

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

**ATTITUDES OF NURSES ON POST EXPOSURE
PROPHYLAXIS IN CHIPATA GENERAL HOSPITAL IN
CHIPATA DISTRICT**

BY

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**A Research Study submitted in partial fulfilment of the requirements of the
awards of a Bachelor of Science in Nursing Degree at the University of
Zambia.**

**A STUDY TO DETERMINE
THE ATTITUDES OF NURSES ON POST EXPOSURE
PROPHYLAXIS AT CHIPATA GENERAL HOSPITAL**

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BEATRICE MAY BANDA

TABLE OF CONTENTS	PAGE
Table of contents.....	i
List of Tables	iv
List of Figures	vi
Appendices	vii
Abbreviations.....	viii
Declaration	ix
Statement	x
Dedication	xi
Acknowledgement.....	xiii
Abstract	xiv

CHAPTER ONE

1.0	Introduction	1
1.1	Background Information	1
1.2	Statement of the Problem	6
1.3	Factors influencing Attitudes of Nurses on Post Exposure Prophylaxis..	8
1.3.1	Service related factors	8
1.3.2	Personal factors	11
1.4	Justification for the study	15
1.5	Research Objectives	16
1.5.1	General Objective	16
1.5.2	Specific Objectives	16
1.6	Hypothesis	16
1.7	Operational Definitions of Terms	17
1.8	Variables, Indicators and Cut-Off Points	17
1.8.1	Dependent variable	18
1.8.2	Independent variable	18

CHAPTER TWO

2.0 Literature Review 20

2.1 Global Perspective 20

2.2 Regional Perspective 23

2.3 National Perspective 26

2.4 Conclusion 29

CHAPTER THREE

3.0 Research Methodology 31

3.1 Research Design 31

3.2 Research Setting 31

3.3 Study Population 31

3.4 Sample Selection 32

3.5 Sample Size 32

3.6 Data Collection Tool and Technique 32

3.7 Pilot Study 33

3.8 Validity 33

3.9 Reliability 33

3.10 Ethical and Cultural considerations 34

CHAPTER FOUR

4.0 Data Analysis..... 35

4.1 Presentation of findings 35

CHAPTER FIVE

5.0 Discussion of findings 59

5.1 Implications to the Health Care System 67

CHAPTER SIX

6.0 Conclusion 69

6.1 Recommendations 70

6.2 Limitations of the study 71

6.3 Dissemination of findings 72

REFERENCES 73

LIST OF TABLES

Table 1	Table of Variables and cut points.....	19
Table 2	Age of Respondents	36
Table 3	Religion of the Respondents	36
Table 4	Respondents' Years in Service	37
Table 5	Department in Which Respondents Were Working	38
Table 6	Taking ART prophylaxis after exposure to HIV can minimise chances of a nurse being infected	40
Table 7	How can a person acquire HIV	40
Table 8	Universal Precautions must be observed in the work place to avoid contracting HIV infection	41
Table 9:	Source of PEP Information	42
Table 10	Availability of Treatment Protocols	43
Table 11	Availability of ARVs for PEP	43
Table 12	What type of literature you have read	44
Table 13	Availability of Nursing Conferences or meetings at your Institution	45
Table 14	Where do you hold Nursing Conferences or meetings	46
Table 15	Orientation on PEP Guidelines	46
Table 16	Where did you get the orientation on the PEP guidelines	47
Table 17	Do you know of a nurse on PEP	47
Table 18	How many nurses do you know who are on PEP	48
Table 19	The relationship between age and attitude	48
Table 20	Age in relation to Marital Status	50
Table 21	Age in relation to Professional Qualification	51
Table 22	Age in relation to knowledge	51

Table 23	Attitude in relation to Marital Status	52
Table 24	Attitude in relation to Professional Qualification	52
Table 25	Attitude in relation to length in Service	53
Table 26	Attitude in relation to orientation to PEP	53
Table 27	Attitude in relation to the department in which respondents Work	53
Table 28	Attitude in relation to availability of treatment protocols	54
Table 29	Attitude in relation to availability of ARVs for PEP	54
Table 30	Attitude in relation to availability of PEP literature	55
Table 31	Attitude in relation to availability of Nursing Conferences and meetings	55
Table 32	Attitude in relation to confidentiality among nurses	56
Table 33	Attitude in relation to follow up by Nurse Managers on nurses on PEP	56
Table 34	Attitude in relation to availability of Counselling Services	57
Table 35	Professional Qualification in relation to orientation to PEP	57
Table 36	Attitude in relation to availability of Counselling Services	58
Table 37	Professional Qualification in relation to orientation to PEP	58

LIST OF FIGURES

Figure 1	Map of Zambia showing its neighbouring countries and prominent towns	1
Figure 2	Diagram of Problem Analysis Factors	14
Figure 3	Sex of Respondents	35
Figure 4	Marital Status	36
Figure 5	Professional Qualification of Respondents	37
Figure 6	Definition of HIV	38
Figure 7	Definition of AIDS	39
Figure 8	Definition of ART	39
Figure 9	Definition of PEP	39
Figure 11	Were you trained in PEP	42
Figure 12	Availability of PEP literature	44
Figure 13	When Last Did You Read Literature On PEP	45
Figure 14	Nurses observe confidentiality on nurses on PEP	49
Figure 15	Follow up by Nurse Managers on Nurses on PEP	49
Figure 16	Infection Prevention Committee available at your Institution	49
Figure 17	Counselling services available at your Institution	50

APPENDICES

Appendix I	Questionnaire	78
Appendix II	Request to undertake a pilot study	86
Appendix III	Request to undertake a study	88
Appendix IV	Work Schedule	90
Appendix V	Ghant Chart	91
Appendix VI	Budget	92
Appendix VII	Justification of the Budget	94

ABBREVIATIONS

AIDS.....	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Treatment
CBOH.....	Central Board of Health
CSO.....	Central Statistics Office
HICC	Hospital Infection Prevention and control Committee
HAI	Hospital Acquired Infection
HIV.....	Human Immuno Virus
IEC	Information Education and Communication
IP	Infection Prevention
MoH.....	Ministry of Health
PEP	Post Exposure Prophylaxis
USA.....	United States of America
USAID	United State Agency for International Development
UTH	University Teaching Hospital
WHO.....	World Health Organization
ZDHS.....	Zambia Demographic Health Surveys

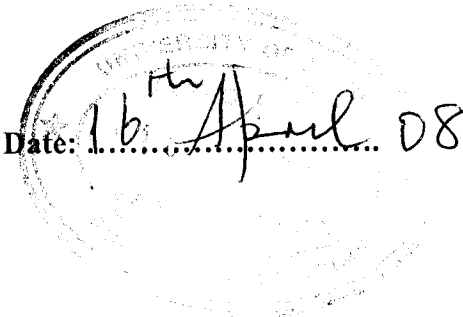
DECLARATION

I, Beatrice May Banda, hereby declare that the work presented in this study for a Bachelor of Science Degree in Nursing has not been presented wholly or partially for any other Degree and is not being currently submitted to any other Degree.

Signed:*Banda*.....
(Candidate)

Date: *15th April, 2008*

Approved:*A. A. A. A.*.....
(Supervisor)



STATEMENT

I, Beatrice May Banda, hereby certify that this study is entirely the result of my own labour and independent investigations. The various sources to which I am indebted are clearly indicated throughout the text and in the reference.

Signed:*Banda*.....

Date:*15th April, 2008*.....

DEDICATION

To my late father, Captain A.K.Z. Banda

To my mother, Mrs. Francine Banda.

You inspire all my life endeavors. I love you very much

To my late elder sister, Caroline Priscilla Banda

I miss you

To Francine Tisaine Banda

My sister, my best friend

I love you so much

To my beloved family

Kagwa, Fada, Yona, Lydia, Chika, Francine and Yoyo

My daughters

Beatrice Thungase Banda and Priscilla Chione Banda

You give me a reason to go on

To Salafi Mwelwa

For your love, support, encouragement and care during this study

To all the nurses
Who innocently died from hospital acquired infections especially HIV/AIDS

To all nurses
As they continue to dedicatedly render health care to all humanity
Even in these risky times of HIV/AIDS

ACKNOWLEDGEMENT

I thank Almighty GOD, for the love and protection through out my life.

I thank the Ministry of Health for sponsoring me to undertake the Bachelor of Science Degree in Nursing at the University of Zambia.

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My sincere gratitude to Mrs. C.M. Ngoma, my Lecturer in Research in Nursing, for coordinating the course and her valuable guidance through out the course.

My sincere thanks to the Executive Director, Dr Fanaka and the Principal Nursing Officer, Mrs. A.H. Zulu of Chipata General Hospital, for allowing me to collect data for this study.

ABSTRACT

Post Exposure Prophylaxis (PEP) is an important infection prevention method in relation to combating HIV/AIDS pandemic which has affected the whole world, including Zambia. Research studies are being done to find solutions to the effects of HIV/AIDS on the nursing profession in order to identify the needs of nurses and midwives in responding to HIV/AIDS.

The aim of this study is to determine the attitudes of nurses on post exposure prophylaxis at Chipata General Hospital, Zambia.

Literature review was obtained from studies conducted globally, regionally and nationally. Literature has indicated that it is necessary to have infection prevention measures implemented in the health care setting for the safety of the care givers so that in turn the society at large accesses quality health care services. Assessing the nurses' attitude on PEP is necessary because it helps understand why nurses may not be accessing this service even when it is available.

A descriptive non interventional (non experimental) study was conducted at Chipata General Hospital between 1st to 30th September, 2007. The study population included all the nurses at the institution. A sample comprising 50 respondents was selected using stratified random sampling. A self administered questionnaire was used to collect data. Quantitative and qualitative data was analysed manually using a data master sheet and scientific calculator. Data was presented in the form of frequency tables, pie charts and bar charts. Cross tabulation were used to determine the relationship between variables.

The study revealed that majority 35 (70%) out of 50 respondents had negative attitude towards PEP while 15 (30%) of the respondents had a positive attitude. This indicated the fact that the nurses's attitude affected their knowledge either in the positive or negative way. Furthermore, negative attitude may also lead to loss of knowledge that one had on PEP.

The literature also revealed that nurses were knowledgeable on PEP but their access was not according to expectations. This attitude was attributed to length in service, professional qualification, orientation to PEP, availability of PEP literature in all the departments, support from nurse managers and confidentiality practices among nurses.

The major recommendations are:-

The Ministry of Health should work in collaboration with the various partners NGOs dealing in issues of HIV/AIDS focussing mainly on training programmes and refresher courses for health personnel with emphasis on PEP.

The nursing services department needs to capitalise on holding clinical meetings so that nurses can continuously learn and adapt to the changes that occur in the health sector in terms of new technology, new information and knowledge as well as trends in disease patterns. This in turn will improve the nurses attitude towards their continuing education.

The infection prevention committee must train PEP focal persons at departmental level. These will be trained in PEP and how to use the PEP test kit to be able to render PEP services at departmental level immediately a health worker is exposed to HIV infection.

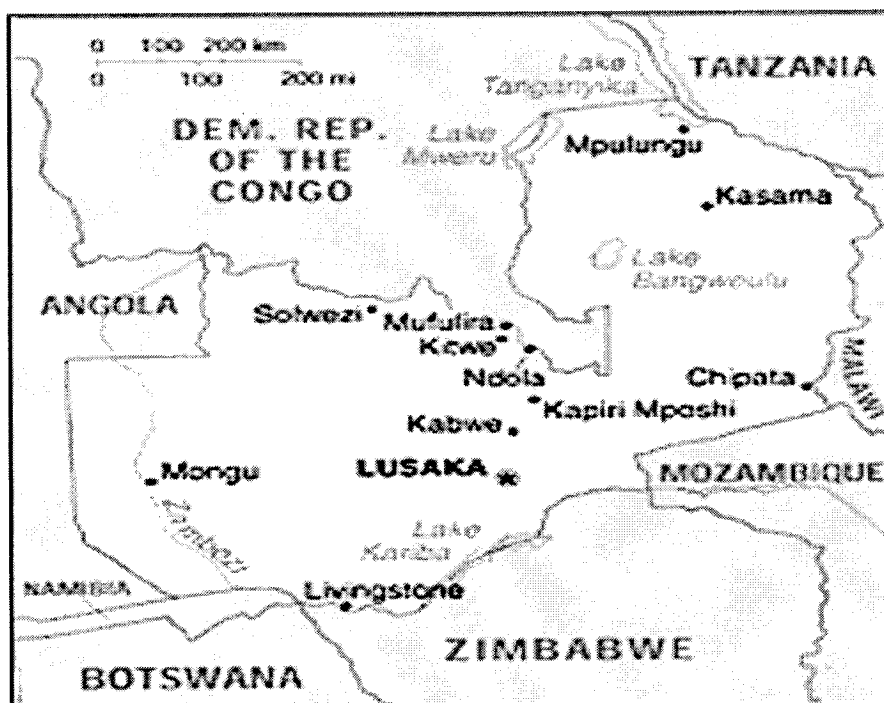
CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Zambia is located in the sub-Saharan southern central Africa with a total area of 752, 614 Sq Km, 2.5 % of total African area (CSO, 2003). It lies 10-18 degrees south of the equator. It is a plateau of between 900 and 1500 meters above sea level with a mixture of woodlands and savannah regions intersected with lakes, rivers, hills and swamps. The population density ranges from 65 people per square kilometres in Lusaka province to five people per square kilometres in rural provinces (Ibid, 2003). The population is predominantly rural with more than 70 ethnic groups who have less diverse cultural and traditional practices. Zambia is a land locked country sharing borders with the Democratic Republic of the Congo, Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Namibia and Angola as shown in the map below.

Figure 1 Map of Zambia showing its neighbouring countries and prominent towns



Source: CDC, 2007

People are concentrated along the line of rail from the Copperbelt, passing through Lusaka, and down to Livingstone in Southern province. The other tourism sectors apart from Livingstone are Mpulungu and Mongu which are on the shores of Lake Tanganyika and Zambezi River respectively. There are farming activities in Chipata and Kabwe because of its rich soils. Trading is prominent on the country's border as people importing cheaper goods for sale especially from Tanzania, Malawi, Botswana, Zimbabwe, South Africa and Namibia. There is also the beginning of mining activities in Solwezi for Copper which has showed potential employment opportunities.

AIDS was first reported on June 5, 1981, when the United States Centers for Disease Control and Prevention recorded a cluster of p (now still classified as PCP but known to be caused by *pneumocystis jirovecii*) in five homosexual men in Los Angeles (CDC, 1981). The earliest known instances of HIV infection are as follows:

- A plasma sample taken in 1959 from an adult male living in what is now the Democratic Republic of the Congo (Zhu et al, 1998).
- HIV found in tissue samples from a 15 year old African-American teenager who died in St. Louis in 1969 (Kolata, 1987).

In Zambia, HIV/AIDS pandemic was first reported in 1984 (CDC, 2007). It has over the years risen rapidly and it is reported that one in every six adults in Zambia is living with HIV (UNAIDS/WHO, 2004). HIV/AIDS has become increasingly wide spread with peak ages for HIV prevalence females are 25 to 34 years while that for males is 35 to 39 years. It is estimated that 16.5 percent of the adult population in Zambia is infected with HIV. About 84 percent of these are between the ages of 20 and 29. Only 9.4 percent of women and 13.8 percent of men in Zambia have been tested for HIV. It is estimated that of these, 17.8 percent of women and 12.9 percent of men are currently infected. Infection rates are higher in urban areas than in rural areas of the country. Sexual contact is the number one mode of transmission for HIV in Zambia. Estimated lifetime mortality risk from HIV/AIDS suggests that for a Zambian population with an HIV prevalence of 16.5 percent, more than half of all youth now age 15 will die of AIDS (Ibid, 2007).

