

**NON -OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS TO HIV
: KNOWLEDGE, ATTITUDE AND PRACTICES AMONG PRIMARY
HEALTH CARE WORKERS IN DAR ES SALAAM, 2014**

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**Master of Public Health Dissertation
Muhimbili University of Health and Allied Sciences
October 2014**

**NON-OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS TO HIV:
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By

Talumba Samatta

**A dissertation Submitted in (partial) Fulfilment of the Requirements for
the Degree of Master of Public Health of
Muhimbili University of Health and Allied Sciences**

**Muhimbili University of Health and Allied Sciences
October, 2014**

CERTIFICATION

The undersigned, certify that they have read and hear by recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled *Non - Occupational Post Exposure Prophylaxis to HIV: Knowledge, Attitude and Practices among Primary Health Care Workers in Dar es Salaam 2014*, in (Partial) fulfilment of the requirements for the degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences

.....

Prof Said Aboud
(Supervisor)

Date:.....

DECLARATION

AND

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I, **Talumba Samatta**, declare that this **dissertation** is my own original work and it has not been presented and it has not been presented and will not be presented to any other university for a similar or any other degree award.

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Date.....

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DEDICATION

I would like to dedicate this work to my beloved sister, the late Jane Samatta and to my beloved brother the late Peter Samatta. I do thank God for the wonderful and memorable years we have spent together as siblings.

ABSTRACT

Background: Non-occupational exposure to Human Immunodeficiency Virus (HIV) poses a significant risk in the transmission of the HIV from one person to the other and hence can contribute to the rise of new HIV infections in our communities. The use of PEP helps to reduce the rate of HIV transmission by 81%, which shows that the use of PEP is significant after an exposure. Therefore there is an importance in understanding the concept of non-occupational exposure and its treatment so as to reduce the number of new HIV infections countrywide.

Aim: To determine the knowledge, attitude and practices of health care providers in providing PEP for non-occupational exposure to HIV in primary health care facilities.

Methods: A cross-sectional study was conducted in Dar es Salaam region among randomly selected primary health care facilities from February to April 2014. Structured questionnaire was used to health care providers of different cadres at the health care facilities. Data analysis and management was done using SPSS program version 20.0. Descriptive analysis has been used to determine frequencies in socio-demographic characteristics. Univariate and Multivariate logistic regression analyses were used to determine factors associated with knowledge, attitude and practices on PEP among health care workers.

Results: A total of 384 participants participated in the study with a response rate of 100%. Overall mean age of participants was 40 years. Among the participants females constituted 274(71.4%) and males 110(2.6%). Three hundred and forty four (89.6%) were married and 232(60.4%) had attained college education. One seventy six (45.8%) were nurses and 128(33.35%),the remaining percentage being other cadres. One hundred and four (27.1%) HCWs attended patients with non-occupational exposure to HIV with only 79/104(75.9%) providing PEP to patients who required it. Knowledge on non-occupational PEP was limited in several aspects. However most HCWs had a positive attitude towards treating non-occupationally exposed patients as an emergency and for referral for further management. In univariate analysis, Duty station ($p=0.0001$), cadre ($p=0.0001$) and working experience ($p=0.000$) were significantly associated with provision of PEP to patients. With regards to this 41.8% (33 HCWs) and 37.9%(30 HCWs) among the 79 health care workers who provided PEP came from OPD department and CTC department respectively. Also among the 79, 13 nurses (16.5%) and 20 doctors (25.3%) provided PEP to clients whom they attended. Thirty-

three Health care providers (41.8%) with more than 16 working years experience and 22(27.8%) with 11- 15 years of working experience provided PEP among the 79 health care workers who provided PEP. With multivariate analysis, cadre was shown to be significantly associated with provision of PEP to patients who have non-occupational exposure to HIV.

