# Non-Occupational HIV Exposure and Post Exposure Prophylaxis: Knowledge and Practice among Police and Prison service Personnel in Blantyre, Malawi

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**Declaration**

By submitting this assignment electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly other stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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## List of Abbreviations

| | |
|---|---|
| **AIDS** | Acquired Immunodeficiency Syndrome |
| **ART** | Anti-Retroviral Therapy |
| **DNA** | Deoxyribonucleic Acid |
| **GoM** | Government of Malawi |
| **HCW** | Health Care Workers |
| **CDC** | Centers for Disease Control |
| **HIV** | Human Immunodeficiency Virus |
| **IDU** | Intravenous Drug Users |
| **IEC** | Information Education Communication |
| **PEP** | Post Exposure Prophylaxis |
| **MPS** | Malawi Police Service |
| **NAC** | National Aids Commission |
| **UNDP** | United Nations Development Programme |

**Abstract**

A cross sectional descriptive study aimed at determining the knowledge and practices of non-occupational exposure and Post Exposure Prophylaxis (PEP) of HIV among police and prison service personnel in Blantyre, Malawi was conducted as part of prevention and management of HIV/AIDS in the workplace.

Police and prison service personnel at four police stations of Ndirande, Blantyre, Chilobwe and Limbe in Blantyre and the Chichiri maximum prison respectively and later on Thyolo, Bvumbwe, Bangwe, Chileka were added and surveyed. In total 150 personnel were surveyed using quantitative and qualitative methods. The sampling method was convenient and purposive. A structured questionnaire was self-administered by all participants. Interviews and focus group discussions were also conducted. A total of five interviews targeting HIV/AIDS officers as key informants were conducted; these are officers responsible for HIV/AIDS issues in police stations and prison respectively. On the other hand, four focus group discussions were held targeting middle to low ranking personnel. This segregation of respondents based on choice of qualitative data collection methods was done because mixing low and high ranking police and prison personnel in a focus group discussion would not have created homogeneous, dynamic groups which would have adequately explored issues under investigation.

The main findings were that percutaneus and mucotaneus exposures seldom happen among the Police and Prison personnel. Most exposures that happen are not serious to warrant PEP, however the knowledge of HIV exposure and PEP is very low among both groups.

## Opsomming

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# Chapter 1: Background information

## 1.1 Introduction

This chapter looks at the HIV and AIDS situation in the Malawi Police and Prison Service (MPS), definition of occupational and non-occupational exposure to HIV, the rationale of HIV post exposure prophylaxis, the rationale of the study, the risk factors for HIV infection amongst police and prison service personnel and the role of police in the justice system in Malawi.

## 1.2 The HIV and AIDS situation in the Malawi Police Service

The HIV prevalence rates and deaths due to HIV/AIDS illnesses are not well known in the Malawi Police Service (MPS). A survey conducted by government of Malawi and UNDP on the impact of HIV/AIDS on human resource in Malawi showed an annual attrition rate of 6% mostly due to deaths (Makombe et al, 2008). Most medical files which were accessed during the surveys indicated long illness as a prelude to death and also diseases such as tuberculosis, pneumonia and meningitis which are mostly attributable to HIV/AIDS (NAC 2003).Most deaths in the MPS occur in the age group of 30-34 years old, followed by deaths in the age 35-39 age group. These ages consists of relatively new entrants and junior officers who are the hub of police activities. Men constitute 93% of all deaths. The majority of deaths among women occurred in the age group 30-34 years (31%), followed by 25-29 years (24%).

**Table: 1** Death Related Attrition by Sex and Age Group in MPS, 1990-2000

| | 20-24 | | 25-29 | | 30-34 | | 35-39 | | 40-44 | | 45-49 | | 50+ | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *f* | *m* | *f* | *m* | *f* | *m* | *f* | *m* | *f* | *m* | *f* | *m* | *f* | *m* | *f* | *m* |
| **Total** | 7 | 31 | 28 | 232 | 36 | 386 | 25 | 324 | 13 | 232 | 2 | 155 | 7 | 170 | **118** | **1,530** |
| *%** | *6%* | *2%* | *24* | *15 %* | *31* | *25 %* | *21* | *21 %* | *11* | *15 %* | *2%* | *10 %* | *6%* | *11 %* | *7%* | *93 %* |
| **Total** | **38** | | **260** | | **422** | | **349** | | **245** | | **157** | | **177** | | **1,648**** | |
| *% of total* | *2%* | | *16%* | | *26%* | | *21%* | | *15%* | | *10%* | | *11%* | | | |

f = female, m = male

SOURCE: UNDP; GoM, 2002

### 1.2.1 **Attrition by occupational category**

Standardized Mortality Ratios (SMRs) have been calculated to determine how mortality affected various occupational categories in the Police Service from the years 1990 to 2000(UNDP, GoM, 2003). The table indicates excess mortality among first sergeants, inspectors, constables, commissioners and second sergeants, with SMR values exceeding 100. This could partly be explained by the fact that constables and second sergeants are junior officers whose work involve mobility and are posted away from home. Junior officers especially constables are central to the implementation of Police strategy.

**Table: 2**. Standardized Mortality Ratios for MPS staff

| Occupational Category | Expected Death | Observed Death | SMR |
|---|---|---|---|
| Constable | 96.1 | 211 | 219 |
| First Sergeant | 10.4 | 28 | 269 |
| 2nd Sergeant | 30.6 | 39 | 127 |
| Inspector | 5.1 | 12 | 235 |
| Commissioner | 0 | 2 | 200 |
| Asst. Superintendent | 4.4 | 0 | 0 |
| S/Superintendent | 26.6 | 3 | 11 |
| D. C. P. | 0.2 | 0 | 0 |
| S.A.C.P | 50.2 | 0 | 0 |

SOURCE: UNDP, GOM, 2002

**Table: 3**. Police Personnel to Population Ratio 1992-2000

| | 1992 | 1996 | 1998 | 2000 |
|---|---|---|---|---|
| Police officer : population | 1 : 1,681 | 1 : 2,200 | 1 : 1,779 | 1 : 1,539 |

SOURCE: UNDP, GOM, 2002.

In general, the ratio of police personnel to the population is very low and the attrition by death due to HIV/AIDS being experienced is likely to worsen the situation. Although studies in the prison service have not been done, similar findings could be drawn because of nature of the work and conditions they are subjected to.

### 1.3 Definition of Occupational and non-Occupational Exposure

The Centers for Disease Control (CDC) defines occupational exposures as those pertaining to Healthcare Care Workers (HCW) (e.g. employees, students, contractors and attending clinicians, public safety workers or volunteers) whose activities involve contact with patients or with blood or other body fluids from patients in a healthcare laboratory, or public safety setting (CDC, 2005).

Non-occupational exposure to HIV is considered to be all accidental and sporadic situations in which contact with blood or other body fluids (semen, vaginal secretions, or other body fluids) potentially at risk for HIV infection occurred, after having taken preventive measures, excluding exposures to HCW in the health care or laboratory setting(CDC, 2005). That is to say: unprotected sexual exposure, sexual exposure with broken or slipped condoms, intravenous drug users (IDUs) sharing injecting or other equipment, accidental needle stick, non-occupational HCW exposure, bite wounds, mucosal exposures (CDC, 2005).

An exposure that might place HCW at risk of HIV infection can be a percutaneous injury (e.g., a needle stick or cut with a sharp object) or contact of mucous membrane or non-intact skin (e.g. exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue, or other body fluids that are potentially infectious.

In addition to blood and body fluids containing visible blood, semen and vaginal secretions also are considered potentially infectious. Although semen and vaginal secretions have been implicated in the sexual transmission of HIV, they have also been implicated in HIV transmission from patient to healthcare worker (CDC, 2005). The following fluids also are considered potentially infectious: cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid and amniotic fluid.

Faeces, nasal secretions, saliva, sputum, sweat, tears, urine and vomitus are not considered potentially infectious unless they contain blood. The risk for transmission of HIV infection from these fluids and materials is extremely low (CDC, 2005).

## 1.4 Considerations that influence the rationale and recommendations for PEP

### 1.4.1 The role of Pathogenesis in Considering Antiretroviral Prophylaxis

Information about primary 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 (Kim et al 2005; CDC, 2005). Initiation of antiretroviral PEP soon after exposure might prevent or inhibit systemic infection by limiting the proliferation of the virus in the initial target cells of lymph nodes (Kim et al, 2005).

### 1.4.2 Efficacy of Antiretroviral for PEP in Human Studies

Little information exists from which the efficacy of PEP in humans can be assessed. Sero-conversion is infrequent following an occupational exposure to HIV-infected blood; therefore, several thousands of HCP would need to enroll in a prospective trial to achieve the statistical power necessary to directly demonstrate PEP efficacy. In the retrospective case-control study of HCP, after controlling for other risk factors for HIV transmission, use of zidovudine as PEP was associated with a reduction in the risk of HIV infection by approximately 81% (95% CI= 43%-94%) (CDC, 2005). Apart from this strong scientific evidence supporting the impact of ART in the prevention of mother to child transmission in both developed and developing country settings have added further argument to the biological plausibility of such therapy in other exposure settings (CDC, 2005; Kim 2005).

### 1.5 Occupational and non-occupational exposures and PEP use; reports from Malawi

The Malawi national HIV/AIDS policy adopted in 2003 calls for the provision of PEP in accidental exposure or increased risk of HIV infection in institutional, workplace, homecare setting and situations involving sexual trauma such as rape. Up to 2003, there were no prevention programs for occupational transmission of blood borne pathogens in government health institutions with the exception of hepatitis B vaccination of medical students (Oosterhout et al, 2007).

A few studies have been done on occupational exposure and the use of PEP in Malawi. A study conducted at the main referral hospital in the country, Queen Elizabeth Central Hospital, alarmingly showed high reported incidence of occupational injuries among nurses; however there was no reporting for advice about PEP mostly because of unawareness of the programme and reluctance to be tested for HIV (Oosterhout et al 2007).

