that "during many years in practice, I have lost count of the number of qualified nurses who were suffering from physical or mental symptoms directly caused by their work", the institution of Infection Prevention and Control Programs in most modern hospitals seeks to reverse this trend by keeping sickness levels low amongst nurses. The precautionary measures and guidelines in handling blood and body fluids for nurses ensures that nurses nurse carefully in the health care work place.

Mbewe 1984 stated that the nurse is responsible for his/her health while at work. This implies that the nurse should take precautions to maintain safe practice. Zama (1984) stated that maintenance of safe practice is difficult for the nurse, in the health care setting where there are factors which may easily make them contract or develop disease (s) or condition (s) while providing nursing care to their patients. Pender (1987) advises that "health can be maintained through good nutrition, physical fitness,

personal life styles, immunization and environmental modification than from traditional medical care."

This means that nurses can maintain good health through health promotion and prevention. Nurses, because of their recognized expertise should serve as role models of health promoting life style. The reverse obtains, a look at the occupational health unit records shows that the morbidity and mortality rate is quite high amongst nurses. Hence this study attempts to find out factors responsible for nurse morbidity and mortality and how nurses can maintain good health at the work place.

1.3 Statement of the Problem

Nurses are in the forefront of the health care delivery in the University Teaching Hospital. These nurses are mainly women aged between 20-50 years. Majority are still in their reproductive years and so require reproductive health services besides maternity and child health services e.g papanicolaou cervical smear tests to detect early onset of cervical cancer. It is worthy to note that nurses as women utilize health care services both as clients and patients due to their biological and physiological functions during their reproductive and post reproductive years. So, nurses are seen to be both givers and recipients of care. Being women, the nurses are culturally, socially and economically considered of low status and therefore their health needs are not taken seriously.

This view is supported by Jackson and Sutton (1995) when they said that "the health for all by the year 2000 maximum is founded in primary care; one might expect the health of staff at the secondary level of care and of their work places to have received particular attention. In fact it remains underdeveloped and under researched". This sentiment is well-illustrated by high sickness levels among nurses both internationally and locally.

1.4 The Magnitude of the problem

On an international level, in 1992, twelve (12) nurses were among thirty two (32) cases of HIV acquired in Health-care work place while in 1993 there were 176 documented possible cases of occupationally-acquired HIV all over the world. In USA, the centre for disease control identified 123 documented possible cases of occupationally acquired HIV.

Hepatitis B virus can even be transmitted more easily than the HIV virus. According to this data, about 8,700 carers are infected with Hepatitis B virus each year while more than 200 die each year as earlier stated. In 1997, 18 Enrolled nurses and 5 Registered nurses died in UTH while more continue to attend the occupational health unit for various ailments.

In 1998, Ward records show that some 34 nurses are on anti-tuberculosis treatment. In the same year, 232 nurses have

been attended to at the occupational health unit. A total of 135 sick-off days were given to 63 nurses who attended the occupational health unit between September 1, 1997 to April 2, 1998. This trend is expensive in terms of lost manpower and man-hours needed for quality health service provision. Nurses because of their training, and experience and continued contact with patients and clients have the responsibility of providing leadership in the promotion of better health among individuals, families and the community. Therefore, they should be seen healthy as role models of health promoting life styles. But since as the above data shows, nurses are besieged with illness and death, this study wishes to identify how nurses can maintain good health.

Nurses maintaining good health comes within the framework of "health for all by the year 2000". This has been supported politically by the passage of the Health Act in December, 1997. The Health Reforms has decentralised Zambia's health services coupled to this, the Zambia Nurses' and Midwives' Act 1997 aims at maintaining high standard and image of nursing which can be done by healthy nurses not sick ones. Putting the above stated problem into perspective, this study attempts to investigate the factors which contribute to the illness of nurses and how they can maintain their own health.

1.5 Justification of the Study Approach

Since the first research focused on the effectiveness of the Worker's Health Act and the second research focused in factors predisposing student nurses to ill-health, it would be logical to carry out a study on how nurses can maintain good health, a dimension that has been "under-researched" in-order to fill in the gaps created by other researchers.

These outcomes will be formulated into goals to be achieved within a given time-frame. This means there will be short and long term goals.

1.6 Hypotheses

1. Lack of collaboration with other professional bodies is responsible for inadequate service delivery in the occupational health unit which would help maintain nurses health.

2. Lack of disease prevention, health promotion activities contribute to the high morbidity and mortality rates amongst nurses.

3. Poor practice and finding alternatives due to inadequate human, material and equipment resources in the health care setting contribute to high morbidity and mortality rate.

1.7 General Objective of Study

To describe how nurses can keep healthy by analysing how the independent factors affect the dependent factor of knowledge, altitude and practice of nurses towards their own health promotion in UTH and to make recommendations to all the stake holders for appropriate action.

1.8 Specific Objectives

1. To assess whether occupational health unit collaborates with other agencies or not.
2. To assess what facilities are offered at the occupational Health unit including reproductive health services.
3. To assess how nurses utilize the occupational health unit at UTH.
4. To identify what nurses do during own illness and the nurses health concept.
5. To describe the knowledge, attitude and practice of nurses towards health promotions and disease prevention in UTH.
6. To assess managerial interests in nurses health.

1.9 Operational Definitions

For the purpose of this study the following terms have been operationally defined as follows:-

(1) **Occupational Health Nurse:-**

A nurse who has undergone a specialised course of study in the health care of people at work. An occupational health nurse is responsible for promoting a high degree of physical and mental health in industrial, commercial and health care settings.

(2) **Health Promotion**

A programme of surveillance planned for the nurses in order to maintain the best possible health and quality of life of nurses. Programmes include health education, immunization and screening tests.

(3) **Nosocomial Infection (Hospital Infection)**

An infection whose development is favoured by a hospital environment, such as is acquired by a patient during a hospital visit, or one developing among hospital staff. Such infections include, fungal and bacterial infections and are aggravated by the reduced resistance of individual patients.

(4) **Morbid**

The state of being ill or diseased. **MORBIDITY RATE** is the number of cases of disease found to occur among the nurses.

(5) **Mortality**

The incidence of death among nurses in a given period.

(6) **Nutrition**

The study of food in relation to the physiological processes that depend on its absorption by the body. The science of nutrition includes the study of diets

and deficiency diseases. The intake of nutrients and their subsequent absorption and assimilation by the tissues.

(7) **A Blood or Body Fluid Exposure**

Is defined as a needlestick or sharp puncture wound, a splash to mucous membrane, or contact with skin that has an open cut or abrasion.

(8) **Blood**

means human blood, blood products or blood components.

(9) **Potentially Infectious Materials Include**

i. Human body fluids like semen, vaginal secretions, cerebro-spinal fluid, serous fluid, amniotic fluid, saliva in dental procedures any body fluid visibly contaminated with blood in situation where it is difficult to differentiate between body fluids.

ii. Any unfixed tissue organ of human origin (other than intact skin)

iii. Hiv-containing cell or tissue cultures organ cultures, Hiv or HBV-containing culture medium or other tissues from experimental animals uninfected with Hiv or HBV.

(10) **Longer-Serving Nurses**

Those with working experience of ten (10) years and above of service.

(11) **Major Industries**

Established government and or private owned company, social institutional which employ over five hundred (500) workers and whose workers are exposed to dangerous health hazards of varying degree.

(12) **Occupational Health Staff**

Health personnel working in industries in health institutions to provide health services to workers.

(13) **Health**

A state of physical, mental and social well being and not merely the absence of disease or infirmity.

(14) **Socio-Economic Status**

Patients' residential area, level of education, marital status, monthly earnings, traditional culture and beliefs.

(15) **Vaccination**

This is a means of producing immunity to a disease by using a vaccine.

(16) **Vaccine**

It is a special preparation of antigenic material that can be used to stimulate the development of antibodies and this confer active immunity against a specific disease or number of diseases. Many vaccines are produced by culturing bacterial or viruses under laboratory conditions. Other vaccines consist of specially treated toxins (toxoid) or of dead bacteria that are still antigenic.

(17) **Immunization**

The production of immunity by artificial means. Passive, immunity may be conferred by cells for the use of a vaccine.

(18) **Disease**

A disorder with a specific cause and recognizable signs and symptoms, any bodily abnormality or failure to function properly, except that result directly from physical injury (the latter may open way for disease). (T.A. Mcferran (1994). A Dictionary of Nursing, Oxford University press).

Variables

This study aims at establishing the relationships between the variables. There are usually two types of variables in a study. The independent variable are 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.

The dependent variable is the particular event or phenomenon under investigation. These are affected by the causative factors of independent variables. In this study the dependent variable is knowledge, attitude and practice of nurses towards their own health promotion.

The independent or causative factors are the following:-

(1) Socio-economic status of the nurses,

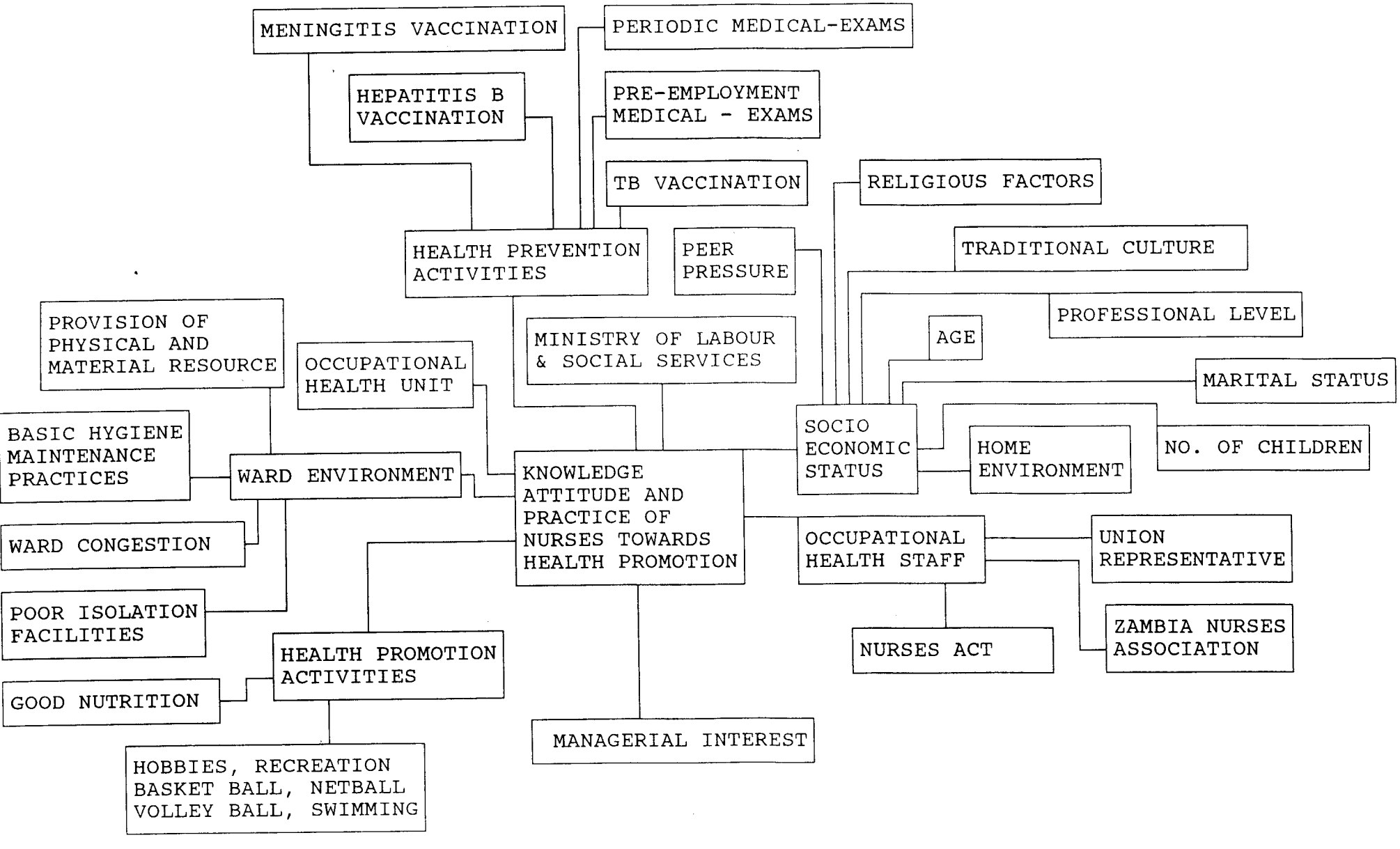
(2) the effects of ward environment,

(3) Health promotion and disease prevention activities and the role of the occupational Health Unit,

(4) Managerial interest towards nurses' health maintenance.

DIAGRAMMATIC ILLUSTRATION OF THE INDEPENDENT AND DEPENDENT VARIABLE

The independent factors are the direct factors. The indirect factors act through the direct factors in order to cause the effect



Collaboration

Kundieve (1996) noted that in planning an occupational health unit, there is need for interface and interaction with other sectors. Here in UTH, it is not known whether the unit collaborates with other professional bodies who would act as advocates for health prevention and promotion activities. Lack of these activities contribute to nurses being sick.

1.10 Workers Health Act

If the unit collaborates with the professional bodies, they will know of the regulations of the Health Act which gives guidance to the operations of the occupational health unit. Mulenga (1993) noted that "Any occupational health services should depend on the adequate statutory controls that should see the services work."

If collaboration is lacking, it would affect service delivery. This may cause the nurses to develop an attitude towards its use. This attitude may contribute to the nurses high sickness levels. Maginalisation of this service should be picked up by specialised occupational health nurses through their proper recording system.

Lack of Specialised Staff

Lack of specialised staff and inadequate number of staff may affect the provision of quality service to nurses hence those who are sick may deteriorate to chronic ill-health

and may die leading to high morbidity and mortality among nurses. Socio-economic factors like marital status, religions beliefs, poor home environments, level of educational and professional attainment all affect the health of the nurse.

Another factor that affects the health of the nurse is the physical, material, equipment and personnel resources in the ward environment. Lack of health education on how nurses can use the resources that we have in the environment may contribute to nurses ill-health.

Identifying these factors is insufficient to solve this problem. Hence the study poses specific questions which is hoped, in answering will help to find solutions.

1.11 Specific Questions of Study

Assessing the knowledge attitude and practice of nurses towards their own health promotion.

1. How can intersectoral collaboration between the UTH occupational health unit and other professional bodies help in promoting the health of nurses.
2. Do nurses have adequate knowledge on disease prevention and health promotion in order to maintain their own health?
3. What is the role of hospital management towards nurses health?

CUT OFF POINT

VARIABLE	CUT-OFF POINTS	INDICATOR	QUESTION NUMBERS
Knowledge	Very good 15-22	Correct responses to questions with score 12 and above	15-31
	Good 8-14	Correct responses to questions with score 6-11	
	Inadequate 1-7	Correct responses to questions with score 1-5	
Attitude	Positive 12-22	Correct responses to questions with score 6 and above correct responses	32-42
	Poor/Negative 1-11	Correct responses to questions with score 1-5 correct responses	
Practice	Excellent 17-24	Correct responses to questions with score 10 and above	43-57
	Good 9-16	Correct responses to questions with score 5-9	
	Poor 1-8	Correct responses to questions with score 1-4	

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Introduction

In an attempt to find solutions to the question of this study six (6) broad areas have been identified. These areas are the following:-

1. History of occupational Health Services.
2. Goal of an occupational health program.
   Intersectoral collaboration Safety committee
3. The ward environment.
4. Disease-prevention activities.
5. Health promotion activities.
6. Education and Training

2.2 History of Occupational Health Services

International View

In 1950, the joint International Labour Organization (ILO) and World Health Organization (WHO) Committee on occupational health adopted the following definition. "Occupational health aims at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations, the prevention among workers of departures from health caused by their working conditions, the protection of workers in their environment from risks resulting from factors adverse to health, the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological make-up and to summarise, the adaptation of work to man and of each man to his job".

Most newly independent African countries ratified this definition. The ILO formed a Tripartite structure which brought together Governments representatives, employers and employees in-order to direct its efforts towards the needs of the developing countries.

These three (3) stakeholders are directly concerned in the prevention of occupational accidents and diseases. Hence it is able to formulate and prioritise realistic goals at the international level and also facilitates the application of the organization decisions at the work-place.

ILO recommendation (97) covers the two (2) basic methods for the protection of workers health technical measures for hazard control, concerning premises, working environment and equipment including personal protective equipment on the one hand and the medical surveillance of the individual worker on the other hand. The same instrument provided for the compulsory notification of occupational diseases and First Aid facilities. Occupational Health Services recommendation (112) defines the role of occupational Health Services in places of employment. It intimated that such services may be established by laws and regulations or by collective agreement between the employers and workers concerned. Their principle functions consist of surveillance of all factors which may affect the health of the workers, pre-employment and periodic medical examinations, emergency treatment, job study and

surveillance of the adaptation of jobs to workers, statistical surveys and health education. (ILO Occupational and Safety Activities), in 1990 Rantanan included follow-ups of health of vulnerable groups, collections of information on worker's health, curative services and provision of general health care services.

In USA, in 1970 the occupational safety and Health Act was passed. The passage of this Act in 1970 created the occupational safety and Health Administration (OSHA) in the department of Labour and the National Institute for Occupational Safety and Health (NIOSH) within the structure of the department of Health and Human Services (DHHS) was given research responsibility for research and education related to influence on health within the work setting.

The 1980^{s} saw the formation of another movement called the Health Promotion Movement. It focused on general health and well being rather than on work-related health problems. It also focused on individual responsibility of health and illness (House and Cuttington, 1986) Mulenga (1993) agreed to this sentiment when he hinted in his study that "an important characteristic of a worker is that one who participates in decisions affecting his/her health" while Pender (1987) said that "interest in health promotion has burgeoned among policy makers and health professionals and

general public. A flare for good health and health promotion activities thrived during this period of heightened industrialization.

Industrialization necessitated new technology which also required the passage of the Health and Safety at work Act of 1974. Its "main purpose was to provide a complete system of law to protect the health, safety and welfare of the workers as well as the health and safety of the public. The Act was designed to modernize the existing legislation which dealt with Health, Safety and Welfare at work. To impose new responsibilities on employers requiring them to provide and maintain safe places of work and also to consult employees on Health and safety matters. The Act also gave new powers for the enforcement of safety laws and provided for increased penalties for contravention as well as providing new ways of operating safety regulations in future (Morris 1989) Mulenga (1993) reiterated this when he said that "any occupational services strongly depend on adequate statutory controls that should see the services work". This is the only way to ensure the efficiency and effectiveness of the occupational health service.

Developing Countries

Batawi (1981) explained that rapid industrialization may in fact intensify existing problems in developing countries. Health problems frequently associated with industrial operation include constructive respiratory disease,

irritation due to inhalation of gases and vapour, heavy metal poisoning, byssinosis, chronic bronchitis and silicosis, occupational dermatitis and cancer and a range of accident-induced disabilities (Phoon, 1983 and Batawi, 1981). As a result there is an increased demand for occupational health staff in-order to provide effective occupational health services for the labour force "who otherwise have no access to better organized health services. Jinuda (1993) and Pinnagoda (1992)" averaged that most of the developing countries seem to have started to place emphasis on promoting measures to provide suitable health services for industrial workers.

Zambia

The occupational health services in Zambia is organized by the Ministry of Labour and Social Services which administers all Government and private firms while those of the mines are administered by the Ministry of Mines.

The Ministry of Labour controls the employers in government and private industries and urges them to comply with the worker's Health Act. The Ministry of Health and other international organizations, employers and workers are supposed to work hand in hand to form a multisectoral approach to the occupational Health services. Various cadres of doctors, clinical officers, safety officers, and other chemical and engineering experts are employed by the Ministry of Labour and Social Services and the industries

to offer expert services towards the occupational health and safety. The importance of a multisectoral approach lies on its advocacy on important and pressing health issues.