A National HIV/AIDS policy used in Zambia has the following guiding strategic principles:-

- Develop integrated HIV/AIDS prevention, treatment and care services;
- Support sustainable HIV/AIDS health care networks;
- Seek new strategies to encourage HIV testing;
- Encourage the involvement of people infected with and affected by HIV (CDC, 2007).

In 2002, Zambia embarked on an Antiretroviral Therapy (ART) treatment programme in order to promote HIV positive clients. The government also introduced a free ARV Policy in order to improve access to ARV treatment in 2005.

Occupational exposure to blood and body fluids puts nurses at risk of infection with blood-borne pathogens, such as hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV. Of the 35 million health workers worldwide, about three million are exposed to such pathogens each year through percutaneous injuries (from syringes and other sharp instruments). These accidents may result in 15,000 HCV, 70,000 HBV and 500 HIV infections. And more than 90% of these infections occur in developing countries, where health workers often lack the knowledge, skills and resources necessary to protect themselves and their clients from becoming infected. Fortunately, health care-related infections, like other occupational hazards, are largely preventable, as shown by the low rates of such infections in countries that have engaged in serious infection prevention efforts, including training of health workers in infection prevention and control (IPC) practices, HBV immunization, post-exposure prophylaxis (PEP) for HIV, improved waste management and other measures (<http://www.jhpiego.org/ipcexpertise>).

There are many ways into which the HIV is transmitted. It can be through sexual contact, trans placental from mother to child, blood transfusion, tissue transplant and occupational exposure to the HIV infection. Nurses care for HIV patients every time when they are on duty and most of the times come into contact with bloody fluids of these patients when giving them injections, dressing and suturing their wounds, bathing them or changing

dirty linen. The more blood involved and the sicker the patient, the greater the risk of transmission. Exposure to a patient who is newly HIV infected increases the risk because of the higher viral load in the blood in early infection. A deep needle stick with a large bore needle is a greater risk than a shallow, minor injury with a solid needle like a suture needle.

Nurses are therefore mandated to apply the universal precautions in order to decrease contact with these sources of infection by applying principles of infection prevention. The recommended IP practices are based on the following principles:-

- Consider every person (client or staff) infectious.
- Wash hands immediately after any contact with potentially infective fluids and before and after every health care procedure. This is the most practical way for preventing cross contamination.
- Wear gloves before handling body fluids, cutaneous or mucosal lesions or contaminated or potentially contaminated material.
- Use barriers including personal protective clothing (face masks, goggles & aprons) when there is a risk of splashing for example during deliveries or spills of any blood, body fluids, secretions or excretions.
- Care when handling potentially infected sharps and proper disposal into a special, puncture proof or a sealed container (sharps box).
- Disinfection of surfaces, soiled instruments and surfaces soiled with blood or other bodily fluids.
- Proper disposal of contaminated material
- Contaminated material should be placed in distinctively labeled sealed packaging and then incinerated.

Source: CBoH, 2003.

In Zambia, prevalence of highly infectious and dangerous diseases like HIV are so high that to follow proper infection prevention practices are fundamental to quality of care and essential to protect health workers like nurses in their daily practice in the wards. There

are instances when some of these precautions are missed and a nurse comes into contact with HIV contaminated material. The risk is influenced by depth of the injury, if device was visibly contaminated with blood, if it were an intra venous or arterial procedure, type of needle and size, patient's viral load, amount of blood or infectious fluid involved in the exposure and the duration of the exposure.

Once a risk has been realised, a nurse must follow immediate measures needed after an occupational exposure. At Chipata General Hospital, the following steps are done after exposure:-

- Use soap and water to wash any site or wound that came into contact with infected blood or body fluids.
- Flush exposed mucus membrane with water.
- Immediately report exposure too the immediate supervisor, the coverage nurse or the night superintendent (including the date, time and type of exposure).
- VCT (Voluntary Counselling and Testing) is done to determine the HIV status.
- ARVs for PEP should be given within 1-2 hours to exposure up to 72 hours post exposure if HIV negative
- If HIV positive, refer to HAART
- Once PEP is started, it should be taken for at least 4 weeks.
- HIV testing of the nurse should be repeated at three (3) and at six (6) months post exposure
- The nurse in charge must keep confidentiality about a nurse who has accessed PEP as issues associated to HIV/AIDS are sources of stigma and discrimination. But there are instances where nurses do not report the exposure incidences or they may report but refuse HIV testing. In this case, PEP is not given.

Source CGH In-Service Department, 2007.

The rationale for PEP include:-

- the pathogenesis of HIV infection, particularly the time course of early infection;
- the biological plausibility that infection can be prevented or ameliorated by using antiretroviral drugs;

- direct or indirect evidence of the efficacy of specific agents used for prophylaxis; and
- The risk and benefit of PEP to exposed health workers.

(CDC 1998).

Information about primary HIV infection indicates that systemic infection does not occur immediately, leaving a brief window of opportunity during which post exposure antiretroviral intervention might modify or prevent viral replication. In a primate model of simian immunodeficiency virus (SIV) infection, infection of dendritic-like cells occurred at the site of inoculation during the first 24 hours following mucosal exposure to cell-free virus. Over the subsequent 24--48 hours, migration of these cells to regional lymph nodes occurred, and virus was detectable in the peripheral blood within 5 days (110). Theoretically, initiation of antiretroviral PEP soon after exposure might prevent or inhibit systemic infection by limiting the proliferation of virus in the initial target cells or lymph nodes (Ibid, 1998).

1.2 STATEMENT OF THE PROBLEM

There has been a great deal of interest in preventing infection after an exposure incident occurs in the health sector. This interest increased in 1996 when the Centres for Disease Control and Prevention published a widely cited review in the Morbidity and Mortality Weekly Report on the effectiveness of zidovudine (an anti retral viral drug) in reducing HIV infection in exposed health care workers. Later that year, the Centers for Disease Control and Prevention and the National Foundation for Infectious Diseases held a workshop to review the available data on post exposure prophylaxis and post exposure management. Based on recommendations from that workshop, the United States Public Health Service (PHS) updated its Post exposure management recommendations (CDC, 2007).

The management of nurses who have been infected during practice with the HIV is a complex issue that nurses in particular have to deal with. Scientific knowledge has constantly changed from research material that keep surfacing and this renders challenges

in terms of new mechanisms of disease, new technological advances in diagnosis and treatment, and clinical research findings of new treatments and prophylactic measures.

The risk of HIV transmission in the health care setting is approximately 0.09% with mucous membrane exposure and 0.3% from a single needle stick prick or other injuries that break the skin from an HIV infected person (A reference Manual for Health Workers, 2004). The average risk for HIV transmission after percutaneous exposure to HIV-infected blood in health care settings is about 3 per 1,000 injuries and after a mucocutaneous exposure is estimated at less than 1 in 1,000. It has been considered that there is no risk of HIV transmission where intact skin is exposed to HIV-infected blood (UK Health Departments, 2000).

A prospective study was undertaken of all needle stick and sharp injuries among workers at the Jordan University Hospital between 1993 and 1995. Health care workers were asked to report in person to the infection-control team to verify the incident and to respond to a questionnaire. Blood was obtained from patients and health care workers immediately and from the health care workers 6 months later for HIV testing. During the 3-year period, 248 health care workers had needle stick and sharp injuries. Of these, 34.6% were staff nurses, 19%; environmental workers, 15.7%, interns, 11.7%, residents, 8.5%, practical nurses, and 6% were technicians. The incidence density was highest for the interns followed by staff nurses and environmental workers. Of incidents, 22.6% occurred during blood drawing, 11.3% during placing intravenous lines, 8.5% during administration of medication, 11% during recapping the needle, 10.5% during needle disposal, 12.5% during garbage collection, and 5% were caused by a neglected needle. Needle stick and sharp injuries occur frequently in developing countries. Safer disposal facilities and routine HIV testing (AJIC Am J Infect Control 1997; 25:322-9)

The incidence of occupational exposure reported that in France, 48 out of 100 nurses happen per year and in Tanzania, 487 occur per year. In high income countries, Preventive measures in health care institutions have contributed to a significant decrease in incidence of Post Exposure at nearly 40% in France. In Tanzania, the rate among nursing staff was reported to be 20 times higher than in France (WHO/UNAIDS (1998).

Nurses are a part of the health team and it is important for them to adhere to the PEP Policy. This prophylaxis limits the chance of the HIV infection to develop into AIDS. This means that the nurse will not suffer disease effects of the AIDS syndrome and they will be able to work competently and effectively. In Chipata General Hospital, so far out of the many nurses that are there, only one nurse and two student nurses have accessed the prophylaxis. Meanwhile, all wards and departments in the hospital have a stipulated guiding paper on their notice boards outlining the steps to be taken once exposed to HIV infection (CGH ART Clinic in Charge, 2007). Many needle pricks are happening in the wards and this is why this study must be done to determine nurses' attitudes towards PEP because they have the knowledge. The research findings will explain why nurses are not accessing the Prophylaxis and may be used to find strategies on how nurses' adherence to the Policy could be improved.

1.3 FACTORS INFLUENCING ATTITUDES OF NURSES ON POST EXPOSURE PROPHYLAXIS

1.3.1 Service related factors

Lack of support by the management

The health care system must not only care for the patients but also ensure that its human capacity remains strong and motivated. Health care professionals need a secure and supportive work environment if they are to be effective partners in combating the HIV epidemic. The nursing management is mandated to be able to support nurses as they access the prophylaxis. They will be able to offer emotional and moral support so that the nurse confidently accesses the prophylaxis. A nurse who is not given emotional and moral support may have a negative attitude towards the prophylaxis and end up not utilising the services. But a nurse who has this support may feel cared for and adheres to accessing the prophylaxis.

Lack of supervision by Nursing Managers

Nurse Managers have a job description to supervise nurses in the work place to ensure that safe work practices are adhered to and there is less accidents that may lead to occupational exposure to infections. A nurse who is supervised may encounter lesser work place injuries and thereby lessen chances of being infected with the HIV. But a nurse who is not supervised by her manager keeps making mistakes and accidents which increases the risk of her contracting HIV through blood splashes or needle pricks

Lack of a counselling system

An active Counselling system is very important at the work place as it guides a nurse make an informed decision for her benefit. A nurse who is counselled after occupational exposure is most likely to want to utilise the prophylaxis services since the benefits have been explained to her whilst the nurse who is not may not know the right choice to make.

Lack of Infection Prevention Committee

An active Infection Prevention Committee is necessary to ensure that nurses adhere to the stipulated Universal Precautions on Infection Prevention. This committee can only achieve this by ensuring that the management is a part of the membership of the program. Management will in turn empower the committee to oversee the implementation of these guidelines. An active infection prevention committee may advocate for necessary resources in terms of IP supplies to implement the guidelines. They may also organise training programmes for nurses then afterwards supervise and monitor IP practices among nurses. This may help identify problems nurses are facing with the PEP policy as a part of infection prevention to control HIV transmission in the health setting.

Shortage of staff

Most nurses have left the country for greener pastures to have better conditions of service in the United Kingdom, United States of America or nearby countries like

South Africa, Botswana and Namibia. This has led to brain drain causing terrible nurse shortages thereby increasing the work burden on the little numbers of nurses. A nurse who has a lot of work may be too busy to follow precautions if they have been exposed to the HIV. Whilst the nurse with a normal working schedule may have time to plan through her work and may remember to follow the PEP guidelines.

Imposition of PEP guidelines

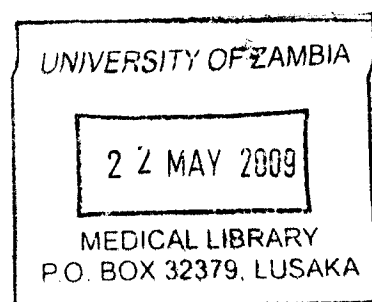
In Zambia, employees are just given laid down guidelines to follow when actually they are not sure how they came about. Nurses are the least to be consulted by policy makers or are never asked their opinions. A nurse may not adhere to the guidelines because she may not feel to be part and parcel of the idea as she was not consulted. But a nurse who was involved in all the steps of the development of this policy feels she must lead by example may be committed and utilise it.

Lack of Internal Nursing Meetings

Internal Nursing Meetings are important in the nursing sector because they provide a medium where nurses are able to come together to share work place experiences, question the managers on issues that are difficult to understand and up date each other on new trends in terms of latest information and technology. If these meetings were available, they would help nurses understand the PEP policy and realise the benefit it poses for their well being. Therefore, if nurses attend these meetings, they may adhere and follow the PEP guidelines. But if the meetings are not available, nurses may be ignorant about the existing PEP policy and not know its benefits.

Increased disease burden

HIV is possibly the biggest health risk facing the world today. It is a disease with no cure and therefore keeps increasing in numbers since its transmission is permanent. Therefore, the HIV disease burden has become too much on the nurses in that almost 95% of the patients admitted in medical wards have a history of HIV. The nurses are vulnerable to contracting the HIV since they are always working closely with these



patients. Increased disease burden may pose a high risk of transmission from the patient to the nurse.

Lack of staff orientation to PEP guidelines

Post-exposure prophylaxis (PEP) is an important recourse for nurses who are inadvertently exposed to HIV. But although they may know, they may not correctly describe it. This may be due to lack of sufficient information. A new policy is supposed to be introduced to the people expected to participate and benefit from it so that its implementation is seen. Nurses who have not been oriented to the PEP policy may not implement it as they may not know of its existence. But nurses who have been oriented may practice the policy and follow the guidelines without problems.

Non availability of In-Service training

In-Service training department is a very vital area of the hospital setting so as to up date or up grade nurses with the latest scientific knowledge. Nurses who attend In-Service training on PEP may know about prophylaxis and know what to do when injured than those who have not attended In-Service training.

Non availability of the PEP Policy in the nursing curriculum

The Nursing Curriculum contains courses that a nurse is supposed to undergo in order to perform appropriately at work and for the satisfaction of the community at large. Currently, the PEP policy is not in cooperated into the nursing curriculum but there is a component of infection prevention. If the nurses are taught from school on PEP, it may have a positive impact as it will be the basic knowledge that the nurse will be able to put into practice that which they have been taught.

Lack of ARV used in PEP

Nurses who have been exposed to the HIV are supposed to access the recommended ARV for duration of at least 4 weeks. Nurses may go through the steps of accessing the prophylaxis but the problem may come in where you find that the ARV is un

available. Instances where the ARV is unavailable may cause nurses not to access as it is discouraging.

1.3.2 Personal factors

Age of the nurse

There are nurses who are very old and most of them are Enrolled nurses. These nurses have been in the profession for a long time and they are now being supervised by the newly qualified young Registered Nurses who are the ages of the old nurse's children. A nurse who is old with a vast experience in the nursing sector may feel belittled if she is supervised by a young nurse. They may fail to get instructions from the younger nurse and not follow the PEP guidelines.