A non-occupational exposure management study among children who were survivors of rape was done at the same hospital in pediatrics department in 2005. The study highlighted late presentation to access PEP (Ellis, Ahmed, Molyneux, 2005). Both these studies have one thing in common; lack of awareness of PEP programmes. Non occupational exposures to HIV and the knowledge of PEP in other settings such as police and prisons have not been documented.

### 1.6 Rationale of Study

In Malawi no study to find out how police and prison personnel are exposed to HIV due to the nature of their work let alone how they help exposed individuals has been documented. The police attend to accident victims, quell violent incidents and conduct violent searches. It is necessary to find out how much they are exposed and how they deal with their exposure so as to come up with sound and evidence-based policies and programs as part of HIV/AIDS management in the workplace.

Most cases of rape are first reported to police because of the role they play in the justice system, notably through the newly established victim support unit. It is important to find out how the police deal with rape survivors who come to them for help.

Police personnel could be used as agents of change in society by virtue of their position. They could be used to educate the public about what constitute an exposure and when and where to access post exposure prophylaxis. This study would help to expose if there are any knowledge gap that may exist amongst police cadres that would affect how they help people who would come to them for PEP help.

Prison personnel are equally at risk to exposure to HIV at work. Prisoners at times turn violent and in the process of trying to quell the violence, prison personnel may get exposed to HIV through blood or body fluids. Injecting drug use and homosexuality is said to be rife in Malawi prisons as reported by newspapers. Sometimes prison personnel conduct violent searches involving hard core prisoners who may be injecting drug users, thereby being at risk to being exposed to HIV through used needles.

Prison personnel's knowledge of non-occupational exposure to HIV and post exposure prophylaxis could be vital to how they deal with or prevent their own exposure and prisoners exposures.

### 1.7 Problem Statement

There is inadequate knowledge of what constitutes non occupational exposure and post exposure prophylaxis among police and prison personnel. This has led to police and prison personnel not accessing PEP and not discharging their duties properly to those who may need PEP.

## 1.8 Objectives

### 1.8.1 General Objectives

To assess the knowledge and practice of police and prison personnel of occupational or non-occupational HIV exposure and Post exposure prophylaxis.

### 1.8.2 Specific Objectives

- To estimate the proportion of police and prison personnel who are aware of PEP
- To summarize the most common body fluids that police and prison personnel come in contact with?
- To assess how the Police officers deal with cases of non-occupational exposure such as rape and accidents.
- To make recommendations with interventions

# Chapter 2: Literature review

## 2.1 Introduction

This chapter looks at the literature overview, knowledge and practice of PEP in resource poor settings, conceptual framework regarding non occupational exposure to HIV and use of PEP.

## 2.2 Literature overview

The Centers for Disease Control (CDC) classifies HIV PEP into two forms: occupational and non-occupational. Occupational HIV PEP is only for healthcare workers (HCWs) who sustain blood or body fluid exposures while working; non occupational HIV PEP is for all others exposed to blood or body fluids through other ways, particularly from sexual contact.

The average risk for HIV transmission after percutaneous exposure to HIV infected blood has been estimated to be approximately 0.3% and approximately 0.09% after mucous membrane exposure. (Bell, 1997; CDC, 2005)

Sexual exposure is physiologically similar to occupational exposure (Spira et al, 1996) and that there is a 0.3% infection rate after sexual exposure similar to occupational exposure (Cardo, 1997). Hence it is likely that prophylaxis would achieve similar reductions in infection rates, as much as 79% in one major study (Cardo, 1997). Therefore non occupational PEP could be a proven method of HIV prevention in exposed individuals. A crucial factor in the effectiveness of occupational and non-occupational exposure to HIV PEP is time. The earlier the drugs are given, the more effective they are. Ideally, prophylaxis should be given within 72 hours (Katz &Gerber ding, 1998) with best results achieved from administration within 4 hrs. With occupational exposure to HIV, this rapid response is often possible, although with sexual exposure there will be continuing problem between exposure and access to treatment.

## 2.3 Risk factors for HIV infection among Police and Prison service Personnel

Police officers are at risk for exposure to needle sticks and human bites because they are routinely asked to act in emergency situations, during which there may not be time to take adequate precautions. Such circumstances include fights and assaults, cardiopulmonary resuscitation ,searches and evidence handling, handling of deceased persons and forensic work(Pagane, 1996).

There is not much published work on how the police personnel are at risk of infection with HIV by being exposed to infectious body fluids through occupational exposures. However, a study in the United States showed that the police are one of the largest groups of non-HCWs exposed to HIV at work (Merchant et al, 2003). The study recommended the need for national, non-occupational blood or body fluid management guidelines and national educational campaigns to benefit particular groups informing them of the need for early intervention, post exposure measures to prevent an HIV infection (Merchant et al, 2003).Lack of PEP knowledge among frontline workers, policemen inclusive has been highlighted in the study.

Prison personnel are equally at risk of contracting HIV during the course of their work. Some prisoners engage in unsafe sexual practices and tattooing behaviors while incarcerated, which places them at risk for contracting HIV during their sentence (Krebs, 2006; Krebs & Simmons, 2002). Other prisoners may become targets of sexual assault and rape while incarcerated (Alarid, 2000; Kunselman, Tewksbury, Dumond, &Dumond, 2002).

In the USA for example, AIDS prevalence in prison is between three and five times higher than the rate in the U.S. population, most recently reported at 0.55% for prisoners and 0.10% for the general U.S. population (Bureau of Justice Statistics, 2006). In Malawi, a study conducted at Chichiri prison in Blantyre found that the overall prevalence of HIV amongst inmates was at 36.6% which is well above the national average of 14.4% (NAC 2005; Chimphambano, Komolafe&Muula, 2007).

Maintaining order in prison requires correctional officers to routinely perform pat searches, cell searches, and respond when needed to quell physical fights, medical emergencies, accidents, and other situations where they may encounter sharp objects, blood, and bodily fluids. As a result, officers in prison (Freeman & Johnson, 1982) and jail (Kane & Dotson, 1997) reported that working in a correctional institution can be potentially hazardous because of health issues or infectious diseases. Prison institutions have been identified in the literature as at-risk work environments (McIntyre, Marquart, &Brewer, 1999; Wright & Northrup, 2001).

**2.4 The role of Police in the justice system**

The police form part of the justice system where rape cases may be first reported before being referred to health facilities. The number of rape cases reported to police in Malawi has not been properly documented due to factors beyond the scope of this paper. In South Africa 52,860 rapes and attempted rapes were reported to the police in 2001 (Kim et al, 2003).

The literature has documented a few cases involving child sexual abuse and child rape. In Togo, one child out of 33 investigated for sexually transmitted infection (STI) following sexual abuse was found to have been infected with HIV (Pitche et al, 2001). In a study from Nigeria, 4.3% of children with AIDS acquired HIV infection through sexual abuse (Angyo et al, 1998). In Cameroon, an alarming 24 of 71 victims (37.5%) of child sexual abuse acquired HIV infection secondary to the abuse (Menick et al, 2003).

In Malawi, a study conducted by the Pediatric Department, Queen Elizabeth Central Hospital, Blantyre from January 2004 to December 2004 revealed that 64 cases of child sexual abuse were presented. Out of this only 17 were eligible for PEP. One of the reasons for ineligibility was late presentation for PEP after the recommended 72 hour period. Precedent of legal notification over medical assessment was cited as one of the reasons for late presentation (Ellis, Ahmad, Molyneux, 2005).

It is thought that knowledge of HIV non-occupational exposure and Post Exposure Prophylaxis significantly helps the police deal with investigations of rape urgently and make precedence of medical referral over criminal investigations.

**2.5 Knowledge and Practice of PEP in resource limited settings.**

Knowledge is used to make judgments about risk that others may be exposed to, and then this is used as a reference point to assess personal risk (Ferguson, 1997). Low levels of awareness and knowledge of HIV PEP may translate to missed opportunities for access to PEP, and potential HIV infection (Ooi, 2004).

In the developed world, studies in the United States have shown that the incidence of occupational exposure to blood or body fluids among public safety workers (police and prison personnel inclusive) is higher than among the general public - as high as 64% in one study (Pagane et al, 1996; Lorentz et al, 2000; Averhoff et al, 2002; Gershom et al, 2007). These studies have suggested that occupational exposure is often under-reported in the police, though recent reviews of the literature from several countries suggest that this may no longer be the case (Sonder et al, 2005b). Little is known about the incidence of occupational exposure among prison service staff. However, a recent Australian study found that 7% (17/246) of prison officers reported having experienced an exposure most often while carrying out searches, but that fewer than half the injured officers had accessed support services (Larney& Dolan, 2008). In developed countries where studies have been done, little knowledge of PEP by the respondents has been reported but where

awareness has been created, an overwhelming demand for PEP has resulted (Roland, 2005).

In resource limited settings, where the HIV burden is large, not many studies have been done to assess the knowledge and practice of PEP. South Africa, on the other hand, has the highest and most developed programmes dealing with non-occupational exposure following sexual assault in resource limited settings. However the programmes have been dogged by delays in accessing PEP caused by delays by the justice system and lack of training for service providers (Kim et al, 2003).