Conclusion and Recommendations: HIV/AIDS being a disease of public health priority and as it may result into great morbidity and mortality; knowledge on PEP provision for HIV is crucial among health care providers. Clinical mentorship for HCWs and supportive supervision in health care facilities regularly is necessary in ensuring proper management is given to non-occupationally exposed patients.

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LIST OF ABBREVIATIONS

CDC	Centre for Disease Control and Prevention
CTC	Care and Treatment
DMO	District Medical Officer
HCWs	Health Care Workers
HIV	Human Immunodeficiency Virus
IPD	In Patient Department
MUHAS	Muhimbili University of Health and Allied Sciences
nPEP	Non occupational Post Exposure Prophylaxis
OPD	Out Patient Department
PEP	Post Exposure Prophylaxis
RMO	Regional Medical Officer
THMIS	Tanzania HIV/AIDS and Malaria Indicator Survey
WHO	World Health Organisation

CHAPTER ONE

1. INTRODUCTION

1.1 Background

HIV infection is a public health problem worldwide including in sub-Saharan Africa and Tanzania as a whole. The overall prevalence of HIV in Tanzania is 5.1% among Tanzanians aged 15- 49, whereby it is 6.2% in females and 3.8% in males (THMIS 2011-2012) .The prevalence is higher in urban areas as compared to rural areas, Dar es Salaam with a prevalence of 6.9% (THMIS 2011-2012) being among the urban areas. Tanzanians living in urban areas are more likely to be HIV-positive than those living in rural areas (7.2% versus 4.3%)

Non-occupational exposure can be considered as all accidental and sporadic incidents in which contact with blood or other body fluids (semen, vaginal secretions, etc.) that pose a potential risk for HIV infection has occurred, excluding exposures of HCWs in a healthcare or laboratory setting. Non-occupational exposure includes unprotected sexual exposure, sexual exposure involving a broken or slipped condom, injecting drug users (IDUs) sharing equipment, accidental needle stick injuries, bite wounds, mucosal exposure, etc. (Almeda et al 2004)

There is a growing recognition that gender norms and gender-based violence are some of the most influential factors driving HIV transmission worldwide.(HIV prevention strategy for Tanzania Mainland and two Year action plan(2009/10-2011) for HIV prevention in Tanzania Mainland) .Gender-based violence increases the risk of HIV infection for young girls and women. Rape against women is a public health problem in Tanzania, and it is estimated (Muganyizi et al., 2004) that about 20% of adult women have experienced a completed rape. The incidence rates of these could be high but there is a risk of under reporting and there is an issue that some of the people who are encountered with such incidences do not go to the responsible authorities and health care facilities for the appropriate treatment and service. In addition to that promiscuous sexual behaviours, having concurrent sexual partners and inadequate knowledge on HIV/AIDS and its transmission also pay a part in increasing the prevalence of the HIV epidemic.

Services provided to combat non occupational exposure should include clear protocols, set standard operating procedures, and followed guidelines plus the integration of PEP services

into a range of health services including primary health care facilities, where in the case of a country like Tanzania, these are the first level of facilities where Tanzanians seek medical care. Services should also include accessibility and widespread availability of drugs for post exposure prophylaxis (PEP).

PEP is the immediate provision of preventive measures and medication following exposure to potentially infected blood or other bodily fluids in order to reduce the risk of acquiring HIV infection whereby it should be provided to a client within 72 hours of exposure to HIV. This involves the application of ARV drugs to prevent HIV infection by blocking HIV replication after it has gained access to the human body. PEP will therefore be offered as per the Tanzanian National Guidelines, which explains the key steps the health care provider should follow in managing a client exposed to HIV in accordance with international standards of care (WHO).

There are certain situations where PEP is normally offered which include the likely exposure to the virus in an HIV-uninfected individual, particularly healthcare workers, whereby this is known as occupational PEP as well as in the situation of where there has been an exchange of bodily fluids between HIV-infected and HIV-uninfected individuals.