Lack of confidentiality among nurses

Confidentiality on private issues like the HIV status of someone is a very important factor because issues pertaining to HIV usually lead to stigma and discrimination in the workplace. AIDS stigma exists around the world in a variety of ways, including rejection, discrimination and avoidance of HIV infected people. HIV testing without prior to PEP requires confidentiality. Violence against HIV infected individuals or people who are perceived to be infected with HIV and the quarantine of HIV infected individuals, Stigma-related violence or the fear of violence may prevent many nurses from seeking HIV testing upon occupational exposure to HI infection. If the nurse in charge of the PEP policy implementation does not keep confidentiality, this may lead to nurses not wanting to access the prophylaxis for fear of exposure. If confidentiality is viewed as vital and practised, it may encourage most nurses to access the PEP as they have the confidence that their HIV status may be kept private. A nurse who may be uncertain about confidentiality among health workers who have access to medical records may contribute to the reluctance to be tested for HIV.

Lack of flexibility to change

People usually have negative attitudes especially where it comes to adoption of new ideas. They may be comfortable with their previous practice and find it difficult to adjust or add up new ideas to what already exists. These types of nurses may be adamant to change and may not accommodate the policy and not support it.

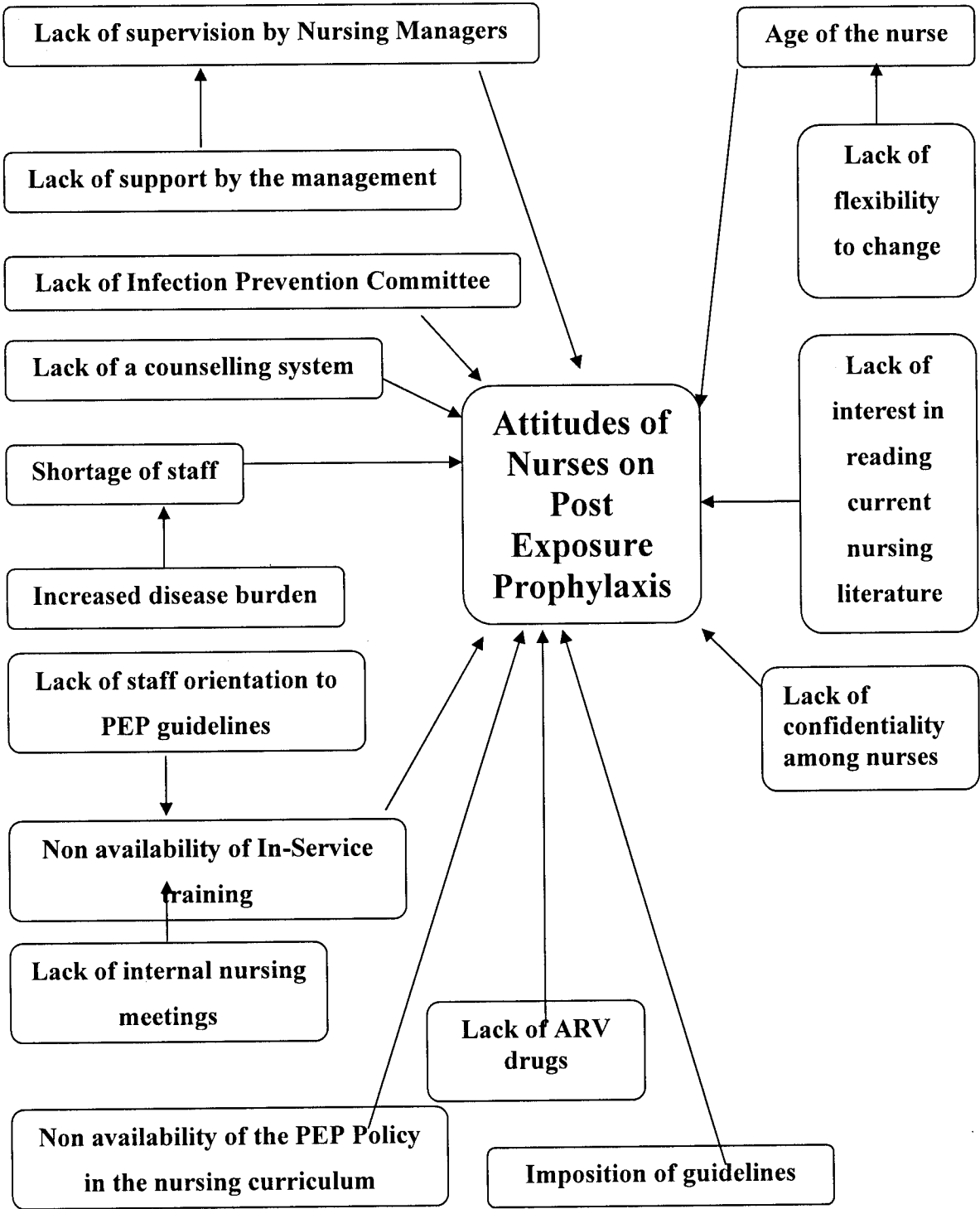
Lack of interest in reading current nursing literature

Nurses are expected to be self motivated and able to up date them on the latest nursing and medical information to enable their practice. Nurses who are not interested to read may be ignorant on PEP information and how to go about it. Whilst those who have the interest to read nursing literature may come across PEP information and know what to do if they exposed to the HIV during practice.

Figure 2 **DIAGRAM OF PROBLEM ANALYSIS FACTORS**

Service Related Factors

Personal Factors



1.4 JUSTIFICATION FOR THE STUDY

This research study focuses on finding solutions to improving nurse's attitudes towards accessing the Post Exposure Prophylaxis once they have had an occupational exposure to the HIV. The findings will be communicated to Chipata Provincial Health Office so as to provide a foundation where further studies could be done in order to improve utilization of the Post Exposure Prophylaxis among nurses.

Gerberding J, L, (2003), carried a study that focused on finding out if health care personnel who have occupational exposure to blood are at risk for HIV infection. There was evidence in her study that HIV is contracted from the work place through exposure to HIV infected media. She used this study to recommend ways of preventing blood exposure through safer practices, barrier precautions, safer needle devices, and other innovations. Although these strategies have been successful in reducing the frequency of blood exposure and needle-stick injuries in the past decade, the hazard has not been eliminated.

International Conference in AIDS on 11-16th July 2004 in Nairobi, Kenya, addressed attitudes of health workers towards HIV testing in Zambia. It is assumed that health workers practice what they preach. However, few studies examine whether this is true, especially with regards to HIV/AIDS. This study examines HIV testing among health workers in Zambia, in order to find out their interest and motivation to learn their serostatus. Most medical workers reported potential exposure to HIV through needle pricks, blood splashes and from caring for patients without adequate protection. When exposed, many rinsed the site off with disinfectant or squeezed the blood out. Some health workers were aware of PEP but felt it was largely unavailable. The majority had not been tested for HIV, largely due to anxiety over the results in an ARV scarce environment. Health workers also seem to have become numb to occupational HIV exposure; many simply treat it as routine and did not think it necessary to seek testing. However, they felt it was advisable to seek testing in case of sexual risk-taking, even though still many had not tested. Among the reasons for not testing was being mutually

monogamous with spouses, seeing no need for the test and "letting sleeping dogs lie". Health workers in Zambia need programs to help them address their risk for HIV/AIDS. They also need programs motivating them to learn their HIV status, due to both personal and occupational risk so that they are able to access post exposure Prophylaxis (www.avert.org/aidstarget.htm).

The study by Gerberding looked at if occupational exposure to blood is a risk factor for HIV infection whilst the other study looked at attitudes towards HIV testing in general. These studies did not look at the nurses attitudes towards the actual utilisation of the prophylaxis. This research study will provide information on attitudes nurses have on PEP and this will be a stepping stone to developing further studies on how to help the nurses to cope with these situations.

1.5 RESEARCH OBJECTIVES

1.5.1 General Objective

To determine factors that influence nurses' attitude towards the PEP Policy.

1.5.2 Specific Objectives

- **1.5.2.1** To determine the level of knowledge that nurses have on PEP.
- **1.5.2.2** To establish factors associated with nurses attitudes towards PEP.
- **1.5.2.3** To determine how nurses utilise the PEP Policy.
- **1.5.2.4** To make recommendations that will assist policy makers develop strategies to increase adherence to the PEP policy.

1.6 HYPOTHESIS

- 1.6.1** Lack of adequate orientation of Nurses on PEP leads to ignorance of existence of the policy and lowers its utilization.
- 1.6.2** Negative attitudes towards PEP leads to under utilisation of the prophylaxis.

1.6.3 Lack of confidentiality among nurses influence their low utilization of PEP Policy.

1.7 OPERATIONAL DEFINITION OF TERMS

- **Adherence**

Sticking to the PEP policy meaning taking the right measures after a nurse has been exposed to the HIV

- **Attitude**

The way a nurse thinks or behaves towards PEP policy

- **Blood Splash**

Skin visibly contaminated with blood.

- **Infection**

Is the entry and development of micro- organisms in human beings

- **Nursing Meeting**

A discussion held among nurses of conditions and their management, including challenges.

- **Needle Stick Injury**

Puncture with a needle or sharp instrument that is contaminated or potentially contaminated with blood.

- **Nosocomial infections**

These are Hospital Acquired Infections as result of improper IP practices

- **Nurse**

An individual, who is trained, registered with the GNC and is licensed to practice in Zambia.

- **Occupational Exposure to HIV**

Nurses caring for HIV infected patients may be at risk for acquiring HIV infection through contact with HIV infected blood and body fluids.

- **Percutaneous Exposure**

When there has been exposure through non-intact skin.

- **Prevention**

These are measures put in place in order to stop the transmission of infection

- **Stigma**

A “deeply discrediting” attribute.

1.8 VARIABLES, INDICATORS AND CUT-OFF POINTS

A variable is an attribute or characteristic that can have more than one value such as height, weight, and blood pressure (Dempsey and Dempsey, 2000).

These variables can be dependent or Independent variables.

1.8.1 Dependent variable

A dependent variable is the variable that is hypothesized to depend on or be caused by another variable which is the independent variable (Polit and Hungler, 1997)

The **dependent variable** is

The Attitudes of Nurses on Post Exposure Prophylaxis

1.8.2 Independent variable

These are the variables that are believed to cause or influence the dependent variable in experimental research, the manipulated variables (Polit and Hungler, 1997)

The **independent variables** are as follows:

Service Related Factors like

- Lack of supervision by Nursing Managers
- Lack of support by the management

- Lack of Infection Prevention Committee
- Lack of a counselling system
- Shortage of staff
- Increased disease burden
- Lack of staff orientation to PEP guidelines
- Non availability of In-Service training
- Lack of internal nursing meetings
- Lack of ARV drugs
- Non availability of the PEP Policy in the nursing curriculum
- Imposition of guidelines

Personal Factors like

- Age of the nurse
- Lack of flexibility to change
- Lack of interest in reading current nursing literature
- Lack of confidentiality among nurses

Table 1 Table of Variables and cut points

Dependent Variable		Indicators	Cut-off Points
Dependent			
Attitude	Positive If the Nurse views PEP as being beneficial in the prevention of HIV/AIDS infection in the work place after exposure.	Correct responses to the questions with scores of 9 to 13 out of 14 questions on attitude.	
	Negative If the Nurse views PEP as not being beneficial in the prevention of HIV/AIDS infection in the work place after exposure.	Correct responses to the questions with scores of 0 to 8 out of 14 questions on attitude.	

CHAPTER TWO

2.0 LITERATURE REVIEW

Literature review is a critical summary of research on a topic of interest, often prepared to put a research problem in the context or as the basis for an implementation project (Polit and Hungler, 1997).

The literature review will discuss the nurses' attitudes towards PEP under the following headings:-

- Global perspective
- Regional perspective and
- Local perspective

There is minimal literature on PEP after HIV occupational exposure despite there being a wealth of literature on HIV. Expansion of scientific knowledge has extended to looking at new technological advances in prevention and control of HIV infection among nurses in the health care setting.

This review revealed that most of the studies on IP practices were conducted in developed countries than in developing countries. This indicates that little attention has been given to improve IP practices in the health care institutions in most of the African countries. However, the available literature still provides the general insight on IP practices and some lessons could be drawn from experiences from other countries.

2.1 Global Perspective

Globally, Infection Prevention is recognised as a major component in the provision of quality health care. This affects various sectors of health programmes and aims at protecting not only the health providers but also the client and the community (CBoH 2005-2007).

Scientifically, the origin of Infection Control is traced as far back as the Florence Nightingale era the founder of modern day nursing. She initiated the need for infection prevention in the health care setting. She instituted the means to prevent Hospital Acquired Infections (HAI) (Chanda, 2004).

UNAIDS and the WHO (2005), estimate that AIDS has killed more than 25 million people world wide since it was first recognized in 1981, making it one of the most destructive epidemics in recorded history. Despite recent, improved access to antiretroviral treatment and Occupational Post Exposure Prophylaxis care in the prevention of HIV/AIDS infection in many regions of the world, the AIDS epidemic claimed an estimated 2.8 million (between 2.4 and 3.3 million) lives in 2005 of which more than half a million (570,000) were children. These children may be from working parents who may have contracted the HIV at the work place. South & South East Asia are second worst affected with AIDS and it accounts for the deaths of 500,000 children. Two-thirds of HIV/AIDS infections in Asia occur in India, with an estimated 5.7 million infections making it the country with the highest number of HIV infections in the world (www.unaids.org/report-of-the-global-aids-epidemic, 2005.htm).

Of the 35 million health workers worldwide, about three million are exposed to such pathogens each year through percutaneous injuries (from syringes and other sharp instruments). These accidents may result in 15,000 HCV, 70,000 HBV and 500 HIV infections. And more than 90% of these infections occur in developing countries, where health workers often lack the knowledge, skills and resources necessary to protect themselves and their clients from becoming infected. People who provide or receive health care services, whether in a hospital, clinic or any other health care setting are at risk of acquiring and transmitting potentially life-threatening infections through accidental exposure to blood and body fluids or contaminated objects (www.unaids.org/report-of-the-global-aids-epidemic, 2005.htm).

Occupational exposure to blood and body fluids puts health care providers at risk of infection with blood-borne pathogens, such as hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV. Fortunately, health care-related infections, like other occupational hazards, are largely preventable, as shown by the low rates of such infections in countries that have engaged in serious infection prevention efforts—including training of health workers in infection prevention and control (IPC) practices, HBV immunization, post-exposure prophylaxis (PEP) for HIV, improved waste management and other measures (www.ilo.org/safework/safeday.htm).

Ensuring that health facilities are safe and healthy places, for clients/patients and health workers, is a high priority for the health industry worldwide. It is particularly relevant in countries that face a significant shortage of health care personnel the human resources for health who are essential for delivering high-quality health services and achieving the countries' health goals. These countries cannot afford to continue to lose health workers because of illness, disability or premature death from becoming infected, or from fear of becoming infected. In Brazil, The risk for infections was 7 times higher for those who did not receive pep (www.kaisernetwork.org/aids2002/transmission).

Analysis of data provides information on the use of PEP following occupational exposures in 47 hospitals in the United States. A total of 11,784 exposures to blood and body fluids were reported from June 1996 through November 2000 (CDC, unpublished data, 2001). For all exposures with known sources, 6% were to HIV-positive sources, 74% to HIV-negative sources, and 20% to sources with an unknown HIV status. Sixty-three percent of health workers exposed to a known HIV-positive source started PEP, and 54% of health workers took it for at least 20 days, whereas 14% of HCP exposed to a source person subsequently found to be HIV-negative initiated PEP, and 3% of those took it for at least 20 days. The exposure to mucous membranes, skin or was a superficial percutaneous injury and the source person did not have end-stage AIDS or acute (CDC, unpublished data, 2000).