### 2.6 Conceptual framework regarding non occupational exposure to HIV and use of PEP amongst police personnel

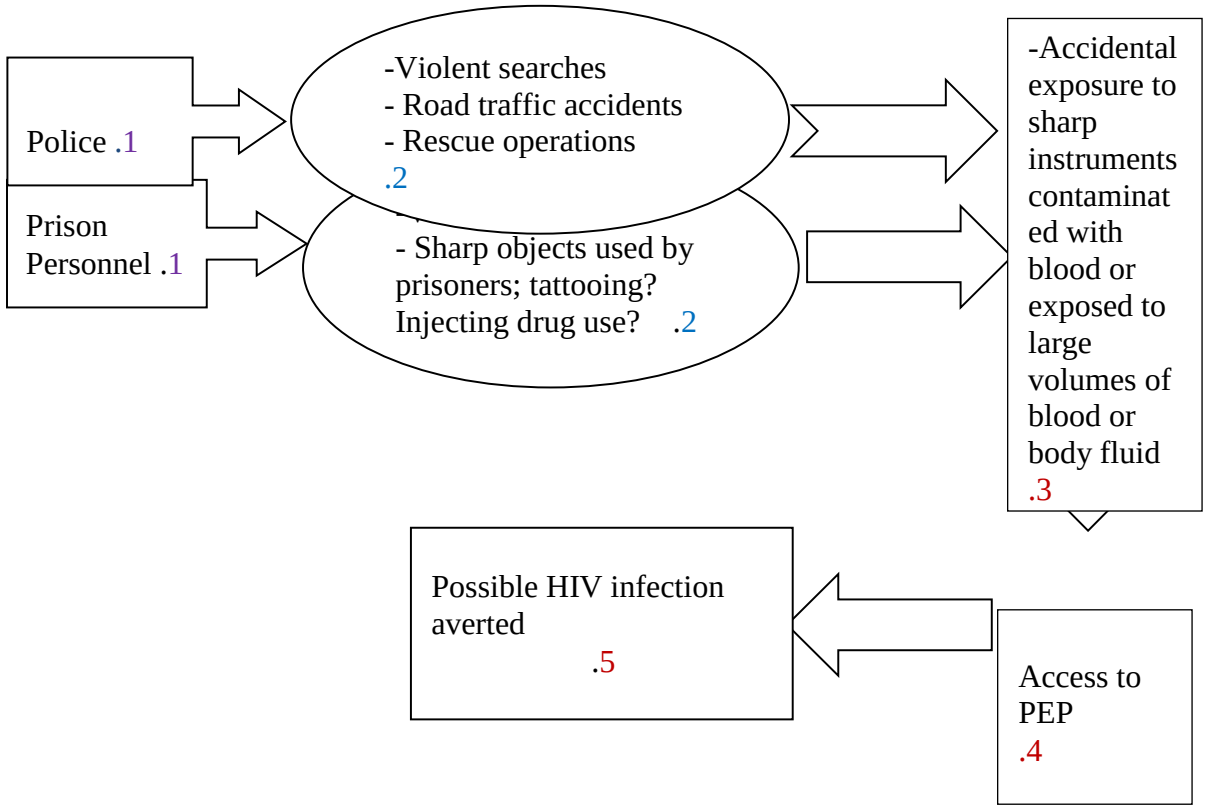


Fig.1

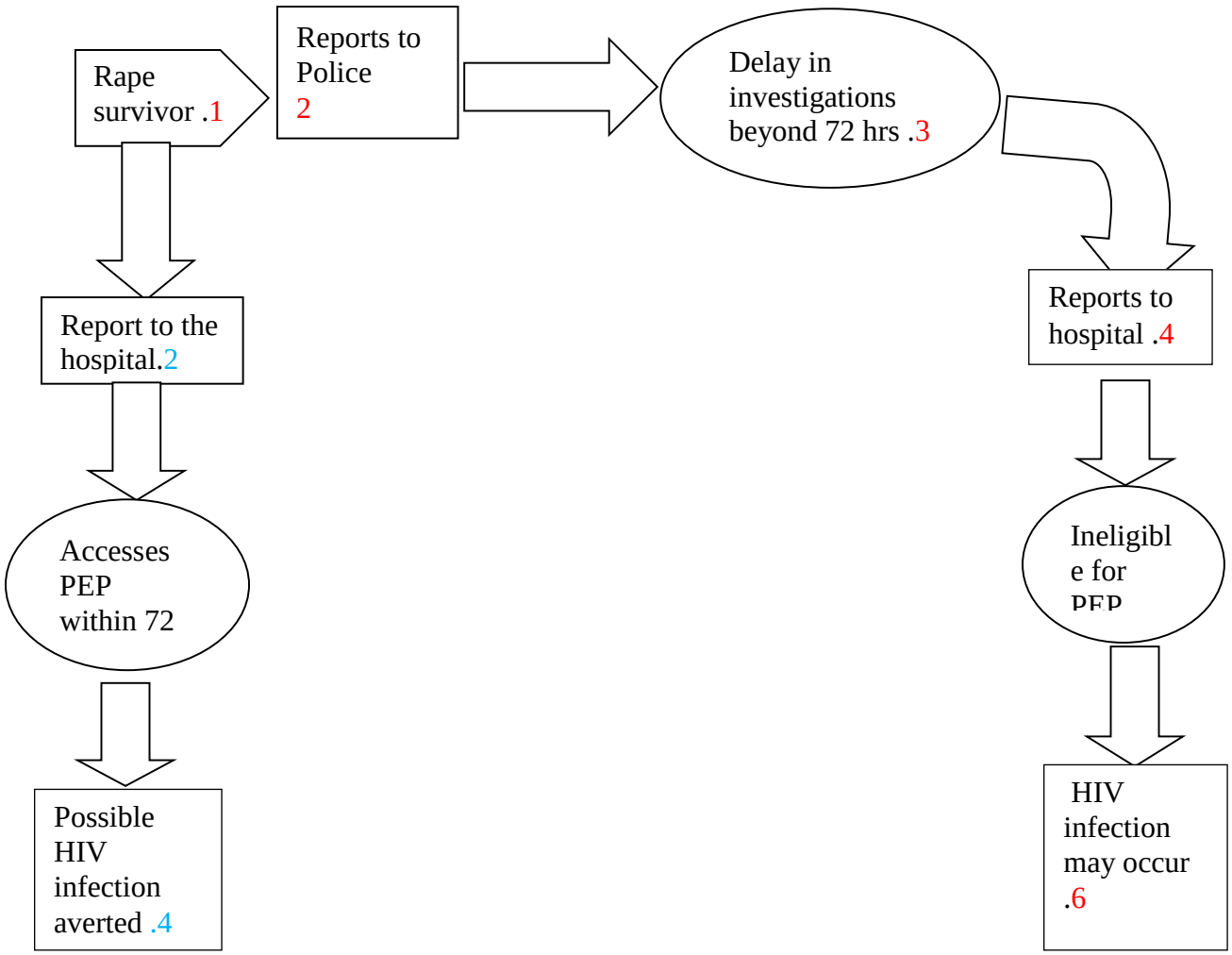


Fig. 2

**2.7 Conclusion**

It is clear that HIV/AIDS has an impact in the operations of the police and prison. Personnel from the respective departments are at risk of contracting HIV during the time they are carrying out their work. They both have a big role to play to protect themselves and the community in which they serve. It would be important to find if they come across exposures of any kind, how they handle themselves when they get exposed and those that come to them for help.

# Chapter 3: Research Methodology

## 3.1 Introduction

This chapter describes the research design and method of research used. The study adopted quantitative and qualitative research approaches because of the nature of the topic. Data was collected from Police and Prison personnel of different cadres, using a questionnaire, focus group discussions and a structured interview respectively. The choice of the research design and data collection methods was based on the research objectives.

## 3.2 Research design

The term design describes the overall plan and structure of a piece of research, in particular the logical relationships between various steps in the research process (Sim& Wright, 2000).

In general design is concerned with the following aspects of a study:

- What entities or variable to examine.
- Under what conditions to examine these entities or variables?
- What type of data to collect?
- From whom (or what) to collect these data?
- What method to employ for data collection?
- What implications ensue for subsequent data analysis?

## 3.3 Choice of design

The research question (or hypothesis) is the focus of a study and basis for creating a design. Designs and methods are appropriate or not in terms of the research question to which an answer is sought (Sachet &Weinberg, 1977).

### 3.4 Type of research

This study was a cross sectional descriptive study.

### 3.5 Study place

The study was initially conducted in four police stations of Ndirande, Chilobwe, Limbe and Blantyre and Chichiri maximum prison and later the study was extended to Bangwe, Lunzu and Chileka police stations within Blantyre as well as Thyolo Bvumbwe and Luchenza outside Blantyre were added. This was done because the response rate in the first police stations stated was low so that the researcher could not come up with a credible statistical power to make inferences on the population.

### 3.6 Study population

Police and prison personnel across all cadres were recruited: some of the cadres were constable, prison warders, first sergeant, superintendent, sub inspector, inspector and commissioner.

### 3.7 Sampling method

The sample is the selection of the accessible population on which the study is conducted. Sampling is employed to enable estimates of the population characteristics to be made without recourse to information about, or from, all individuals or cases in the population. By selecting a sample, the researcher is able to conduct a detailed study within limited resources (Smith, Francis; Schafheutle, 2008). This study used a convenience sampling method.

### 3.7.1 Convenience sampling

Sin and Wright, (2000) describe this as drawing of a sample in terms of ready availability of sampling units. In this study, convenience sampling was done due to constraints of time and resources.

### 3.7.2 Sample Size and sample size determination

The sample size will be 385 police and prison personnel. This is calculated based on the assumption that 50% of the police and prison personnel are aware of PEP and to estimate with 5% margin of error with 95% confidence interval. The study used 50% because the correct proportion is not known from previous studies and assuming 50 % will give the largest required sample size for estimating a proportion and thus covers for all proportions.

## 3.8 Types of data used

The qualitative and quantitative data for this study was collected using triangulation of three methods: questionnaire, focus group and interviews.

### 3.8.1 Qualitative data

Qualitative research is a method of naturalistic enquiry, aiming to study people in their everyday social settings and thus collect natural occurring data (Bowling; 2002). Generally, it describes phenomenon in words rather than numbers, and is employed to address questions of how and why? Unlike quantitative research, qualitative research is not merely a method of data collection, but a theory generating activity as well. Qualitative methods that are most commonly used in research are semi structured interviews, focus groups (usually audio recorded and subsequently transcribed verbatim) and observation (Smith; Francis; Schafheutle, 2008).Since the qualitative approach describes and allows for more understanding into situations the researcher chose to use it for part of the research (Katzenellenbogen et al, 1997).