Standard regimens to consider in providing PEP include Zidovudine and Lamivudine tablets in standard doses for a maximum of 28 days.(National Guidelines for the Management of HIV/AIDS,2012) But there are certain situations where by an additional ARV drug will be used i.e. Efavirenz tablets where by this depends on the level of extent of the exposure to infectious fluids, that is there is a higher risk of the client to get HIV infection such as when a person is raped by many perpetrators, the raped victim has intensive bruises and lacerations after rape or with intravenous drug users. In addition to that, management also includes access to treatment counsellors and the use of appropriate HIV testing both of the source patient and the exposed individual. As per national care and treatment guidelines (2012) routine laboratory testing of patients is not recommended unless the condition of the patient necessitates the tests to be done but a solid follow up plan for treatment and HIV testing after treatment should be done.

Several clinical studies have demonstrated that HIV transmission can be reduced by 81% following the immediate administration of antiretroviral agents (CDC, 2001)

Previously there was much doubt in the use of PEP in non-occupational exposure as compared to occupational exposure but many health institutions in Sub Saharan Africa have started to see

and implement the use of PEP in non-occupational exposure to HIV including health institutions in Tanzania.

The rationale for supporting provision of PEP for non-occupational exposure with respect to the risk of transmission follows a similar logic to that of occupational exposure. Model-based data have indicated probabilities of infection of 0.5% to 3% per episode of receptive anal intercourse and 0.1% to 0.3% per episode of receptive vaginal intercourse. (National Guidelines for the Management of HIV and AIDS). The estimated risk for insertive anal intercourse is 0.065% and insertive vaginal intercourse is 0.05%, or for oral sex with ejaculation, is lower. The estimated risk of an intravenous needle-sharing exposure is 0.67%. The estimated risk from occupational exposure following per cutaneous injury is 0.3% ((HIV CLINICAL RESOURCE- HIV Prophylaxis Following Non-Occupational Exposure Including Sexual Assault, 2010). Therefore, the per-episode estimated transmission risk for HIV following sexual and injection drug exposures is, in some cases, higher than that for occupational exposure. But the issue of non-occupational exposure remains not widely investigated upon considering it has a small but very significant risk of contributing to the HIV prevalence.

1.2 PROBLEM STATEMENT

Exposure to HIV infection can be reduced in a number of ways including the provision of PEP. For quite some time the provision of non-occupational PEP has been surrounded with controversies due to limited evidence of its effectiveness. The recent expansion of HIV-PEP to non-occupational situations as mentioned has raised numerous areas of uncertainty for policy makers and healthcare providers caring for potentially exposed individuals. Some studies have shown that there is a significant gap in knowledge in providing PEP for non-occupational exposure mainly added to the available controversies.

Furthermore there is an increased number of incidences of gender based violence such as rape, sexual assault, human bites and other exposure to other bodily fluids that puts victims at a risk of acquiring HIV infection. But yet due to the mode that the victims of gender based violence get exposed, it might influence the health care workers attitude and decision in providing PEP to a client.

Most health care facilities lack trained personnel on HIV/AIDS and guidelines and job aids on HIV /AIDS are not available. This lack of knowledge or having low knowledge contributes to lack of proper management for patients who are exposed to HIV.

Attitude is a factor that can hinder provision of non-PEP to clients who are exposed. This may be contributed to the fact that the health care providers see the client has put him/herself at risk of being exposed. This may contribute to overall poor management of exposed clients.

Most lower level facilities in Dar es Salaam do not provide PEP. Instead clients have to be referred to higher-level facilities for management.

Provision of PEP to non-occupational exposure to PEP is not treated as a medical emergency in many health care facilities and this can contribute to increasing the HIV prevalence. Although the national guidelines for HIV management explicitly explains what should be done as far as non occupational exposure to HIV is concerned, these guidelines are not well distributed in the health facilities and not many health care workers are familiar with the practice and procedures explained in these guidelines. And not many health care providers have had the chance of being trained on Post exposure Prophylaxis regardless of the risk that these providers are working in while providing care in health facilities in this HIV era. In addition to that not much has been done and studied in this area on non-occupational post exposure prophylaxis in Dar es Salaam.