Similarly, the National Clinicians' Post-Exposure Prophylaxis Hotline (PEPline) reported that PEPline staff recommended stopping or not starting PEP for approximately one half

of the health workers who consulted them about exposures (D. Bangsberg, San Francisco General Hospital, unpublished data, September 1999). The observation that some health workers exposed to HIV-negative source persons take PEP from several days to weeks following their exposures suggests that strategies be employed such as the use of a rapid HIV antibody assay, which could minimize exposure to unnecessary PEP.

Health care workers in the United Arab Emirates private sector are calling for more timely access to HIV post-exposure prophylaxis following accidental exposure. According to a news release, the country's current regulations prohibit private hospitals from keeping this type of medication on-site. Instead, post-exposure prophylaxis can only be accessed at designated public hospital. Staff are concerned that not having immediate access would result in critical delays in treatment (Nina Muslim (2006).

2.2 Regional Perspective

Sub-Saharan Africa remains by far the worst affected region, with an estimated 21.6 to 27.4 million people currently living with HIV. More than 64% of all people living with HIV are in sub-Saharan Africa and of this more than three quarters (76%) are women. In 2005, there were 12.0 million [10.6–13.6 million] AIDS orphans living in sub-Saharan Africa 2005. South Africa has an estimated 5.5 million people living with HIV which is 11.9% of population.) In the 35 African nations with the highest prevalence, average life expectancy is 48.3 years which is about 6.5 years less than it would be without the disease. Considering this fact, adults with the HIV infection which may have been contracted at the work place have really left orphans who bring up issues of streetkids (www.unaids.org/report-of-the-global-aids-epidemic, 2005.htm).

The Ministry of Health in Kenya with support from the Horizons program and the Centres for Disease Control and Prevention, conducted a national survey in public and private health care facilities to assess the preparedness of health workers to provide diagnostic HIV testing and counselling (DTC). The survey also provided an opportunity to assess HIV-related service delivery in the country, to examine the occupational risk environment among health workers, and to assess how HIV has affected them in their

personal lives. The findings revealed that the majority of health workers (88%) were employed in facilities where HIV testing was available (www.ilo.org/safework/safeday.htm).

The majority of the health workers feel there is an adequate supply of important infection control supplies. The vast majority of Kenyan health workers are concerned about becoming infected at work, yet most say their health facility lacks written guidelines about occupational exposure. Although most respondents say they know of post-exposure prophylaxis (PEP), only half have operational knowledge on how to access and use it. More than half of health workers (55%) who had operational knowledge of PEP and were potentially exposed to HIV infection did not seek PEP following exposure. Major reasons were lack of information and fear. Nearly a third of health workers in Kenya have never been tested for HIV, including half the enrolled nurses, who represent the bulk of health care providers. Moreover, half of health workers who have a partner report that this individual has not been tested. There is great interest for self-testing among health workers, with 73 percent of respondents desiring this service (Khan, 2006).

For more than 15 years, JHPIEGO has been an international leader in advocating for and implementing evidence-based standards for IPC practices that protect both clients and health workers. Through the appropriate use of simple, cost-effective IPC practices (e.g., hand-washing, wearing gloves, processing reusable instruments); health workers in some of the world's least developed regions can play a critical role in:

- Reducing the risk of infection and disease transmission to clients
- Protecting themselves and other staff from exposure to life-threatening diseases
- Limiting the spread of infection from facilities to communities through effective waste management
- Minimizing environmental pollution through appropriate reprocessing of single-use items

By systematically integrating IPC into health care initiatives such as family planning, reproductive health, maternal and newborn health, and HIV/AIDS prevention, JHPIEGO

has assisted more than 40 countries in reducing the spread of infectious diseases in their health facilities and the communities they serve (www.avert.org/aidstarget.htm).

Working with key stakeholders at every level of the health care system—from ministries of health, to facility supervisors, to clinicians and housekeeping personnel—JHPIEGO designs a comprehensive IPC approach that fits the country's unique needs and is in accordance with evidence-based best practices and international standards. This approach may include the following activities at site, regional or national levels:

- Developing and implementing IPC standards and guidelines for workplace safety
- Creating IPC reference and learning materials for use in training health workers
- Designing and facilitating IPC training events and systems
- Establishing IPC strategies to help governments prepare for, and respond to, an outbreak or epidemic of pandemic (avian) flu
- Implementing a Standards-Based Management and Recognition (SBM-R) approach to improve performance and quality of IPC services
- Incorporating inexpensive, locally available materials to reduce costs associated with IPC
- Removing logistical barriers to improving IPC and other health care services

In addition to preventing and controlling infection, a strong IPC component in health care services can reduce the perceived risk of becoming infected with life-threatening illnesses among health care providers. Changing these perceptions can help reduce health staff attrition and increase the number of people joining the health industry. It can also lead to more compassionate and caring provision of health services by reducing the stigma and discrimination associated with diseases such as HIV/AIDS.

In close collaboration with the Mozambique Ministry of Health (MOH) and other partners, JHPIEGO has been working to reduce health worker and client exposures to blood-borne pathogens. Through a hands-on approach based on the standardization of care, this initiative has been successfully implemented in 23 hospitals, and is currently being expanded to the remaining 10 hospitals in the country. As part of this effort,

JHPIEGO is developing workplace safety and health guidelines, including occupational post-exposure prophylaxis (PEP) for HIV, as well as IPC training materials and job aids for ancillary workers (www.avert.org/aidstarget.htm).

Health workers in Zimbabwe who are HIV-positive, have come together to form the Zimbabwe HIV and AIDS Activists Union (ZHAAU) for the purpose of supporting and lobbying for the rights of health care workers living with the virus. This group have in their midst the doctors and nurses. Two of the key issues the group hopes to address are stigma in the workplace and access to antiretroviral treatment. According to an HIV counselor "stigmatization is most noticeable at hospital canteens, where some workers do not use utensils we use. Some bring their own cups and plates because they don't want to use the ones we use, or do not come to the canteen at all." ZHAAU's Secretary General, who is an HIV-positive nurse, has called for a greater focus on the needs of health workers living with HIV, as well as better training programmes for workers caring for HIV/AIDS patients (IRIN PlusNews, 2007).

2.3 National Perspective

The HIV/AIDS pandemic is at its worst in Zambia. With only 5% of the world's population, this region is home to approximately 30% of all people living with HIV/AIDS. Moreover, the pandemic continues to grow at a staggering rate, putting tremendous pressure on health services already struggling with tight budgets and scarce resources to meet the basic needs of their people (UNAIDS, 2002).

The Zambian Nurses Association (ZNA), was founded in 1950 by Dora Norman (a British nurse working in what was then Northern Rhodesia), and is the oldest professional body in the country (ZNA, 2001). The association has a membership of about 700 out of a total workforce set officially at 12 000 nurses and midwives, although people are emigrating or leaving the profession at an unprecedented rate, and much faster than they are being replaced. It has branches throughout the country, and a core of full-time staff, led by an executive director, based at its headquarters in Lusaka. The president of the association and her two vice-presidents are all volunteers. The ZNA has carried out research into the effects of HIV/AIDS on the profession and the needs of nurses and

midwives in responding to the epidemic. Besides the special HIV/AIDS project that is described in detail later in this report, the association has piloted a weekly HIV/AIDS radio drama targeted primarily at health workers (Ibid, 2001). It has adapted the UNAIDS/WHO/ICN Fact Sheets for Nurses on HIV/AIDS to include information on healthy nutrition using locally-available foods, home-based care, and HIV/AIDS related legal issues (WHO/ICN/UNAIDS, 2000).

A ZNA newsletter is in the pipeline to disseminate information and research findings to members on regular basis. Between September 2001 and 2002, the association conducted capacity-building workshops for nurses and midwives in the nine provinces country wide (ZNA, 2001). The ZNA believes in the value of networking. It has formed cooperative partnerships with a number of local organizations with shared interests, such as Youth Media, an NGO for youth, specializing in information, education and communication, which publishes a newsletter on sexual and reproductive health (Trendsetters) and which has made a video with ZNA and participated in workshops run by the association. The ZNA also has a special relationship with the Norwegian Nurses Association, which dates back to 1988 (Ibid, 2001).

In Zambia, the nurses association is keenly aware of the need for greater openness, and encourages nurses and midwives to go for VCT, but only about 20% have done so. “They ask: ‘What’s the point? What help is there if I find I am positive?’”, explained Zambia Nurses Association (ZNA) president Dorothy Chikampa (Ibid, 2001). Some are worried about confidentiality because it is their own colleagues who run the counselling and testing services. Some fear they will lose their jobs. But some reject VCT because, as professionals who are looked to for care and support, they find it hard to accept their own vulnerability and would rather deny it. The provision of care and support services is an important element in encouraging nurses to find out their HIV status, and countries are slowly taking steps to provide such services (Ibid, 2001).

Among health professionals, the biggest burden is shouldered by nurses and midwives, who are the first point of contact for patients. Often nurses qualified before HIV/AIDS

was on the curriculum and they have not received specialist training in the syndrome and how to apply PEP. In many places, nurses and midwives are bypassed by public information programmes because their central role in combating the epidemic and their need for specialist knowledge and skills are not recognized. These excessive workloads, caused by ever-increasing numbers of patients, the time and energy required to care for people living with HIV/AIDS (PLWHA) poses a Zambian Nurse to be at risk of being infected by the virus. Whereas a ratio of 1 nurse to 10 patients is the ideal, many are Zambian Nurses are single-handedly caring for 30, 50, 60 and even more patients, most of whom are bed-ridden and need everything done for them in the widespread shortages of medical supplies and equipment, including the most basic necessities for protecting against hospital-acquired infection, such as rubber gloves, gowns and masks. For many nurses and midwives working in such conditions, there is the constant fear of contracting HIV from their patients. Studies of occupational risk conducted in the United States of America and Europe suggest that less than 1% of HIV cases among health workers are contracted in the course of duty. The life expectancy at birth in Zambia has declined from 55 years in the early 1980s to 37 years by 1998, and is still declining.

A survey on HIV/AIDS and Zambia's nurses was conducted (ZNA, 2001), entitled 'HIV/AIDS and the workplace: a case of nurses and midwives in Zambia', was carried out between May and August 2001 and funded by the Norwegian Agency for Development Cooperation (NORAD). It was conducted among nurses, other health personnel, health administrators and other relevant organizations and authorities in Zambia. It revealed that: Zambian nurses, especially those in the hospital sector, are seldom offered specific training in HIV/AIDS and how to deal with it in a clinical setting; national plans do not mention the risk of infection in the workplace, and guidelines for prevention in the working environment are either non-existent or poorly developed; though there was no evidence of nurses actually being dismissed from work as a result of HIV/AIDS, there is no personnel policy to take care of infected nurses and midwives, to adjust their work commitments according to their state of health, or to offer support; because of shortages of protective equipment and heavy workloads, most nurses feel themselves to be at risk of infection in the workplace, and believe, too, that the risk they

face at work is higher than the risk of exposure to HIV in their private lives; there is a general perception that infected health staff are more likely to suffer stigmatization and discrimination than the rest of the population; and the struggle to survive on poor wages leads some nurses to engage in activities that put them at risk of HIV infection in their private lives.

Chanda (1995) on the role of Operational Research in Needle – Stick Prevention at the University Teaching Hospital in Lusaka, revealed the magnitude of sharp injuries is quite high in the institution. 59% of the interviewees had sustained needle-stick injuries within the year. Injuries were common among those who recapped the needles. 82% (14) out of 18 Doctors and 67% (12) out of 20 nurses who recapped the needles sustained needle-stick injuries. 39% (13) out of 33 Porters and Maids sustained injuries from needles and blades.

In Zambia, JHPIEGO and partners are implementing the President's Emergency Plan for AIDS Relief (PEPFAR) program to prevent medical transmission of HIV in Zambia. As part of this effort, JHPIEGO led the Prevention of Medical Transmission of HIV in Zambia Program, spearheading the assessment and pilot-testing of IPC and injection safety strategies, as well as assisting the Zambian government in the development, production and dissemination of national IPC guidelines and the Zambia National Infection Prevention Implementation Strategy 2005-2007. The program has assisted district- and facility-level managers in the forecasting, procurement and management of essential IPC supplies, resulting in improvements in quality of care at key facilities in Zambia. JHPIEGO continues to support the Zambia government in scaling up improved injection safety and IPC programs nationwide in all nine provinces and 72 districts (www.avert.org/aidstarget.htm).

2.4 Conclusion

The management of patients with HIV/AIDS presents one of the most complex issues that nurses have to deal with especially with the introduction and scaling up of ARVs. In Africa there is an urgent need to expand the knowledge base upon which nurses in

particular depend. This will maximise the utilisation of staff especially in the peri-urban areas in the management of ART and enable patients to be managed effectively and efficiently right where they are even in the absence of a doctor.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

Methodology according to the Concise Oxford English Dictionary, 2004, is a system of methods used in a particular field.

3.1 Research Design

A research design is the overall plan for addressing a research question including specifications for enhancing the integrity of the study (Polit and Hungler, 1997). The design that was used in this study was a non interventional (non experimental design) as research subjects were analysed without any experiments involved. The study was descriptive non interventional which involved systems collection and presentation of data to give a clear picture of the work place situation. This enabled description of the characteristics of the subjects and the frequency of the phenomenon related to attitudes nurses have towards PEP policy. Data was collected directly from the respondents.

3.2 Research Setting

Polit et al (2001) define research setting as the physical location and conditions in which data collection takes place in a study.

The study was carried out in Chipata General Hospital in Chipata District in the Eastern Province of Zambia. The natural setting was the work area where nurses are based.

3.3 Study Population

This is the entire set of individuals (or objects) having some common characteristics (Polit et al, 2001). The study population comprised of male and female nurses of varying ages working at Chipata General Hospital in Chipata District. These nurses were Registered Nurses, Registered Midwives, Registered Mental Nurses, Enrolled Nurses and Enrolled Midwives.

3.4 Sample selection

Sampling is the process of selecting a representative part of the whole population (Treece and Treece, 1986). The study sample was selected using stratified random sampling to ensure an equal chance of nurses was selected. This method gave a true representation of the situation at hand and reduced sampling bias. I used the time table list for the nurses to count and at every nth name, I chose the number required from each wards

3.5 Sample Size

A sample is the number of study participants in a sample (Polit, Beck and Hungler, 2001). The sample size for this study was 50 nurses. This sample is the standard requirement for the PBN Department as it is feasible in terms of time and available resources. The sample size represented the target population through the generalisation of research findings.

3.6 Data collection tool and technique

A data collection tool is a measuring device used in the gathering of information needed to address a research problem (Polit et al, 2001). The instrument which was used to collect data was a questionnaire which was self-administered since the nurses are literate and able to read and write by themselves. The tool was tabulated in English as it is the Zambian official medium of instruction in Zambia.

A questionnaire has advantages of:-

- They require less time to prepare
- They require less energy to administer
- They consume less time
- With a fixed amount of funds or time, a larger and more geographically diverse sample can usually be obtained with mailed questionnaires.
- They offer the possibility of complete anonymity.
- There is less biasness as respondents are anonymous
- A questionnaire brings out the specific data one wants to collect

A questionnaire has disadvantages of:-.

- They may be lost
- Some respondents may not answer some of the questions or the whole questionnaire
- It takes a lot of time to read it and analyse the data
- It is expensive to type and print the questionnaires
- It is difficult to build rapport

3.7 Pilot study

A pilot study will be conducted, which is a mini study conducted before the major study in order to make revisions and find flaws in the methodology (Treece and Treece, 1986). It included every step expected in the major study. The purpose of the pilot study was to assess the practicability of the instrument for improving the project or assessing its feasibility. It also helped detect any errors in the scheduled interview questionnaire for the main study so that clarity is sought and corrections made. My sample size was 10% of the total sample size.