Therefore in conclusion of this paragraph, the literature reviewed have shown factors which affect the knowledge, attitude and practice of nurses towards their own health promotion. In UTH, disease-prevention activities and the nurses' knowledge, attitude and practice towards their own health promotion falls in the premise of the occupational Health unit.

2.3 Goals of an Occupational Health Program

Developed countries

Fromer (1983) set forth one goal for occupational health programs - the promotion and maintenance of the highest degree of physical, social and emotional well-being of workers (nurses inclusive) in all occupations. She identified three (3) basic steps that enable a nursing program to move in this direction.

1. Full acceptance of a workable broad definition of health. Pender (1989) insists that descriptions of health as a human phenomena are needed to provide direction for health research, health-policy and health care delivery. She viewed health as an "evolving concept" which differs from individual to individual and culture to culture. Health is derived

from an old English word 'Heolth' which means being safe and sound and whole of body. Historically, physical wholeness was of major importance for acceptance in social groups with the advent of the scientific era, and the resultant increase in the rate of medical discoveries, illness came to be regarded with less disgust. Health came to be defined as "freedom from disease."

Since disease could be traced to a specific cause, often microbial, it could be diagnosed as a particular pathology. The notion that health was a disease-free state is still recognized as the definition of health. In 1974 WHO gave a Health definition which represents an ideal rather than a goal to be achieved. Definition of health have been founded focusing on stability, Actualization, family, community. However Pender (1989) defines Health as "Health is the actualization of interest and acquired human potential through goal-directed behaviour, competent self-care and satisfying relationships with others while adjustments are made as needed to maintain structural integrity and harmony with the environment."

2. The need to know and understand what nursing can contribute to the health of employees and their families by thinking in terms of groups of workers and their health needs.

3. The need to serve as a health advocate for workers in all health matters.

Zambia

Health means different things to different people. There is no clear cut demarcation on the health-illness continuum. In most developing countries, one is regarded healthy as long as they have enough strength to carry out their daily chores. Due to poor socio-economic status people may pay little or no attention to skin rashes while in Europe skin rash may mean exclusion from a social class. The goal of our occupational health service is mainly to restore health through curative service rather than preventive and promotive measures. Mortality and morbidity data which provides information on the prevalence of illness is also used to measure the level of health in a population. Hence Pender (1989) states that mortality and morbidity are really illness indexes and not health status indexes. In order to reduce the mortality and morbidity among nurses advocacy is an inevitable tool. Advocacy ensures the delivery of services like vaccinations which aids disease prevention. It is relevant to put mechanisms which would ensure advocacy in occupational health units at health-care settings in Zambia. In recent years it has been recognized that improved health should be a major goal of the development process.

2.4 Intersectoral Collaboration

Global

Intersectoral collaboration is a mechanism that ensures advocacy in institutions. Intersectoral collaboration is a process whereby "various institutional mechanisms are introduced for co-operation and co-ordination (Ebrahim and Rankin, 1988).

UNICEF/WHO Joint Committee (1981) recognized the importance of intersectoral collaboration when they said that "local health personnel interacting with officials from other agencies and with representatives of political structures and the general population are often better placed to find workable responses to local problems".

Intersectoral collaboration provides political support for intersectoral co-ordination. They have the information and national perspective needed for general policy co-ordination. It also provides technical resources in health institutions such a network, links existing institutions, relevant to health e.g Labour Organisation developing agencies like United Nations International Children's Emergency Fund (UNICEF), World Health Organisation (WHO), International Labour Organisation (ILO) and Non-governmental agencies and ministries. This network can formulate policies or propose intersectoral strategies. They can also act as pressure groups for a working course of action.

Developed countries

In Britain and many other developed countries the most important instances of popular pressure within the health sector are the struggle against the cuts in health care and other areas of public expenditure.

The thoughts in the Sub-region

Most other countries have used intersectoral collaboration to find solutions for their health problems. In Johannesburg, South Africa in 1982, a group of health workers formed an intersectoral collaboration group comprising people from different backgrounds. They called themselves "a health information group" operating in an East Rand Township. They held weekend seminars on health and safety with shop stewards from metal and Allied Workers Union. The group deals with requests from a number of unions on new government health and safety legislation. Their most tangible achievement was when a union called Commercial Catering and Allied Workers' Union of South Africa (CCAWUSA) came to them for information on maternity rights. Between them, the union and the centre drew up a draft maternity agreement. The health workers provided information to back up each demand and photocopies of articles from medical journals, to give expert weight to the arguments. CCAWUSA ended up winning the maternity rights it was seeking from one major company called the OK

Bazaar (Sanders and Carver 1986). This is an example of what a multisectoral collaboration achieved in South Africa.

2.5 Safety Committee

Developed countries

In the 1900s, the safety professionals were called the "safety engineers, or safety inspectors". This nomenclature reflects their primary function. Their main functions were to "discover and correct" unsafe machinery and conditions at work place. They went around looking for hazards and warning of dangers and investigating accidents. They also designed material-handling equipment like, cheatle forceps, for lifting bed pans out of bed pan sterilisers.

Today the National Health services (NHS) in England, the safety committee works together with the Infection Prevention and Control Programme and the Occupational Health Unit. Their main task is to motivate supervisors to educate workers, negotiate for "implementation of safer work-practices that are acceptable both to management and to the workers. They also produce hazard signs for infectious hospital waste material.

Developing countries

Most developing countries have modern hospitals with Infection Prevention and Control. Programmes. The committee consists of all the heads of the various hospital units.

Thus, the IFPC programme usually carries out the function of the safety committee while co-ordinating with the Occupational Health Unit. This co-ordination between them results in identifying and investigating infection out-breaks amongst nurses, carrying out epidemiological research in order to break the chain thereby preventing further out-breaks. This lowers the morbidity and mortality rates among nurses. Due to economic constraints it is not unusual to have the infection prevention and control programmes carrying out the functions of the environmental and safety committee while co-ordinating with occupational health unit.

Zambia

In Zambia, Kansumba (1995) stated that "establishing an active safety committee is a pre-requisite for joint management and worker efforts for better safety and healthy working conditions. The legal and social conditions for setting up such a committee varies from country to country".

2.6 Ward Environment

Developed countries

The knowledge, attitude and practice of nurses in the ward environment is very crucial towards maintaining their health. Tietjen (1997) reports that in a recent US survey, only truck drivers and labourers are reported to have higher-on-the-job accident rates than nurses. Tietjen (1997) further noted that infectious diseases continue to

be a leading cause of disease and death worldwide, and nurses are at risk of contracting these infections due to spread of infections within health facilities. This results in large part from the failure of nurses to wash their hands before and after each patient contact. The epidemic spread of blood borne and viral diseases, including hepatitis B and C and human immuno-deficiency virus (HIV) heightened the importance of working safely in a health care facility. Infection prevention strategies should focus on:-

(1) Preventing the spread of infection by cross-contamination.

(2) Protecting health care workers at all levels by providing a safer work environment.

She continued to say that nurses "are only vaguely aware of the risk they face while at work, some still believe that little can be done to protect them.

2.7 Non-compliance to Medication

Another attitude amongst nurses which could contribute to nurses' ill health is that of non-compliance to medication. Brant et al (1994) stated that "antibiotics attack bacteria in several ways, such as dissolving cell walls. But sometimes, by chance, a bacterium acquires a trait that fights back against the antibiotic making the microbe resistant to the drug". When this happens nurses do not recover so easily from their various ailments. This means that the nurses positive attitude during periods of own illness can help them to a speedy recovery if they comply

to doctors prescribed drugs. Non-compliance may lead to deterioration in health.

Zambia

In Zambia, this notion was supported by Phiri and Matanda (1994), as discussants on "problems relating to Nursing Care and professional risks, revealed that nursing care of HIV/AIDS patients was compromised because health care providers still lacked knowledge and skills in caring for HIV/AIDS patients, inadequate training facilities and literature to enable nurses keep abreast with technological changes occurring in the care of patients, they also cited cultural beliefs, customs and taboos as having a greater, stronger influence on the quality of care that was supposed to be offered, this was because patients and relatives sometimes did not co-operate. Insufficient psychosocial support to care providers affected the carers.

They continued to say that "guidelines and/or protocols were not readily available to assist nurses with a clear direction in the care of HIV/AIDS patients". Nurses can protect themselves from exposure to infectious diseases by decontaminating, cleaning, disinfection and sterilization of used nursing care equipment to render them infection-free. Nurses have vague knowledge of the seriousness of HIV, Hepatitis B and C and how these viruses are transmitted. Most nurses down-play these risks especially the longer serving nurses who prefer using short cuts in their nursing practice citing heavy work-load and shortage

of nurses as excuses. In Zambia, Nchito et al, 1996 found out that most nurses know that precautions like hand-washing and using gloves are important but do not use them regularly. It is then apparent that the practice of nurses jeopardize their health due to non-compliance to infection prevention and control guidelines and specifically the standard precautions. The standard precautions urge nurses to treat all blood, body fluids and patients as potentially infective, not to recap needles in order to prevent needle stick injuries. Nurses are urged to hand-wash before and after each patient contact and to wear gloves before handling blood and other body fluids. Different gloves can be used for different purposes e.g. utility gloves for washing instruments, and sluicing when it is unavoidable. Examination gloves may be worn while carrying out vaginal examinations and disposable gloves for rectal examination. In operating theatre, the staff should wear double gloves.

Infectious patients with active pulmonary tuberculosis should be barrier-nursed. She ended by recommending that when possible, nurses should take advantage of available immunizations especially Hepatitis B vaccine. Being vaccinated protects not only the health care worker nut also fellow workers, patients and the significant others. The nurse who is a carrier of Hepatitis B virus will infect his/her peers and patients also.

Especially the attitude of nurses towards own illness is that of marginalising the occupational health unit. In the ward when sick nurses are apt to marginalise occupational health unit. Reasons for this maginalisation range from inadequate resources to long waiting hours at the unit to leaving a skeleton staff in the ward. Another reason is that of non-compliance to medication even in our Zambian situation.

Zambia Nursing News (1998) states that non-compliance is due to a "variety of factors acting alone or in combinations of factors including social factors, mental factors. forgetfulness and physical factors including reduced strength and manual dexterity during illness. The nurse should therefore endeavor to complete her medication in order to recover and maintain good health. Therefore it is important that the nurse develops the right attitude while in the ward environment as this will greatly contribute to her maintaining her health. Libetwa et al, quoting Chongo and Msiska's study, 1996, showed that of 196 nurses who died in Zambia between 1991 - 1992, 16.8% were single nurses, 79.6% were married and that 3.6% of the deaths were due to suspected HIV/AIDS, 14% were confirmed AIDS, 28% were confirmed TB cases and 7% were suspected TB cases. Jackson and Sutton (1995) insist that employers are largely obliged to take reasonable measures against foreseeable hazards which include respiratory infections, blood-borne infections etc. But Mbewe (1984) insists that,

while on duty the nurses in the ward environment are responsible for their health and should endeavour to avoid nosocomial infections. The nurse can do this by wearing protective clothing provided by the employers as well as complying to standard precautions. This will greatly contribute to nurses maintenance of her their health.

2.8 Disease Prevention Activities

Nurses should acquire adequate knowledge, develop the right attitude and practice towards disease prevention activities in order to maintain their health. The disease prevention is defined as the process of preserving health by removing the precipitating causes and determinants of departures of good health e.g immunizing against infectious diseases this term includes primary prevention which is to reduce the incidence of disease and injury (CBoH 1997).

Developed countries

Firstly the nurse must know what health activities are contained in this disease prevention package. In England, Korean (1974) stated that it is the nurse and the doctor who should develop procedures for handling pre-employment examinations. He recommended the following procedures taking and recording weight, height, temperature, blood pressure and pulse, audio-gram, visual tests, analysis, hematocrit, white blood cell count and differentials, screening for blood sugar, serological tests for syphilis and chest-x-ray and for nurses in executive posts electro-cardiogram should also be done since their jobs are highly stressful.

Pender (1989) included reproductive health services and immunization as key preventive services that can be delivered to individuals in the USA. They both stipulated that medical follow up should be carried out for employees, including nurses, with special conditions and injuries especially those with diabetes, heart conditions and those who tested Hiv positive. They said that these should be examined periodically. The attitude and practice of the nurses should be to demand for these follow-ups and periodic exams in order to promote their health. With HIV/AIDS in the horizon, nurses who accidentally sustain needle stick injuries should go for tests after pre-test counselling. In order to prevent accidental needle stick injuries nurses should gain higher levels of knowledge towards preventing occupational exposures to HIV/AIDS and other blood borne illness so rampant in health care settings.

Lauritzen et al (1998) carried out a prospective study on health promotion in a Danish population. In summary, the study aimed at investigating health care workers interests in participating and following up results of their health checks on preventive diseases like diabetes and coronary heart disease. Results showed that "there was considerable interest in participating in health promotion coupled with health education. They also appeared willing to "make relevant life style changes". The study concluded that long term follow-up is needed to determine effects and side

effects of health checks and health talks. This study shows that with adequate motivation, nurses will participate and do respond positively to disease-prevention and health-promotion activities.

Sub-region

Gumodoka et al (1994) in their study on occupational exposure to the risk of HIV infection among Health workers in Mwanza region, in Tanzania, discussing on the knowledge of health workers on HIV transmission said that "this study has shown that most health workers generally have some idea about the most risky procedures in their work, although there is still considerable scope for improvement". They went on to say that even when protective equipment is available, it is often used inconsistently or improperly. Prick and splash incidents are common and this implies that there is an occupational risk of HIV infection among health workers in the health care work place. "It is increasingly important that health care workers know and use simple, inexpensive practices that can reduce the risk of acquiring and spreading a serious life threatening disease. It is the responsibility of all health care workers to help create a safer environment for patients and fellow health care workers". (Gumodoka et al, 1994).

Sobayo (1995) reiterated that sero conversion after a single needle stick or sharp injury involving known HIV/AIDS infected blood is 0.38%. Occupational transmission of HIV up to May 1992, worldwide, has reached a total of 59

cases. Adequate measures and prevention are necessary and should be followed. This sentiment was shared by the New York State Nurses Association who advises nurses to "decrease risk, follow the three 'Ps'" to prevention which are to use protection, take precaution, and be prepared to educate yourself on modes of HIV transmission". Also nurses are required to know the institutional policy on occupational exposure and disposal of sharps. Nurses in order to maintain good health are urged to know their rights in terms of requesting for immunization against preventable diseases they are exposed to in the health-care work place.

Zambia

In Zambia, Chisengantambu (1986) alluded to this in her study when she said that patients who do not seek information regarding procedures and treatments contribute in most cases to them being excluded from participating in their own health care.

Sobayo (1995) in her overview of strategies to minimize risk of blood borne pathogens stated that Hepatitis B (HBV) and Hepatitis C (HCV) have become increasing occupational hazards and concern to health-care workers. She said that the "risk of occupational transmission of HBV without prophylaxis may exceed 30% and suggested the administration of HBV immunization to health care workers who work in risky areas like haemodialysis unit and casualty departments. She based her suggestion on a joint working

party of the Hospital Infection Society and the Surgical Infection Study Group who reviewed the degree of risks of occupationally acquired HBV. Its report published in 1992 re-affirmed previous reports that the risk and incidence of nosocomially acquired hepatitis far exceeds that of HIV infection and that HBV is preventable with immunization. Suggesting that nurses, health can be maintained by the immunization of nurses with the Hepatitis B vaccine. The risk of hepatitis B infection following a parenteral exposure to blood is directly proportional to the probability that the blood contains HBs AGT, and dependent on the immunity status of the recipient and on the efficiency of the transmission. Without prophylaxis, the risk may exceed 30% after a single exposure by needle stick or sharp injury to e antigen-positive HBV infected blood.

Besides disease preventing activities for nurses in high risk areas, nurses as women should have certain prerogative in health care especially in areas of reproductive health care. This is due to their physiological and biological functions which makes them both recipients and givers of care. Nurses should be assertive enough to demand for these disease-preventing health packages in order to maintain their health. WHO supports the reproductive health issue when in Budapest in 1983, in a consultative meeting stipulated that all "pregnant and lactating women should be protected from exposure to anaesthetic gases and sterilizing agents as these could harm them and their

unborn babies. This means that pregnant nurses who work in operating theatres where they are exposed to anaesthetic and sterilising agents should be transferred to safer "grounds" to protect their health and those of their unborn babies.

WHO (1993) states that improving women's (nurses) reproductive health necessitates overcoming barriers. This implies understanding the extent to which women recognize illness, the extent to which illness results in health seeking behaviour, and the extent which they receive appropriate care from the health system if and when they consult a service. Nurses can maintain good health by improving their health seeking behaviour especially in preventive activities like taking pap-smear tests.

2.9 Developed Countries on Pap-Smear Test

The human papilloma virus (HPV) types 16 and 18 have been formally labelled carcinogenic to humans by an international expert panel. HPV has been identified as a major cause of cervical cancer, a global Public Health problem, which is the most common concern in women in developing countries and the 2nd most common cancer in women worldwide.

The nurses should have adequate knowledge in preventing cervical cancer. The study showed that 2000 women die in England and Wales each year from cancer of cervix which is

preventable by pap-smear test. Pap-smear test was discovered by a Greek anatomist and cytologist called George Nicholas papanicolaou (1883 - 1962).

It has significant morbidity and mortality with over half a million new cases and more than three million deaths each year. Three-quarters of these deaths occur in poor nations. Mass screening programmes can reduce the mortality rates by up to 70%, but are financially and logically impractical in many countries. The experts requested that recently developed technologies which have been developed and which might prove more practical. They included automated devices and thin-layer technology for cytological detection. Both are said to be promising, but their sensitivity specificity and cost effectiveness have yet to be determined in large independent studies.

Colposcopy was not considered cost-effective for normal screening but was declared the method of choice for following up abnormal smears. The participants agreed that HPV prophylactic and there pedis vaccines being developed in a number of countries should become the most promising long term strategy for the effective control of the disease.

Chela (1996) in her study to determine the knowledge, attitude and practice of women towards pap-smear test in Lusaka Urban, stated that, in many parts of the world,

including Zambia, there are problems pertaining to under utilization of pap-smear test facilities. This was found to be prominent in developed and developing counties. Lack of knowledge about cervical cancer as well as pap-smear itself, fear of the unknown and for fear of the results are all contributing factors to the under-utilization.

Another area of importance where the nurse can maintain her health through disease prevention is in the monthly examination of their breasts to detect any lumps, or changes in shape and size of breasts. Breast cancer occurs commonly in multiparous women, late child bearing, early menarche, breast cancer also has a family tendency. By practising and improving their attitude towards their health seeking behaviour, nurses can maintain and improve their health. But then despite all these efforts, nurses health can be interfered with through violence. Violence inflicted by the very those, whom nurses serve, the patients, the significant others, and the general public. The nurses attitude to violence is usually that of avoidance as it usually appears unexpectedly. Nurses should be aware of the role of violence on their health status. With the Aids pandemic, most bereaved parents resort to violence on the nurses when their loved ones die, sighting nurses' negligence as cause of death. The nurse usually looks on in bewilderment while nursing the inflicted injury silently and broken heartedly. This is because, fighting back would be contravening the nurses professional code of

ethics. ICN (1995) shared this view when it said that "physical intervention is controversial, as it touches on ethical and legal concerns".

2.10 Counselling Unit

Also a counselling unit should be set up to care for the nurses psychosocial health in order to reduce stress levels. Psychosocial counselling is so important now with the increased violence against nurses in the wards. The hospital management should provide security in the wards where this is most prevalent. In fact ICN (1995) insists that management must send a strong, consistent message of zero tolerance towards abuse and violence " against nurses," especially when they are on duty. This managerial stance will help maintain nurses health prevention of violation of nurses' health through violence.

The nurses attitude during periods of own illness can help them to a speedy recovery if they comply to prescribed drugs. Non-compliance may lead to deterioration in health. Non-compliance are due "to a variety of factors acting alone or in a combination of factors like social factors, mental factors, forgetfulness and physical factors including poor eye sight, reduced strength and manual dexterity during illness.