There are no published studies that the author is aware of concerning non-occupational PEP in Tanzania despite the increase in incidences that expose the community to HIV infection and despite the HIV prevalence of 6.9% in Dar es Salaam.

1.3 RATIONALE

The provision of non-occupational Post Exposure Prophylaxis (nPEP) is seen as an integral part of an overall strategy for the prevention of HIV as seen in the prevention strategies put forward by the Tanzanian Ministry of Health and Social Sciences and hence all health care providers should be aware and knowledgeable.

Little has been documented or is known on the issue of PEP to non-occupational exposure, especially in this era where gender-based balance is becoming a major issue of public concern and hence resulting into sexual assault, bite wounds etc. which is a risk factor as far as HIV transmission is concerned and where HIV infection is of major public health importance This study will help assess the knowledge of HCWs and how capable they are in managing cases that have been exposed to HIV infection in non occupational settings.

This study also aims at informing all stakeholders that access to non-occupational PEP after an eligible exposure to HIV is a medical emergency. Access to early and appropriate management can potentially prevent the development of disease with significant reduction in morbidity and mortality. Therefore risk assessment and the provision of non-occupational PEP should be advocated to occur as soon as possible. (Non-Occupational Post-Exposure Prophylaxis for HIV - Management of clients presenting for follow-up visits after non-occupational exposure to HIV, Department of Health, Government of South Australia, 2007)

This will help in the effective implementation of HIV prevention policies and guidelines among health care providers in Dar es Salaam and Tanzania as a whole.

1.4 Research Questions

1. What do health care providers know about non-occupational PEP?
2. How do health care providers feel when it comes to providing non-occupational PEP?
3. How do health care providers manage clients with non-occupational exposure to HIV?

1.5 Objectives

1.5.1 Broad Objective

To determine knowledge, attitude and practices of health care providers in providing non-occupational PEP in primary health care facilities in Dar es Salaam region

1.5.2 Specific objectives

1. To assess the knowledge of non-occupational PEP among health care providers in selected health care facilities
2. To determine the attitude of health care providers in the provision non-occupational PEP to individuals exposed to HIV infection
3. To determine proportion of HCWs who provide appropriate management to individuals suspected to be exposed to HIV in selected health care facilities
4. To determine factors influencing provision of non-exposure PEP to HIV-exposed individuals among health care workers in selected health care facilities

CHAPTER TWO

2. LITERATURE REVIEW

The provision of ARV drugs to prevent HIV infection after unanticipated sexual or injection-drug--use or other bodily fluids exposure might be beneficial, as PEP can reduce HIV infection by approximately 81% when it is properly adhered to (CDC 2001). The exposure to HIV infection can be occupational or non occupational but either way requiring crucial attention from health care providers in this era where HIV infection is a major public health concern worldwide. Although the most effective way to prevent HIV transmission is to protect against exposure, non-occupational PEP offers the possibility of preventing HIV transmission when possible exposure to HIV has occurred.

It is likely to be most effective when treatment of high-risk exposures is combined with a strong educational component that emphasizes prevention of future exposures such as adherence counselling and risk reduction counselling. (National Guidelines for the Management of HIV and AIDS, 2012) Several factors justify the use of non-occupational PEP, which may include the biological plausibility of non-occupational PEP for preventing HIV infection. There are published data on the effectiveness of the ART used for post-exposure prophylaxis in animals and occupational exposures in humans which has been done through different studies and clinical trials. (Antiretroviral Post exposure Prophylaxis After Sexual, Injection-Drug Use, or Other Non occupational Exposure to HIV in the United States,2005) There also have been studies on cost effectiveness and cost benefit of HIV post-exposure prophylaxis necessitating the importance of its use (Almeda et al 2004).