Johnson & Christensen (2000) define qualitative research as research relying primarily on collection of qualitative data (non-numerical data, such as words and pictures). Burns & Grove (2001) concur, describing qualitative research as a systematic, interactive, subject approach used to describe life experiences and give them meaning. The researcher used a qualitative approach in this study based on Burns & Grove's (2001) and Johnson & Christensen's (2000) definitions. In this study interviews with HIV/AIDS officers from four Police stations and one maximum Prison were done and four focus group discussions involving from two Police stations and a Police unit and a maximum prison were conducted.

#### 3.8.1.1 Credibility

Qualitative research has high internal validity as it focuses on the meaning and understanding of a particular concept or issue. In order for qualitative research to be credible, it should be undertaken in such a way that research topic is accurately identified and described. Triangulation, where different methods of data collection are used to gather evidence concerning the same phenomenon and are used collectively to address the qualitative enquiry is one method of enhancing credibility. Furthermore, presenting ones findings to respondents or peers can be further approaches to foster credibility. In this study, credibility was enhanced by combining the two qualitative methods of interview and focus group discussion with findings from the questionnaire.

#### 3.8.1.2 Transferability

Transferability corresponds to external validity and relates to the generalisability of the study findings (sample) to other settings. As the purpose of qualitative research is the in depth exploration of social phenomenon, therefore commonly involving small numbers of individuals and or settings, statistical generalization to a population is not an aim. Qualitative research aims for transferability of findings to a further situation or theory, which is suitable to warrant generalization. The research should be sufficiently detailed that the findings may be examined for transferability in relation to other published work,

other settings or in formulation of a hypothesis for quantitative exploration (Smith, Francis & Schafheutle 2008). In this study the, generalisability of the findings was done through a vigorous literature search and comparison of what other similar studies in other settings reported on the subject.

### 3.8.2. Focus group

A focus group can be defined as a group interview centered on a specific topic and facilitated by a moderator, which generates primarily qualitative data that takes place in a group setting (Sim and Snell, 1996). The method can be used for a variety of purposes within research:

- To study service quality and consumer perspectives (Peters, 1996; Dolan et al; 1999).
- To generate questionnaire items and patient defined outcome measures. (Hyland et al., 1994; Sin and Snell, 1996).
- To explore health beliefs. (Morgan and Spanish, 1985).
- To explore behavior and subjective experience in illness or disability. (Nyamathi and Shuller, 1990; Strong et al.1994, Kitzinger, 1994a).
- To explore decision making process. (Fulton, 1996).

A focus group normally consists of between eight and twelve participants. (Stewarts & Shamdasani, 1990: Kruger, 1994). In their seminal text, Merton et al(1956, p1370 state that the group should not be so large as to unwieldy or to preclude adequate participation by most members nor should it be so small that it fails to provide substantially greater coverage than that of an interview with one individual. It is generally considered that the composition of a focus group should be relatively homogenous.

In this study four focus group discussions were held. The first focus group discussion was undertaken at Chichiri maximum prison in Blantyre, one of the biggest and most congested prisons in Malawi with a maximum capacity of over 2000 prisoners ( mostly

hardcore). The focus group discussion had 8 participants, 6 men and 2 women. All were serving as Prison Warders.

The second focus group discussion was held at Ndirande Police Station. Ndirande is the biggest and densely populated township in the city of Blantyre. Ndirande has one of the highest crime rates in the country. Here, 8 participants took part in the focus group discussion 4 men and 4 women.

The third focus group discussion was done at Chileka Police station, on the outskirts of Blantyre city; this station serves both urban and rural populations. It also serves Chileka airport, one of the big airports in Malawi; an entry point for people from different destinations. Here 7 participants 6men and 1 woman took part in the focus group discussion.

The fourth focus group discussion took place at Luchenza Police unit in Thyolo district, which is about 60 kilometers from Blantyre. This area serves rural population and migrant tea estate workers. Here only 5 participants, all men took part in the focus group discussion; the researcher delayed on the way due to traffic problems and reached the place while the staff had already dispersed for various duties.

In all these focus group discussions, the ranks that took part were prison warder, constable, sergeant and inspector. These ranks were considered not wide apart in terms of seniority and responsibility.

#### 3.8.2.1 Focus group proceedings

The researcher welcomed the groups and thanked them for granting permission to do the focus group discussion. The aim of the discussions was clarified and the researcher requested for permission to use an audiotape to record the proceedings. The participants were assured that whatever is discussed was not going to affect their work in anyway.

Numbers were used to identify each person instead of names. The participants were comfortable with the used of the audiotape.

The researcher disclosed all the information needed for the study to the participants for understanding and to make them aware that they had a free choice in giving consent.

Ground rules for the group discussions were discussed and set by the participants and researcher. These included respect for each other, allowing one person a chance to talk, talking loudly for note taking and the audio tape recording, and for other people to hear, repeating a question if it was not understood, clarifying a point if other participants did not understand it, and acknowledging that people's view points and experiences differ, but were important to share.

Participants were given an opportunity to express their views, and were encouraged to talk to one another rather than address all comments to the researcher.

**3.8.2.2Limitations of focus group discussions**

When conducting the focus group discussion sessions, the researcher was on the alert for the following limitations. The researcher tried to avoid the potential problem of having less control over a group interview, which could result in lost time and dead-end or irrelevant issues being discussed. The researcher therefore tried to allow for deeper discussions of issues, but remained in control to focus on the topic. It was noted that effective interviewing communication and observation skills were crucial throughout the group discussions.

Minority opinions are not always expressed in focus group discussions. The researcher was observant of the participants and encouraged the quieter participants by asking their opinions on issues under discussion.

### 3.8.3. Interviews

Britten and Fischer describe unstructured interview as one in which questions are not scripted in advance, but are based on a list of provisional topics and allow for considerable degree of flexibility and spontaneity (Britten & Fischer, 1993). The unstructured interview is not of course totally unstructured, since any verbal interaction between two people will develop a certain structure and an interview without any structure could not achieve a specific intended purpose (Britten, 2000).Rather it is minimally structured, with the researcher relinquishing control over the form and content of the interview to the maximum extent feasible (Rose, 1994).Unstructured interview is useful where long detailed responses are required to understand the matters the respondent is reporting on (Ackroyd & Hughes, 1992 p.104).A key element in the unstructured interview is therefore the establishment of rapport and even empathy between interviewer and interviewee (Oakley, 1981).

An interview guide was developed (see appendix 6.2) by the researcher and used during the interview.

The interview lasted thirty to forty minutes and the researcher tried to maintain a cordial and open atmosphere. Clarification questions were used on issues that were unclear. At the end of the interview the respondent was thanked and a debriefing session was allowed to give the respondent a chance to ask questions.

The interview was chosen because interviews have the following advantages: interviews are a form of self-report, and the researcher assumes that the information provided by the representative is accurate. A follow-up appointment for the interview was made a day before the actual interview. The interviewee was given the interview guide to gain insight into the type of questions that would be asked. This allowed the respondent sufficient time to think of the answers to the questions (Burns & Grove, 2001). The interview was useful to acquire data quickly and the researcher was able to check descriptions against

facts. It was possible to compare the data from the interview with the data from the focus group discussions and questionnaires (Marshall & Rossman, 1995).

The researcher acknowledges that interviews have the following limitations: Katzenellenbogen et al (1997) hold that a major disadvantage of interviews is that, compared to other qualitative methods, the respondent is more removed from his or her context and may feel threatened, resulting in a bias of data collected. In this study the respondents were responding on behalf of Malawi Police and Prison Services respectively. This removed the personal aspect of the interview but rather a response of what the respective services are doing on the issues to do with non-occupational exposure to HIV/AIDS in their workplaces. The respondents were relaxed and did not feel threatened to express his views.

Interviews involve personal interaction and therefore cooperation of the interviewee was essential (Marshall & Rossman, 1995). The researcher tried to get the corporation of the respondents by making an interview guide and made it available before-hand and agreed on the best time to conduct the interview.

### 3.9 Quantitative research

Quantitative research seeks to answer the questions how much and how many and is concerned with relationships (especially causal relationship) between variables (Polit & Beck, 2004). It takes the form of experiment, quasi experiment or non-experimental design. Non experimental research design includes descriptive research that investigates situations and relationships in variables without manipulation of independent variables (Polit & Beck, 2004). It usually seeks to establish causal relationships between two or more variables, using statistical methods to test the variables, using statistical methods to test the strength and significance of the relationship (Christensen, 2004).

While combining the two approaches (quantitative and qualitative) is challenging, and is sometimes objected to, it has been done and is recommended when a complete

understanding of a phenomenon is sought (Patton 1990; de Vos 2002). This study combined the two approaches to gain a more complete picture of the situation of police and prison personnel and non-occupational exposure to HIV and their knowledge of PEP. Qualitative research complements the quantitative methodology, by providing detailed information on how smaller groups of Police and Prison personnel thought about, felt about and experienced non occupational exposures to HIV. Folch-Lyon &Trost (1981) noted that while quantitative methods are suited to identifying 'how' individuals behave, qualitative methods are better equipped to answer the question 'why'.

Firestone (1987) noted that when the two methods have similar results, the findings are more robust and one can be more certain that the findings are not influenced by methodology. In Chapter 4 the findings from the different approaches are drawn together by objectives. This is done in order to gain a clear, complete and more reliable picture of issues about non occupational exposure to HIV and the knowledge and practice of PEP among Police and Prison services personnel in Blantyre.

### 3.9.1. Questionnaire

Questionnaires are some of the most frequently used methods for data collection in health and social research. They comprise a series of items that are presented in a written format in a fixed order, where each respondent is requested to answer every item (unless directed to omit certain items. The items are constructed to elicit information on attributes, attitudes, beliefs and reported behavior, health status, knowledge or psychological traits or states (Sim&Wright, 2000).In this study, a questionnaire was self-administered and later retained to the researcher.