3.8 Validity

Validity is the extent to which a measurement does what it is supposed to do (Fisher et al, 2002). Validity in this study was upheld by using the same data collection instrument on all the respondents in the same way it was done in the pre-test questionnaire.

3.9 Reliability

Reliability refers to the consistency, stability, or dependability of the data. A reliable measure is one that if repeated a second time will give the same results as it did the first time (Fisher et al, 2002). Reliability was upheld through making questions simple, concise and the subjects were only exposed to the tool once.

3.10 Ethical and Cultural considerations

Ethics are a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal, and social obligations to study participants (Polit, Beck and Hungler, 2001).

Permission was obtained from the Hospital Director and the Principal Nursing Officer. It was clearly explained to the subjects that before they answer questions that confidentiality and anonymity would be upheld for privacy purposes. No names were entered on the questionnaires and instead serial numbers or codes were used.

CHAPTER FOUR

4.0 DATA ANALYSIS

Data analysis is the systematic organisation and synthesis of research data, and the testing of research hypothesis using the data (Polit et al, 2001).

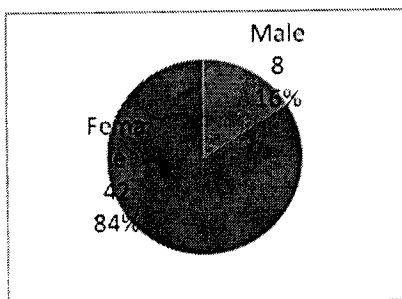
The research data was analysed manually using a data master sheet after the respondents returned the first questionnaires. There was sorting, verification of responses and entering of data on the data master sheet for the quantitative data. The data master sheet was partitioned into 3 categories namely demographic data, knowledge on PEP and nurses' source of information on PEP.

The qualitative data was derived from open-ended questions after using content analysis (Polit and Hungler, 1999). Each response was transcribed, read and reread to get the concepts in the responses. The concepts were derived from the characteristics of the responses, and then developed into themes that were used to categorise the content into meaningful groupings.

4.1 PRESENTATION OF FINDINGS

A: DEMOGRAPHIC DATA

Figure 3: Sex of Respondents (n = 50).



The majority of the respondents, 42 (84%), were female whilst 8 (16%) were male.

Table 2: Age of Respondents (n = 50).

Age group (years)	Frequency	Percentage (%)
18 – 24	1	2
25 – 34	18	36
35 – 44	24	48
45 and over	7	14
Total	50	100

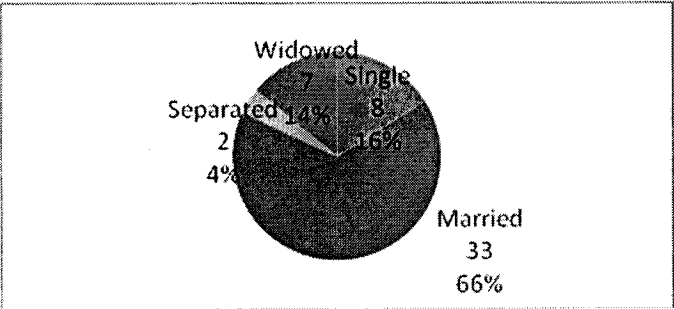
The majority of the respondents were aged between 35 - 44 years; 7 (14%) were aged above 45 years; and 1 (2%) was aged between 18 and 24 years.

Table 3: Religion of the Respondents (n = 50).

Religion	Frequency	Percentage (%)
Christian	50	100
Moslem	0	0
Hindu	0	0
Other	0	0
Total	50	100

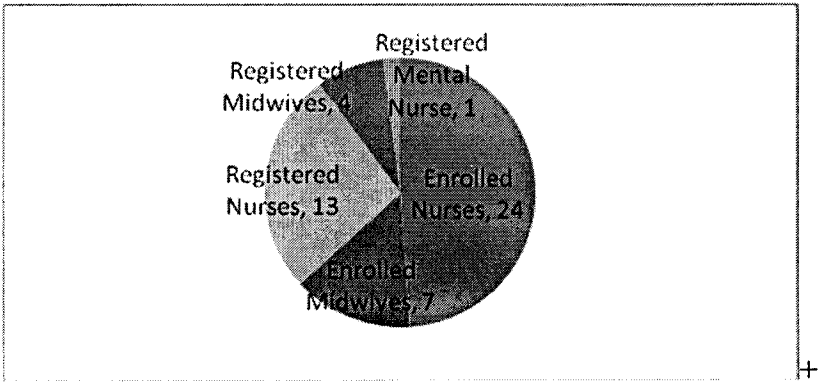
All the respondents were Christians 50 (100%).

Figure 4: Marital Status (n = 50).



The majority of the respondents, 33 (66%), were married whilst 8 (16) single.

Figure 5: Professional Qualification of Respondents (n = 50).



The majority of the respondents, 24 (48%), were Enrolled Nurses; 13 (26%) were Registered Nurses; and 7 (14%) were Enrolled Midwives.

Table 4: Respondents’ Years in Service (n = 50).

Years in service	Frequency	Percentage (%)
Less than 2	7	14
2 – 5	2	4
6 – 10	12	24
11 – 20	24	48
Over 20	5	10
Total	50	100

The majority of the respondents, 24 (48%), had worked 11 to 20 years whilst 2 (4%) had worked for 2 to 5 years

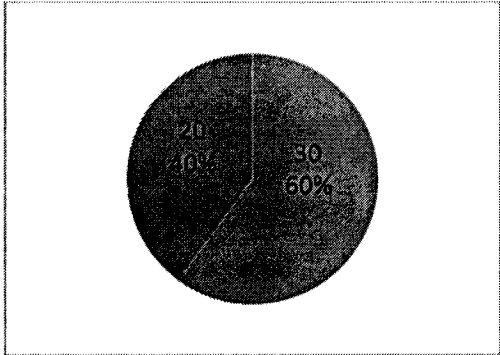
Table 5: Department In Which Respondents Were Working (n = 50).

Department	Frequency	Percentage (%)
Medicine	16	32
Surgery	11	22
Obstetrics/Gynaecology	10	20
Out patients Department	5	10
ART clinic	6	12
Psychiatry	1	2
Paediatric	1	2
Total	50	100

The majority of respondents 16 (30%) worked in Medicine Department; 11 (22%) worked in Surgery Department; and only 1 (2%) work in Psychiatry and Paediatrics Departments respectively.

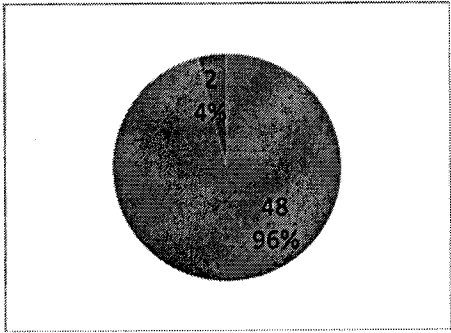
B KNOWLEDGE ON PEP (n = 50).

Figure 6: Definition of HIV



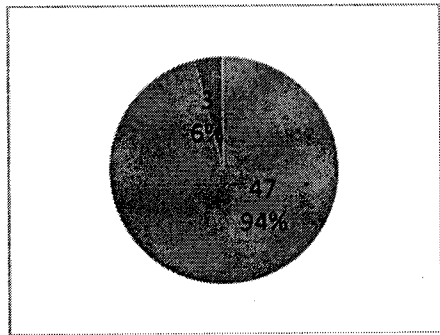
30 (60%) respondents knew the definition of HIV and 20 (40%) did not know.

Figure 7: Definition of AIDS (n = 50).



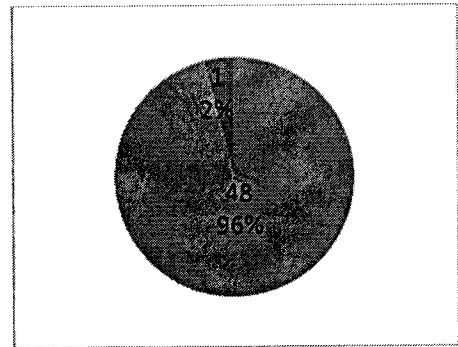
48 (96%) respondents knew the definition of AIDS and 2 (4%) did not know.

Figure 8: Definition of ART (n = 50).



47 (94%) respondents knew the definition of ART and 3 (6%) did not know.

Figure 9: Definition of PEP (n = 50).



49 (98%) respondents knew the definition of PEP and 1 (2%) did not know.

Table 6: Taking ART prophylaxis after exposure to HIV can minimise chances of a nurse getting infected (n = 50).

ART prophylaxis can help	Frequency	Percentage
Agree	47	94
Disagree	1	2
Do not know	2	4
Total	50	100

47 (94%) of the respondents knew that ART prophylaxis after exposure to HIV can minimise chances of a nurse getting infected whilst 2 (4%) did not know.

Table 7: How can a person acquire HIV (n = 50).

Transmission through	Frequency	Percentage
Contact with infected body fluids	17	34
Contaminated sharps	47	94
Unprotected sex	49	98
Mother to child transmission	33	66
Blood transfusion	37	74
Kissing	4	8

49 (98%) stated that HIV can be acquired through unprotected sex; 47 (94%) that it can be acquired through contaminated sharps; and 4 (8%) through kissing.

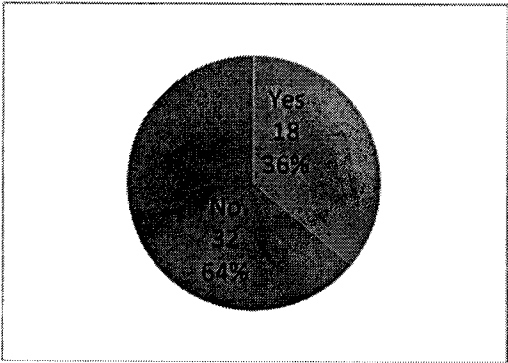
Table 8: Universal Precautions must be observed in the work place to avoid contracting HIV infection (n = 50).

Universal Precautions are important	Frequency	Percentage
Agree	48	96
Disagree	0	0
Do not know	2	4
Total	50	100

48 (96%) of the respondents stated that universal precautions must be observed in the work place to avoid contracting HIV infection while 2 (4%) did not know.

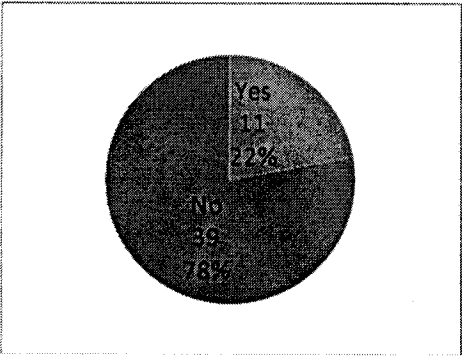
C SOURCE OF INFORMATION

Figure 10: Was PEP covered in your school curriculum (n = 50).



18 (36%) of the respondents stated that PEP was covered in their school curriculum and 32 (64%) that it was not.

Figure 11: Were you trained in PEP (n = 50).



39 (78%) of the respondents were not trained in PEP whilst 11 (22%) were trained.

Table 9: Source of PEP Information (n = 50).

Source of information	Frequency	Percentage
Radio	8	16
Television	7	14
Text books	12	24
Journals	12	24
Internet	7	14
Newspaper	5	10
Training workshops	9	18
Nursing school curriculum	5	10
Work place	14	28

The majority of the respondents, 14 (28%) have heard about PEP at the work place; 12 (24%) from journals and text books respectively and 5% (10%) in their school curriculum or from news papers.

Table 10: PEP is important for nurses in the prevention of HIV infection (n = 50).

PEP is important	Frequency	Percentage
Yes	50	100
No	0	0
Total	50	100

All the respondents 50 (100%) stated that PEP is important for nurses in the prevention of HIV infection.

Table 11: Availability of Treatment Protocols (n = 50).

Protocols available	Frequency	Percentage (%)
Yes	31	62
No	16	32
Do not know	3	6
Total	50	100

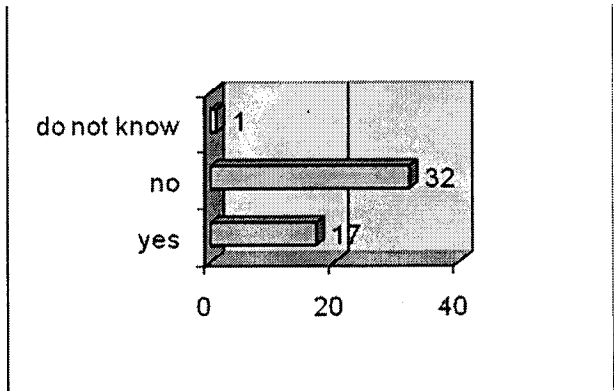
The majority of the respondents 31 (62%) stated that ART treatment protocols for PEP were available in their departments; 16 (32%) stated that they did not have them; and 3 (6%) did not know.

Table 12: Availability of ARVs for PEP (n = 50).

ARVs available	Frequency	Percentage (%)
Yes	46	92
No	4	8
Total	50	100

46 (92%) stated that ARVs for PEP were available in their institution whilst 4 (8%) stated that they did not have them.

Figure 12: Availability of PEP literature (n = 50).



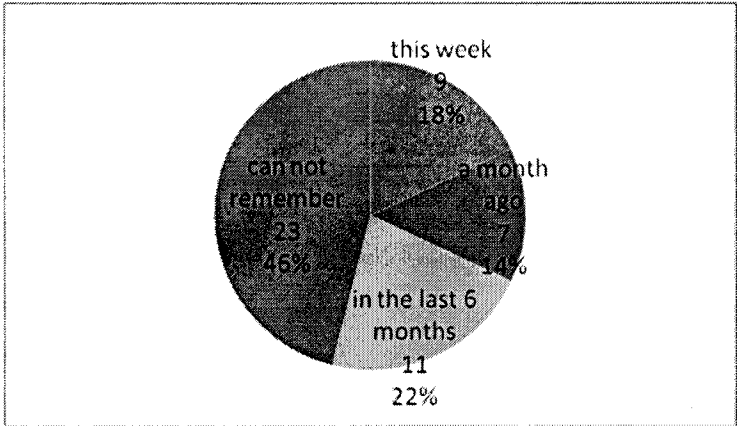
The majority of the respondents 32 (64%) stated that literature on PEP was available in their Departments; 17 (34%) stated there was none; and 1 (2%) did not know.

Table 13: What type of literature you have read (n = 17).

Type of literature	Frequency	Percentage
Posters	9	52.9
Magazines	1	5.8
Internet	3	17.6
Booklets	4	23.5
Journals	4	23.5

9 (52.9%) respondents had read about PEP from the posters; 4 (23.5%) from booklets and journals respectively; 3 (17.6%) from the internet and 1 (5.8%) from the magazines.

Figure 13: When Last Did You Read Literature On PEP (n = 50).



23 (46%) could remember when they last read PEP literature; 22 (44%) had read in the last 6 months; 7 (14%) in the previous month; 9 (18%) in the previous week.

Table 14:Availability of Nursing Conferences or meetings at your Institution (n=50).

Nursing Conferences or meetings	Frequency	Percentage (%)
Yes	18	36
No	32	64
Total	50	100

18 (36%) of the respondents stated that nursing conferences or meetings were held at their institutions whilst 32 (74%) did not have them.