In some studies it has been shown that provision of PEP among health care providers is not uniform and they would provide PEP depending on the type of exposure. A previous study from selected practicing emergency physicians from the American College of Emergency Physicians showed that the physicians recommended non occupational post exposure prevention for sexual assault (35%), unintentional needle stick (25%), and, rarely (<15%), for unsafe sexual practices and injection drug use. (Macausland et al, 2003) Knowledge of PEP recommendations was only 15.5%, furthermore the time when treatment may be most beneficial was poor at 13.7%. Most physicians agreed that their role includes providing non-occupational post exposure prevention drugs and referring patients for counselling (76.5% and

75.6%, respectively). Confidence in assessing need for non-occupational post exposure prevention varied with exposure type (sexual assault (61.6%), unintentional needle stick (54.8%), unsafe sexual practices (40.4%), and injection drug use [49.7%]) among physicians. Therefore, physicians had different attitudes in the way they regarded provision of non-occupational PEP.

In the current era where HIV/AIDS is a public health problem, knowledge of non-occupational PEP among health care providers is an essential component among the skills and knowledge a health care provider has to have. In a study by Almeda et al to assess knowledge and practices among physicians, the assessment of certain risk factors and therapeutic performance in cases of intermediate risk showed discrepancies among doctors.

In another study done by Ende et al in New York State Emergency Departments, which non-occupational PEP was initiated, after sexual assault, 163 ED (Emergency department) directors (87%) reported that they typically initiated non-occupational PEP in the ED; 13% either wrote a prescription only or referred to another facility. After voluntary sexual exposure, 70% typically initiated non-occupational PEP in the ED; 29% either wrote a prescription only or referred to another facility. Self-reported ED data indicated that 3439 sexual assault exposures and 6858 voluntary sexual exposures were seen in EDs in 2005. The non-occupational PEP initiation rate was 65% for sexual assault exposures and only 43% for consensual sexual exposures. These findings suggest that non-occupational PEP guidelines are not widely implemented, and raised several important public health policy issues, including access to medication and follow-up care and referrals for continuum of care.

Since there have been controversies for the use of PEP in non occupational exposure, this experience is not widely known, although there has been an introduction of national guidelines on non occupational PEP. In a study done by Ooi et al among general practitioners in Sydney, while 68.5% of those surveyed were aware of the availability of HIV PEP for high-risk occupational exposures, only half of those, or 35.1% of all doctors were aware of the availability of HIV PEP for sexual exposures. Of all surveyed, only 24.6% were aware of the 72-hour time restrictions with 28.1% offering explanations of how to access HIV PEP. Of doctors that were aware of the availability of HIV PEP for sexual exposures, only 42.3% were aware of time restrictions with 46.5% offering explanations of access.

In a previous study conducted by Chen et al in two hospitals in London to assess the knowledge and experience of junior doctors on PEP, 118(43%) doctors could not name any of the drugs

recommended for use after a high-risk exposure. (Chen M Y et al, 2001) Only 20 (7%) knew that a three-drug regimen was recommended, although only 23 (8%) could name the specific drugs.

Almost one third (29%) did not know within what period PEP should be administered. This was despite the fact that the majority of respondents (76%) had experienced high-risk exposure to potentially infective material at some stage in their careers and that a significant proportion (18%) had sought advice about PEP following potential exposures. (Chen et al, 2001). This study demonstrated that the junior hospital doctors had inadequate knowledge of PEP against HIV despite being at risk of occupational exposure

In a study done by Laporte et al in France among 571 physicians taking care of HIV infected patients irrespective of what their medical specialities were it showed that among the 571 physicians 41% would provide PEP for non occupational exposure after a request from a patient and 33% would provide PEP after a thorough risk assessment of the patient. This shows the attitude among health care providers in the provision of PEP. In addition in this same study it showed that 22% of the physicians would provide PEP in every scenario while 18.8% will provide PEP in all scenarios except oral sex.