2.11 Managerial Interest In Nurses in the Ward Environment

The interest of the managers will show an attitude of concern over the health of nurses. The hospital should have a policy of reproductive health service provision for its

front line carers who are mainly female. These policies should stipulate that nurses from thirty five (35) years should take pap-smear tests once every two years. All nurses should have compulsory yearly medical exams while the food-handlers should be done on half yearly basis. All nurses who work in the renal dialysis unit should have the estimation of their blood (in case of Hepatitis B and C viruses. All nurses in renal dialysis unit should have their blood screened for Hepatitis B and C viruses.

Zambia

In Zambia, 1993 Mulenga studied the Occupational Diseases in developing countries. This study determined the factors affecting the effectiveness of occupational health service in industries. He found out that occupational health services in industries is affected by the following problems in order of priority.

(1) Lack of adequate workers Health Act.

(2) Lack of adequate trained occupational health staff.

(3) Lack of active union/workers representatives.

(4) Negative attitude of the employers.

(5) Lack of active association.

His study suggests that the mere effecting of the workers Health Act would enhance other independent variables to be effected and make the services to become more well organized. The study was about the inadequacy of the worker's Health Act focusing on industries rather than the

health care setting. His findings are highly political. Dissemination of his findings would have been difficult though not impossible.

Most of his recommendations are on long-term basis and wide in scope which could be almost unachievable. As a result, the health of the workers suffers. Thus in 1984, Zama studied factors predisposing student nurses to ill-health during training. She concluded her study by saying that "the economic difficulties of this country seem to make it increasingly difficult to maintain principles of prevention of cross-infection in the wards because of inadequate essential supplies and equipment. It is necessary to find ways and means of protecting the health of students during training once the health of the students is improved, morale will be raised and will improve on their academic and practical achievement in nursing".

The researcher did not commit herself to follow up activities especially that she is a nurse tutor teaching within the environs of the students. The study findings requires a lot of creative management which appears to have been omitted. There is a lot of room for creativity in the students environment. These studies did not focus on the participation of the students in their own health care through disease, prevention and health promotion this study wishes to fill this gap in both student activities.

2.12 Health Promotion Activities

Health promotion and disease prevention offer the only *avenues for nurses to maintain their health* in the face of all the health hazards at the health care work place. This would be answering a call to find "ways and means" of maintaining nurses health (Zama, 1984). because better health of staff should lead to a more effective and economical services (Jackson and Suttan, 1995). Maintenance of health lies in the hands of nurses themselves. The Ottawa Charter (1997) defines health promotion as the process of enabling people to increase control over and to improve their health because the world of the late 20th Century is a world of change. "Nurses should now embrace change and explore all the initiatives and creativity that embracing change offers. Nurses due to their expertise, experience and profession are expected to be models of health promoting life styles like embanking on, recreational activities like playing basket ball, netball volleyball badminton etc.

Developed countries

Health promoting life styles demand conviction and mental and moral discipline. It requires recalling all the internal resources towards the activities of healthy living. Nurses should be feeling good and looking good while rendering care. Thus exercising would definitely reduce their stress-levels, thereby maintaining good health. In Canada Legg and Fittal (1995) have standard

health promotion activities for nurses in order to maintain nurses' health. The project is called "Health promoting Hospital". It aims at promoting the health among staff, in this way nurses are seen to be emphasizing on primary health promotion for themselves rather than on treatment of illness. They embank on exercises and sensible eating.

Health promotions is seen as being proactive in nature Pender (1991) says that health promotion is based on the realization that major health gains through out the rest of the century would result more from advances in nutrition, physical fitness personal life-style, immunization, environmental modification rather than from curative medicine.

In USA, Louis Harris and associates (1983), conducted a natural survey of 1254 adults in USA, to determine people's health promotion activities. This survey showed that people engaged mostly in were avoiding to smoke in bed, using alcohol moderately, regular socialising and checking the blood pressure. Half of the respondents said they consumed adequate fibre and restricted their fat, salt and sugar intake. The health behaviours they performed least frequently was exercising strenuously, maintaining their weight within acceptable limits and wearing seat belts. In 1985, another survey was conducted by the same organization. This showed that Americans had improved in five (5) areas of health behaviour since 1983. They now control

stress levels, and avoid accidents in the home, wear seat belt and cut back on their fat intake. 28% still smoke cigarettes. The survey also showed that "the current national emphasis on prevention and health promotion had less impact on persons of lower socio-economic impact than on persons who are highly educated, have high incomes and are in management or professional positions".

This study shows the areas which focus on health promotion as any combination of health education and related organisational, environmental and economic interventions designed to support behaviour conducive to health for example - smoking and health, misuse of alcohol and drugs, nutrition physical fitness and exercise and control of stress. promotion of health can best be achieved through avoiding fatty foods and exercising. This reduces obesity. Obesity may lead to chronic diseases like diabetes and hypertension. (Gunatileke and Hammond, 1997).

Health promotion stresses on the importance of exercise and physical fitness advised on the role of internal cues before one can be mentally ready to embark on it. She cited bodily states like feeling good, feeling energetic, recognising aging and fatigue. When these cues are present, physical fitness is critical for dynamic fulfilling and productive living. All physical fitness exercises should be accompanied by individualised exercise program. Any physical program should consider the present level of

fitness of the nurse. So it is worthwhile consulting a medical doctor before embarking on a regime. Nurses should change their life styles now because regular exercising and healthy eating definitely contributes to personal health. Gunatileke and Hammond (1997) urged all policy makers to provide a network of sporting facilities of all sorts. When these are provided, nurses would take the provided opportunities to develop healthy behaviour and improved life style which should be the emphasis of every modern goal-directed nurse who hopes to enter the new millennium. Gunatileke and Hammond (1997) stressed the importance of healthy behaviour and life-styles as becoming the key determinants of health "they urged individuals to assume more control over their own primary and preventive health care than ever before. They need to have access to reliable knowledge and to appropriate technology to enable them to avoid or protect themselves from the health hazards to which they are exposed in all aspects of their lives.

2.13 Housing for Health

Another economic intervention designed to support health promotion is in the area of environmental health. Beaglehole et al (1997) gives as an overview of what environment means to us when he stated that the human environment consists of many basic elements like the air that we breathe, water, food, climate and the space available for our movement. In addition we exist in a social and spiritual environment which is of great importance for our mental and physical health. Most

diseases are either caused or influenced by environmental factors like over crowding which causes diseases like TB and epidemic meningitis.

Veil et al (1992) stressed the importance of attaining an environment that promotes health by avoiding over crowding and having food, water supply, they stipulated nine (9) features of the housing environment that affect physical and mental health of the occupants of the structure of shelter.

Seven (7) features of the housing environment that affect physical mental health of its occupants are as follows:-

(1) Structure of shelter which includes the extent to which the shelter protects the occupants from extremes of cold, noise and invasion by dust, rain, insects and rodents.
(2) The extent to which the provision of supplies is adequate from both qualitative and quantitative of view.
(3) The safety of the house.
(4) The consequences of over-crowding including house-hold accidents, air-borne infection, acute respiratory disease, pneumonia and TB and epidermic meningitis.

(5) Food safety standards, storage facilities.

(6) The cost of the house. Nature of tenure of the house, the stress caused by insecure tenure, which for tenants or squatters often includes a constant fear of eviction.

(7) Inadequacy, terraced the social needs of the occupants may have the important bearing on mental illness and psychosocial problems.

Most of the nurses home are inadequate and due to economic hardships most nurses get evicted from their homes, a major source of stress and illness. Nurses can promote their health by maintaining clear surrounding to avoid diseases like malaria, Libetwa et al (1996) stated that 6% of 196 nurses who died between 1991 and 1992 died of malaria. Prophylaxis and clean environment can reduce morbidity and mortality due to malaria. Healthy living and improved life styles can improve nurses health. Another economic intervention designed to support health promotion is in the area of environmental health.

2.14 Education and Training

Education and Training of nurses should be regarded as a very vital strategy. They play an important role in helping nurses to maintain their health. The purpose of the training is to provide nurses with knowledge and skills to carry out their duties safely and efficiently in order to maintain the goal of the organisation. Legg and Fittal

(1995) cited education and training as one of the "non-pay rewards" which enhance recruitment and retention of nurses "who supply a key component of health care". The reason for this phenomena is not too far-fetched because when nurses are trained they are empowered, through instruction to improve their quality practice and through education they acquire knowledge which would enhance their health-seeking behaviour. The blending of practice and knowledge results to improved skill and development of positive attitude to work. This in turn leads to low levels of absenteeism and which would help the UTH Management to achieve its goal of striving to provide quality care.

Developed countries

In Turkey Fisek (1981) carried out a study in which it was proved that "workers with a high level of knowledge reacted visibly to unfavourable working condition and reacted more by way of the creation of a safe and healthy environment than those with less knowledge. The same study noted that age, the number of occupational injuries, sustained have an effect on the knowledge and attitude of the workers. The study concluded that workers unaware of the importance of the occupational health and safety cannot be expected to make a significant contribution to the creation of better and more healthy working conditions. he insisted that "workers should be trained in a planned manner".

Developing countries

Nogueira (1987) revealed that "in Brazil the Ministry of Labour has established on active institute for occupational Health and Safety namely "Funda centro", which provides training in industrial medicine. Between 1979 - 1984, 15,000 professional health and safety workers received training there". For effective health education, the content material must be targeted to nurses in areas for maximum internalisation. The target groups are:-

1. Nurses working in high risk areas
2. Line-managers
3. Policy makers

Health education should cover specific problems of each work-place e.g. nurses in renal unit (haemodialysis unit) should be health educated on the modes of transmission of epidemic meningitis Tuberculosis, HIV/AIDS transmission. Hepatitis B, and Hepatitis C and A and the aetiology, pathophysiology and treatment. While all nurses are required to be health education on reproductive health, standard precautions, disease prevention and health promotion activities. This would update the nurses knowledge about health principles and make nurses aware of the possible risks of the occupation. A study conducted in Iran by Eskandari (1981) stated that the worker will be "better equipped to protect herself against the hazards and will pay due attention to safety and health matters"

In developing countries, Kansumba (1995), noted that there is inadequate training provided in occupational health training and as such the staff will be incapable of helping the nurse to maintain her health. Kansumba (1995) quoting (Shahnavaz, 1987) said that it is apparent that in many country training in occupational health and safety is not a priority for either the industrial or health sector due to financial, manpower, technology and educational material constraints. This being the case with the data base now available on the high morbidity and mortality of nurses, surely the policy makers have get to revisit this area and make required changes. Specialisation in occupational health have got to be undertaken if our nurses health is to be maintained.

Zambia

In Zambia, Kansumba (1995) concluded her study by saying that "professional association and the union representation were not very active in creating awareness among the employees concerning the worker's health and safety. These association are supposed to educate and safe guard the rights of the employees and see to it that there is minimal exposure of the employees to the hazardous environment. This suggestion if implemented would help nurses in maintaining their own health.

In order to ensure compliance, Sobayo (1994), gave the immunization strategy stated below, in relation to Hepatitis B immunization.

Strategy to Hepatitis B Immunization

All health care workers involved in direct patient care should be immunized against HBV, especially in countries of high prevalence. Each hospital should formulate its own specific immunization strategy since the decision to screen or not screen potential vaccine recipients for susceptibility to hepatitis B has financial implications.

HBV Vaccine was intended primarily for pre-exposure prophylaxis, but it has been recommended for post-exposure use for health care workers who belong to a high-risk group for whom pre-exposure administration of vaccine is recommended.

HBV vaccine in combination with hepatitis B immunoglobulin (HBIG) provides sustained protective levels of antibody and obviates the need for a second dose of HBIG in such exposures. Surgeons and other health care workers who are at high risk for HBV exposure should be immunized against HBV. Subsequent antibody levels should be checked 3-5 years following immunization.

Non-converters should be vaccinated again. If they still fail to convert they should be tested for Hepatitis B e antigen (HBeAg). If positive, they should avoid invasive procedures until they are no longer e antigen positive. Health Care Workers with antibody levels of 50 - 100 IU should receive a booster dose of Hepatitis B vaccine within one year. For those with levels of 10 - 50 IU a booster dose should be given.

2.15 Summary

In summary, literature reviewed have shown that nurses themselves have not done much in terms of maintaining their own health through improving their knowledge, attitude and practice in disease-prevention and health-promotion activities. Nurses when motivated would carry out disease-prevention and health-promotion activities in order to maintain their health. This motivation should come from the hospital management. More studies must be encouraged focusing attention on the health status of nurses who are the "key components of health care delivery. It is hoped that factors affecting the knowledge, attitude and practice of nurses towards maintaining their own health will be fully addressed.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 Study Design

This study is designed to use a descriptive survey approach. This design will elicit what nurses can do in order to maintain their health. It is hoped that the design would also elicit all the stakeholders whose role would help the nurse to keep healthy for example the role of the administration and the Occupational Health Unit.

The term "survey" is used in relation with a research that is broad explanatory or descriptive. Survey is defined as a "non-experimental type of research in which the researcher investigates a community or a group of people". This study design can be achieved in a variety of ways; by using self-administered questionnaire, by observation and conducting of Focus Group Discussion.

The descriptive study approach is preferred because it gives a good insight into the problem to be studied for the following reasons:-

(1) Data can be obtained within a short time.

(2) The data provides current information.

(3) The data provided will be empiric because the information will be obtained in the health-care setting.

(4) It has a high degree of representativeness in relation to the sample size.

Because of the reliability and validity of the data obtained, most researchers opt for this study design.

3.2 Research Setting

This study will be conducted at the University Teaching Hospital (UTH). This location is within reach of the researcher and the research assistant both of whom work at the hospital.

Being mindful of costs, this study will be cost-effective in terms of both time and money.

Another reason for this choice is because the problem under study is at the Hospital. This will facilitate injecting the research findings into practice and so this is developmental in nature.

3.3 Study Population

The study population included qualified nurses in the University Teaching hospital.

3.4 Study Units and Sample Size

Fifty qualified nurses were selected using the comprehensive list of nurses working in UTH. The sample size included a unit manager from the clinical area.

3.5 Sample Selection Method

The nurse respondents were selected by probability sampling method using the systematic random sampling technique. This method allowed for better representation, objectivity and therefore left very little room for bias.

I obtained the list of nurses in UTH which is the study population. In order to get the K^{th} interval to be used in selecting the respondents, I divided the sample-size by the study population. The first number was picked by simple random technique and from there, I picked the nurse respondents at the K^{th} intervals until I got my total sample size of 50 nurses. This will give every qualified nurse an equal and non-zero chance of being selected to participate in the research.

3.6 Data Collection Techniques and Tools

Data collection techniques was used to collect detailed information related to the variables.

No Research Assistant was used for data collection. For learning experience, the Researcher collected the data herself.

The respondents were not be coerced into participating in the research study. Anonymity was fully maintained by not putting the respondents' names on the questionnaires.

The research data collected was kept confidential, kept under lock and key so as to keep it out of reach of intruders. After collection, the data was edited in order to correct any omissions before data was coded.

Interviewing Tool

The self-administered questionnaire was used to collect data.

(1) Interview schedule is also preferred because it allows the researcher scope to pursue any questions in depth.

(2) It allows for clarifications.

The Researcher distributed questionnaires to the nurses in their respective wards. The questionnaire tool will consisted of both open-ended questions and closed-ended questions. The open-ended questions are preferred because it allows the respondents to give their opinion. The advantage of using a questionnaire is that it is simple and easy to administer. It is less time-consuming. The researcher can collect data from a widely scattered sample like UTH.

Observation

Since the interviews was done in the service areas, the researcher was also observed the nurses at work as well as the environment how actually is. The researcher was able to

note the immediate responses of nurses to prevailing situations, since it is impossible for the nurse to react in a questionnaire. All the data obtained by the observation method is valid and therefore usable because the respondents are reacting normally in the environment they have with what nursing care items they have at their disposal. Therefore relevant data will be collected with relative ease.

3.7 Study Limitations

The findings of this study will not be generalised because the sample size is not representative of the population under study. The sample size was chosen due to the limited time allocated for this study. This study will need to be replicated on a larger scale before the findings can be injected into practice or generalisations made from the findings. Time factor:- The time allocated for this study is quite short. This study is being done in partial fulfillment of the Bachelor of Science in Nursing Degree Programme. Due to the economic constraint, this study may not be financially sponsored and this has a direct bearing on the availability of stationery and typing facilities.

3.8 Pilot Study

A pilot study was be conducted two weeks before the actual study. The purposes of the pilot study was to access whether the questionnaires measured what it purports to

measure accurately - (validity). Also it is to find out the extent to which it obtains the same results each time - (reliability). It was also measured whether the questions were clearly stated or are ambiguous. The appropriateness of the questions was also measured.

The pilot study was conducted in a different location from the actual study to avoid getting pre-conceived answers. The questionnaires were adjusted and clarifications made where necessary.

The Analysis of the Pilot Study

This is a small preliminary investigation. It served as a trial of the major study and was aimed at appraising the following:-

(1) The validity of the questionnaire.
(2) The procedure for data processing and analysis.

The pilot study was designed to acquaint the researcher with problems that can be corrected in preparation for the larger research project (Treece & Treece 1977). The pilot study is meant to improve on the questionnaire by revealing any problems that respondents may face with either the instructions or the wording of the questionnaire (German & Verhanvik 1982).

The data collected and analysed was kept confidential so that the respondents in the pilot study do not influence the respondents in the main study.

The sample of the pilot study consisted of qualified nurses at the clinic. So the major characteristics of the sample are similar to those in the main study. Five nurses were chosen for the pilot study. The questionnaire was self administered to facilitate clarification of the wording of the main questionnaire

Findings from the Pilot Study

The findings of the pilot study are presented in a discussion because of its small size.

The data was handled manually by simple counting with the aid of a calculator.

Ten (10) open-ended questions received similar responses, so, these were closed. The questions were reduced from 77 to 57.

Twenty (20) irrelevant questions were deleted. Some words like Occupational Health Unit was changed to Staff Clinic.

Three (3) of the respondents felt that the Hospital Management should enforce attendance of medical examinations on a yearly basis. They also felt that the

time has come to vaccinate nurses against infectious diseases like TB, Hepatitis B and epidemic meningitis.

To institute recreation facilities in the Hospital compound so that nurses can get involved in recreation activities.

To improve and show differences between an Enrolled nurse's and a Registered nurse's salary structures.

They also felt that the Hospital service area should be well-equipped with essential nursing-care items, to enable nurses to nurse and care for their patients safely and confidently.

3.9 Ethical Considerations

The Researcher obtained a letter of permission to carry out the Research at the University Teaching Hospital from the Nursing Services Manager (Appendix 2).

Verbal permission was obtained from the respondents to participate in the study. Their privacy, confidentiality and anonymity during and after data collection, were assured.

Informed consent was obtained prior to interviewing. Names of the respondents were not recorded on the questionnaires.

3.10 Data Collecting Instrument

Data was collected using the self-administered questionnaire. This was found to be the most suitable tool for collecting the data since my respondents are all literate. Some open-ended questions in the questionnaire also need the respondents to feel free to express themselves.

Advantages of the Questionnaire

1. It reduces the researcher's influence on the respondents.
2. Guarantees the perfect anonymity and so, ensures honest responses as opposed to responses that will please the researcher.
3. The researcher can gather data from a widely scattered sample as occured in my study (Treece & Treece, 1973).
4. It is cheap to administer. It is also an easy and simple method of obtaining data.

Close-ended data can be easily tabulated (Treece & Treece, 1973).

Disadvantages of the Questionnaire

1. Extensive data has to be collected since the questionnaire is heavy.
2. Some respondents may omit to answer some questions without realising it.
3. The respondents may not understand some words used in the question.

4. The respondents may be forced to select responses that are not his/her choice but because they are there on paper.
5. The questionnaire can be used for the educated (elite) only, since they can understand the wordings.