Table 15: Where do you hold Nursing Conferences or meetings (n = 18) .

Places of Nursing conferences or meetings	Frequency	Percentage
In-Service Department	12	66.7
Ward	6	33.3
Total	18	100

12 (66.7%) respondents stated that Nursing Conferences and meetings were held in the In-Service Department whilst 6 (33.3%) stated that they were held in the Ward.

Table 16: Orientation on PEP Guidelines (n = 50).

Orientation	Frequency	Percentage
Yes	21	42
No	29	58
Total	50	100

21 (42%) of the respondents have been oriented on the PEP guidelines and 29 (58%) have not.

Table 17: Where did you get the orientation on the PEP guidelines (n = 21)

Place of orientation	Frequency	Percentage
In-Service Department	7	33.3
Ward	3	14.3
School curriculum	4	19.1
Seminar/Workshops	7	33.3
Total	21	100

7 (33.3%) respondents stated that they were orientated on PEP guidelines from the In-Service Department and Seminars/Workshops respectively whilst 4 (19.1%) from the school curriculum and 3 (14.3%) from the ward.

Table 18: Do you know of a nurse on PEP (n = 50).

Knowing of a nurse on PEP	Frequency	Percentage
Yes	11	22
No	39	78
Total	50	100

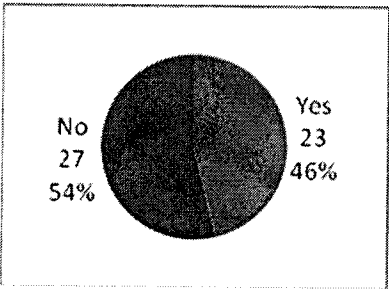
39 (78%) respondents stated that they did not know of any nurse on PEP but 11 (22%) knew some nurses.

Table 19: How many nurses do you know who are on PEP (n = 11)

How many	Frequency	Percentage
One	6	54.5
Two	3	27.3
Three	1	9.1
More than three	1	9.1
Total	11	100

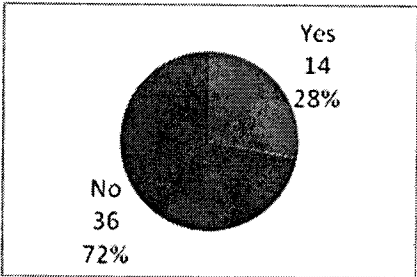
6 (54.5%) respondents knew only one nurse on PEP, 3 (27.3%) knew two; 1 (9.1%) knew three and more than three nurses respectively.

Figure 14: Nurses observe confidentiality on nurses on PEP (n = 50)



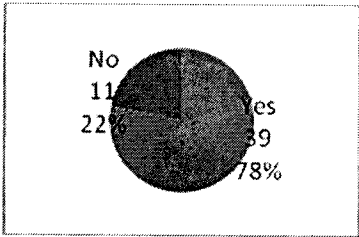
27 (54%) respondents stated that confidentiality is observed among nurses as fellow colleagues on PEP whilst 23 (46%) stated that it was not observed.

Figure 15: Follow up by Nurse Managers on Nurses on PEP (n = 50).



36 (72%) respondents stated that Nurse Managers make follow ups on Nurses on PEP whilst 14 (28%) stated they did not.

Figure 16: Infection Prevention Committee available at your Institution (n = 50)



39 (78%) respondents stated that there was an Infection Prevention Committee at the Institution whilst 11 (22%) stated that there wasn't.

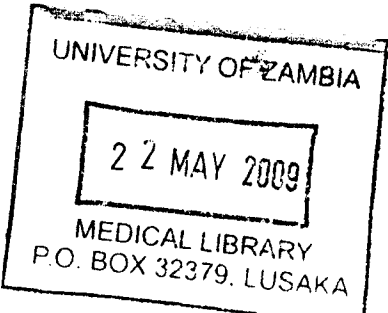
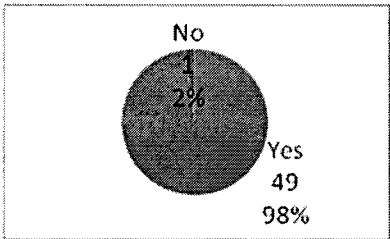


Figure 17: Counselling services available at your Institution (n = 50)



49 (98%) respondents stated that there were Counselling services at the Institution whilst 1 (2%) stated there wasn't.

Table 20: Respondents' Levels of Attitude (n = 50)

VARIABLE	FREQUENCY	PERCENTAGE (%)
Positive attitude	15	30
Negative attitude	35	70
Total	50	100

Majority 35 (70%) of the respondents had negative attitude towards PEP and 15 (30%) has positive attitude.

CROSS TABULATION OF THE FINDINGS

Table 21: The relationship between age and attitude

Age	Attitude		Total
	Positive	Negative	
18 – 24	1 (8.3%)	0 (0%)	1 (2%)
25 – 34	6 (50%)	12 (31.6%)	18 (36%)
35 – 44	2 (16.7%)	22 (57.9%)	24 (48%)
45 years and over	3 (25%)	4 (10.5%)	7 (14%)
Total	12 (24%)	38 (76%)	50 (100%)

This table shows that the majority of nurses have a negative attitude towards PEP 38 (76%). Of these, 22 (57.9%) were aged between 35 – 44 years old.

Table 22: Age in relation to Marital Status

Age	Marital Status				Total
	Single	Married	Separated	Widowed	
18 - 24	1 (12.5%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)
25 – 34	5 (62.5%)	12(36.4%)	0 (0%)	1 (14.2%)	18 (36%)
35 – 44	2 (25%)	17(51.5%)	1 (50%)	4 (57.1%)	24 (48%)
45 years and over	0 (0%)	4)12.1%)	1 (50%)	2 (28.6%)	7 (14%)
Total	8 (16%)	33 (66%)	2 (4%)	7 (14%)	50 (100%)

This table shows that the majority of the respondents between the ages of 34 – 44 years (51.5%) are married; 1 (12.5%) is single aged between 18 and 24 years.

Table 23: Age in relation to Professional Qualification

Age	Professional Qualification					Total
	Enrolled Nurse	Enrolled Midwife	Registered Nurse	Registered midwife	Registered mental Nurse	
18 - 24	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	1 (2%)
25 - 34	6 (25%)	0 (0%)	9 (60%)	3 (75%)	0 (0%)	18 (36%)
35 - 44	14(58.3%)	2 (40%)	5 (33.3%)	1 (25%)	2 (100%)	24 (48%)
45 years & over	4 (16.7%)	3 (60%)	0 (0%)	0 (0%)	0 (0%)	7 (14%)
Total	24 (48%)	5 (10%)	15 (30%)	4 (8%)	2 (4%)	50 (100%)

This table shows that the majority of nurses 14 (58.3%) are between the ages of 35 – 44 years and are Enrolled Nurses. Registered Nurses, 9 (60%) are between the ages 25 – 34 years.

Table 24: Age in relation to Orientation on PEP

Age	Orientation to PEP		Total
	Oriented	Not oriented	
18 - 24	1 (7.1%)	0 (0%)	1 (2%)
25 - 34	6 (42.9%)	12 (33.3%)	18 (36%)
35 - 44	4 (28.5%)	20 (55.6%)	24 (48%)
45 years and over	3 (21.4%)	4 (11.1%)	7 (14%)
Total	14 (28%)	36 (72%)	50 (100%)

The table shows that the majority of the nurses 36 (72%) are not oriented. Of these, 20 aged between 35-44 years are not oriented to PEP.

Table 25: Attitude in relation to Marital Status

Attitude	Marital Status					Total
	Single	Married	Separated	Divorced	Widowed	
Positive	3 (37.5%)	8 (24.2%)	2 (100%)	0 (0%)	2 (28.6%)	15 (30%)
Negative	5 (62.5%)	25 (75.8%)	0 (0%)	0 (0%)	5 (71.4%)	35 (70%)
Total	8 (16%)	33 (66%)	2 (4%)	0 (0%)	7 (14%)	50 (100%)

The table shows that majority 35 (70%) of the respondents had negative attitude towards PEP. Of these, 25 (75.8%) were married.

Table 26: Attitude in relation to Professional Qualification

Attitude	Professional Qualification					Total
	Enrolled Nurse	Enrolled Midwife	Registered Nurse	Registered Midwife	Regist. Mental Nurse	
Positive	5 (20.8%)	4(57.1%)	5 (38.5%)	1 (25%)	0 (0%)	15 (30%)
Negative	19(79.2%)	3(42.9%)	8 (61.5%)	3 (75%)	2 (100%)	35 (70%)
Total	24 (48%)	7 (14%)	13 (26%)	4 (8%)	2 (4%)	50 (100%)

The table shows that Enrolled Nurses 19 (79.2%) have a negative attitude towards PEP.

Table 27: Attitude in relation to length in Service

Attitude	Length in Service					Total
	Less than 2 years	2 – 5 years	6 – 10 years	11 – 20 years	Over 20 years	
Positive	3 (42.9%)	1 (50%)	4 (33.3%)	5 (14.7%)	2 (40%)	15 (30%)
Negative	4 (57.1%)	1 (50%)	8 (66.7%)	19(55.9%)	3 (60%)	35 (70%)
Total	7 (14%)	2 (4%)	12 (24%)	34 (68%)	5 (10%)	50 (100%)

The table shows that 8 (66.7%) respondents who had worked for 6 to 10 years and 19 (55.9%) respondents who had worked for 11 to 20 years had more negative attitude towards PEP.

Table 28: Attitude in relation to orientation to PEP

Attitude	Orientation to PEP		Total
	Oriented	Not Oriented	
Positive	10 (71.4%)	5 (13.9%)	15 (30%)
Negative	4 (28.6%)	31 (86.1%)	35 (70%)
Total	14 (28%)	36 (72%)	50 (100%)

The table shows that out of the 35 (70%) respondents with negative attitude towards PEP, 31 (86.1%) were not oriented to PEP. It also shows that although some respondents 5 (13.9%) were not oriented to PEP, they had a positive attitude.

Table 29: Attitude in relation to the department in which respondents work

Attitude	Department in which respondents work							Total
	Med	Surg	Obs & Gyn	OPD	ART Clinic	Psych	Paeds	
Positive	6 (18.6%)	3 (27.3%)	2 (20%)	1 (20%)	3 (50%)	0 (0%)	0 (0%)	15 (30%)
Negative	10 (62.5%)	8 (72.7%)	8 (80%)	4 (80%)	3 (50%)	1 (100%)	1 (100%)	35 (70%)
Total	16 (32%)	11 (22%)	10 (20%)	5 (10%)	6 (12%)	1 (2%)	1 (2%)	50 (100%)

This table shows that the majority of respondents with negative attitude, 10(62.5%), 8 (72.7%) and 8 (80%), were from the medical, surgical and obstetrics/gynaecology departments respectively.

Table 30: Attitude in relation to availability of treatment protocols

Attitude	Treatment Protocols			Total
	Available	Not available	Do not know	
Positive	13 (41.9%)	2 (12.5%)	0 (0%)	15 (30%)
Negative	18 (58.1%)	14 (87.5%)	3 (100%)	35 (70%)
Total	31 (62%)	16 (32%)	3 (6%)	50 (100%)

This table shows that 18 (58.1%) respondents had negative attitude towards PEP even with the knowledge that PEP treatment protocols were available in their departments. It also indicates that all the respondents 3 (100%) who mentioned that they did not know if treatment protocols were available in their department had a negative attitude towards PEP.

Table 31: Attitude in relation to availability of ARVs for PEP

Attitude	ARVs for PEP		Total
	Available	Not available	
Positive	14 (30.4%)	0 (0%)	14 (28%)
Negative	32 (69.6%)	4 (100%)	36 (72%)
Total	46 (92%)	4 (8%)	50 (100%)

This table shows that 69.6% had a negative attitude although they know that treatment protocols are there in their department. It also shows that all the respondents 4 (100%) who mentioned that ARVs were not available had a negative attitude towards utilization of PEP. Still.

Table 32: Attitude in relation to availability of PEP literature

Attitude	PEP literature			Total
	Available	Not available	Do not know	
Positive	9 (52.9%)	6 (18.8%)	0 (0%)	15 (30%)
Negative	8 (47.1%)	26 (81.2%)	1 (100%)	35 (70%)
Total	17 (34%)	32 (64%)	1 (2%)	50 (100%)

81.2% respondents who stated that there was no PEP literature in their department had a negative attitude.

Table 33: Attitude in relation to availability of Nursing Conferences and meetings

Attitude	Availability of Nursing Conferences and meetings		Total
	Yes	No	
Positive	11 (61.1%)	5 (15.6%)	16 (32%)
Negative	7 (38.9%)	27 (84.4%)	34 (68%)
Total	18 (36%)	32 (64%)	50 (100%)

This table shows that in those Departments where they held Nursing Conferences and Meetings had a more positive attitude (61.1%) that where there were no there.

Table 34: Attitude in relation to confidentiality among nurses

Attitude	Is there confidentiality among nurses		Total
	Yes	No	
Positive	7 (25.9%)	6 (26.1%)	13 (26%)
Negative	20 (74.1%)	17 (73.9%)	37 (74%)
Total	27 (54%)	23 (46%)	50 (100%)

This table shows that out of 27 (54%) respondents who stated there was confidentiality among nurses, 20 (74.1%) had negative attitude towards PEP. Of the 23 (46%) who stated that there was no confidentiality among nurses, 17 (73.9%) had negative attitude towards PEP.

Table 35: Attitude in relation to follow up by Nurse Managers on nurses on PEP

Attitude	Is there follow up by Nurse managers on nurses on PEP		Total
	Yes	No	
Positive	11 (78.6%)	4 (12.5%)	15 (30%)
Negative	3 (21.4%)	32 (88.9%)	35 (70%)
Total	14 (28%)	36 (72%)	50 (100%)

This table shows that out of 36 (72%) respondents who stated that there was no follow up by Nurse Managers on Nurses on PEP, 32 (88.9%) had negative attitude. It also shows that of the 14 (28%) respondents who stated that there was follow up from Nurse Managers on Nurses on PEP, 11 (78.6%) had a positive attitude.

Table 36: Attitude in relation to availability of Counselling Services

Attitude	Counselling Services		Total
	Available	Not available	
Positive	15 (30.6%)	0 (0%)	15 (30%)
Negative	34 (69.4%)	1 (100%)	35 (70%)
Total	49 (98%)	1 (2%)	50 (100%)

The table shows that out of the 49 (98%) who stated that Counselling Services are available at the institution, 34 (69.4%) had negative attitude towards PEP.

Table 37: Professional Qualification in relation to orientation to PEP

Professional Qualification	Orientation to PEP		Total
	Oriented	Not oriented	
Enrolled Nurse	3 (21.4%)	21 (58.3%)	24 (48%)
Enrolled Midwife	2 (14.3%)	5 (13.9%)	7 (14%)
Registered Nurse	7 (50%)	7 (19.4%)	14 (28%)
Registered midwife	2 (14.3%)	2 (55.6%)	4 (8%)
Registered Mental Nurse	0 (%)	1 (27.8%)	1 (2%)
Total	14 (28%)	36 (72%)	50 (100%)

This table shows that out of the majority 36 (72%) of the respondents who were oriented to PEP, 7 (50%) were Registered Nurses. It also shows that out of the 14(28%) respondents who were not oriented to PEP, 21 (58.3%) were Enrolled Nurses.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

The discussion of findings is based on data collected from a sample of fifty (50) respondents' responses who answered self administered questionnaires at Chipata General Hospital. The general objective of the study was to determine factors that influence nurses' attitude towards the PEP Policy. This discussion will first deal with demographic characteristics of the respondents, their level of Knowledge about PEP, their Sources of Information about PEP and the attitude of Nurses towards PEP.