In a study by Martin et al in 2004 whereby clients were assessed for an increase in sexual behaviour after the exposure of PEP, it showed that after 12 months following receipt of PEP a total of 397 adults with high risk sexual or drug use exposures who were followed up 83% did not return back for a repeat dose of PEP, 73% reported a decrease in performing high risk sexual acts, 13% reported no change and 14% reported an increase in performing the acts. The study concluded that after receiving PEP medication and behavioural counselling, following a sexual exposure to HIV, most individuals do not increase high-risk behaviours. This study helps to emphasize on the importance of PEP in non-occupational exposure.

In Tanzania many studies have been done on occupational exposure to HIV and its management. A recent study done by Chagani et al, which investigated on healthcare workers' knowledge, attitudes and practices on PEP for HIV in Dar es Salaam and found that majority of health care workers had heard about PEP but only 10% had good knowledge of PEP. Also among the health care workers studied, only 11% knew the drugs that were used in PEP. (Chagani et al, 2011) A previous study that was done by Gumodoka et al in 1997 which looked at the occupational exposure to the risk of HIV infection among health care workers in Mwanza region, United Republic of Tanzania showed that the majority of health care providers were

aware of PEP and the knowledge of PEP varied between different cadres whereby it was highest among medical staff such as medical officers and assistant medical officers but was lowest among the lower grade staff (Gumodoka et al, 1997)

The Ministry of Health and Social Welfare in Tanzania has introduced and implemented the HIV PEP guidelines since 2004, and therefore the health care providers have to be knowledgeable on this so as to effect better implementation of the guidelines and therefore to contribute to reducing the transmission of HIV/AIDS. There has also been the introduction of HIV prevention strategy for Tanzania Mainland and Two Year action plan (2009/10-2011) for HIV prevention in Tanzania Mainland whose main purpose is to make sure that comprehensive HIV services are provided so as to promote HIV prevention including the provision of PEP to those that are suspected to be exposed to HIV including both health care providers and the community at large.

CHAPTER 3

3. METHODOLOGY

3.1 Study Area

Dar es Salaam is bordered by the Indian Ocean to the East and Coast region to the West, North and South. The total surface area of Dar es Salaam Region is 1,397 square kilometres, which is equivalent to 0.15 per cent of the entire Tanzania Mainland area. Dar es Salaam City consists of 3 districts namely Kinondoni, Ilala and Temeke.

According to the 2002 National Population and Housing Census, the Dar es Salaam Region had a total population of 4,364,541 with an average annual growth rate of 5.6 (2002 – 2012) according to the 2012 Population and Housing census. The overall HIV prevalence is 6.9% (THIMS 2011-2012). Dar es Salaam has 449 health facilities of which 28 are hospitals, 29 health centers and 392 are dispensaries. Among these 97 are government owned while 352 are private owned. Government hospitals include Muhimbili National Hospital, Ocean Road Cancer Institute, Mwananyamala, Amana and Temeke Hospitals (Strategic Plan for 2010/11-2012-13-Dar es Salaam Regional Commissioner's Office).

3.2 Study population

Health care providers who worked in selected primary health care facilities and whom an HIV exposed client should be attended by were eligible for the study. These included those that work in the outpatient departments and the inpatient departments including Clinicians (Medical doctors, assistant medical officers, clinical officers), laboratory personnel (laboratory assistants, laboratory technicians and laboratory scientists), Nurses (enrolled nurses, nurse midwives, registered nurses and nurse officers and medical attendants) and pharmacists.