The Pilot study was conducted at Mtendere Clinic and some adjustments were made to the questionnaire as already stipulated.

3.11 Data Analysis

Data was analyzed using both qualitative and quantitative statistical analysis with the aid of a computer. Depending on the availability, EP-INFO was used for the statistical analysis.

3.12 Dissemination of Findings

The results of this study will receive wide coverage. A workshop will be organized and all the nurses, administration, International Labour Organisation (ILO) staff, United Nations International Children Fund (UNICEF) and World Heath Organisation (WHO), Zambia Nurses Association (ZNA) and General Nursing Council staff will be requested to attend this workshop. If Chance allows, I hope to publish this study in some nursing magazine for wide readership if permission is granted to do so. A copy of the

report will be kept in the Post Basic Nursing Department of the School of Medicine, the main Library at the University of Zambia, to my sponsors, to ILO, UNICEF, WHO, ZNA and General Nursing Council offices and also in the library at the Ministry of Labour and Social Services.

3.13 RESEARCH BUDGET

ITEM AND QUANTITY	UNIT COST	TOTAL COST
PERSONAL ALLOWANCE		
LUNCH ALLOWANCE		
Research x 1	K1,200/day x 10 days	K120,000
Research Assistant x 1	K1,200/day x 10 days	K120,000
	SUBTOTAL	**K240,000**
TRAINING		
TRAINING OF RESEARCH		
Assistant x 1	K12,000/day x 2 days	K24,000
Researcher x 1	K12,000/day x 2 days	K24,000
	SUBTOTAL	**K48,000**
STATIONERY		
(a) Interview schedule (i) for 60 trained nurses 110 x 5 pages = 300 pages		
(b) Interview schedule (ii) For key informants x 11 11 x 3 pages = 33 papers		
(c) Focus group discussion 5 x 5 pages = 25 papers		
(d) Interview schedule (iv) For Occupation Health Unit staff 2 x 5 pages = 10 papers Typing paper = 200 paper Photocopying papers 20 sets = 2,000 papers		
Total = 300+33+25+200+2,000 = 2,568 papers = 5 reams approx.	K13,000/ream x 5	K65,000
Stapler and 1 box pins	K5,200	K5,200
Scientific calculator	K59,000	K59,000
Tippex 1 bottle	K4,000	K4,000
	SUBTOTAL	**K693,800**
COMMUNICATION		
Tape Recorder x 1	K110,000	K110,000
Tapes x 5	K3,000	K15,000
	SUBTOTAL	**K125,000**

Budget cont...

ITEM AND QUANTITY	UNIT COST	TOTAL COST
SECRETARIAL SERVICES		
Typing 10 pages = 2,818 pages	K2,000/page	K563,600
Photocopying 100 pages x 10	K200/page	K20,000
	SUBTOTAL	**K583,600**
Binding of reports 10 copies	K10,000/copy x 10	K100,000
Dissemination of findings of workshop expenses	K75,000/day x 1	K75,000
	SUBTOTAL	**K1,281,000**
Contingency 10%	K130,000	K130,000
	GRAND TOTAL	**K1,411,000**

Budget Justification

The researcher needed the help of an assistant who was selected from among UTH staff. This facilitated locating the nurses as well as acceptance by the nurses.

Data collection was done for two (2) days during the study and ten (10) days for the actual study bringing the number of days to twelve (12) days.

The prices of items in the budget reflect the current market rates, hence the need for contingency or miscellaneous expenses requested for. This may be used to cover for any price increase in the listed items. Workshop expenses is meant for drinks and snacks for the one day workshop which will be held to disseminate the research findings.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS:

4.1 Presentation of Findings

The data which are presented in this Research study was obtained from qualified nurses who are currently working in the University Teaching Hospital. They were chosen by Systematic Probability Random Sampling. Their mean/average age is 33.36 years. The median age is 32 years while the mode age is 26 years.

4.2 Data Analysis and Presentation

The data which was collected was each cleared by checking for completeness and then later entered on the Mastersheet, ready for analysis.

The informations and findings are presented together. This is to facilitate better and easy understanding of the Research Findings.

The findings are presented following the sequence of the questions and sections in the questionnaire where necessary, many of them are grouped together under their respective sections to give an overall picture.

The Findings of this Research have been presented in table form, to give vivid illustrations of the findings.

The Frequencies were done by simple tallying for all questions in the interview schedule/questionnaire, followed by cross-tabulation of key variables together with numerical description of tables.

Cross-tabulations were also done. These look at the relationships among and between the variables.

Data was analysed both manually and through computerisation for learning experiences.

Responses from open-ended questions were categorised, coded and later entered on the Master-sheet.

Recommendations will be derived from most of these responses since the respondents expressed themselves freely while answering the questions.

The sequencing of the tables is shown below. The respondent's knowledge, attitude and practice, were quantified by developing and using a marking key (Appendix). All responses under Knowledge, Attitude and Practice, were quantified and scored in order to ascertain their attitude and level of knowledge and practice.

SECTION A

The tables in this section deal with demographic data about the respondents.

Demographic data usually form the independent variables during cross-tabulation since the demographic data do not change easily e.g. tribe, sex, etc.

SECTION B

The tables in this section represent data about the respondents "Nursing Data."

SECTION C

The tables in this section represent data about the respondent's knowledge on health, its maintenance and exposures to injuries at the health-care work-place.

SECTION D

Tables in this section represent data about the nurses' attitude to work, and feelings about the operations of the Occupational Health Unit, feelings about health hazards at work-place, feelings about self, generally and attitude during own ill-health.

SECTION E

The tables in this section represent data about the nurses' health habits and practice in health promotion.

Section A

Demographic Data about the Sample

TABLE 1

AGE RANGE IN YEARS	FREQUENCIES	PERCENTAGE
24 - 28	12	24%
29 - 33	17	34%
34 - 38	13	26%
39 - 43	04	8%
44 - 48	03	6%
49 - 53	01	2%
TOTAL	**50**	**100%**

MARITAL STATUS	FREQUENCIES	PERCENTAGE
Married	29	58%
Single	14	28%
Widowed	4	8%
Divorced	3	6%
TOTAL	**50**	**100%**

TRIBAL ORIGIN	FREQUENCIES	PERCENTAGE
Bemba	14	28%
Ngoni	14	28%
Tonga	11	22%
Others	08	16%
Lozi	03	6%
TOTAL	**50**	**100%**

SEX	FREQUENCIES	PERCENTAGE
Female	47	94%
Male	03	6%
TOTAL	**50**	**100%**

EDUCATION LEVEL	FREQUENCIES	PERCENTAGE
Secondary College University	8 41 1	16% 82% 2%
TOTAL	**50**	**100%**

These tables show that nurses in UTH are predominantly female. The female respondents were 47 (94%) as compared to male respondents who were only 03 (6%). Majority of the respondents belong to the Bemba and Ngoni tribes, followed by Tongas.

Majority of the nurses 17(34%) are in the age-group 29-30 years, followed by those 13(26%) who are in the age-group 34-38 years, and the youngest group 24-28 years are 12 (24%).

Most of the nurse-respondents are married 29 (58%), followed by single girls who are 14 (28%). The widowed were 04 (8%), while the divorced were 03 (6%).

41 (82%) attended college and (2%) attended university, while 8 (16%) attended secondary.

TABLE 2
Nurses' Residential Area

NURSES RESIDENCE	FREQUENCIES	PERCENTAGE
Hospital compound	9	18%
Woodlands	6	12%
Munali	1	2%
Chelston	3	6%
Makeni	1	2%
Others	30	60%
TOTAL	**50**	**100%**

This table shows that majority of nurses live in high density areas as depicted by "others". Therefore, these "Others", necessitated classifying residences into low, medium and high densities.

In order to do this, the residential area had to be categorised into three major residential area - low, medium and high densities.

Low density

The table shows that 5 (38%) out of 13 nurses who live in low density residential areas, are Enrolled nurses.

(1) 5 (38%) out of 13 nurses who reside in low density residential areas are Registered nurses.

(2) 3 (6%) Registered Nurse Midwives, live in low density areas.

Medium density

8 (73%) out of 11 nurses who live in medium density areas, 2 (18%) of the 11 nurses who live in medium residential quarters are Registered nurses, and 1 (9%) of 11 nurses who live in medium density houses is a Unit Manager.

High density

14 (54%) out of 26 nurses who live in high density quarters are Enrolled nurses, compared to 8 Registered nurses who share the same neighbourhood.

TABLE 3

Residence in relation to Nurses' Ranks

RESIDENCE	NURSES' RANKS				WARD SISTER	TOTAL
	ENROLLED NURSE	ENROLLED MIDWIFE	REGISTERED NURSE	REGISTERED MIDWIFE		
Low density	5	-	5	3	-	13
Medium density	8	-	2	-	1	11
High density	14	1	8	3	-	26
TOTAL	**27(54%)**	**1(2%)**	**15(30%)**	**6(12%)**	**6(12%)**	**50**

This table shows that 8 out of 26 Enrolled Nurses live in Medium density areas while 14 live in High Density areas.

TABLE 4

Nurses Rank in relation to net-pay

	NET-PAY			
RANK	**BELOW K100,000**	**K100,000 - K150,000**	**K150,000 - K200,000**	**TOTAL**
Ward Sister	-	1	-	1
Registered Nurse/Midwife	-	6	-	6
Registered Nurse	3	1	-	14
Enrolled Nurse/Midwife	-	3	-	3
Enrolled Nurse	10	14	2	26
TOTAL	**13(26%)**	**35(70%)**	**2(4%)**	**50**

This table shows the range of net pay for the different ranks. There seems to be no difference between the ranks in salary.

SECTION B

Nursing Data

The nurse-respondents were asked to state their ranks in nursing. This table represents the respondents' professional ranks.

TABLE 5

RANKS	NUMBER	PERCENTAGE
Enrolled Nurse	26	52%
Registered Nurse	14	28%
Registered Nurse/ Midwife	6	12%
Enrolled Nurse/ Midwife	3	6%
Ward Sister	1	2%
TOTAL	**50**	**100%**

This table shows that majority of nurse-respondents in the study were Enrolled Nurses 26 (52%) followed by Registered Nurses 14 (28%) and then Registered Nurse/Midwives 6 (12%) and only one managerial staff, a Ward Sister (2%)

TABLE 6

Respondents' working areas

DEPARTMENT	NUMBERS	PERCENTAGE
Paediatrics	13	26%
Maternity	6	12%
Specialist clinic	2	4%
Medical Unit	13	26%
Surgical Unit	11	22%
Renal Dialysis Unit	2	4%
Operating Theatre	3	6%
TOTAL	**50**	**100%**

This table shows that the majority of the respondents came from the Medical Unit 13 (26%), followed by respondents in the Paediatric Unit 12 (24%), and then respondents in the Maternity Unit 6 (12%). Most Hospital Departments were represented in the study.

SECTION C

TABLE 7

KNOWLEDGE

Health Status of Respondents

HEALTH RESPONSES	FREQUENCY	PERCENTAGE
Yes	36	72%
No	14	28%
TOTAL	**50**	**100%**

This table shows the number of nurses 36 (72%) who said they are healthy. 14 (28%) acknowledged ill health.

TABLE 8

Nurses' Rank in Relation to Health Status

RANK	HEALTH STATUS		TOTAL
	YES	NO	
Ward sister	1	-	1
Registered Nurse/Midwife	5	1	6
Registered Nurse	7	7	14
Enrolled Nurse/Midwife	2	1	3
Enrolled Nurse	19	7	26
TOTAL	**34(68%)**	**16(32%)**	**50**

This table shows the believed health status of the respondents 19 out of 26 Enrolled nurses and 7 out of 14 Registered nurses believe themselves to be healthy.

TABLE 9

Health in relation to age

AGE	YES	NO	TOTAL
Below 26 years	3	2	5
26-30 years	11	3	14
31-35 years	8	3	11
36-40 years	12	4	16
Over 45 years	2	1	3
TOTAL	**37(74%)**	**13(26%)**	**50**

This table shows that the healthiest age range is between 26-30 years, 11, while below 26 years of age has the highest morbidity rate of 40%.

TABLE 10

Health in relation to Sex

SEX	YES	NO	TOTAL
Male	03	-	3
Female	34	13	47
TOTAL	**37(74%)**	**13(26%)**	**50**

x^2 = 1.53
Degrees of freedom = 2
P. value = 0.465

This table shows that 3 male nurses are healthy while 34 out of 47 female nurses claimed good health. There appears to be no statistical relationship between the two variables.

TABLE 11

Knowledge of health promotion and disease prevention activities in relation to Educational level

Knowledge in relation to Education

KNOWLEDGE	SECONDARY	COLLEGE	UNIVERSITY	TOTAL
Very good	0	4	0	4
Good	8	36	1	45
Inadequate	0	1	0	1
TOTAL	**8(16%)**	**41(82%)**	**1(2%)**	**50**

X^2 = 1.22
Degree of freedom = 4
P. value = 0.874

This table shows that majority of nurses 36 out of 45 nurses who had good knowledge, went to College. Only 4 who went to College had very good knowledge of health promotion and disease prevention activities. This is not a significant finding.

TABLE 12

Knowledge of health promotion and disease prevention activities in relation to Marital status

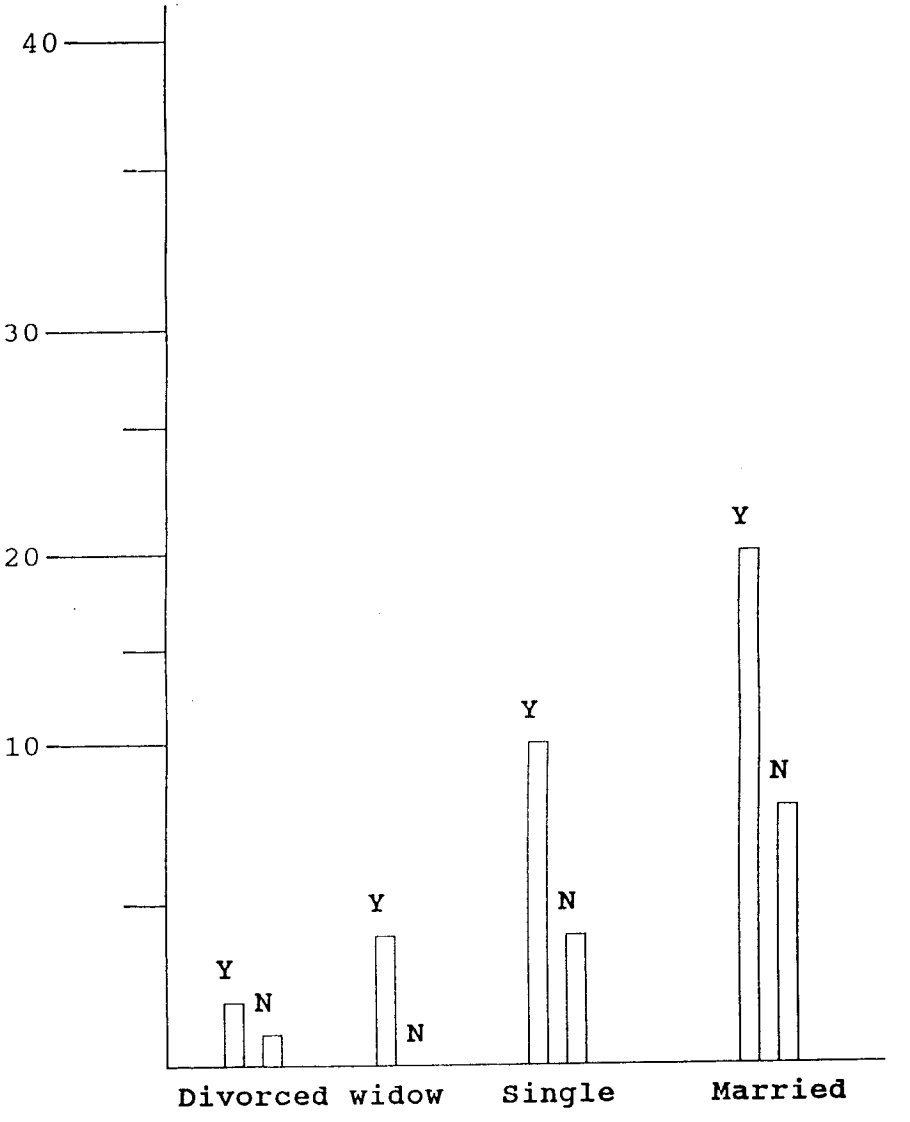
	KNOWLEDGE IN RELATION WITH MARITAL STATUS				
KNOWLEDGE	**MARRIED**	**SINGLE**	**WIDOWED**	**DIVORCES**	**TOTAL**
Very good	1	1	1	1	4
Good	28	13	2	2	45
Inadequate	0	0	1	0	1
TOTAL	**29(58%)**	**14(28%)**	**4(8%)**	**3(6%)**	**50**

x^2 = 17.16
Degree of freedom = 6
P. value = 0.00871

This table shows that 28 out of 45 nurses who had good knowledge of health promotion and disease prevention activities, are married, while 13 are single nurses. This appears to have some statistical significance with P. value at 0.000871.

FIGURE 1

This Graphic is a representation of respondents' health in relation to marital status.

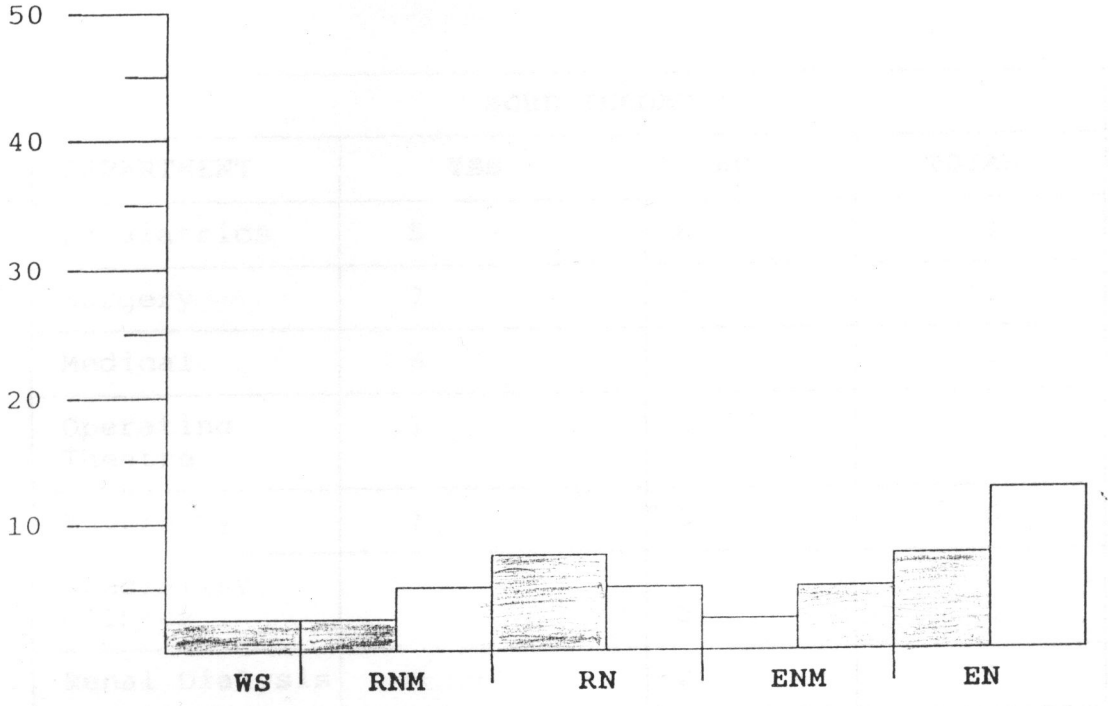


KEY
Y = Yes
N = No

This Figure shows that most married respondents 21 out of 29 claimed to be healthy followed by 10 out of 14 single ladies while 4 out of 4 widows also claimed good health. Among 3 divorces, 2 claimed good health. So, married nurses seem to be healthier than all other staff categories.