DEMOGRAPHIC CHARACTERISTICS

The sample consisted of 50 nurses, of which 42 (84%) were female and 8 were male. This can be attributed to the fact that Nursing is a female dominated profession. From its history, the founder of Nursing, Florence Nightingale enrolled females to work with her. She opened the first nursing school with an intake of all females. As can be seen in nursing schools, the government policy shows how many males should get into nursing with a ratio of female to male, 3:1 as advised by the General Nursing Council.

The sample included Nurses with ages ranging from 18 to 45 years old and above. The majority 24 (48%) of the respondents were aged between 35-44 years. This shows that there are many older nurses than younger ones at Chipata General Hospital. This could be due to the fact that younger nurses have left the country in search of better paying jobs in foreign lands leaving the old nurses to work locally.

Regarding the marital status of the respondents, 33 (66%) who were the majority were married (figure 4). This could be attributed to the fact that marriage is the norm and strongly entrenched in the Zambian Culture. By the ages of above 25 years of age, we see most nurses marrying in Zambia. This is the reason why those who were single 8 (16%) were below the age of 24 years meaning that this is a period when most young Zambians consolidate their careers to marry later. The divorced respondents were not there because divorce is not socially acceptable in Zambia.

All the respondents 50 (100%) were Christians (table 3) because Zambia is predominantly a Christian nation. Zambia was declared a Christian nation by the second republican President, Dr F.T.J. Chiluba in 1994 at a crusade where Reverend Pastor, Benn Hinn was ministering. Although this is the case, Chipata has a lot of Moslems who are of African or Asian origin. Most of these people of Islamic religion are in informal employment such as shop keeping. This could mean that there are none accessing the PEP services since they do not work in the hospital. However, taking care of patients is a noble career which requires someone to be spiritually oriented at all times.

The majority 24 (48%) of the respondents were Enrolled Nurses (figure 5). This indicates that Country wide, there are many Enrolled Nurses as compared to Registered Nurses. This could be attributed to the fact that there are a lot of Enrolled nursing Schools as compared to Registered Nursing Schools in the country. In Eastern Province, there were originally three Enrolled Nursing Schools namely Chipata, Mwami and St Francis School of Nursing. In 1998, Chipata School of Nursing was converted to a Registered Nursing school. Therefore, Nurses graduating from these schools prefer to stay within the province by virtue of marriage and also being their province of origin.

The majority of the respondents 24 (48%) between the ages 35 – 44 years, had served for longer than 11 years (see table 4, Pg 37). Only 7 (14%) had served for less than 2 years. This indicates that the majority of younger nurses are leaving the country for greener pastures, leaving behind mostly older nurses who have marital or have parental responsibilities.

The majority of the respondents 16 (32%) and 11 (22%) had worked in the departments of medicine and surgery respectively. These are the biggest wards where most patients are admitted due to increased disease burden. This means more nursing procedures that could result into work place needle pricks and injuries occur in these areas (table 5, Pg 37).

KNOWLEDGE ABOUT PEP

Knowledge is one factor that contributes to a positive attitude on nurses PEP. Knowledge about PEP helps the Nurses know steps and precautions to take in order to reduce the risks of contracting work place infections as they carry out their duties in the hospital.

Despite HIV/AIDS having been around in Zambia for more than two decades, definitions for HIV and AIDS varied among the respondents. 30 (60%) respondents knew that HIV stands for Human Immunodeficiency Virus (see figure 6, Pg 38). The definition for AIDS produced better results with 48 (96%) of the respondents knowing that it stands for Acquired Immunodeficiency Syndrome (figure 7, Pg 39); 47 (94%) respondents knew that ART stands for Anti Retral Viral Therapy or Treatment (figure 8, Pg 39); and 49 (98%) respondents knew what PEP stands for as Post exposure prophylaxis (figure 9, Pg 39). These respondents are nurses who ought to be conversant with these terms so that they can teach and create awareness to the general public.

The respondents who defined wrong answers were Enrolled Nurses and Enrolled Midwives of 35 years of age and had served long in service. This could be because of the late introduction of Infection Prevention topics into the Nursing curriculum when the majority of these Nurses had already graduated from Nursing Schools.

ARVs are a recent intervention in HIV/AIDS treatment and prophylaxis which requires nurses to possess the knowledge and competence to meet their needs and those of their clients so that negative experiences while seeking health care are reduced (Hsuing and Thomas, 2001).

However, the trend amongst hospitals in Zambia is that Enrolled Nurses are not a priority for refresher courses meaning they are not updated in HIV/AIDS issues. On the other hand, the Zambia Nurses Association in partnership with the Norwegian Nurses Association are striving to train the Nursing professionals in issues of HIV/AIDS.

Of the 50 respondents, 47 (94%) agreed that ART prophylaxis after exposure to the HIV enables minimal risk of being infected in the work place (see Table 6, Pg 40). 1 disagreed whilst 2 did not know. 48 (96%) also responded that Universal Precautions must be observed to avoid contracting HIV at the work place (see Table 8, Pg 39). The finding of the study reveals also that Nurses had basic knowledge on PEP. Ignorance on issues pertaining to one's safety usually leads to implications such as increased incidences of pricks. As a result of disagreeing, one may decide not to take the precautions or follow stipulated guidelines in view of getting PEP.

18 (36%) have PEP covered in their school curriculum (see figure 10, Pg 41) and these are the ones who were below 30 years of age and had served for less than 5 years. This signifies the importance of strengthening the PEP and Infection Prevention components both in the clinical area and school curriculum in order to improve the PEP practices among the Nurses.

Ofili and Sogbesan, (2003) noted that Infection Prevention practices were very poor among the students in the University Teaching Hospital in Benin, Nigeria. They, then, recommended that IP be introduced in the Curriculum for student nurses.

The majority of the respondents had heard about PEP in Text books and journals (table 9, Pg 42). Few mentioned having heard about it from the radio, television, internet, newspapers, training workshops, curriculum and the work place. Nurses are not assertive in their reading culture which is a dangerous practice. This attributes to the fact that historically, lectures in nursing school have been that of the traditional style where "spoon feeding" of information is the trend. This makes individuals reluctant to search for information in order to up date themselves with recent innovations, technologies and knowledge on current issues of importance. With the introduction of the Problem Based learning in some Nursing Schools, which could enable Nurses attain critical thinking and self motivation to conduct self study.

However, nurses require much more specific information that relates to patient care that they cannot obtain through the public media. The need still remains for a deliberate

programme to ensure that all the healthcare workers are trained in the management of ART which includes PEP (GNC, 2005; MCZ, 2005; Zambia ART Scale Up Plan 2004-2005). This will enable nurses also to have access to quality health care once they are at risk.

The majority of the respondents 31 (62%) stated there were PEP protocols in their departments (table 10, Pg 43), 16 (32%) stated they were not there and 6% indicated they had never seen them. Information requires ones interest to read and to be alert or else with the increased work load, they will end up not seeing them.

17 (34%) stated that literature on PEP was available, 32 (64%) stated it was not available whilst 1 (2%) did not know (see Figure 12, pg 44). This also shows that an individual should have interest to read.

The majority 32 (64%) of the respondents who said there was no literature on PEP were the Enrolled nurses. Enrolled Nurses are practical Nurses with a busy work schedule because of the increase in disease burden and shortages of staff. This could mean that they may not have the time to sit down and read any information.

There may be posters with PEP information on notice boards in the wards which are not seen as a result of congested paper work not put in order. Khan 2006 states that the vast majority of Kenyan health workers are concerned about becoming infected at work, yet most say their health facility lacks written guidelines about occupational exposure.

Few nurses 7 (14%) were able to access internet facility because of the allocation of where they work (see Table 9, pg 42). The availability of internet services in the ART clinic enabled some of the nurses to access information on PEP unlike them going to libraries. If PEP literacy among health care providers is low, this results in very high levels of stigma among health workers and the general population (World Health report,

2004). This makes it more difficult to ensure that there is appropriate treatment and monitoring of nurses on PEP resulting in low adherence and resistance.

Nursing Conferences and meetings are not regularly held to up date the nurses' knowledge. This could indicate that Nurses are overstretched with the disease burden due to shortages of staff to attend or even organise meetings or nursing conferences. This means that recent innovations in treatments can not be discussed and disseminated on time. As a result, only 21 (42%) had been oriented to the PEP guidelines (see Table 15, pg 46) either through the In-Service Department, at Ward level, the school curriculum or seminars and workshops (see Table 16, pg 47).

Almost all of the respondents agreed that it was necessary for one to keep on reading even after graduating from college. However, 23 (46%) of the respondents could not remember when they last read on PEP and 7 (14%) had read a month previously (see Figure 13, pg 45). This entails the need for continuous sensitisation of Nurses on PEP so that they are kept abreast with concepts and new information on Infection Prevention and HIV/ AIDS.

The majority of the respondents 49 (98%) stated that the HIV is transmitted through unprotected sexual intercourse (table 7, Pg 40). This is the common medium of transmission in the Zambian setting and most people know this fact from health centres, the media, books and posters. The other means of transmission given out by the respondents were through contact with body fluids 17 (34%), contaminated sharps 47 (94%), Mother to Child Transmission 33 (66%), Blood Transfusion 37 (74%) and kissing 4 (8%). These modes of transmission show that Nurses are at risk of contracting the HIV in their daily nursing activities. Tietjen et al (2003) quoting Boyce and Pittet (2002) states that failure to perform appropriate hygiene is considered to be the leading cause of nosocomial (Healthy Facility Acquired) infections and the spread of multi resistant micro-organisms and has been recognised as a significant media for HIV transmission.

This study also revealed that 39 (78%) respondents knew of the existence of the IP committee at the institution. This poses a challenge on the committee to make itself known to all the workers. Sub committees or groups could be made at Departmental level as the case for UTH where PEP focal representatives have been trained specifically to provide these services to nurses. This initiative could be made possible by involving JHPIEGO, who has been assisting a lot of countries in reducing the spread of infectious diseases in their health facilities and the communities they serve (www.avert.org/aidstarget.htm, 2007).

SOURCE OF INFORMATION ON PEP

The information indicated that 11 (22%) respondents knew of nurses on PEP (table 18, Pg 48). This shows that there are few nurses on PEP out of the many nurses at Chipata General Hospital. This could mean that nurses are worried about confidentiality because it is their own colleagues who run the counselling and testing services who reveal private information. Some fear they will lose their jobs. (ZNA, 2001). 27 (54%) stated that there was confidentiality and 23 (46%) stated there was none.

Khan, 2006, stated that although most respondents stated that they knew of Post Exposure Prophylaxis (PEP), only half have operational knowledge on how to access and use it. More than half of health workers (55%) who had operational knowledge of PEP and were potentially exposed to HIV infection did not seek PEP following exposure

The majority 49 (98%) of the respondents stated that there were counselling services (see Figure 17, pg 50). By systematically integrating Infection Prevention Control into health care initiatives such as family planning counselling, reproductive health services and counselling, maternal and newborn health, and HIV/AIDS prevention and counselling, JHPIEGO has assisted more than 40 countries in reducing the spread of infectious diseases in their health facilities and the communities they serve (www.avert.org/aidstarget.htm, 2007).

36 (72%) of the respondents stated there was no follow up by Nurse Managers on Nurses on PEP (see Figure 15, pg 49). This shows no support network among nurses at Chipata general Hospital.

ATTITUDE TOWARDS PEP

Attitude is another factor contributing to the Nurses attitude towards PEP. The study revealed that majority 35 (70%) out of 50 respondents had negative attitude towards PEP while 15 (30%) of the respondents had a positive attitude (see table 20, pg 50). This indicated the fact that the Nurse's attitude affected their knowledge either in the positive or negative way. Furthermore, negative attitude may also lead to loss of the little knowledge that one had on PEP.

The research findings also revealed that older nurses had negative attitude and this could indicate that they may not want to follow new information. Their practices are as a result of rigidity or may resist orders from the younger Ward In Charges. They may not want to be reminded on some of the IP principles during their routine ward round and they may pretend to be following the principles as they were working.

A survey on HIV/AIDS and Zambia's nurses was conducted (ZNA, 2001), entitled 'HIV/AIDS and the workplace: a case of nurses and midwives in Zambia'. This survey was done between May and August 2001 with the help of the Norwegian Agency for Development Cooperation (NORAD) funding.

This survey was conducted among nurses, other health personnel, health administrators and other relevant organizations and authorities in Zambia. Its findings correlate with the findings of this study which revealed that, "Zambian nurses, especially those in the hospital sector, are seldom offered specific training in HIV/AIDS and how to deal with it in a clinical setting; National plans do not mention the risk of infection in the workplace; Guidelines for prevention in the working environment are either non-existent or poorly developed; Though there was no evidence of nurses actually being dismissed from work as a result of HIV/AIDS, there is no personnel policy to take care of infected nurses and

midwives, to adjust their work commitments according to their state of health, or to offer support; Because of shortages of protective equipment and heavy workloads, most nurses feel themselves to be at risk of infection in the workplace, and believe, too, that the risk they face at work is higher than the risk of exposure to HIV in their private lives; There is a general perception that infected health staffs are more likely to suffer stigmatization and discrimination than the rest of the population; And the struggle to survive on poor wages leads some nurses to engage in activities that put them at risk of HIV infection in their private lives.”

5.1 IMPLICATIONS TO THE HEALTH CARE SYSTEM

Providing care to nurses exposed to HIV infection is the duty of the healthcare system. AIDS and HIV infection clearly represent one of the most dramatic challenges to the public health system in Zambia. The management of HIV infection and AIDS presents one of the most complex issues that nurses in particular have to deal with especially with the introduction of ARVs and the PEP programme. There is an urgent need to expand the knowledge base on PEP upon which nurses in particular depend on.

The study results revealed that most nurses already in the service area have not yet been trained or oriented on PEP. This means that the scale up plan has outstripped the human resource available to effectively and efficiently manage work place exposure to the HIV. The Ministry of Health in collaboration with the various Cooperating Partners dealing with HIV/AIDS/ART should step up the training programme on PEP for health personnel that should be continuously updated. Nurses having high levels of knowledge on HIV/AIDS/ART/PEP would improve outcomes in prophylaxis, treatment, care and improve adherence.

The study also revealed that many of the nurses had negative attitudes on PEP. It would be much more appropriate if health facilities came up with deliberate in-house mentoring and training in PEP so that nurses are motivated to seek this knowledge and service on their own. There is need for institutions to come up with deliberate policies for in-service

training in order to cope effectively with the HIV/AIDS preventive care. This could be in the form of Nursing Conferences and meetings at Departmental level so that there is personal and professional growth and development.

CHAPTER SIX

6.0 CONCLUSION

The study was carried out to assess the attitudes that nurses have on PEP at Chipata General Hospital. Its purpose was to highlight the prevailing situation and some of the factors that affect the attitude that nurses have, in order to find solutions so that there may be maximum utilization of PEP and to develop care and support among nurses in the work place to promote treatment compliance and prevent resistance.

The study revealed that although knowledge is high among most nurses, few have had training in management of PEP. Still few are oriented on PEP guidelines. It also shows that most Nurses have negative attitude towards PEP.

Therefore, the study accepts the null hypotheses which stated that “Lack of adequate orientation of Nurses on PEP leads to ignorance of existence of the policy and lowers its utilization; Negative attitudes towards PEP leads to under utilisation of the prophylaxis; and lack of confidentiality among nurses influence their low utilization of PEP Policy.”