### 3.9.2 Triangulation in data collection

Denzin defines triangulation as the use of multiple observers, methods, interpretive point of view and levels and forms of empirical materials in construction of interpretations (Denzin, 1989b, p270). The rationale for such strategy is described thus: "Triangulation or use of multiple methods is a plan of action that will raise sociologists above the personal biases that stem from single methodologies. By combining methods and

investigators in the same study, observers can partially overcome the deficiencies that flow from one investigator or one method (Denzin, 1989b p236).

A number of authors advocate triangulation as a means of securing completeness rather than confirmation (Fielding and Fielding 1986; Knafl and Breitmayer, 1991; Redfern and Norman, 1994; DePoy and Gitlin, 1998; Sim and Sharp, 1998. Methodological triangulation is a means of integrating quantitative and qualitative data and their associated methods (Duffy, 1987; Hinds and Young 1987; Corner 1991; Cowman 1993; Carr, 1994. In this study, triangulation of the three methods of questionnaire, interview and focus group discussion was done to gain more insights into the issues of non-occupational exposures to HIV and issues of PEP.

### 3.9.3 The Data collection process used in the study

The study used both qualitative and quantitative methods. The first part was quantitative. A structured questionnaire was used. Variables that formed the questionnaire were divided into four areas. Firstly, the occupational and demographic variables such as age, sex, rank and location (police or prison). This helped to inform which age, sex, rank or location that would need an intervention. Secondly, police and prison service personnel's knowledge and practice of exposure and post exposure prophylaxis such as what PEP is? What constitutes an exposure? This would help to expose the existence of knowledge gap amongst police and prison personnel. Thirdly, how the police would assist clients who present with the risk of non-occupational exposure, such as rape survivors. This helped to expose any flaws in the justice system that might contribute to delays or clients not seeking PEP. Lastly, education and policy would inform if the failure to know about occupational exposure and PEP issues is to do with lack of policy guidelines or training within the service.

The second part used qualitative methods. Five key informant interviews and four focus group discussions were conducted. Interviews targeting high ranking police officers; in this case, HIV/AIDS officers in charge of police station and prison. Focus group discussions will draw middle to low ranking police personnel. The justification of this

separation is that group dynamics may be negatively affected because of strict police etiquette regarding officer-junior interactions. Knowledge and practices of police and personnel regarding non occupational PEP will be explored.

Focus groups and interviews were tape recorded and transcribed verbatim. Data analysis was done manually, drawing out main themes from transcripts. Consent was sought before interviews.

Lastly, the research attempted to discover what interventions the police and prison personnel themselves would recommend? This would help strengthen programme formulation and participation among the personnel.

### 3.9.4. How the data collecting process was executed at each Police and Prison station

The consent letters were obtained from the regional Police and Prison headquarters respectively (appendix) after presenting the College of Medicine Research Ethics Committee (COMREC) letter authorizing the researcher to conduct research in the designated police stations and prison. At the police or prison station, the researcher first met the Officer in charge to obtain consent to interview police /prison personnel and distribute questionnaires. Consent was also sought from the Officer in charge to conduct focus group discussion with the personnel. A special room was allocated for the focus group discussion. The HIV/AIDS officer at each station was a link between the researcher and other police/prison officers and was the first to be interviewed to obtain firsthand information on the HIV/AIDS situation at that station. This person was responsible collecting finished questionnaires and encourage others to finish and hand in the questionnaire.

### 3.9.5 Data analysis and Presentation

Descriptive statistics were performed, demographic and occupational data, on personal experience, knowledge of Post Exposure Prophylaxis (PEP) (refer to questionnaire). Pearson’s chi-square will be used for comparison of proportions. Differences will be

considered significant at 0.05 significant levels. Data will be presented using graphs, tables and charts

### 3.9.6 Ethical consideration

Permission to carry out the study was sought from the COMREC. Written permission was sought from the commissioners of police and prisons in the Southern Region. Participation in the study was on voluntary basis after signing a consent form. No names were used at any point in this study. Participants were to withdraw from the study at any time they felt like doing so.

### 3.9.7Dissemination of Results

The results were submitted to Stellenbosch University as part of fulfillment of Master of Philosophy degree in HIV/AIDS management. The final report was also made available to police and prison services to help inform proper management of HIV/AIDS in the workplace by policy makers in these institutions.

# Chapter 4: Research Findings

## 4.1 Introduction

According to McMillan & Schumacher (1993) the aim of analysing and interpreting research data is to test, achieve research objectives and provide answers to research questions. In this study, the research analysed and interpreted data that emanated from the questionnaire, focus group discussions and the interview. The findings are presented comparatively under the four objectives of the study. Firstly, the findings resulting from the questionnaire are presented. The findings resulting from the focus group discussion and the interview then follow. A discussion follows for comparison of the findings from all the three instruments guided by the relevant objective.

## 4.2 Demographic information of participants according to the questionnaire

One hundred and fifty questionnaires were sent out and one hundred were returned representing a 66.7% response rate. The overall response rate of 66.7 % was acceptable taking into account that response rates for questionnaires can be low because of the nature and process of self-administered questionnaires. 50 were returned from Police and another 50 from Prison services.

### 4.2.1 Gender distribution in departments

A total of 69 respondents were males whereas 31 were females. 33 males responded at the prison department against 17 females while 36 males responded at Police against 14 females. This could be attributed to the fact that this occupation is still regarded as male dominated in many settings.

**Table 4.Department and Gender**

| Department | Gender | | |
|---|---|---|---|
| | Male | Female | Total |
| Prison | 33 | 17 | 50 |
| Police | 36 | 14 | 50 |
| Total | 69 | 31 | 100 |

### 4.2.1 Age Distribution:

Most of the police and prison personnel interviewed were relatively young. Of the 100 personnel interviewed only 7 were above40 years. The rest were below 40 years of age.

Age Distribution

| Age | Frequency | % |
|---|---|---|
| 20-24 | 7 | 7.0 |
| 25-29 | 38 | 38.0 |
| 30-34 | 32 | 32.0 |
| 35-39 | 16 | 16.0 |
| > 40 | 7 | 7.0 |
| Total | 100 | 100.0 |

**Table 5: Age distribution of the respondents**

### 4.2.2 Distribution according to ranks

The highest number of respondents were prison warders (44%) followed by police constables at (31%). The prison warder and police constable cadre had the highest number of respondents because of their visibility on the ground and therefore were easily reached.

| Rank | Frequency | % |
|---|---|---|
| Constable | 31 | 31.0 |
| Prison warder | 44 | 44.0 |
| Sergeant | 10 | 10.0 |
| Sec sergeant | 4 | 4.0 |
| Superintendent | 10 | 10.0 |
| Sub inspector | 1 | 1.0 |
| Total | 100 | 100.0 |

**Table 6: Rank Distribution of the sample**

### 4.3 Exposure to Fluids

#### 4.3.1 Exposure to fluids; findings according to questionnaire

Of the personnel interviewed only 48% reported that they have ever been exposed to body fluids while 52% did not experience an exposure of any kind. Of the 48% that reported ever being exposed, 18(37.5%) were prison personnel while 30(62.5 %) were Police personnel. For those who were exposed to body fluids, the likely fluid to be exposed to was blood (30 %). The nature of incident of most exposures was mainly due to touching body fluids with non-abraised skin (83%) followed by splash (10%) and bite (6%). There were no needle stick injuries that were reported. There was no difference in exposure between younger and older personnel ($p \geq 0.05$).For those who were exposed to body fluids only one person reported being exposed many times and no incident report was completed by any of the exposed personnel. Incident forms were not filled due to non-availability of protocols within institutions.

| | | | Exposed to Body Fluids/Yes/No | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Location | Prison | Count | 18 | 32 | 50 |
| | | % | 37.5% | 61.5% | 50.0% |
| | Police | Count | 30 | 20 | 50 |
| | | % | 62.5% | 38.5% | 50.0% |
| | Total | Count | 48 | 52 | 100 |
| | | % | 100.0% | 100.0% | 100.0% |

**Table 7: Exposure history based on Departments**

| Type Of Fluid | Frequency | Percent |
|---|---|---|
| Blood | 30 | 30.0 |
| Blood stained fluid | 8 | 8.0 |
| Urine | 4 | 4.0 |
| Saliva | 6 | 6.0 |
| Total | 48 | 48.0 |
| Not Exposed | 52 | 52.0 |
| Total | 100 | 100.0 |

**Table 8: Fluids Personnel were exposed to**

| Incident | Frequency | Percentage |
|---|---|---|
| Scratch | 0 | |
| Needle stick | 0 | |
| Splash | 10 | 10.0 |
| Touch(with intact skin) | 83 | 83.0 |
| Other sharp injury(knife and razorblade | 1 | 1.0 |
| Bite | 6 | 6.0 |

**Table 9: Nature of Incident of exposure**

### 4.3.1 Exposure to fluids; finding according to focus group discussion and interviews.

It was revealed during focus group discussion that exposures happen in both prison and police but that they are not reported as respondent 6 from Luchenza Police said. *"Usually suspects come here bleeding and sometimes you have to handcuff them without you being protected from the blood."* On reporting of exposures within the Police and Prison institutions, it was revealed that almost all the personnel did not know how to report and where to report to because there are no medically trained personnel especially in Police stations. There are no specially designed forms to capture occupational exposures. Lack of protective wear was also highlighted, mainly due to lack of funds to procure gloves. *"We rely on government hospitals to access gloves in which they are also erratic in the supply."* It was also revealed during one focus group discussion with one of the rural Police post (Chileka) of the unreadiness and lack of adequate information among medical personnel in dealing with occupational exposures. *"I was bitten on my left hand finger when I went to apprehend a suspect in one of the villages, when I reported to the officer in-charge; I was given a letter to go the nearest health centre. The medical assistant at the centre gave me capsules which I took to fight the infection"*

Interviews with HIV/AIDS officers from police stations revealed that the number of rape cases reported to police stations had increased with the introduction of victim support units in all Police stations and substations. "*Those responsible for victim support have been trained and are able to refer rape survivors to the hospital as soon as possible this has helped the community to have confidence in the police service hence the increased number of reported rape cases*. (HIV/AIDS officer, Ndirande Police).