FIGURE 2

Rank of Nurses who had and did not have Sorethroat



KEY

SORETHROAT

NO SORETHROAT

WS = Ward Sister
RNM = Registered Nurse Midwife
RN = Registered Nurse
ENM = Enrolled Nurse Midwife
EN = Enrolled Nurse

This table shows that 20(40%) of respondents suffer from Sorethroat; 8 out of 14 Registered Nurses and 9 out 26 Enrolled Nurses, suffer from sorethroat.

TABLE 13

Sorethroat in relation to Department

SORE THROAT			
DEPARTMENT	**YES**	**NO**	**TOTAL**
Paediatrics	5	8	13
Surgery	7	4	11
Medical	6	7	13
Operating Theatre	1	2	3
Maternity	1	5	6
Specialist Clinics	-	2	2
Renal Dialysis	-	2	2
TOTAL	**20(40%)**	**30(60%)**	**50**

This table shows the incidence of sore throat to be high in Paediatrics, Surgery and Medical Units. 5 out of 13, 7 out of 11, 6 out of 13 suffer from Sorethroat, respectively.

TABLE 14

Morbidity caused by malaria

Malaria in relation to Residence

RESIDENCE	MALARIA		
	YES	NO	TOTAL
High density	12	14	26
Medium density	11	-	11
Low density	12	1	13
TOTAL	**35(70%)**	**15(30%)**	**50**

This table shows that malaria is prevalent in all the residential areas. Highest malaria incidence 12 in low density, 12 in high density and 11 in medium density.

TABLE 15

Morbidity caused by Tuberculosis

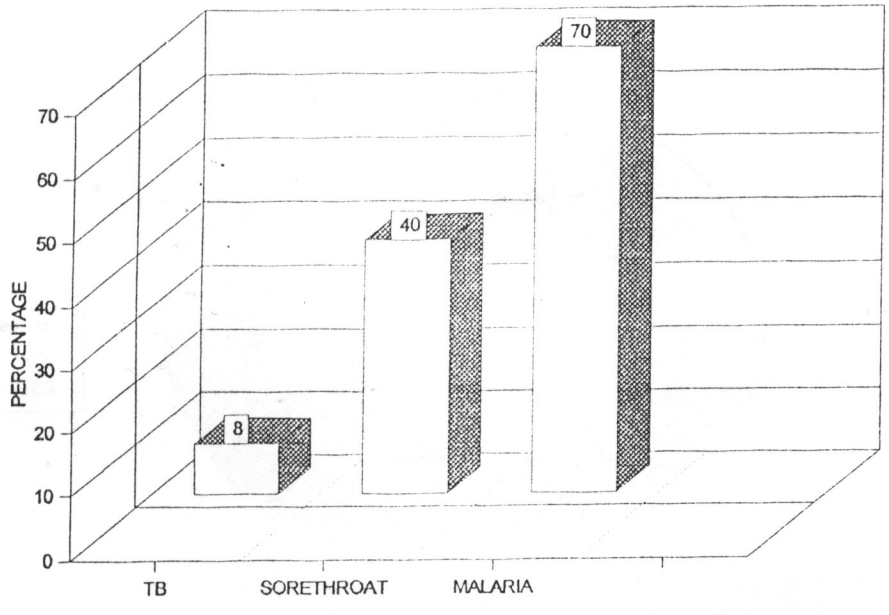
TB in relation to Department

	TUBERCULOSIS		
DEPARTMENT	**YES**	**NO**	**TOTAL**
Paediatrics	1	12	13
Medicine	2	11	13
Renal Dialysis	1	1	2
Surgery	-	11	11
Operating Theatres	-	3	3
Maternity	-	6	6
Specialist Clinics	-	2	2
TOTAL	**4(8%)**	**46(92%)**	**50**

This table shows the incidence of TB in three departments - Paediatrics 1 out ot 13, Medicine 2 out of 13, Renal Unit 1 out of 2 suffer from TB.

FIGURE 3

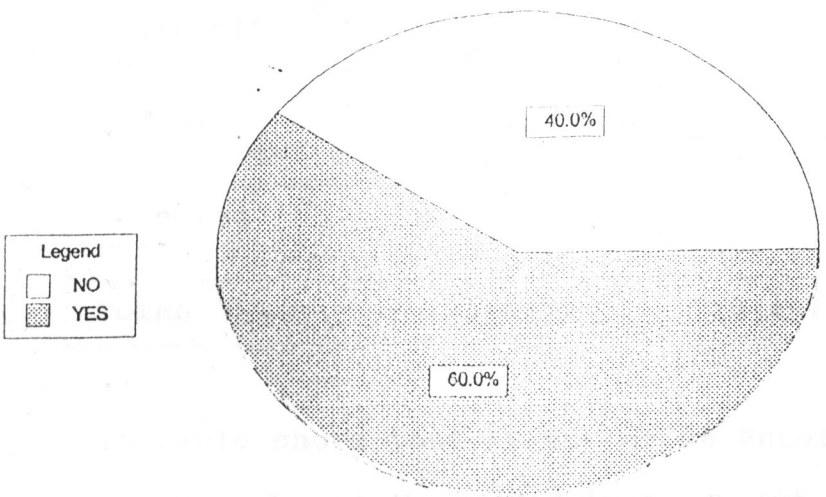
This is a Graphic representation of respondents' level of morbidity due to TB, Sorethroat and Malaria



This Bar-Chart shows the magnitude of morbidity due to TB, Sorethroat and malaria among respondents in the University Teaching Hospital.

FIGURE 4

Nurses knowledge on entitlement to Medical Examinations



This pie shows that the majority of nurses 30(60%) know that they are entitled to Medical Examinations while 20(40%) claim ignorance.

TABLE 16

Nurses' Knowledge on Entitlement to Medical Examinations

Medical Examinations in relation to Rank

NURSES' RANK	YES	NO	TOTAL
Ward Sister	1	-	1
Registered Nurse/Midwife	4	2	6
Registered Nurse	8	6	14
Enrolled Nurse/Midwife	1	2	3
Enrolled Nurse	16	10	26
TOTAL	**30(60%)**	**20(40%)**	**50**

This table shows that 16 out of 26 Enrolled nurses, 4 out of 6 Registered Nurse/Midwives, 8 out of 14 Registered nurses know that they are entitled to Medical Examinations yearly. Generally 30(60%) out of 50 respondents know of this right of undergoing annual Medical Examinations for nurses.

TABLE 17

Nurses' Observation of Infection Prevention and Control Measures in Relation to Rank

INFECTION PREVENTION AND CONTROL

RANK	ALWAYS	SOMETIMES	RARELY	TOTAL
Ward Sister	-	1	0	1
Registered Nurse/Midwife	3	3		6
Registered Nurse	6	7	1	14
Enrolled Nurse/Midwife	3	-	-	3
Enrolled Nurse	14	12	-	26
TOTAL	**26(52%)**	**23(46%)**	**1(2%)**	**50**

This table shows that more nurses observe infection prevention and control than those who do not. 26(52%) out of 50 compared to 23(46%) out of 50.

TABLE 18

Nurses who have sustained injuries with used/unused needles
Needle-stick injuries in relation to Rank

RANK	USED	UNUSED	UNKNOWN	TOTAL
Ward Sister	1	-	-	1
Registered Nurse/Midwife	3	1	2	6
Registered Nurse	11	2	1	14
Enrolled Nurse/Midwife	3			3
Enrolled Nurse	14	11	1	26
TOTAL	**32(64%)**	**14(28%)**	**4(8%)**	**50**

This table shows that all nurse respondents have sustained needle-stick injuries; majority being with used needles 32(64%).

TABLE 19

Nurses' knowledge on existence of needle-stick Injury Policy

Sharp Injury Policy in Relation to Rank

SHARP INJURY POLICY

RANK	YES	NO	TOTAL
Ward Sister	-	1	1
Registered Nurse/Midwife	2	4	6
Registered Nurse	-	14	14
Enrolled Nurse/Midwife	1	2	3
Enrolled Nurse	9	17	26
TOTAL	**12(24%)**	**38(76%)**	**50**

This table shows that most nurses are unaware of the existence of Needle-stick Injury Policy in University Teaching Hospital, although 9 out of 26 Enrolled nurses, know of its existence.

TABLE 20

Nurses' knowledge in functions of Occupational Health Unit in relation with nurses' Rank

Collaboration in relation with Rank

	COLLABORATION WITH OTHER AGENCIES		
RANK	**YES**	**NO**	**TOTAL**
Ward Sister	0	1	1
Registered Nurse/Midwife	1	5	6
Registered Nurse	1	13	14
Enrolled Nurse/Midwife	0	3	3
Enrolled Nurse	1	25	26
TOTAL	**3(6%)**	**47(94%)**	**50**

This table shows that only 3(6%) are of the view that Occupational Health Unit collaborates with other agencies as compared to 47(94%) who believe that they do not.

TABLE 21

Nurses' knowledge on preventive functions of Occupational Health Unit

RANK	YES	NO	TOTAL
Ward Sister	0	1	1
Registered Nurse/Midwife	1	5	6
Registered Nurse	3	11	14
Enrolled Nurse/Midwife	0	3	3
Enrolled Nurse	7	19	26
TOTAL	**11(22%)**	**39(78%)**	**50**

This table shows that majority 39(78%) of the nurses believe that the Occupational Health Unit does not carry out Health Preventive activities. 11(22%) out of 50, say they do, as against 39(78%) who believe they do not.

TABLE 22

Nurses' knowledge on functions of Occupational Health Unit with regards to health promotion activities

	PROMOTION OF ACTIVITIES		
RANK	**YES**	**NO**	**TOTAL**
Ward Sister	-	1	1
Registered Nurse/Midwife	1	5	6
Registered Nurse	6	8	14
Enrolled Nurse/Midwife	1	2	3
Enrolled Nurse	10	16	26
TOTAL	**18(36%)**	**32(64%)**	**50**

This table shows that most nurses, 32(64%) feel that Occupational Health Unit does not carry out promotive health activities as opposed to 18(36%) who say they do.

TABLE 23

Estimating the knowledge level regarding health maintenance of the different nurse cadres

Rank in relationship to knowledge

	LEVEL OF KNOWLEDGE			
RANK	**VERY GOOD KNOWLEDGE**	**GOOD KNOW-LEDGE**	**INADEQUATE KNOWLEDGE**	**TOTAL**
Ward Sister	-	1	-	1
Registered Nurse/ Midwife	1	4	1	6
Registered Nurse	2	12	-	14
Enrolled Nurse/ Midwife	-	3	-	3
Enrolled Nurse	1	25	-	26
TOTAL	**4(8%)**	**45(90%)**	**1**	**50**

This table shows that only 4(8%) of nurse-respondents have very good knowledge on how to maintain their health through health promotion and disease prevention activities.

SECTION D

ATTITUDE

TABLE 24

Nurse belief on whether the Occupational Health Unit is doing a good job in relation with nurses' Rank.

	PERFORMANCE OF OCCUPATIONAL HEALTH UNIT			
RANK	**ALWAYS**	**SOMETIMES**	**RARELY**	**TOTAL**
Ward Sister		1	-	1
Registered Nurse/Midwife	1	4	1	6
Registered Nurse	4	5	5	14
Enrolled Nurse/Midwife	1	2	-	3
Enrolled Nurse	3	13	10	26
TOTAL	**9(18%)**	**25(50%)**	**16(32%)**	**50**

This table shows that 25(50%) of all respondents believe that the Occupational Health Unit does good work but only sometimes, while 9(18%) believe they always work to expectations.

TABLE 25

Nurses' belief on whether the Occupational Health Unit is big enough or not

RANK	YES	NO	TOTAL
Ward Sister	-	1	1
Registered Nurse/Midwife	1	5	6
Registered Nurse	4	10	14
Enrolled Nurse/Midwife	-	3	3
Enrolled Nurse	4	22	26
TOTAL	**9(18%)**	**41(82%)**	**50**

This table shows that 41(82%) of nurse respondents feel that the occupational Health Unit is not big enough.

TABLE 26

Length of service in relation to attitude

LENGTH OF SERVICE	POSITIVE	NEGATIVE	TOTAL
Less than 6 months	1	4	5
1 - 2 years	1	11	12
3 - 4 years	2	5	7
5 years and above	5	21	26
TOTAL	**9(18%)**	**41(82%)**	**50**

This table shows that longer serving nurses have the most negative attitude, 21.

TABLE 27

Attitude of Nurses to infection prevention and control in relation to Rank

RANK	NECESSARY	UNNECESSARY	OTHERS	TOTAL
Ward Sister	1	-	-	1
Registered Nurse/Midwife	6	-	-	6
Registered Nurse	13	1	-	14
Enrolled Nurse/Midwife	3	-	-	3
Enrolled Nurse	24	1	1	26
TOTAL	**47(94%)**	**2(4%)**	**1(2%)**	**50**

This table shows that 47(94%) of all nurse-respondents feel that Infection prevention and control is important in the hospital.

TABLE 28

Respondents' attitude to work.

RANK	POSITIVE	NEGATIVE	TOTAL
Ward Sister	-	1	1
Registered Nurse/Midwife	2	4	6
Registered Nurse	1	13	14
Enrolled Nurse/Midwife	2	1	3
Enrolled Nurse	5	21	26
TOTAL	**10(20%)**	**40(80%)**	**50**

x^2 = 5.10
Degree of freedom = 5
P. value = .4033

This table shows that there is no relationship between nurses' ranks and their attitude to work.

SECTION E

PRACTICE

TABLE 29

Scoring practice for respondents

SCORE FOR PRACTICE	FREQUENCY	PERCENTAGE
Excellent practice	7	14%
Good practice	41	82%
Poor practice	2	4%
TOTAL	**50**	**100%**

This table shows that 7(14%) of nurse-respondents scored Excellent practices in disease prevention and health promotion activities, while 41(82%) scored good practices. Only 2(4%) had poor practices.

TABLE 30

Respondents' level of practice in relation to rank

	PRACTICE RELATED TO RANK			
RANK OF RESPONDENT	**EXCELLENT PRACTICE**	**GOOD PRACTICE**	**POOR PRACTICE**	**TOTAL**
Ward sister	0	1	0	1
Registered Nurse/Midwife	2	3	1	6
Registered Nurse	0	14	0	14
Enrolled Nurse/Midwife	0	2	1	3
Enrolled Nurse	5	21	-	26
TOTAL	**7(14%)**	**41(82%)**	**2(4%)**	**50**

This table shows that of 7(14%) nurses who attained Excellent Practice, 5 are Enrolled Nurses while 2 are Registered Nurse Midwives.

Of 41 who scored Good Practice, 21 are Enrolled Nurses while 14 are Registered Nurses.

This table shows that 21 of 26 Enrolled Nurses scored good practice while all the Registered Nurses 14 scored Good Practice also. 2 Registered Nurse Midwives out of 6, scored Excellent Practice while 3 scored Good Practice. But 5 out of 26 Enrolled Nurses scored Excellent Practice.

TABLE 31

Practice in relation with Marital Status

PRACTICE IN RELATION TO MARITAL STATUS					
SCORE PRACTICE	**MARRIED**	**SINGLE**	**WIDOWED**	**DIVORCED**	**TOTAL**
Excellent Practice	3	1	2	1	87
Good Practice	26	11	2	2	41
Poor Practice	0	2	0	0	2
TOTAL	**29(58%)**	**14(28%)**	**4(8%)**	**3(6%)**	**50**

x^2 = 7.44
Degree of freedom = 6
P. value = .2818

This table shows that of 41 respondents who attained Good Practice, 26 are married, 11 single and 2 each of the widowed and the divorced.

Of 7 respondents who achieved excellent practice, 3 are married while 2 are widows.

The relationship has no statistical significance.

TABLE 32

Practice in relation to Sex

PRACTICE IN RELATION TO SEX			
SCORE PRACTICE	**FEMALE**	**MALE**	**TOTAL**
Excellent Practice	6	1	7
Good Practice	39	2	41
Poor Practice	2	0	2
TOTAL	**47(94%)**	**3(6%)**	**50**

x^2 = 0.75
Degree of freedom = 2
P. value = .685

Of 41 respondents who attained Good Practice 39 are female while 2 are male. Of 7 respondents who scored Excellent Practice 6 are female while 1 is male.

This table shows no relationship statistically between these two variables. The differences in score occurred by chance.

TABLE 33

Respondents' level of practice in relation to age range

PRACTICE IN RELATION TO AGE				
RESPONDENT'S AGE	**EXCELLENT PRACTICE**	**GOOD PRACTICE**	**POOR PRACTICE**	**TOTAL**
24-28	2	10	0	12
29-33	1	16	0	17
34-38	1	11	1	13
39-43	1	3	0	4
44-48	2	0	1	3
49-51	0	1	0	1
TOTAL	**7(14%)**	**41(82%)**	**2(4%)**	**50**

The above table shows that, of 17 respondents in the age-range of 29-33, 16 scored good practices followed by age ranges 24-28 and 34-38 who both scored 10 and 11 respectively for Good Practice.

Age-range 24-28, 44-48 each scored 2 Excellent Practices while 29-33, 34-38 and 39-43 scored 1, 1 and 1 respectively.

TABLE 34

Health in relation to Exercise

	HEALTH IN RELATION TO EXERCISE		
EXERCISE	**YES**	**NO**	**TOTAL**
Always	6	1	7
Sometimes	19	5	24
Occasionally	10	9	19
TOTAL	**35(70%)**	**15(30%)**	**50**

This table shows that morbidity rate is lowest among respondents who always exercise, while morbidity is highest among respondents who exercise occasionally.

TABLE 35

Undergoing Medical Examination Yearly

MEDICAL EXAMINATIONS	FREQUENCY	PERCENTAGE
Always	5	10%
Sometimes	12	24%
Rarely	33	66%
TOTAL	**50**	**100%**

This table shows that only 5 of respondents undergo Medical Examinations yearly, always, while 33 rarely under Medical Examinations.

TABLE 36

Respondents who undergo Blood-pressure check-ups

RANK	REGULARLY	SOMETIMES	RARELY	TOTAL
Ward Sister	-	1	-	1
Registered Nurse/Midwife		5	1	6
Registered Nurse	6	5	3	14
Enrolled Nurse/Midwife	2	1	-	3
Enrolled Nurse	7	11	8	26
TOTAL	**15(30%)**	**23(46%)**	**12(24%)**	**50**

x^2 = 9.69
Degree of freedom = 10
P. value = 0.468

This table shows that most Registered Nurses 6 out of 14, check their blood pressure regularly, while most Enrolled Nurses 11 out of 26, check their blood pressure sometimes. On the whole, 15(30%) out of 50 respondents check their blood pressures regularly while 23(46%) out of 50 check their blood pressures sometimes, and this does not significantly have any relationship to the nurses' ranks.

TABLE 37

Pap-smear Tests

PAP-SMEAR TEST	FREQUENCY	PERCENTAGE
Yes	5	10%
No	45	90%
TOTAL	**50**	**100%**

This table shows that only 5(10%) of respondents have undergone pap-smear tests while 45(90%) have not undergone pap-smear.

TABLE 38

Rank in relation to practice

RANK	EXCELLENT PRACTICE	GOOD PRACTICE	POOR PRACTICE	TOTAL
Ward Sister	-	1	-	1
Registered Nurse/Midwife	2	3	1	6
Registered Nurse	-	14	-	14
Enrolled Nurse/Midwife	-	2	1	3
Enrolled Nurse	5	21	0	26
TOTAL	**7(14%)**	**41(82%)**	**2(4%)**	**50**

This table shows that 2 Registered Nurse/Midwives and 5 Enrolled Nurses, totalling 7(14%) of total respondents, practice health promotion and disease prevention activities.