The majority of nurses depended on the public media, journal and books for information, which does not address their learning needs adequately. Nearly all the nurses held a more positive view towards PEP although there is still a great need to provide treatment protocols, HIV/AIDS/ART/PEP literature and other job aids within the clinical areas as a resource for health personnel during hours of care. There is need also to effect Clinical meetings and Nursing Conferences as avenues for dissemination of scientific information that is valuable to the Nurse in her work.

The healthcare delivery system depends mostly on nurses for service provision hence the need to provide continuing education and support with respect to HIV/AIDS/ART/PEP so that the nation is not at loss in shortages of staff. Already, nurses are leaving the country for greener pastures hence the need to maintain a good healthy environment for

the remaining nurses so that there is effective and efficient health care delivery of services in the country for the welfare of all Zambians.

6.1 RECOMMENDATIONS

The Ministry of Health

The Ministry of Health in collaboration with the various partners NGOs dealing in issues of HIV/AIDS should bring up training programmes and refresher courses for health personnel concentrating on Post Exposure Prophylaxis. This will enhance the knowledge of health staff on issues pertaining to their well being.

Chipata General Hospital

The Hospital Management needs to train more nurses in issues of Psycho-Social Counselling and Management of PEP so that there is a focal person at departmental level to deal with the PEP programme.

The Nursing Services Department needs to capitalise on holding clinical meetings so that nurses can continuously learn and adapt to the changes that occur in the health sector in terms of new technology, new information and knowledge and trends in disease pattern. This will culture good reading attitude in nurses.

The Nurse Managers should plan time tables for holding Nursing Conferences and meetings and ensure Nurses attend these meetings so that there is continuous updating of the nurses on issues of importance in their profession. Nurse Managers should make efforts to follow up the nurses taking PEP so that there is mutual understanding and support rendered to the nurses. This eliminates the feeling of stigma and discrimination at the work place.

The In Service Department should hold workshops and involve all cadres of the nursing profession so that everyone has access to new information about PEP and care for people on PEP/ART.

The Infection Prevention Committee must ensure PEP treatment protocols are readily available in the clinical areas to enable Information, Education and Communication to the Health Staff on PEP. Other job aids such as books, leaflets should be made widely available for staff to access and keep informed. The committee must train PEP focal persons at Departmental level. These will be trained in PEP and how to use the PEP test kit to be able to render PEP services at Departmental level immediately a health worker is exposed to HIV infection.

A link should be developed between Chipata General Hospital and Chipata School of Nursing to enable Health Staff ascribe membership to the school library so that they are able to borrow books or read from the library.

Mentoring programmes in the nursing school and the clinical area can be instituted so that there is sharing of information and good practice methods among nurses in order to maximise efficiency and efficacy of the PEP programme.

Further Research

This study was done on a small scale and so the findings cannot be generalised to the whole country. There is need to assess the attitude of nurses on PEP on a much wider scale.

6.2 LIMITATIONS OF THE STUDY

It was not possible to conduct the study on a larger sample size due to limited time in which the study was to be completed and submitted to the University of Zambia. This means that the findings can not be generalised to a larger population.

Literature on past researches on the attitude of nurses on Post Exposure Prophylaxis was very limited for comparison. Little has been done in the region as well as locally in the area of PEP.

There were no limitations as nurses were willing to answer the questionnaires without payment. All questionnaires were complete although it took time for them to answer them because of busy work schedules.

6.4 DISSEMINATION OF FINDINGS

The findings of this study will be disseminated through executive summaries to Chipata General Hospital. A printed and bound copy of the entire work will be given to the Department of Post Basic Nursing at UNZA, the Medical Library of the School of Medicine at UNZA, my sponsors the Ministry of Health, Chipata General Hospital and the Investigator respectively.

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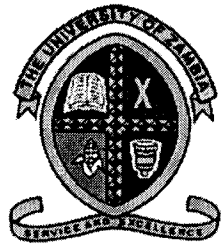
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**THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE**

DEPARTMENT OF POST BASIC NURSING

SELF ADMINISTERED QUESTIONNAIRE FOR NURSES

**ATTITUDES OF NURSES ON POST EXPOSURE PROPHYLAXIS IN
CHIPATA DISTRICT.**

Number of Interviewee

Date of Interview

Place of Interview

INSTRUCTIONS FOR THE INTERVIEWEE

- 1. Do not write your name on the questionnaire
- 2. Answer all the questions in the order they are arranged
- 3. For questions provided with alternatives, tick your answers ☐ in the box provided.0
- 4. For answers without alternatives, write down the responses on the spaces provided.
- 5. You are assured that all information will be treated as confidential and used for the purpose it is intended for.

A. DEMOGRAPHIC DATA

Official use only

Tick in the box beside the most appropriate attribute.

1. Sex

- a) Male

☐
- b) Female

☐

☐

2. How old are you?

- a) 18 – 24 years

☐
- b) 25 – 34 years

☐
- c) 35 – 44 years

☐
- d) 45 years and over

☐

☐

3. Marital status

- a) Single

☐
- b) Married

☐
- c) Separated

☐
- d) Divorced

☐
- e) Widowed

☐

☐

4. Religion

- a) Christian

☐
- b) Moslem

☐
- c) Hindu

☐
- d) Other (specify) _____

☐

☐

5. Professional qualification

- a) Enrolled nurse

☐
- b) Enrolled midwife

☐
- c) Registered nurse

☐
- d) Registered midwife

☐

☐

Official use only

10. What does the acronym ART stand for?

11. What does the acronym PEP stand for?

12. Taking ART prophylaxis after exposure to the HIV can
Minimize chances of a nurse being infected.

- a) Agree.
- b) Disagree.
- c) Don't know

13. Give examples of ways in which a person can acquire HIV.

- a)
- b)
- c)
- d)
- e)

14. Universal precautions must be observed in the work place
to avoid contracting the HIV infection.

- a) Agree.
- b) Disagree.
- c) Don't know.

15. Is PEP covered in your school curriculum?

- a) Yes
- b) No

C. SOURCE OF INFORMATION

Official use only

16. Have you ever been trained in PEP?

- a) Yes. ☐
- b) No ☐

☐

17. Where have you heard about PEP?

- a) Radio ☐
- b) Television. ☐
- c) Textbooks. ☐
- d) Journals. ☐
- e) Internet. ☐
- f) Newspapers. ☐
- g) Other (specify) _____ ☐

☐

18. PEP is important for nurses in the prevention of HIV infection.

- a) Agree. ☐
- b) Disagree. ☐
- c) Don't know ☐

☐

**19. Are PEP treatment protocols on ART available in your
Department?**

- a) Yes. ☐
- b) No. ☐
- c) Don't know. ☐

☐

20. Are ARVs for PEP available at your institution?

- a) Yes ☐
- b) No ☐

☐

21. Is there literature on PEP in your department?

- a) Yes. ☐
- b) No. ☐
- c) Don't know. ☐

☐

22. If yes to question 21, state the type of literature you have read?

23. When did you last read literature on PEP?

- a) This week. ☐
- b) A month ago. ☐
- c) In the last six months. ☐
- d) Cannot remember. ☐

☐

24. Do you hold nursing conferences or meetings at your Institution?

- a) Yes. ☐
- b) No. ☐

☐

1. If yes to question 24, where?

- a) In-Service department ☐
- b) Ward ☐
- c) Others, specify _____ ☐

☐

2. Have you ever had any orientation to the PEP guidelines?

- a) Yes ☐
- b) No ☐

☐

3. If yes, where did you get the orientation?

- a) In-Service Department ☐
- b) Ward ☐
- c) School curriculum ☐
- d) Others, specify _____ ☐

☐

4. Do you know of a nurse on PEP?

- a) Yes ☐
- b) No ☐

☐

5. If yes to question 29, how many do you know?

- a) One ☐
- b) Two ☐
- c) Three ☐
- d) More than three ☐

6. Is confidentiality observed among nurses who access PEP?

- a) Yes ☐
- b) No ☐

☐

7. If no to question 31, please explain

☐

8. Do nurses on PEP get follow up from Nursing Managers?

- a) Yes. ☐
- b) No. ☐

☐

9. Is there an Infection Prevention Committee at your Institution?

- a) Yes ☐
- b) No ☐

☐

10. Is there a counseling service at your Institution?

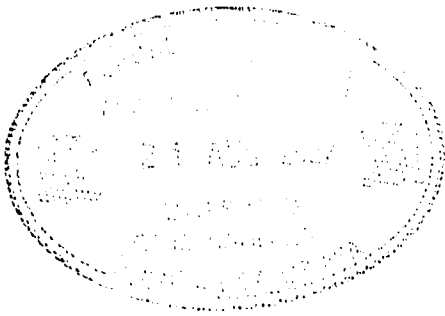
a) Yes

☐

b) No

☐☐

Thank You Very Much For Taking Time To Answer The Questionnaire.



The University Of Zambia
School of Medicine
Department of Post Basic Nursing
P. O Box 50110
LUSAKA

20th August, 2007

DMD - FYA
[Signature]

The Executive Director
The University Teaching Hospital
P/B RWIX
LUSAKA

U.F.S: The Head of Department
University of Zambia
School of Medicine
Post Basic Nursing
LUSAKA

[Signature]
20th 7

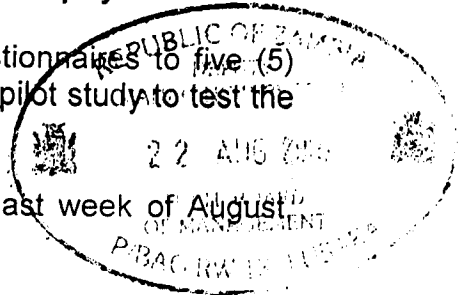
Dear Sir,

**RE: REQUEST FOR PERMISSION TO UNDERTAKE A PILOT
STUDY AND TO COLLECT DATA**

I am a fourth (4th) year student in the Department of Post Basic Nursing in School of Medicine at the University of Zambia. In partial fulfilment of the Bachelor of Science Degree in Nursing. I am required to carry out a research project
"To determine the attitudes of Nurses on Post Exposure Prophylaxis".

I therefore, write to request permission to administer questionnaires to five (5) Nurses in the clinical areas in your Institution as part of the pilot study to test the reliability and validity of the questionnaire.

I intend to carry out this activity at your Institution in the last week of August 2007.

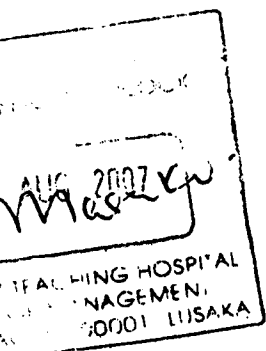


Yours truly,

[Signature]

Beatrice May Banda.
COMPUTER NO: 25107232

Approved
N. 4th year - 1st, 2nd, 3rd, 4th
- Surgery
Please find attached
[Signature]



ed through the ... please ...

The University of Zambia
School of Medicine
Department of Post Basic
Nursing
P. O Box 50110
LUSAKA

20th August, 2007

The Executive Director
Chipata General Hospital
P/B RWIX
LUSAKA

for U.F.S: The Head of Department
University of Zambia
School of Medicine
Post Basic Nursing
P. O. Box 50110
LUSAKA

Tyler Mch
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Dear Sir,

**RE: REQUEST PERMISSION TO UNDERTAKE A RESEARCH STUDY AND
COLLECT DATA**

I am a fourth (4th) year student in the Department of Post Basic Nursing in School of Medicine at the University of Zambia. In partial fulfilment of the Bachelor of Science Degree in Nursing. I am required to carry out a research project
"To determine the attitudes of Nurses on Post Exposure Prophylaxis".

I therefore, write to request permission to administer questionnaires to fifty (50) Nurses in the clinical areas in your Institution.

I intend to carry out this activity at your Institution in the month of September, 2007.

Yours truly,

Beatrice May Banda.

COMPUTER NO: 25107232

7 AUG 2007

NURSING OFFICER

CHIPATA

MINISTRY OF HEALTH
CHIPATA GENERAL HOSPITAL

2007-08-27

MEDICAL SUPERVISOR
P.O. BOX 50110, CHIPATA

No objection

Det

2ND
8-1-7
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APPENDIX IV**WORK SCHEDULE**

ACTIVITY	TIME FRAME		RESPONSIBLE PERSON
	DATES	DURATION	
Research Proposal Review	11.04.2007 To 14.01.2008.	Continuous	Researcher
Data Collection Tool	01.07.2007 To 30.07.2007	30 Days	Researcher
Finalize Research Proposal	01.07.2007 To 31.07.2007	20 Days	Researcher
Pilot Study	20.08.2007 To 22.08.2007	2 Days	Researcher
Clearance from Authority	20.08.2007 To 22.08.2007	2 Days	Researcher
Collection Tool Amendments	24.08.2007 To 25.08.2007	2 Days	Researcher
Data Collection	01.09.2007 To 30.09.2007	30 Days	Researcher Research Assistants
Data Analysis	01.10.2007 To 30.11.2007	60 Days	Researcher
Report Writing	01.12.2007 To 14.12.2007	14 Days	Researcher
Draft Report To PBN Supervisor	15.12.2007 To 31.12.2007	14 Days	Researcher
Finalize Report	01.01.2008 To 10.01.2008	10 Days	Researcher
Publication of Results	11.01.2008 To 14.01.2008	3 Days	Researcher

Monitoring	11.04.2007 To 14.01.2008	Continuous	Researcher
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APPENDIX V

GHANT CHART

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

APPENDIX VI

BUDGET

<i>Budget category</i>	Unit price (K)	<i>Quantity</i>	Total (K)
A. STATIONERY			
Typing paper	30 000.00	4 reams	120 000.00
Note book	10 000.00	1	10 000.00
Diskettes	5 000.00	2	10 000.00
Pencils	6 000.00	1 packet	6 000.00
Pens	12 000.00	1 packet	12 000.00
Tip-Ex corrective fluid	5 000.00	3	15 000.00
Stapler	25 000.00	1	25 000.00
Staples	8 000.00	1 packet	8 000.00
Markers	7 000.00	5	35 000.00
Calculator	80 000.00	1	80 000.00
Eraser	16 000.00	1 packet	16 000.00
Flip chart	40 000.00	2	80 000.00
Ruler	5 000.00	1	5 000.00
Cello-tape	8 000.00	1	8 000.00
Folder	20 000.00	1	20 000.00
Total stationery cost			450 000.00
B. SECRETARIAL SERVICES			
Typing research proposal	4000.00	90 pages	360 000.00
Typing Questionnaires	4000.00	10 pages	40 000.00
Photocopying Questionnaires	250.00	550	137500.00
Binding research proposal	40 000.00	1 copy	40 000.00
Typing report draft	4000.00	100 pgs	400 000.00
Photocopying	250.00	200 pgs	50000.00
Binding final report	60 000.00	4copies	240 000.00
Total secretarial cost			1267500.00

C.PERSONNEL			
Transport to & from Chipata	70 000.00	4	280 000.00
Total personnel cost			280 000.00
Total costs			2 097 500.00
10% contingency			209 750.00
Grand Total			2307250.00

APPENDIX VII

JUSTIFICATION OF THE BUDGET

Stationery is needed in this project for writing and it includes pens and pencils for writing, correction fluid for erasing the mistakes, Folders for filing in references, Diskettes for saving in the whole research document, stapler and staples for putting the work in an orderly manner. The calculator is needed for calculations. Money is needed for typing, printing and photocopying.