### 4.3.2. Discussion

It is clear from datafrom questionnaires, interviews and focus group discussions thatoccupationalexposures happen both from Police and Prison. It is reassuring to observe that almost all the personnel reported lower-risk exposures—exposures that should be considered for HIV PEP under the CDC guidelines (CDC2005). The results of this study were not comparable to other studies. Sonders*et al* reported that bites and splashes were common among Dutch Police, while Dunleavy *et al* reported spits, bites and splashes respectively as being the commonest among Scottish Police. Literature from several sources has reported under reporting of occupational exposures among the Police and Prison personnel (Sonder et al, 2005b; Larney& Dolan, 2008).In this study, no occupational exposure was reported due to lack of workplace protocols within the institutions. Protocols on HIV non occupational exposure have been developed by organizations such as the Centers for Disease Control (CDC) that can be adopted and modified according to local conditions. The negligible report in this study regarding the incidence of needle stick and other sharp objects as opposed to similar studies in the United States and Europe signify the low use of injecting drugs in this part of Africa. Studies in other African countries found that cannabis was the most prevalent drug used among illicit drugs, and there was preponderance among men users (Peltzer, 2010). Cannabis and mandrax (methaqualone), alone or in combination, are the most frequently reported illicit drugs of abuse generally, with the largest proportions among drug-related arrests, drug-related psychiatric diagnoses and drug positive trauma patients(Parry et al.(2002). These drugs have limited potential to be used as injectables. It could be argued, based on this study that at the meantime Police and Prison cells are safe places inasfar as needle stick injuries are concerned but with globalization and free movement of people

the situation might quickly change. Reports have emerged that within the large urban centers in the Sub- Saharan Africa, the use of illicit drugs that have the potential to be injected (such ascocaine, heroin, and ATS) appears to be on the rise (Dada et al.2011; Parry, Pluddemann & Myers, 2007).

Although occupational exposures that are reported in this study are said to be lower in risk, precautionary measures should be taken at all times and should be applied by all law enforcement and correctional service personnel. Police and Prison personnel may be exposed to a range of assaultive and disruptive behavior through which they may potentially become exposed to blood or other body fluids containing blood. Behaviors of particular concern are biting, attacks resulting in blood exposure, and attacks with sharp objects. Such behaviors may occur in a range of law-enforcement situations including arrests, routine interrogations, domestic disputes, and lockup operations, as well as in correctional-facility activities. Hand-to-hand combat may result in bleeding and may thus incur a greater chance for blood-to-blood exposure, which increases the chances for blood-borne disease transmission. Whenever the possibility for exposure to blood or blood-contaminated body fluids exists, the appropriate protection should be worn, if feasible under the circumstances. In all cases, extreme caution must be used in dealing with the suspect or prisoner if there is any indication of assaultive or combative behavior.

When blood is present and a suspect or an inmate is combative or threatening to staff, gloves should always be put on as soon as conditions permit. In case of blood contamination of clothing, an extra change of clothing should be available at all times. Protective gloves should be worn if exposure to blood is likely to be encountered. Protective gloves should be worn for all body cavity searches. However, it has to be noted that not all types of gloves are suitable for conducting searches. Vinyl or latex rubber gloves provide little protection against sharp instruments, and they are not puncture-proof. There is a direct trade-off between level of protection and manipulability. In other words, the thicker the gloves, the more protection they provide, but the less effective they are in locating objects. Thus, there is no single type or thickness of glove appropriate for protection in all situations. Officers should select the type and thickness

of glove which provides the best balance of protection and search efficiency. Officers and crime scene technicians may confront unusual hazards, especially when the crime scene involves violent behavior, such as a homicide where large amounts of blood are present. Protective gloves should be available and worn in this setting.

There is need to set up an incident reporting system within the police and prison departments to capture any incidences of occupational exposures that may occur and set up a collaborative system between the health department in these institutions and those of public health institutions to tap expertise regarding the subject. It is important that all workers are aware of the possible risks from occupational exposure and the need to seek urgent advice following any percutaneous or other potentially significant exposure including first Aid procedures. All should be aware of how to report an exposure, and to whom.

The occupational Health department should be strengthened in both departments and it should be responsible for issuing regular reminders to all personnel on how to handle occupational and non-occupational exposures. The Occupational Health department should keep a database of exposure incidents. It is very important that all exposure incidents are reviewed, whether or not PEP was prescribed in order:

- To consider how recurrence might be prevented; and
- To inform staff training as appropriate.

Protocols and IEC materials should be developed to sensitize workers on the subject. Some of the information that the protocols and IEC material could capture is:

- Avoidance of occupational exposure to HIV by adherence to safer working practices and use of personal protective equipment as appropriate.
- Action to be taken following possible exposure including immediate first aid.
- Definition of “significant occupational exposure.”

- The importance of reporting all percutaneous and other potentially significant occupational exposures according to local arrangements;
- The best time to refer an exposure and to whom to refer.

The effective delivery of non-occupational exposure and PEP programme, after exposures that have a substantial risk for HIV infection, requires prompt evaluation and consideration of biomedical and behavioral interventions to address current and ongoing health risks. This evaluation should include determination of the HIV status of the potentially exposed person, the timing and characteristics of the most recent exposure, the frequency of exposures to HIV, the HIV status of the source, and the likelihood of concomitant infection with other pathogens or negative health consequences of the exposure event. All these require a rigorously trained and motivated occupational health department. The need for collaboration between the occupational health department for the police and prison department and those involved in public health cannot be overemphasized.

While dealing with occupational exposure to HIV, there is need to consider an integrated approach to exposure management to blood borne viruses that should also include hepatitis B and hepatitis C and the need for preventive vaccination against the two as a way to make the workplace safer. According to literature, hepatitis B and C have a higher potentiality to be gotten through occupational exposure than HIV (CDC, 2005).

### 4.4 Knowledge of Post Exposure Prophylaxis; findings according to questionnaire

The number of respondents that knew where to access PEP was 22 while 9 did not know and 69 did not respond. Non response in this case was taken as lack of knowledge. Only 2 respondents reported that PEP should be accessed within the recommended 72 hour period while 36 reported that the PEP can be assessed anytime and 59 did not respond.25 respondents reported that HIV status matters before someone access PEP while 53 reported that HIV status did not matter while 22 did not respond.

| PEP | | Frequency | Percent |
|---|---|---|---|
| | Yes | 22 | 22.0 |
| | No | 9 | 9.0 |
| | Total | 31 | 31.0 |
| No response | | 69 | 69.0 |
| Total | | 100 | 100.0 |

**Table: 10 knowledge of where to access PEP**

| PEP Access Period | | Frequency | Percent |
|---|---|---|---|
| | Can access it anytime | 36 | 36.0 |
| | before 72 hours | 2 | 2.0 |
| | after72 hours | 3 | 3.0 |
| | Total | 41 | 41.0 |
| | No response | 59 | 59.0 |
| Total | | 100 | 100.0 |

**Table: 11 Knowledge of PEP access period**

| Knowledge of HIV status as prerequisite for Access of PEP | Frequency | Percentage |
|---|---|---|
| YES | 25 | 25.0 |
| NO | 53 | 53.0 |
| Total | 78 | 78.0 |
| No response | 22 | 22.0 |
| Total | 100 | 100.0 |

**Table 12: HIV status for accessing PEP**

### 4.4.1 Knowledge of Post Exposure Prophylaxis; Findings according to interviews and focus group discussions

The basic knowledge of PEP among Police and Prison personnel was very low. Most of the respondents did not know what it is and what it is used for. There was usually silence when the researcher was probing about PEP in most of the focus group discussion. It was learnt through the interviews with HIV/AIDS officers in some stations that it was only the officers that are trained in victim support issues that were also trained in PEP and they are not many at that.

### 4.4.2 Discussion

The study demonstrated that overall, there was an inadequate knowledge about PEP among the surveyed police and prison personnel; and their perception of risk of HIV infection following high risk exposure is very low. Studies done among healthcare and other settings have shown similar results; lower knowledge of PEP (Oosterhout et al 2007; Abdul Razaq, *et al*.2011). This situation is worrisome in that as earlier noted, the number of rape and defilement cases is on the increase and the Police are the first area of contact before going to the hospital for most of these cases. On the other hand, Police and Prison personnel experience some occupational exposure that would warrant making a decision of seeking PEP or not. In all this sound decision can only be made when there is enough knowledge. Due to the multidisciplinary nature (Police, Hospital and Court) with which the issue of rape is handled a weaker link in the system due to lack of knowledge of PEP issues could riddle the whole process. Despite the obvious risks of non-occupational to HIV and the establishment of multi-disciplinary support services, literature has reported of sexual assault survivors often declining PEP, and many who do take it do not complete the 28-day course (CDC, 2005).The Police personnel could be the agents of change in the society in which they operate by educating rape survivors and the general public on PEP issues, educating them on the safety and efficacy of PEP and the importance of completing the whole dose in the 28 designated days. It is therefore important to intensify education for all personnel on PEP and treat Pep issues with all the urgency and importance it deserves.

Owing to the funding problems being experienced by both organizations, emphasis should be placed on continuous learning through in-service trainings and the use of IEC materials and building relationships with nongovernmental organizations engaged in health service delivery in order to tap extra funding and expertise on the subject. Police and prison training school curriculums should also reflect special emphasis on the subject. Posters should be developed on the subject to raise awareness on non-occupational exposures and the use of PEP. The posters and protocols should include the following;

- Workers particularly at risk to maintain awareness of the principles of PEP. Some may wish to consider the pros and cons of PEP before any event, although views may change depending on the particular circumstances of an exposure.
- The best time to refer an exposure and to whom to refer.
- The period after an exposure is PEP still be effective
- For how long PEP drugs could be taken.
- What other special groups could be illegible for PEP and under what circumstances.