TABLE 39

Rank in relation with the use of soap

RANK	**COME WITH OWN SOAP**	**USE AVAIL-ABLE ANTISEPTIC**		**TOTAL**
Ward Sister	1			1
Registered Nurse/Midwife	6	0	0	6
Registered Nurse	9	5		14
Enrolled Nurse/Midwife	-	3	-	3
Enrolled Nurse	6	17	3	26
TOTAL	**22(44%)**	**25(50%)**	**3(6%)**	**50**

This table shows that 22(44%) out of 50 nurses come to work with own soap for hand-washing.

4.3 Discussion and Interpretation of Findings

The main objectives of this study was to assess and describe how nurses can keep healthy by establishing the levels of their knowledge, attitude and practice, and what they actually do in real life situations in health promotion and disease prevention practices and activities.

4.4 Characteristics of the Sample

(Table 1) is the Demographic data about the sample.

The demographic data shows that the sample unit comprises of 50 qualified nurses of different categories. These caterogies consist of 26(52%) Enrolled nurses, 14(28%) Registered nurses, 6(12%) Registered nurse/midwives, 3(6%) Enrolled nurse/midwives and 1(2%) Ward Sisters. Their ages ranged from 24 - 53 years. Of the total sample, 29(58%) are married, 14(28%) are single, 4(8%) are widows and 3(6%) are divorced. All the major tribes are represented in the sample and there were 47 female as compared to 3 male nurses. All the hospital departments were also represented. So, the sample unit consists of all the characteristics of the study population.

(Table 4) shows that majority of the nurse respondents 35(70%) have a net-pay of between K100,000 - K150,000. 13(26%) receive below K100,000 net pay. Only 2, and these are Enrolled nurses, have a net pay of K150,000 - K200,000.

The study did not establish whether the senior nurses are paying off their loans or not. But when nurses were asked about the pay structure, they said that whether loan or no loan, the fact is that there is very little or no difference between the salaries of the Enrolled and Registered nurses. The salary structure as it is, puts all nurses below the poverty datum line.

This, in itself, demotivates the senior nurses. This demotivation leads to conflict between the nurses. This conflict leads to stress and stress leads to diseases like hypertension, blood pressure, gastric ulcers. Rees L.W. (1981) states that prolonged stress, as occurs in the nursing profession, may tax one's capacity to adjust to such an extent that behavioural or bodily changes takes place and may lead to development of disease, which may be physical, psychiatric or psychosomatic. At the same time, he acknowledges that "stress is a part of normal experience and in moderation, can serve a useful purpose by promoting arousal and enhancing effort and alertness, helping a person to maintain high standards of work and behaviour. In this study, stress can stimulate the enrolled nurses to work harder, to maintain high standards of work and behaviour, while it demotivates the Registered nurses who it appears are not appreciated for their academic and professional achievements.

Due to the low salary structure of nurses, nurses belong to low socio-economic class.

Pender J, 1987 states that there is a relationship between low socio-economic class and pathological stress. Firstly, individuals who have coping difficulties suffer from financial disorder and distress. As a result, they maintain a lower class status, which makes them have a low esteem of themselves. People with low esteem tend to have negative attitude as this study shows.

When nurses were asked what they feel about themselves, 24(48%) responded negatively. A nurse who feels negative about herself, will lack self-confidence at work. A nurse with no self-confidence, is an accident-prone nurse, as she also tends to be clumsy in handling nursing care equipment, especially needles, leading to sharp injuries, hence causing ill-health among nurses.

ICN (1985) states that the self-image of nurses is often very low, and that, nurses have a low opinion of their abilities in interdisciplinary activities; that nurses have not been encouraged to be vocal, early in their careers, that the traditional male/female roles are deeply embedded in many cultures; so it is difficult to speak up.

ICN (1985) has put forward steps to change this feeling of low esteem by raising the consciousness levels of women by conducting "Assertiveness Training" (as opposed to negative aggression which is counter productive) suggestions put forward are changes in teaching methods which would promote more independent and critical thinking and judgements in students; lecturers must utilise the problem-solving and class presentations, discussions, role-playing approaches to build up confidence in nurses. Nurses should aim at looking good and feeling good at all times as these qualities portray the confident nurse.

The sample consisted of fifty (50) nurses of different ranks (Table 5), who work in different departments (depts.) of the hospital. (Table 6) shows that of these, 13(26%) are from Paediatric department, another 13(26%) are from Medical department, 11(22%) are from Surgical Unit, 6(12%) are from the Maternity unit, 3(6%) are from Operating Theatre department, while 2(4%) are from the Specialist Clinics. A unit Manager is also inclusive among the respondents. All hospital departments are represented in the study.

3(6%) of the respondents are male, while 47(94%) are female. The age range is between 24-53 years. The average/mean age of the sample is 33 years; their median age is 32 years, while the age mode is 36 years. Majority of the nurses 17(34%) are in the age range of 29-33 years,

followed by those who are in the age-range of 34-38 years 13(26%). The youngest age-range is 24-28 years 12(24%). 29(58%) of the respondents are married. 14(28%) are single 4(8%) are widowed while 3(6%) are divorced.

41(82%) attended college, 1(2%) has university education. All the nurses are Christians, but belong to different denominations. Most are Catholics, followed by United Church of Zambia. Majority have served for more than one year.

Most of the nurse respondents 26(52%) live in high density areas. 14 are Enrolled nurses, while 8 are Registered nurses. 13 out of 26 nurses who live in high density area are married while 10 are single. 2 are divorced, 1(2%) is a widow.

An equal number of Registered nurses and Enrolled nurses live in the prestigious low density neighbourhood. 10(76%) are married while 2 are single and 1 is a widow.

11 nurses live in the medium density area. 8 are Enrolled nurses while 2 are Registered nurses. 6 are married.

From this, it can be deduced that the nurses' ranks do not significantly affect their residential areas. It appears that the spouses social status plays a more deciding factor.

Knowledge of Nurses about Health and Disease-Prevention Activities

Section C of the questionnaire had questions that would aid in determining the basic knowledge and concepts that nurses possess about health. (Appendix 2).

Findings show that all the nurses who participated in the study had good knowledge about what health means to them.

(Table 7) shows that 36(72%) of the nurses responded positively to being healthy while 14(28%) responded negatively. (Table 8) illustrates the nurse-respondents' answers according to their ranks.

When their health status was ranked in relation to their age-range, it was noted that the healthiest age-range is between 26-30 years.

When their health was ranked in relation to sex, findings show that all the male respondents 3(6%) are healthy. This finding must have occurred by chance since there is no statistical relationship between the two variables. The P. value is 0.465 (Table 10).

(Table 11) shows that all respondents 4(8%) who went to college, have very good knowledge while 36 had good knowledge. It is evident that going to college does not significantly affect having good knowledge on health and disease prevention activities.

When health was ranked in relation to the tribes, findings show that 3 out of 4 respondents who had very good knowledge on health and disease prevention activities, are Ngonis, while 13 of 45 respondents who demonstrated good knowledge are Bembas, 10 are Tongas and 11 are Ngonis. This finding must have occurred by chance since there is no statistical relationship between the two variables.

Different people view health differently. For some cultures, as long as they have enough energy and strength to go about their daily chores, despite minor ailments, they are healthy. Some cultures ignore skin rash due to socio-economic burden while in some societies, skin rash warrants exclusion from social gatherings. Therefore, nurses coming from diverse cultures are bound to have different attitudes to their interpretation of health. Most nurses feel that as long as they can work, they will go to work. Nurses must realise the change in the trend of nursing practice. Infection prevention and control has shown that some diseases are transmissible to patients, therefore, nurses must consider this option primarily and must know that "Hospitals shall do the sick no more harm".

(Table 12) ranks knowledge in relation to marital status. Findings show that 28 of 45 nurses who had good knowledge of disease prevention and health promotion activities, are

married while 13 are single. (Figure 1) shows that 21 out of 29 nurses who claim good health are married nurses. This finding has statistical significance with P. value at 0.00871.

When asked whether they are healthy, 14 single nurse-respondents also said they are healthy.

Marriage is usually associated with better socio-economic status since they eat and live better lives economically and socially, so they tend to be healthier generally. Good nutrition promotes better immune status of individuals.

When asked on knowledge of diseases they suffer from or have suffered from since 2 years, the finding is that 20(40%) of respondents have suffered from sorethroat (Figure 2) while (Table 13) shows that, 5 out of 13 nurse-respondents from Paediatrics, 7 out of 11 from Surgery and 6 out of 13 from Medical Unit and 1 from the Operating Theatre department, suffer from sorethroat.

Sorethroats in nurses may be exogenous i.e. caused by micro-organisms from the environment or indigenous from the individual person. These micro-organisms can be bacteria, e.g. *Streptococcus pyogenes, candida albicans* or viruses. It can also be due to allergic reactions. These causative organisms are transmissible to patients and may lead to

nosocomial infections and prolonged hospital stay and consequent escalation of hospital costs, especially with the cost-sharing measures in place.

Nurses could have contracted these infections from the environment in the health care work-place or even through their interactions with peers with whom they share communal teacups. This finding should be investigated by throat swabbing, to identify the causative organisms before instituting treatment with sensitive antibiotics to prevent development of resistant strains which occurs through blind treatment with antibiotics. Further, misuse of antibiotics lower the immune status of the nurse, exposing her/him to ill-health.

Sorethroats can be complicated by pyelonephritis, a chronic condition which may lead to uraemia, coma and death. Care must be taken to protect nurses from ill-health by health-educating them on the seriousness and severity of complications of sorethroats.

When asked if they go to work when they are ill with sore-throats, they answered affirmatively "due to shortage of staff". Most times they are unable to leave the ward because there is no other nurse there.

While the nurse continues to work with her ailment, poor appetite, poor nutrition and poor pay, her immune status continues to dwindle, and so, her health deteriorates, since she does not attend the Occupational Health Unit as often as she should due to acute staff shortage in the wards.

Their infections are, therefore, not investigated since no disease-prevention measures have been put in place.

Findings also show that 35(70%) of nurses suffer from malaria (Table 14). It also shows that all 12 live in high and low density neighbourhoods while 11(22%) live in medium density areas suffer from malaria. Since all residential areas are affected, nurses need to be health educated on malaria-prevention prophylactically and by the use of insecticides.

The environmental health department could spray staff homes periodically to keep morbidity low due to malaria. Malaria can be complicated by chronic liver diseases. Up to now, this disease prevention activity is not carried out by the Environmental Health staff.

Nurses should also be health-educated on how to prevent malaria by cutting grass around their home-environment and maintaining them as low as possible. They should be taught that mosquitoes seek refuge among grown grass-blades so

that the wind will not be able to blow them away. This health education can be organised and carried out by the environmental health staff in whose specialty area this falls under.

The study also shows that 4(8%) of respondents suffer from Tuberculosis, 1 out of 13 respondents in Paediatric department and 2 out of 13 respondents in Medical Unit, and 1 out of 2 respondents in renal dialysis unit (Table 15).

Tuberculosis can be both opportunistic and nosocomial infection. Nurses have expressed the wish to be immunised against chronic diseases like TB, hepatitis B and epidemic meningitis. To-date, there is no immunisation scheme for nurses in place.

The change in disease patterns should be accompanied by change in the trends in nursing practice and care of the carers. Nurses should be immunised against preventable diseases like TB especially when they work in medical wards and paediatrics where the occupational exposure to TB is quite high, since TB can be spread through aerosol (droplet infection).

Usually, diagnosis of patients being queried for TB takes a long time by which time nurses have already contracted the unrelenting Tuberculous infection.

Therefore, nurses in UTH face a double trap of contracting infections in the wards due to lack of immunisation scheme, and poor pay-poor nutrition-low immunity syndrome.

Immunisation against these preventable diseases like TB, Hepatitis B and epidermic meningitis caused by Neisseria meningitidis can be facilitated by collaboration with Donor Agencies like WHO and UNICEF. Surely, time has come to say 'no' to dead heroes and heroines.

Zama T.M. (1984) noted that nurses are subjected to medical examinations as a pre-requisite for joining the Civil Service. When asked about their knowledge to entitlement to medical examinations they responded to having had "first-appointment" medical examinations.

But findings show that 30(60%) of nurse respondents know that they are entitled to medical examinations while 20(40%) claim ignorance (Figure 4). By rank, 4 out of 6 Registered Midwives, 16 out of 26 Enrolled nurses, 8 out of 14 Registered nurses and 1 out of 3 Enrolled nurse Midwives, know of their right to annual medical examinations (Table 16).

When asked whether they are reminded to go for medical examinations, 14(28%) of nurse-respondents said they are reminded to go for medical examinations while 36(72%) responded negatively.

Of those who were reminded, only 2 nurses went for medical examinations yearly. Six went sometimes while another 6 only went occasionally.

Of those who were not reminded, 2 out of 36 went for medical examinations regularly, 8 went sometimes while 26 went only occasionally.

This study has found out that trained nurses do not take medical examinations seriously. This is happening at a time when nurses should take advantage of medical technology, and new trends in nursing practice. As nurses, they should know the role of medical examinations in maintaining their health. Medical examinations are important in identifying diseases in their pre-pathogenesis period and, therefore, facilitate early diagnosis and treatment of disease conditions.

In the observation of Infection Prevention and Control measures, (Table 17) shows that 26(52%) out of the total respondents, observe Infection, Prevention and Control measures, always, while 23(46%) sometimes do, and only 1(2%) rarely observe Infection Control.

In total, (Table 18) 32(64%) out of 50(100%) respondents, sustained injuries with used needles, while 14(28%), sustained injuries with unused needles.

(Table 19) shows that most nurses are also unaware of the existence of needlestick injury policy in UTH. Nine (9) out of 26 Enrolled nurses know about the policy while 17 out of 26 do not. Fourteen (14) of the Registered nurses also are unaware of the existence of the policy.

Findings also show that, of the 12 who are not aware of the needlestick injuries, 10 sustained needlestick injuries. Thirty-six out of 38 respondents who are aware of the needle-stick injury policy, still sustained needlestick injuries.

This shows that, sustaining needlestick injuries is affected by unawareness of the policy since most nurses who are unaware of the policy, actually sustained needlestick injuries. However, this occurrence does not have any statistical significance. (P. value = 0.632). It appears that other factors like carelessness, clumsiness, restlessness, of the patient, careless sharp disposal technique, also enhance chances of needlestick injuries.

So, this study conclusively says that improving the levels of knowledge in handling and careful control of patients during injections and proper sharp disposal, could significantly affect the incidences of needle-stick injuries by reducing the gap-practice. When this is done, nurses' health will be maintained since the implications of needlestick injuries are common knowledge in health care settings

in terms of transmission of the unrelenting HIV/AIDS and Hepatitis B infections. This supports a multi-centre study on "Risks of occupational exposure for nurse midwives and TBAS done in Uganda and Zambia by Mmiro *et al* and Kanyama *et al* in 1992. This study also supports another study carried out in Mwanza region of Tanzania by Gumodoka *et al* in 1994.

Besides sharp injuries, nurses are also exposed to injuries from medical equipment 36(72%) and violence 22(44%) and burns 5(10%) responses.

Literature reviewed pointed out the stance of International Council of Nurses against violence to nurses. Their stance is that the nursing management should take a no-tolerance stance against relatives and patients who inflict injuries to nurses while on duty.

The injuries from medical equipment can be reduced by preventive maintenance carried out by the Hospital Medical Equipment department. Due to advancement in medical technology, the Medical Equipment also are supposed to demonstrate the operations of new medical equipment before they are put in use. Sterilising equipment which form the source of scalds and burns amongst nurses, should be demonstrated to nurses.

The findings of (Table 20) illustrate that, majority of the nurse respondents are convinced that our Occupational Health Unit do not collaborate with other agencies. The result of this collaboration would have been seen in the initiation of a vaccination scheme against preventable communicable chronic diseases like TB and Hepatitis B for nurses.

Therefore, we can conclusively say that the Occupational Health Unit does not collaborate with other agencies. Hence, the high morbidity among nurses in the University Teaching Hospital.

On whether the Occupational Health Unit carries out preventive functions, (Table 21), the findings in Table 32 show that the majority of the nurses 39(78%) believe that they do not.

(Table 22) shows that 32(64%) of nurse-respondents say that the Occupational Health Unit does not carry out disease prevention and health promotion activities.

The nurses in the Occupational Health Unit should be creative and innovative. Creativity and innovation can be demonstrated by initiating self-help groups among the nurses. Richardson A (1991) stated that health promotion and disease prevention activities could largely be effected by people taking control over their own health care.

According to literature reviewed, with dwindling resources, nurses have to take on this initiative.

Self-help groups can take on "every aspect of health-mental, social and physical well-being".

The groups under a charismatic leadership can generate enthusiasm among the nurses. It is this enthusiasm which will empower nurses to help at every stage of care - from prevention to day-to-day health care and rehabilitation which can be both physical and emotional rehabilitation.

This approach will be holistic as self-help groups can see their peers as individuals with wide-ranging needs for care and attention, especially during periods of hospitalisation when most nurses feel a sense of dejection, desolation and isolation.

The self-help groups can conduct Health-education on varied subjects, contact agencies to start immunisation programmes for nurses. In short, nurses can advocate for nurses through self-help groups which can also fund-raise for various needs facing University Teaching Hospital nurses. Thus, the groups can deal with both social and psychological health needs of their peers. Therefore, the Occupation Health Unit can fulfil all those great

expectations ranging from collaboration - disease-prevention and health promotion activities which will all add up to help maintain the health of the nurse.

(Table 23) shows that respondents were scored according to correct responses to 22 questions, which tested their knowledge on disease prevention, health promotion activities and risks that could jeopardise nurses' health, at the work place.

The cut-off points were 1-7 for Inadequate knowledge,
8-14 for Good knowledge,
15-22 for Very good knowledge.

The same Table illustrates the respondents' level of knowledge according to ranks.

This shows that, besides 1 Registered Nurse Midwife whose knowledge was inadequate, the 49(98%) of respondents scored Very good and Good knowledge on health maintenance. This supports a study done in Tanzania by Gumodoka *et al* (1994) in which 71% of the questions were answered correctly and the medical staff had the highest knowledge score.

But the problem is putting the knowledge into an effective use which, according to the foregoing analysis, is actually lacking. Therefore, hypothesis numbers one, two and three, are supported.

SECTION D

Attitude

This section of the questionnaire contains questions which facilitated in determining the respondents' attitude to disease-prevention and health promotion activities and attitude, during ill-health.

Nurses are so busy caring for the welfare of people that they tend to forget that they themselves are human beings who have needs to be met. Their unmet needs can lead to suffering and loss of direction in their lives.

Attitude is the inner feeling that is expressed outside of us. Generally, nurses have been associated with bad attitude, while rendering care. Attitude is influenced by all the stresses of our lives and nurses do have more than their fair share of life's stresses, which are, obviously, bound to affect them. Most of the time, these inner feelings surface when the nurse is under stress from various causes, which can be physical, physiological, psychological, and social factors.

Religious Beliefs

Religion affects people's attitude and so, was ranked in relation to how nurses' attitude is affected by their religious believes.

The study shows that 3 Seventh Day Adventist nurses have positive attitudes while 42(84%) of all other religions have negative attitude. There is no statistical relationship between these two variables. Other factors also affect the nurses' attitudes e.g. low socio-economic status, etc.

Residential Areas

The study also shows that there is no relationship between residential areas and the nurses' attitude towards disease prevention and health promotion activities and practices.

Nurses spend most of their time interacting with peers and patients and people where they reside. In the course of these interactions, they develop relationships. These relationships are bound to influence their attitudes and behaviour.

Performance of Occupational Health Unit

(Table 24) shows the respondents' feelings towards the performance of the Occupational Health Unit. 9(18%) of respondents feel they always perform to expectations, while 25(50%) feel they do so only sometimes, while 16(32%) feel they rarely perform according to expectations.

(Table 25) shows that majority of the nurses feel that the Occupational Health Unit is not big enough for the number of clients and patients it attends to. 41(82%) of

respondents say that the Occupational Health Unit is too small for such a big hospital like the University Teaching Hospital. The size of the Occupational Health Unit makes most nurses to marginalise its use since they have to wait long hours before being seen due to long queues that the size of the unit entails.