In conclusion, accumulated data from animal and human clinical and observational studies demonstrate that antiretroviral therapy initiated as soon as possible within 48–72 hours of sexual, injection-drug–use, and other substantial non-occupational HIV exposure and continued for 28 days might reduce the likelihood of transmission (CDC, 2005). Because of these findings, it is important to intensify education to all police and prison cadres.

### 4.5 HIV/AIDS Policy and Training

#### 4.5.1 HIV/AIDS Policy and Training; findings according to questionnaire

Only 2 personnel reported that they were aware of HIV/AIDS policy in their workplace, of the 2 only one was aware that the policy addresses PEP issues.

There were no personnel that had ever received training on risks of blood borne viruses, first aid nor reporting procedure.

### 4.5.2 HIV/AIDS Policy and Training; findings according to focus group discussions and interviews

During focus group discussions, it was noted that most junior personnel were not aware of the existence of the HIV/AIDS policy at their workplace mainly due to non-involvement of junior personnel in HIV/AIDS issues as this respondent 4 from Ndirande had to say. *"We heard that the HIV/AIDS policy was launched at the headquarters, only senior officers attended the launch but not us juniors"* Workplace trainings and sensitization on the issue of HIV/AIDS do not usually take place at the workplace due to lack of funds since they rely on partner organizations to fund such initiatives.

### 4.5.3 Discussion

The management of HIV and AIDS in the workplace needs a workplace policy which is a written commitment on the part of management to a set of principles and procedures as an essential step in the management of HIV and AIDS and its impact (Vaas, 2008). The International Labor Organization code of practice on HIV and AIDS and the world of work promotes the development of work place based HIV and AIDS programmes to facilitate the protection of employee rights and the delivery of HIV and AIDS prevention programmes, care, treatment and support (ILO 2004).The epidemic has many implications for the workplace because of its disproportionate effect on the most productive segment of the labour force. Hence, the workplace is considered as an ideal setting for addressing HIV. Both the Prison service and the Malawi police Service have a workplace HIV/AIDS policy, which unfortunately has faced operationalization problems in the sense that it is only at the administrative level where the policy is actively known while at lower levels, the policy as well as its contents of the policy with are not known. The lower cadres of staff are the ones concerned with the implementation of police and prison strategy on the ground. It is important to involve them through the process of policy formulation to policy implementation. A bottom up approach in the policy implementation is suggested. Strengthening institutional capacities to deal with issues of policy implementation through training of HIV and AIDS officers in various stations and

how issues of HIV/AIDS can be integrated with their normal duties, prioritization of resource allocation targeting only essential areas in the policy and incentivizing issues of HIV/AIDS so that more personnel get attracted to attend meetings. Furthermore, going through the Malawi Police Service and Prison Service HIV and AIDS policy documents, it shows that issues occupational and non-occupational exposure to HIV have not been fully addressed. Issues such as what constitute an occupational exposure and how to deal with an occupational exposure in terms of first aid, reporting procedures and who to report an exposure to. These issues should be clearly outlined in the policy document. It is disheartening to note that issues of non-occupational exposure such as rape, defilement, sodomy and homosexuality have not been addressed in both policy documents despite being on the increase in the country. It is important to draft them into the policy after consultations with all stakeholders involved. Further to this, there are areas where the Malawi Police and Prison services can learn from similar programmes from their counterparts within the sub Saharan Africa region and integrate them as policy issues in future. It is documented in literature that South Africa has more advanced programmes dealing with non-occupational exposure to HIV and PEP (Kim JC, 2005). Some of the areas the Malawi Police and prison service can learn through exchange visits are how to manage HIV/AIDS in workplace and forensic investigation of crimes. Crimes such as defilement, rape, murder and assault can easily be solved if DNA is used to connect and identify suspects or victims. (The Nation Newspaper, Wednesday, September 4, 2013 Page 27).It is documented that in the SADC region it is only Malawi which is not using DNA to support crime investigations. The purpose of forensic analysis is to determine the identity of the depositor of that biological material. The unknown biological sample must now be compared with a biological sample of known origin, called a control or reference sample (Van Niekerk, 2001). When a sample of human tissue or body fluid is collected as part of the evidence found at the crime scene, the genetic material or DNA within the sample has the potential for individual identification of the source of that sample (Kirby and Downing, 1999). By using DNA forensic techniques in investigating crime, the public will have more trust in the Police in the investigation of rape and defilement cases in that more such crimes will have evidence and suspects convicted other than now where most cases end up being thrown out of court due to lack of evidence partly due to

overreliance on non-forensic methods of investigation. Secondly this would lessen manhandling search techniques in order to come up with evidence to convict a suspect.

The establishment of forensic laboratory to aid in the investigation of rape cases could be one of the areas where such cooperation would work. Continuous training and learning from others should be adopted and include the following:

- The inclusion of local PEP policy guidance in induction programmes for new staff to educate and raise awareness among those at risk, including where to access PEP and the need for prompt attendance.
- Occupational exposure to known or suspected HIV-infected materials is always stressful and, for some, extremely so. Training on how to manage stress after being exposed is important in such circumstances

## 4.6 Conclusion and Recommendations

### 4.6.1 Conclusion

It is clear from literature that the Malawi Police Service is second hardest hit sections in terms personnel affected by HIV/AIDS in the Malawi society after commercial sex workers (UNDP 2000; UNAIDS country report 2012; Nyasa Times online publication, June 28, 2013). It would be important to find out on national scale as to whether occupational exposures contribute to the high prevalence of HIV/AIDS. In more developed countries where in-depth studies have been done, occupational exposure amongst the two groups has shown to be a problem. In our setting, it is important to emphasize the need for more collaborative efforts to enhance research into this topic in order to develop and share more knowledge and inform policy formulation. This study would like therefore to make the following recommendations.

### 4.6.2Recommendations

#### 4.6.2.1 Education

Since timely intervention with PEP after high risk exposures has been shown to reduce the risk of HIV sero conversion, it is recommended that police and prison personnel should be adequately educated about PEP guideline policy. This should include knowledge about the possible risk of occupational exposure, prevention of exposure, information about first-aid, and importance of seeking urgent advice following injury/exposure and whom to contact (Razaq *et al*.2011). Education should also include the basic knowledge of PEP drugs and best time for accessing PEP.

#### 4.6.2.2 Bottom- up approach in Policy Implementation

The authorities responsible for HIV/AIDS policy formulation and implementation should try a bottom up approach when implementing HIV/AIDS policy. The process of policy formulation and implementation should start from the lower ranks (constables and warders).The two groups are responsible for the implementation of the Police and Prison strategy respectively and are visible on the ground. Statistics have shown that the police constable cadre is the most vulnerable to the HIV/AIDS pandemic while at the same time it is the most important in the implementation of the Police strategy (GoM, UNDP, 2000).

#### 4.6.2.3Advocacy and lobbying

One thing that came out constantly during this research was the lack of funds to carry out HIV and AIDS activities including funds for launching a HIV/AIDS policy at Police substation and unit level. There should be constant lobbying for more funds for HIV/AIDS activities in the two departments. The government, through the Treasury, which is the main funder for the Police and prison department usually prioritizes other health services within these institutions. Public/Private partnership initiatives should be

explored where Nongovernmental organizations could partner with Malawi Police and Prison departments to implement HIV/AIDS policy.

### 4.7 Limitations

There were limitations to this study. The sample size could not cover more police and prison stations because of issues of cost. The cost of travel, arranging focus group discussion and printing of questionnaires were prohibitive. The study relied on recall of self-reported incidents as opposed to a retrospective search of medical records that would give a more credible analysis of the situation. It could be underreported or over reported. Also, it does not assess the true risk of infection which would require a sero survey of serological follow-up after exposure. Lastly, it has been reported in healthcare workers that transcutaneous exposures are underreported; such an argument may be applicable to law enforcement personnel as well.

### 4.8 Further Research Questions

1. What are the rates of demand for PEP, and the rates of acceptance, what systems need to be in place to make PEP accessible to rape survivors and others in various settings?
2. What type of training is needed to implement PEP? How can roles be shared among different service providers?

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# Appendices

## 1 HIV non-occupational exposure and Post Exposure Prophylaxis Audit Form

(This survey is completely anonymous. Feel free to answer every question. There is no right or wrong answer) (*Tick or Fill where appropriate)*

Study number_____

Location: Prison □ Police □

1.0 Demographic and Occupation Data

1.1 Age *(please tick)*

20-24 □
25-29 □
30-34 □
35-39 □
At least 40 □

1.2 Gender *[please tick]*

Male ( ) Female ( )

1.3 Grade *(please tick)*

Constable □
Prison warder □
First Sergeant □
Second Sergeant □
Superintendent □
Sub inspector □
Inspector □
Commissioner □
Other (specify)

2.0 Your Personal Experience regarding occupational exposure

2.1. Have you ever accidentally been exposed to body fluids during your work where you might have thought you got HIV infection?

□ YES □ NO

2.2. If yes, what type of body fluid?

Blood □ Blood stained fluid □ Non blood stained fluid □ Urine

Feaces □ Vomitus □ Saliva □ other (specify)

2.3 Nature of the incident?

□ Bite □ Scratch □ Needlestick □ Spit □ Splash

□ other sharp injury (such as knife/razor blade) □ other (specify)

2.3 How many times have you been exposed?

□ Once □ twice □ many times

2.4 If you were exposed to blood, did you fill incident form or report to anyone?

□ YES □ NO

2.5 If no, what do you feel were the reasons for not filling an incident form or reporting? (*please tick as applicable*)

Unaware of procedure/protocols □
Lack of time □
Lack of awareness of risk □
Felt it was useless □
Belief that nothing could be done anyway □
Not applicable (no previous unreported incidents of occupational exposure) □
Other (Please mention)……

## 3.0 Post Exposure Prophylaxis

3.1 Have you ever heard of a type of medicine called post exposure prophylaxis, which is used to prevent HIV infection after a needle-stick or splash to the eye or mouth?