As a result, (Table 26) shows that the longer serving nurses, have the most negative attitude to the use of the Staff Clinic.

Necessity of Infection Prevention and Control

(Table 27) shows that 47(94%) of respondents feel this programme is necessary in big hospitals like ours while 2(4%) said it is unnecessary since there are meagre resources to effect the programme adequately.

(Table 28) shows that when respondents were ranked in terms of their attitude to work, 10(20%) had positive attitude to work while 40(80%) had negative attitude to work.

Nurses' attitude to work is dependent on so many other factors which have already been discussed. Solutions to these factors have to be sought in order to improve the nurses' attitude to work.

In terms of practice, (Table 29) shows that nurse-respondents were scored according to their level of practice in disease prevention and health promotion activities against pre-set questions.

(Table 30) shows that 7(14%) respondents scored Excellent Practice while 41(82%) scored Good Practice. This shows that nurses' practice levels are acceptable. All that the nurses need to maintain their health is adequate and regular provision of medical and nursing care items for the maintenance of basic hygiene practices and institution of recreation activities and initiation of disease prevention activities for the carer of the sick.

The nursing profession is undergoing a lot of change which present the professionals with challenges. These challenges have to be met through efficiency and quality health-care. The nurses who comprise a large component of recipients of care at the Occupational Health Unit, are demanding greater technological skills for the Occupational Health Unit staff. Most of them are not specialised in this area. There is need for specialisation in Occupational Health Nursing. Most of the nurses are learning by experience. A formal training is more apt than leaving the staff to learn by chance. Formal training will definitely ease some of the pain of learning by experience and lessen the mistakes of trial and error approach.

Attitude during own illness

Guilt about leaving the ward to go and see a doctor

4(8%) nurse-respondents feel guilty always about leaving the ward to go and see a doctor at the Occupational Health Unit, when they are sick. 30(60%) feel guilty sometimes, while 16(32%) never feel guilty.

The nurses' attitude towards themselves during own illness, is very important. The nurse should not feel guilty about going to see a doctor when they are sick, especially as the illness or disease may be transmissible to patients and peers. Therefore, going to see a doctor, would actually help in cutting down on nosocomial infections, thereby keeping sickness levels low among nurses.

Fear of Nosocomial Infection

Most nurses are afraid of acquiring hospital infections. This fear is actually detrimental to the hospital as the nurses' work out-put will be poor if they are afraid. Fear will hamper the hospital from achieving its mission statement of provision of quality care.

Also fear can subject the nurse to injuries like needle-stick injuries. Therefore, there is the need to equip the service areas adequately so nurses can nurse carefully and confidentialy, without fear. This view also supported by the research done in Mwanza region of Tanzania by Gumodika *et al* in 1994.

During the course of learning by experience, the staff tend to develop a "feeling of inadequacy and frustration". This could be ameliorated by sending some nurses for further training in Occupational Health Nursing. All these bottled up feelings surface in the nurses; attitudes. Hence, most of the nurses marginalise the Occupational Health Unit.

Length of service in relation to attitude

The study also shows 11(22%) of nurse-respondents with 1-2 years nursing experience, have negative attitude to disease prevention and health promotion activities, which help to maintain their health. This is because they are newly qualified nurses and are still gaining experience in the wards.

On the other hand, nurse-respondents 21(42%) who have served for over 5 years, also have negative attitude. This is because they use short-cuts in carrying out nursing procedures. They put themselves at risk of exposure to occupational injuries.

General attitude in relation to rank

Like in knowledge, respondents were scored according to correct responses to 22 questions which tested their attitude towards disease prevention and health promotion activities.

The cut-off points were: 1-11 - negative attitude.

12-22 - positive attitude.

10(20%) of respondents have positive attitude to disease prevention and health promotion activities, which help to maintain nurses' health.

Taking action to avoid chronic illnesses/diseases

Nurse-respondents were asked if the fear of nosocomial infections could instigate them into requesting for some vaccination against some diseases; 48(96%) answered affirmatively while 2(4%) answered negatively.

This is in line with Pender J (1987) who states that:

> "Individuals estimated probability that they will encounter a specific health problem constitutes perceived susceptibility".

In the case of nurses who have been nursing these patients, they have seen the severity or seriousness of the disease. The nurses have also seen the threats posed by the disease, so, the likelihood of them taking recommended preventive health action, is very much there.

SECTION E

Practices

Questions in Section E of the questionnaire, facilitate ascertaining the respondents' practices towards disease prevention and health promotion activities.

Generally, (Table 30) shows that 7(14%) scored excellent practice, 41(82%) scored good practice while only 2(4%) scored poor practice.

These findings were arrived at by the use of a Marking Key, to grade each respondent on questions on Practices.

Afterwards, the responses of each respondent was scored against a pre-set scale of cut-off points as shown in the chapter on Research Methodology. A Marking Key was developed and used for the purpose.

It was noted that 21 out of 26 Enrolled nurses scored Good Practice while 14 of Registered nurses, also scored Good Practice. 3 out of 6 Registered Nurse Midwives also attained Good Practice. 5 out of 26 Enrolled Nurses, scored Excellent Practice.

Generally, it can, therefore, be assumed that there are other factors that contribute to nurses' ill-health. This could be life-style outside of UTH environs. The salary

structure also puts the nurses among the low-income group. This could be the main source of their bad attitude since their earning power is so low, and, naturally, they cannot afford regular balanced diet.

Imbalance nutrition is a pathological state, resulting from a disproportion among essential nutrients, with or without the absolute deficiency of any nutrient as determined by the requirements of a balanced diet (Jellife D.B. 1966). Imbalance nutrition leads to low immune status and this could cause high morbidity among nurses.

Nurses, through their training, are well versed in the importance of good balanced nutrition. All they need is to be accorded the buying power, especially in these days of escalating food prices. Low immune status and working in hazardous work environment, is a truly bad combination as nurses are open to nosocomial infections.

(Table 31) shows that out of 41 respondents who have good practice 26 are married, compared to 11(22%) single respondents. However, there is no statistical significance in this finding.

Married respondents have better nutrition due to their better economic status. They are more settled in mind and can afford to have better practice. Married nurses have an added advantage over their single peers because, they have

their families' social support. Pender (1987) "The Primary function of a family social support groups, are to augment personal strengths of members and promote achievement of goals", through encouragement and cheering at achievements earned.

Table 33 shows that nurses in the age group 29-33, comprise the majority of the sample 17(34%). This age-range also scored the highest on the scale for Good Practice (24-28) and (44-48) age-range scored 2 Excellent Practices, while the age range of (29-33), (34-38) and(39-43) had a score each for Excellent Practice.

The age range 24-28, scored 10 for Good Practice while 34-38 age range scored 11. These findings show that the younger nurses pay more attention to disease prevention activities than the older nurses, who tend to practice "short-cuts" in nursing procedures. Short-cuts are often risky, and this combined with poor nutrition, low immune status, nurses are bound to infect themselves through careless practices, and this will result in high sickness levels among nurses.

The age-group of 29-33 years, are receptive and more careful in their practice. Coincidentally, they also happen to be the healthiest group of nurses.

Nurses can also maintain their health through health promotion activities. Health promotion activities comprise exercising, undergoing medical examinations yearly, vaccinations, palpation of breasts for lumps, regular checking of blood pressure and undergoing pap smear tests, good nutrition, according to literature reviewed.

Cantu in Pender (1987) labels people who do not exercise as "Physically disadvantaged". Pender 1987, states that, many Americans are older physically than their chronological age" due to long-term neglect of their bodily needs and sedentary life-style. She goes on to say that "exercise programs should take into consideration, the present level of fitness and any existing health problems". In short, exercises should be done even in ill-health with due consideration of the disease.

(Table 34) shows that out of 50 nurse-respondents, 35(70%) agreed that they do some exercises, 6 always, 19 sometimes, while 10 only occasionally. When exercising was ranked in relation to Health, it was found that morbidity rate is lowest among nurse-respondents who exercise always.

Nurses should be able to exercise regularly as it makes good sense to exercise. Most experts on exercises emphasize on its importance in preventing heart diseases, increases lung function, oxygen uptake, muscle strength, general vitality and general well-being. In our elderly

nurses, exercising delays or prevents bone loss in females, which often leads to fractures. Nurses should be seen as leaders in co-ordinating exercise programmes in the communities, where they live, acting as agents for change for healthy lift-styles.

Medical Examinations

(Table 35) shows that when nurses were asked about the frequency of their undergoing medical examinations, findings are that, only 5(10%) undergo medical examinations yearly, while 12(24%) undergo medical examinations sometimes, and a staggering figure of 33(66%) undergo medical examinations rarely. Literature review stressed on the importance of medical examinations as a means of identifying diseases in their pre-pathogenesis period, aids early diagnosis and instituting early treatment and effecting complete cure.

It is worrying that 33(66%) of nurses rarely go for medical examinations. Medical examination is a preventive health behaviour, and nurses, as health professionals, ought to know this. Therefore, this study finds out that negligence of medical examinations, is as a result of differences in personal health beliefs or family backgrounds, or social groups, with which the nurse(s) interact(s) with.

Nurses working in hospitals and seeing the consequences of chronic diseases, should be in the forefront of seeking medical examination, according to the Health belief model, based on the perceived susceptibility and seriousness or severity of diseases.

If nurses do not undergo medical examinations, they are apt to have high morbidity rates. When asked if reminded to go for medical examinations, 36(72%) out of 50 answered negatively. Unit Managers should put a mechanism in place, to make them go for medical examinations.

Findings also show that 43(86%) of nurses, do not request for vaccinations against preventable conditions. Again, nurses should be seen to be in the forefront in seeking for vaccinations against Hepatitis B, TB and epidermic Meningitis, caused by *Neisseria meningitidis*.

Literature reviewed said that, clients who do not seek for care, end up being ignored, and this is exactly the case with nurses. When they are ignored, this leads to high sickness levels among nurses.

It was also found out that 17(34%) of nurses do not palpate their breasts for lumps. Nurses should be seen to be doing this as the sooner a lump is detected, the earlier therapy is started and the more chances there are of stopping a

benign tumour from progressing into malignancy. Nurses should show concern over their health, including frequent estimation of their blood pressures.

This study also shows that 12(24%) (Table 36) of nurses check their blood pressures rarely. Unlike the reason given for non-participation in pap smear tests due to lack of reagents, Sphygmomanometers and Stethoscopes are everywhere in the University Teaching Hospital. There should be no reason for a nurse not having her blood pressure checked quite regularly if she cannot manage a whole spectrum of medical examinations. High blood pressure can be controlled by diet if detected early.

Literature reviewed noted that, in populations with salt intake of less than 3g/day, no rise in Blood pressure with age, was observed in contrast to populations with a salt intake of more than 6g/day. Nurses should endeavour to take control over their lives by observing good health habits including undergoing Papanicolaou tests, to detect cancer of the cervix.

Findings in this study (Table 37), show that 45(90%) of nurse respondents do not undergo pap smear tests. Reasons range from them not thinking about it, to non-availability of reagents. Lack of this test will result in increased morbidity due to cancer of the cervix in most nurses.

Literature reviewed also cited Beaglehole *et al* (1997), who said that, most diseases are either caused or influenced by environmental factors. "This is specifically true of the nurse whose work environment affects her practice because the ward is poorly equipped in terms of material and personnel resources." Items for basic hygiene maintenance like soap, for handwashing, is not always available.

When nurses were asked what they do in case of non-availability of soap (Table 39), findings showed that only 22(44%) of respondents bother to come to work with own soap while 25(50%) would use any available antiseptic for handwashing and yet another 3(6%) just wash their hands without soap. It is obvious that washing hands under running water alone, cannot remove the transient micro-organisms that are teaming on our hands. In this way, nurses infect themselves and also do harm to the patients whom they are supposed to make well again. Besides, handwashing with soap under running water, is regarded as the single most important infection prevention and control measure in health care setting. 38(76%) documented hand-washing as the infection prevention and control measure, they rank the most important, while 5(10%) documented isolation of infective patients and 71 documented protective clothing.

Quoting literature reviewed where Mulenga (1993) said that

> "An important characteristic of a worker is that one who participates in decisions, affecting her/his health".

Therefore, in health promotion activities and practices, the nurse is expected to participate in decisions that will contribute to their health maintenance.

The role of the Hospital Management is to put a mechanism, to ensure that measures are put in place to ensure that nurses go for medical examinations, pap smear tests, for maintenance of reproductive health, since nurses, as women, form the majority of the University Teaching Hospital, work-force. In this way, the Hospital Management will be playing a very significant role in maintaining nurses' health. to-date, the Hospital Management has not enforced these regulations. Hence, despite most of the nurses possessing good knowledge on practices of health promotion and disease prevention activities, yet they fail to utilise the available facilities to maintain their health.

Reasons advanced are due to inadequate human and material resources, and lack of adequate health care services, especially in the Occupational Health Unit.

Hence, from this analysis, hypothesis number three which states that poor utilisation of Health promotion activities and finding alternatives due to inadequate human and material resources in the health care setting contribute to high morbidity rate among nurses, have been supported.

All the specific objectives have been met as well as answering all the specific questions of the study.

4.5 Implications of Findings on the Health System

The study has shown that the nurses do not care to maintain their health through disease-prevention and health promotion practices and activities. This is despite having good knowledge of what to do.

The most important reason for this is the nurses' low socio-economic status as a result of their pathetic salaries. In this study, 20 of nurses feel quite positive about themselves, while 24(48%) feel quite negative, and their reasons are due to low pay and inability to afford a well balanced diet and how risky nursing is, in the absence of disease prevention and health promotion practices and measures.

Internationally, nurses low socio-economic status, have reached high levels of concern. Garzon N (1987), President of ICN, stated that,

> "The socio-economic welfare conditions of nursing personnel, can no longer be ignored if professional objectives are to be effectively promoted. The ability of a profession to advance the service it gives and to maintain high standards of practice, is dependent on the ability to attract persons of the required calibre to the profession, and retain them in the practice. She urged National Nurses' Associations, to prepare salary reviews for nurses, and better conditions of service".

This study requests our Zambia Nurses' Association, to review nurses' salary structure and conditions of service. The study also showed that there is little or no difference between the Enrolled Nurses and that of the Registered Nurses.

This study also shows that the nurses' low socio-economic status affects her attitude towards herself, during own illness, to the public and to the patients, and is worsened at the demise of another nurse. 50(100%) expressed feelings of utter depression, isolation and neglect, uncared for, no support from Hospital Management, no risk allowance and no compensation when a nurse dies.

This implies that, to uplift the nurses' morale, more motivation, in terms of emotional support from a formally set-up social support system by nurses for nurses.

The Zambia Nurses' Association should now initiate the encouragement and participation of nurses in their own health care through the formation of SELF-HELP GROUPS. This will enable nurses to gain control over their lives, to some measure.

The Self-help groups can now undertake several functions on behalf of the Zambia Nurses' Association, e.g. Counselling Services, Information, Education, and Communication

Services, and setting up Heath Promotion Programmes e.g. recreation facilities, to improve on the physical and mental health of nurses.

The General Nursing Council and the Zambia Nurses' Association, should collaborate with Aid Agencies, to set up disease prevention activities for nurses, e.g. Vaccination programmes. The Zambia Nurses Association and the General Nursing Council, should arrange for the latest nursing magazines, journals and newsletters, to be made available in the departments, so that nurses can update their knowledge on current trends in the nursing practice.

4.6 Conclusion

In conclusion, this study has found out that nurses in the University Teaching Hospital, despite having good knowledge of practices in health promotion and disease prevention activities, do not utilise the available health promotion facilities to maintain their health.

Most nurses are not aware of the existence of needle-stick injuries and other health policies like medical examinations; most say they are not reminded to undergo medical examinations annually.

The study also shows that most nurses have negative attitude to adequately affect the knowledge of health promotion and disease prevention of their low socio-economic status.

Findings also show that, although nurses scored good practices in the cut-off points, the study shows that most nurses do not check their blood pressures, despite the availability of Stethoscopes and Sphygmomanometers, almost everywhere in the University Teaching Hospital.

Further findings reveal that, the Occupational Health Unit does not collaborate with other agencies. The study went further to illustrate how collaboration can be initiated and maintained through the establishment of self-help groups among the nurses in the University Teaching Hospital.

The study also shows that the Occupational Health Unit does not offer any health promotion activities/facilities to the nurses.

Findings show that the Staff Clinic only offers curative services. 14(28%) of respondents said the reasons for not attending the Occupational Health Unit is because, they do not carry out investigations. As a result, nurses tend to

marginalise the Occupational Health Unit even during periods of own illness. 3(6%) of respondents admitted to not even knowing where it is located.

Reasons forwarded for the marginalisation include its small size, absence of a Medical Doctor, long waiting hours before being seen. 35(70%) of respondents who use the facility, also complained of the same problems including the fact that, there is no permanent Doctor there, as Doctors "are borrowed from other clinics". This results in no continuity of care or service.

The study ascertained that there are no vaccination programmes for nurses against chronic diseases like TB, Hepatitis B and epidemic Meningitis.

Also, the Environmental Health department, do not co-ordinate the slashing of grass with the Horticultural department, in order to discourage the breeding of mosquitoes.

The study can conclusively say that, all its hypothesis have been supported, its objectives met, and all research questions, have been answered.

4.7 Recommendations

The Hospital Management should put up controls that will ensure safety and good health to nurses.

1. The UTH Board of Management, Occupation Health Unit, can collaborate with other donor agencies to provide vaccines for Hepatitis B and Tuberculosis. This would help nurses to cope with the fear of contracting chronic diseases in the health-care work-place, thereby helping them to maintain their health.
2. The Nurse Managers should evaluate the current Health policies in the University Teaching Hospital. They should ensure the existence of these policies and draw up strategies and mechanisms to ensure that nurses undergo medical examinations yearly, on a regular basis. They should ensure the follow-up of the findings of the medical examinations.
3. Nurse Managers to ensure the observation of Infection Prevention and Control Measures in their units, especially the Needle-stick Injury Policy, and Provision of soap for handwashing, in order to maintain basic hygiene practices in the wards.
4. Unit Managers to ensure that nurses attend the Occupational Health Unit when they are sick.
5. The Nurse Managers should advocate for the Vaccination Programmes for nurses, especially Hepatitis B and TB, and epidemic Meningitis.

6. Nurse Managers to advocate for the improvement of the facilities and services like investigation services in the Occupational Health Unit. 14(28%) of respondents do not use the Occupational Health Unit because they have been told they do not carry out any investigations.
7. To have trained personnel to man the Occupational Health Unit, for better services.
8. The Unit Managers are to work together with the Zambia Nurses' Association in collaboration with the Aid Agencies, to facilitate the commencement of vaccination programmes for nurses.
9. Unit Managers are to evaluate the isolation procedures of patients being queried for tuberculosis, before diagnosis is carried out. This will lessen the transmission of infection to nurses and other patients.
10. Unit Managers are to ensure that the Occupational Health Unit has its own Doctors.

Recommendations for the Zambia Nurses' Association

1. Review of nurses' salary structure in view of rising costs.
2. Formation of Self-help Groups, to undertake the following functions in conjunction with the Occupational Health Unit:

i) Health education for nurses, on topics of international concern e.g. raising nurses' consciousness levels.

ii) Importance of medical examination e.g. Pap smear, yearly medical examinations.

iii) Setting up of Counselling Services for nurses.

iv) To work with the Occupational Health Unit and Unit Managers, in collaboration with Aid Agencies, in order to set up vaccination programmes for nurses. This would put us in line with other countries since the world is now becoming a global village.

v) To set up a fund for nurses during hospitalisation and bereavement, etc.

vi) To organise workshops and seminars on various issues for nurses e.g. Infection Prevention and Control.

vii) To encourage nurses to co-ordinate health promotion activities in their residential areas e.g. exercises.

viii) Setting up Recreation facilities for nurses, in order to improve their physical and mental health, and improve their positive attitude to themselves.