□ YES □ NO

3.2 If YES, do you know where you can obtain it in your organization? □ YES □ NO

3.3 For how long should one take PEP? (*Tick only one*) □ 28 days □ for lifetime

3.4 After an exposure, for how long should someone wait before accessing PEP? (*Tick only one*)

□ can access it anytime □ before 72 hours

□ after 72 hours

3.5 After how many exposures can someone seek PEP advice? *(tick only one)*

□ a single exposure □ two exposures

□ after many exposures

3.6 PEP can also be administered to the following groups of people/ situations: (*tick where applicable)*

Workers who accidentally get exposed to blood or body fluids □YES □NO

Sex workers □ YES □ NO

Rape survivor □ YES □ NO

Non consensual/unprotected sex in a family □ YES □ NO

Condom burst/slip during intercourse □ YES □ NO

3.7 PEP can be administered to someone despite being: - *(tick where applicable*)

- HIV positive at the time of exposure □ YES □ NO

- HIV negative at the time of exposure □ YES □ NO

- HIV status at the time of exposure does not matter □ YES □ NO

## 4.0Education

4.1 While working within the police/prison service in Malawi, have you received any information/training regarding the risk of acquiring a blood borne virus following an occupational exposure to blood or body fluids? (tick one)

□ YES □ NO □ Unsure

4.2 If you have received training, please indicate in the table below each area on which you have received training

| | *(Tick where applicable)* |
|---|---|
| Blood borne viruses (HIV, Hepatitis B) | |
| Risk of transmission following any occupational exposure to blood/body fluid | |
| Protecting against occupational exposure (procedures, equipment, vaccination) | |
| First Aid procedures for an occupational exposure incident | |
| Reporting an occupational exposure incident | |

4.3 Do you feel/ Have you felt the need for further education in this regard? □YES □ NO

4.2 If yes, which of the following would you prefer? (tick one)

Group/targeted teaching □
Posters/Leaflets □
Others (Please mention)

5.0 HIV/ AIDS Policy

5.0 Are you aware of HIV/AIDS policy in your organization? □ YES □ NO

5.1 If yes, is the policy addressing issues of occupational exposures and PEP? □YES □NO
□ Not sure

**Thank you very much for taking the time to fill the Audit form. If you have any comments then please write them down. They will be of great value to us.**

*Comments/ Questions:*

……

……

**END OF QUESTIONAIRE**

## 2 Questions for Interview with the HIV/AIDS Officer

1. How many rape cases has your station handled over the past 12 months?
2. Do you feel rape victims are adequately assisted at your station?
3. How long does it take for investigations of rape to be completed and the victim to be referred to the hospital?
4. Do you have a data capturing of incidences of occupational exposure among your staff. If yes, is

5. Do you have an HIV/AIDS policy in your work place? If so, does it address occupational exposure and the provision of PEP?

## 3 Interview Guide during Focus group discussions

1. What do you understand by occupational exposure?

2. What would you do after getting exposed to blood and body fluids?

3. Could you please let me know of other situations where someone can get exposed to HIV?

4. Have you ever been exposed at work; tell me the type of exposure and the incident

5. Do you think it is necessary to get help when exposed at work

6. Have you ever heard of a type of medicine called post exposure prophylaxis, which is used to prevent HIV infection after a needle-stick or splash to the eye or mouth? If so, please tell me what you know about it.

7. Do you know of other situations/ group of people where post exposure prophylaxis could be useful?

8. Do you know for how long after being exposed to blood or body fluids should someone access post exposure prophylaxis?

9. Do you think it is necessary for rape survivors to access post exposure prophylaxis? Please explain

10. Do you know of any laid down procedures and policies in your organization to do with occupational exposures and accessing of PEP?

**4 English consent form**

Non occupational exposure and post exposure Prophylaxis: knowledge and practice amongst Police and Prison personnel in Blantyre survey consent form

Participant consent form

My name is _____.I is carrying out a survey to determine the knowledge and practice of non occupational and post exposure prophylaxis among Police and Prison personnel in Blantyre.

This study will help us to determine the knowledge and practice gaps that might exist regarding non occupational exposure and post exposure prophylaxis as part of HIV/AIDS management in the workplace and the surrounding community.

You are free to participate or not participate in this survey. You are also free to withdraw at any time.

You are not forced to answer each and every question but attempting to answer every question will help us have a clear picture regarding the subject. This will also assist the authorities to formulate evidence based policies and programs.

The survey is completely anonymous. No names shall be used at any point in this survey.

Are you participating? YES (tick) NO (tick)

Signature

Signature for investigator

**5 Chichewa consent form**

**Kafukufukuwofunakudziwachidziwitso cha katengedwekakachirombo**ka **HIV podzera mu kukhudzamagazindimadzienaamthupimwangozi pa ntchitondinjirazinandinsomankhwalaotetezakutengakachiromboka HIV pakati pa Apolisindioyang'anirandendeku Blantyre.**

KulolerakapenaKukanakutenganawombali pa kafukufuku

Dzinalangandine
.Ndikupangakafukufukuwofunakudziwachidziwitso cha katengedwekakachiromboka HIV podzerakukhudzamagazindimadzienaamthupimwangozi pa ntchitondinjirazinandimankhwalaotetezakutengakachiromboka HIV ngatinjiraimodziyogonjetsakufarakwakachiromboka HIV ndimatenda a AIDS pa malo a ntchitondimadelaozungulira.

Sindinuokakamizidwakutenganawombali mu kafukufukuyu.Mutha kuleka kutenga nawo mbali pa nthawi ina iri yonse.

Sindinu okakamizidwa kuyankha funso lililonse koma kuyesera kuyankha funso kutithandiza kukhala ndi chithunzithunzi cha mnene zinthu ziliri mubungwe lanu ndiponso maganizo anu. Izinso zithandiza opanga mfundo pamalo ogwira ntchito kumanga mfundo zokhazikika ndiponso zothandiza.

Kufukufukuyi ndi wa chinsinsi, dzina la munthu silitchulidwa pali ponse.

Nditenga nawo mbali INDE (chongani) AYI (chongani)

Siginechala yanu

Siginechalayaochitakafukufuku

## 6 COMREC Study Approval Letter

UNIVERSITY OF MALAWI

Principal

Prof. R.L. Broadhead, MBBS, FRCP, FRCPCH, DCH

Our Ref.:

Your Ref.: P.09/09/828

College of Medicine
Private Bag 360
Chichiri
Blantyre 3
Malawi
Telephone: 887 245
887 291
Fax: 874 700
Telex: 43744

15th February 2010

Mr. Douglas Soko
College of Medicine
Microbiology Department
P/Bag 360
**Blantyre 3**

Dear Mr. Soko,

**RE: – P.09/09/829 - Non-Occupational HIV Exposure and Post Exposure Prophylaxis: Knowledge and Practice amongst Police and Prison Service Personnel**

I write to inform you that COMREC reviewed your proposal which you resubmitted for expedited review. I am pleased to inform you that your proposal was approved on 15th February 2010 after considering that you addressed all the queries which were raised during the previous review.

As you proceed with the implementation of your study I would like you to take note that all requirements by the college are followed as indicated on the attached page.

Yours sincerely,

Prof. J. m Mfutso-Bengo
**CHAIRMAN – COMREC.**

*JMMB/ck*

Approved by
College of Medicine
15 FEB 2010
(COMREC)
Research and Ethics Committee

## 7 Police Approval letter to conduct study

Cable Address COMPOL, BT
No. 01880372
Fax 01872342.

In reply please quote No. **SR/C/119/VOL. 3/36**

THE REPUBLIC OF MALAWI
**OFFICE OF THE COMMISSIONER**

SOUTHERN REGION POLICE HEADQUARTERS
POST OFFICE BOX 24,
**BLANTYRE**

**18 March, 2010**

Mr Douglas Soko
College of medicine
P/Bag 360
**Blantyre**

**Cc: Officer In Charge Limbe, Blantyre, Chilomoni, Ndirande, Chilobwe.**

**RE : SEEKING PERMISSION TO CARRYOUT A RESEARCH AT POLICE FORMATIONS**

I refer to your letter dated 19th February, 2010 resting on the above captioned matter.

Grateful be informed that management has approved your request to carry out the research.

**A/SUPT M.D. KHALIRA, RHRO**
**FOR THE COMMISSIONER OF POLICE, SOUTH.**

## 8 Prison Approval Letter to conduct study

OFFICE OF THE REGIONAL PRISON OFFICER (SOUTH)

Ref. No. admin/vol1/45/10

Telephone: +265 (0)1 841466 / 844357
Fax: +265(0)18644327

SOUTHERN REGION PRISON HEADQUARTERS
P.O. BOX 30117
CHICHIRI
BLANTYRE 3
MALAWI

20th April, 2010

TO : THE OFFICER IN-CHARGE,
CHICHIRI PRISON,
P.O BOX 30117, CHICHIRI,
BLANTYRE 3.

Dear Sir,

**PERMISSION TO CONDUCT STUDIES –CHICHIRI PRISON**

I write in reference to the above subject matter.

The Regional Prison Officer South has granted permission through the Research Unit of the Malawi Prison Service to Mr Soko of College of Medicine to conduct his academic studies at your station.

Therefore, be informed to advise the rank to follow all security rules that may be given to him during his studies. For the staff, let's be cooperative and assist him accordingly.

I remain to be Sir,
Yours Obediently,

SUPT. C.DZIKOLIDAYA (ADMINISTRATOR)
**FOR: THE REGIONAL PRISON OFFICER (S)**

Cc: The Chief Commissioner of Prisons.
Cc: The Head of Research and Planning Unit
Cc: Mr Soko, College of Medicine.