Recommendations for Occupational Health Unit

1. In UTH, Lusaka, Zambia the staff of the occupational health unit should endeavor to collaborate with several donor agencies and organizations on which to solicit for some assistance in solving the health problems facing the nurses. The services offered by these organizations vary widely making a local direction of agencies or the agency itself the best resource as to types and availability of services each can offer. As occupational health nurses, they should be able to evaluate the health of the nurses after each disease prevention programme. In this way they would be acting as change agents for the improvement of the health status of the nurses in the hospital.
2. To collaborate with the Zambia Nurses' Association on formation of Self-help Groups for nurses.
3. To co-ordinate the activities of all the groups.
4. To initiate health promotion activities e.g. Health Maintenance, through exercises (Appendix A).
5. Initiate follow-up activities for nurses e.g. nurses who suffer from TB, Diabetes, etc.
6. Organise for Reproductive Health Tests to be done on nurses in the Unit e.g. Pap smear.
7. Keep and update Nursing Administration with data on nurses' morbidity and mortality.
8. Attend to nurses who have come from the wards to see the Doctor, as soon as possible.

9. Keep a Record of all nurses who have been admitted to the Off-Sick list. Epidemiological studies should also be carried out because the nurses could have contracted the infections from interactions in their communities. The aim would be to break the chain in transmission between the Agent, Host and Environment, so as to have healthy nurses.
10. Write Quarterly Reports on their department, and keep a record of inventory.
11. Ensure a Doctor is always in attendance to see the nurses.
12. Smile, be pleasant, when receiving peers as patients.

Recommendations for Further Study

1. A similar study should be conducted on a larger scale so its findings can be generalised.
2. Focus Group Discussions should be used as a method of collecting data in addition to a questionnaire.

4.8 Limitations of Study

1. The size of the sample for this study is small. This means that the findings cannot be generalized to a larger population, since it was conducted only in the University Teaching Hospital.
2. The size chosen is convenient for the finding available, and the time allocated for completion of the study.

3. The Hospital Administration was not included in the sample as they did not come into the systematic probability sampling, due to the Recording System of the Hospital Information System.
4. The study was restricted to nurses only, instead of all the hospital workers, who are also striving to maintain their health, through disease prevention and health promotion practices and measures.

REFERENCES

1. Accord L.G. Protection of Nurses practice theme. Collective bargaining International Council for nurses. 1982: 29: 5, 150 - 2.

2. Advances in Exposure prevention, Virginia USA: 1994; vol: 1.

3. Alstead and Girdwood (1978). Textbook of Medical Treatment. Churchill, Livingstone, London England, UK.

4. Badura Kickbush (1991). Health Promotion Research, WHO Regional Publications. European Series No. 37. Geneva.

5. B.M.A. (1981). The Book of Executive Health. A Guide for men and women who want to live longer. Prentice-Hall. New Jersey, USA.

6. Cundy and Ball (1976). Infection Control in Health Care Facilities. Microbiological Surveillance. University Park Press. London, England.

7. Douglas A. B. Satisfaction of job factors for registered nurses.
Journal of nursing administration, 1972; 2: 55 - 62.

8. Educational and training policies in occupational safety and health and ergonomics. International symposium.
Directorate of Labour Inspection of Norway, Geneva 47.

9. Fry J. (1974). Common Diseases: Their Nature, Incidence and Care. Medical and Technical Publishing Co. Ltd. Lancaster UK.

10. Gills L (1972). Human Behaviour in Illness, Psychology and Interpersonal Relationships. Faber and Faber Press. London, UK.

11. Jackson and Sutton. Work-place health in Primary care has been neglected. BMJ, UK: 1995 July 15.

12. Jellife D.B. (1966). Assessment of Nutritional Status of Community. WHO, Geneva, Switzerland.

13. Larson et al. Job satisfaction, Assumption and complexities.
Journal of nursing administration, 1984: 17:1, 31.

14. Lee and Rom (1982). Legal and Ethical Dilemmas in Occupational Health. Butterworths Ltd., Sevenoak, Kent, England, UK.

15. Martin R.W. Human Retention and Work situation. NSG Mirrow, 1975: 140: 3.

16. Mbewe M.M.K. A study of nurses anxiety in caring for terminally ill patients. PBN, Lusaka, Zambia: 1984.

17. Morgan and Irby (1978). Evaluating Clinical Competence in the Health Professions. C.V. Mosby Company, St Louis, USA.

18. Mulenga T.M. Factors that influence Nurses to shun the rural area. PBN, Lusaka, Zambia: 1984.

19. Nurses Association Health Series.
New York; U.S.A. 1994: 1 - 2.

20. Nurses, risks Rights and responsibilities,
1992, ANA work-place information, USA.

21. Occupational safety and Health series number.
Optimisation of the working environment.
Ministry of Labour of Turkey ILO office,
Geneva 43. 199.

22. Pender M.J. and Pender A. Health promotion in NSG practice.
Appleton and Lange, Norwalk, USA: 1991.

23. Schorr N.A. Communications for success.
Int. conduit for nurses, 1983: 30:3, 73.

24. Seaman E.H. and Verhonick J. Research methods for undergraduate students in NSG. Appleton century crafts, USA: 1982

25. Simpson T (1996). Stress - are you at risk : ACCA Students Newsletter, BPP Publishing Ltd., London, England.

26. WHO (1990). Basic Documents. WHO, Geneva, Switzerland.

27. Women's needs and perspectives in reproductive health.
Report of an African Regional workshop in Nairobi.
WHO: 1993.

APPENDIX 1

A STUDY TO ASSESS THE KNOWLEDGE, ATITUDE AND PRACTICE OF NURSES TOWARDS THEIR OWN HEALTH PROMOTION

INTERVIEW SCHEDULE FOR NURSES

IDENTIFICATION

Name of Interviewer

Date of Interview

Clients identification number

Instruction to Interviewer

Introduce yourself

Introduce purpose of study

Get informed consent

Ensure confidentiality

Write the appropriate response in the appropriate box provided.

Please write responses in the spaces provided for open ended questions.

Thank respondents after interview.

SECTION A

Demographic Data

INSTRUCTIONS:
TICK YOUR RESPONSES IN SPACES PROVIDED.

OFFICE USE

1. How old are you? _____ [ ]

2. Sex:
   a. Male _____ [ ]
   b. Female _____

3. What is your marital status?
   1. Married _____ [ ]
   2. Single _____
   3. Widowed _____
   4 Divorced _____
   5. Separated _____

4. What is your tribe or ethnic group?
   1. Bemba _____ [ ]
   2. Tonga _____
   3 Ngoni _____
   4. Lozi _____
   5. Other specify:_____

5. What is your Nationality?_____ [ ]

6. Where do you stay?

1. Hospital Compound _____ [ ]
2. Woodlands _____
3. Munali _____
4. Chelstone/Avondale _____
5. Makeni/on a farm _____
6. Others Specify:_____

7. What is your religion?

1. Catholic _____ [ ]
2. United Church of Zambia _____
3. Methodist _____
4. Sevethday Day Adventist _____
5. Jehova Witness _____
.6 New Apostolic _____
7 Christian Mission of many Lands _____
8. 8ther specify _____

8. What is the level of your education?

1. Secondary _____ [ ]
2. College _____
3. University _____

9. How much is your take home pay?

1. Below K100,000 _____ [ ]
2. K100,000 - K150,000 _____
3. K150,000 - K200,000 _____
4. K200,000 - K250,000 _____
5 Over K250,000 _____

SECTION B

NURSING DATA

10. State your rank in Nursing?

1. Nursing Officer _____ [ ]
2 Ward sister _____
3 Registered Nurse/Midwife _____
4 Registered Nurse _____
5. Enrolled Nurse midwife _____
6. Enrolled Nurse _____

11. Tick your area of specially in Nursing?

1. General Nursing _____
2. Midwifery _____ [ ]
3. Theatre _____
4. Public Health _____
5. Paediatrics _____
6. Surgery _____
7. Medicine _____
8. Occupational Health _____
9. Administration _____

12. When did you start working in UTH?

_____ [ ]

13. Which department are you working?

1. Paediatrics Unit _____ [ ]
2. Maternity Unit _____
3 Speciality Clinic _____
4. Occupational Health Unit _____
5. Medical Unit _____
6. Surgical Unit _____
7. Renal dialysis unit _____
8 Operating Theatre _____
9. Casualty _____
10 Admissions _____]

14. How long have you been in this Unit?

1 Less than six month _____ [ ]
2. 1 year - 2 years _____
3. 3 years - 4 years _____
4. Over 5 years _____

SECTION C

KNOWLEDGE

15. what does good health mean to you personally as a nurse?

_____ [ ]

_____

16. Have been healthy?

a. Yes _____ [ ]
b. No _____

17. List the diseases you are suffering from or being treated for or here suufered from since 2 years ago?.

1. TB _____ [ ]
2. Sorethroa _____
3. Skin rash _____
4. Backache _____
5. Malaria _____
6 Diabetes _____
7. Hepatitis _____
8. High Blood presence _____
9. Others specify _____

18. Do you know you are entitled to a medical exams every year?

1. Yes _____ [ ]
2. No _____

19. List the reproductive health activities you know you could have as a nurse?

1. Family planing _____ [ ]
2. MCH activities _____
3. PAP smear test _____
4. Ultrasomogramm _____
5. Counselling _____
6. Other specify _____

20. State what health promotion activities you are involved in?

1. Resting when off duty _____ [ ]
2. Good balanced diet _____
3. Medical exams _____
d. Exercises _____
e. Recreation activities: _____
g. Visiting & discussion, Clothing with relaxation _____

21. As a Nurse I watch what I eat and drink because I know their effect on my health?

1. Always _____ [ ]
2. Sometimes _____
3. Rarely _____

22. As a Nurse, I observe infection Prevention and control measures very strictly?

1. Always _____ [ ]
2. Sometimes _____
3. Rarely _____

23. Have you sustained any needle stick injuries while carrying out a procedure on a patient?

1. Yes _____ [ ]
2. No _____

24. Was the needle used or not?

1. Not used _____ [ ]
2. Used _____

25. What did you do after sustaining the injury?

1. Bleed it [ ]
2. Wash it
3. Report it

26. As a Nurse, I can avoid needle stick injury by:-

1. Not recapping needles _____ [ ]
2. Proper sharper disposal _____
3. Other specify _____

27. Do you know there is a needle stick injury policy in UTH?

1. Yes. _____
2. No _____ [ ]

28. What other injuries are nurses exposed to in Hospital?

1. Violence _____ [ ]
2. Injuries from equipment _____
3. Burns _____

29. Do you Know you should go for for Medical exams every year?

a. Yes _____ [ ]

b. No _____

Are you reminded to go for the Medical exam?

a. Yes _____

b. No _____

30. What would stop you from going to see a Doctor in the Occupational Health Unit?

1. Shortage of Nurses _____ [ ]
2. Heavy work load _____
3. Nothing can stop me from going to see the Doctor _____
4. Other specify _____

31. As a nurse, List the functions of occupation Health Unit according to what you see them do?

1. Medical exams _____ [ ]
2. Health Education _____
3. Follow-up activities _____
4. Curative _____
5 Interdisciplinary Collaboration _____
6 Prevention activities _____
7. Health Promotion activities _____

SECTION D

ATTITUDE

32. Do you think that the occupational Health Unit is doing a good job?

1. Always _____
2. Sometimes _____ [ ]
3. Rarely _____

33. Do you think that the occupational Health Unit is big enough for the Hospital:

1.. Yes ____ [ ]
2.. No _____

34. Do you think that the size of the occupational Health Unit could stop you from using it when you are sick?

a. Yes ____ [ ]

b. No _____

Give reasons for your answer

_____ [ ]

_____

35. Comment on the Services offered at the UTH Occupational Health Unit?

_____ [ ]

_____

36. Do you feel guilt about leaving the ward to go and see a Doctor when you are sick at the Occupational Health Unit?

1. Always _____
2. Sometimes _____ [ ]
3. Never _____

37. What do you think about Infection Prevention and Control measure in UTH?

1. Necessary _____ [ ]
2. Not Necessary _____
3. Others specify _____

38. How do you feel when a nurse develops or dies from a hospital acquired infection?

write down your feelings?

_____ [ ]

_____

39. Are you afraid that some day you may suffer from a Hospital acquired infection?

1. Yes _____ [ ]
2. No _____

40. Do you think this fear can make you go and request some vaccination aganist some diseases like TB, Meningitis and Hepatitis B?

1. Yes _____
2. No _____ [ ]

41. Do you think that Nurses should be immunised againist these chronic diseases like TB, Meningitis and Hepatitis B?

1. Yes _____ [ ]
2. No _____

42. Do you feel good about your figure and your self generally?

1. Yes _____ [ ]
2. No _____

Give reasons for your answer

_____ [ ]

_____

SECTION E

PRACTICES

43. Do you do ay health promotion activities like; [ ]

    1. Eating well balanced diet _____
    2. Taking extra Vitamin to Supplement your diet? _____
    3. Doing Physical exercises _____
    4. Doing recreation activities _____

44. Do you do excercises regularly [ ]

    1. Always _____
    2. Sometimes _____
    3. Rarely or occasionally _____

45. Do you take Vitamins? [ ]

    1. Always _____
    2. Sometimes _____
    3. Rarely or occasionally _____

46. Do you add alot salt in your meals ?? [ ]

    a. Yes _____
    b. No _____

47. Do you drink alot sugar with Tea/Coffee? [ ]

    a. Yes _____
    b. No _____

48. On your first appointment, did you go for Medical examination?

a. Yes _____

b. No _____ [ ]

49. Do you undergo Medical examinations regularly every year?

1. Always _____ [ ]
2. Sometimes _____
3. Rarely or occasionally _____

50. Do you Follow the Doctors orders in terms of drinking year Medication etc?

_____ [ ]

_____

51. Have you ever requested for any vaccination aganist TB, Hepatitis or Meningitis?

a. Yes _____ [ ]

b. No _____

52. Do you examine you breast for any lumps?

a. Yes _____ [ ]

b. No _____

53. Have you undergone a papsmear test?

a. Yes _____ [ ]

b. No _____

State the year you underwent the papsmear test. _____ [ ]

State your results:_____ [ ]

If No why?_____ [ ]

54. Have you undergone an ultrasoundgram for fibroids in the uterus?

a. Yes _____ [ ]

b. No _____

State the year you underwent the ultra soundgram_____ [ ]

55. Write down in order of importance the most practical infection prevention and control measure?

_____ _____

_____ _____ [ ]

_____ _____

_____ _____

56. Do you check your Blood Pressure?

1. Regularly _____ [ ]
2. Sometimes _____
3. Rarely or occasionally _____

57. What do you do when there is no soap in your ward?

1. Come with own soap _____ [ ]
2. Use any antiseptic available _____
3. Other specify _____

APPENDIX 2

MARKING KEY

SECTION C

KNOWLEDGE QUESTIONS

15. A state of social, psychological, spiritual, physical well-being and not merely the absence of disease.

16. a-1

17. Corresponds with answer of No. 18.

18. a-1

19. a, b, c, e-4

25. a, b, c-3

27. a-1

28. a, b, c-3

29. a-1

31. a-1

Very good - 15-22

Good - 8-14

Inadequate - 1-7

SECTION D

ATTITUDE

32. a-2 Total = 3
b-3
c-1

33. b-1

34. b-1

35. Services fair, needs own Doctor to collaborate other agencies to improve services to nurses like vaccinations against TB, Hepatitis B, Meningitis.

36. a-0 Total = 3
b-1
c-3

37. a-1

38. Illness/death could have been prevented by provision of better resources.

39. b-1

40. a-1

41. a-1

42. Feeling good - good attitude to work.

Positive Attitude - 12-22

Negative Attitude - 1-11

TOTAL = 22

SECTION 3

PRACTICES

43.	a-1 b-1 c-1 d-1	Total = 4	53. State reasons for no Pap-smear.
44.	a-1 b-2 c-1	Total = 3	
46.	b-1		1-8 Poor Practice
47.	b-1		9-16 Good Practice
48.	a-1		17-24 Excellent Practice
49.	a-3 b-2 c-1	Total = 3	
50.	a-1		
51.	a-1		
52.	a-1		
53.	a-1		
56.	a-3 b-2 c-1	Total = 3	
57.	a-3 b-1 c-1	Total = 3	

APPENDIX 3

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF POST BASIC NURSING

Telephone: 252641
211440 (UTH) 254824
Telegrams: UNZA, LUSAKA
Telex: UNZALU ZA 44370
Fax: + 260-1-250753

P.O. Box 50110
Lusaka, Zambia

Your Ref:

Our Ref:

8th May, 1998

Dear Sir/Madam,

This is to introduce Dorothy Chanda, a Fourth Year BSC (Nursing) Student in the Department of Post Basic Nursing, School of Medicine, University of Zambia. The student is undertaking a Research Study in partial fulfilment of the above mentioned degree.

The Research Programm for study is To determine the knowledge attitude and practice of nurses [illegible] towards [illegible] oral health [illegible]

We shall be most grateful if you could access the student to information on the subject or clients and any other assistance the student may require.

Yours faithfully

Lydia Jumbe
COURSE CO-ORDINATOR
DEPARTMENT OF POST BASIC NURSING

APPENDIX 4

University Teaching Hospital

(Board of Management)

THE DIRECTOR

P/Bag RW 1X,
Ridgeway 15102,
Lusaka, Zambia
Tel. 250305/227709-21
Telex: ZA 40299
Fax: 250305

Our Ref:

Your Ref:

2nd April, 1998

The Course Coordinator
Post Basic Nursing Department
School of Medicine
University of Zambia
LUSAKA

Dear Madam,

RE: CONDUCTING RESEARCH IN UTH

I acknowledge with thanks the receipt of your letter concerning the above subject.

I am pleased to advise that permission has been granted for you to carry out the above research in all the wards in UTH.

Yours faithfully,

A.M. Malewa
NURSING SERVICES MANAGER

APPENDIX 5

HEALTH PROMOTION

KEEPING HEALTHY THROUGH EXERCISES

1. Exercise regularly to maintain your overall physical and mental health. To ensure good blood circulation to the lungs - oxygen uptake.
2. Minimise the health risks and protect yourself from toxic substances at the health-care-workplace.
3. Learn to recognise the early warning signs of illness; never hesitate to consult a Doctor about any symptom that worries you or any problem that you doubt your ability to manage.
4. Ensure that you understand the importance of Medical Examinations for unusual or persisting changes that may indicate a serious disorder e.g. cancer.
5. Follow Doctor's orders to use any medication for an illness.
6. Maintain a balanced diet.
7. Learn to recognise and minimize symptoms of stress so you can maintain a healthy, emotional life and prevent the physical strain that can lead to illness.
8. Maintain a body weight within an acceptable range, to minimize the stress on the heart, lungs and muscle, that can lead to chronic illness/diseases.

APPENDIX 6

THIS IS THE SUMMARY OF THE RESEARCH PROJECT. IT SHOWS THE TASKS TO BE PERFORMED AND THE TIME REQUIRED FOR EACH TASK

TASK	MAY				JUNE				JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				JAN. 99	PERSON RESPONSIBLE
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	
1. IDENTIFY OF THE PROBLEM LITERATURE REVIEW FINALISE RESEARCH PROPOSAL																																		RESEARCHER
2. TRAIN RESEARCH ASSISTANT.																																		
3. DATA COLLECTION TOOLS. PILOT STUDY																																		
4. DATA COLLECTION																																		
5. FOCUS GROUP DISCUSSION																																		
6. DATA ANALYSIS																																		
7. COMPILE FINDINGS & RECOMMENDATIONS																																		
8. HAND IN DRAFT COPY																																		
9. COLLECT DRAFT. CORRECT & BIND																																		
10. DISSEMINATION OF WORKSHOP FINDINGS																																		