3.3 Study Design

Cross-sectional study was conducted in primary health care facilities in Dar es Salaam region starting from February 2014 to April 2014. The study was conducted in a total of 18 health care facilities which included facilities with categories of public and private and also 3 referral hospitals, 6 health centres and 9 dispensaries. The referral hospitals were Temeke, Amana and

Mwananyamala. Health centres included Sinza, Magomeni, Buguruni, Arafa upendo, Dr Hameer and Burhani. Dispensaries were KKKT Mtoni, Al Karim, Segerea, Kitunda, Mbande, Miko Kiwalani, Tegeta, Mbagala round table and Mbezi. Both qualitative and quantitative approach was applied.

3.4 Data collection technique and Tools

3.4.1 Data collection tool

Data collection was done using a semi-structured questionnaire, which was in English and was used to interview the eligible HCWs in selected hospitals. The questionnaire consisted of the following parts; social- demographic characteristics, knowledge of PEP services, attitude of health care workers on non occupational PEP provision and management of clients with non occupational exposure to HIV by health care providers.

3.4.2 Data collection procedures

Data was collected by MPH candidate assisted by two research assistants. The research assistants were recruited and oriented for three days. The MPH candidate supervised the orientation, which included objectives of the study, sampling methods, data collection procedures, importance of confidentiality and the necessary ethical procedures. The research assistants were also supervised in the pre testing of the research instrument before the interview, each health care worker was informed about the study and its objectives, confidentiality and freedom to participate in the study. All responses were recorded in the already prepared questionnaires. Qualitative data was collected through individual interviews with health care providers and through observing the health care providers. The data was collected from February to April 2014. Data quality assurance was done to ensure accuracy and completeness of data. Quality was ensured by piloting the questionnaires (done several times) so as to ensure the questions are answerable and also ensure that the sample size is large enough to ensure validity.

3.5 Sample size and sampling technique

- The sample size was calculated using the formula, $n = \frac{Z^2 P (1-P)}{E^2}$

Where:

- N=The minimum number of subjects required in the sample
- P=Proportion of adults with knowledge on PEP =10% (Chagani et al, 2011)
- Z=The standard normal deviate that corresponds to 5% level of statistical significant is 1.96
- E=Maximum error of the study, assigned a value of 0.03

Therefore, sample size was 384 health care workers from Dar es Salaam

A total of sample size of 384 HCWs from the 18 primary health care facilities was required. The health care facilities were selected by stratified random sampling techniques from a sample frame of all primary health care facilities in Dar es Salaam. All eligible HCWs were selected. This means that health care providers that work in various working stations that a client who has had exposure to non-occupational HIV has to be attended to as per national Tanzanian guideline were selected. The decision on how many HCWs to pick from each hospital was judgemental based on the number of HCWs available in these hospitals.

3.6 Plan for data processing and analysis

Data was collected for two consecutive months whereby information obtained was checked for completeness and any errors available. Following data collection, coding was done and electronic double data entry was done. In addition to that, data cleaning and checking was done to ensure accuracy. Data analysis has been done using SPSS program version 20.0. Descriptive analysis has been performed to determine frequency distribution of health care providers by socio-demographic factors. Univariate analysis was done to determine associations between the independent and dependent variables. Multivariate logistic regression analysis was performed

to identify the relationship between factors that are independently associated with the use of non-occupational PEP. A p-value of <0.05 will be regarded as statistically significant. Statistical significance is assessed at 95% confidence interval.

Variables

Dependent variable: Provision of non-occupational PEP among health care workers and attending a patient who has had non-occupational exposure to HIV.

Independent variables:

- Age
- Gender
- Years of working experience - the number of years the health care providers have been working as medical personnel
- Level of education - the highest education that the health care provider has attained
- Knowledge - what was known by the health care provider regarding PEP in non occupational exposure
- Attitude - how health care providers behave in response to attending a client who is exposed to non occupational HIV
- Cadre of health care workers - A group of people trained for a particular profession
- Training experience on HIV including PEP- any training attended that PEP was one of the topics that was taught
- Work department – the specific work station that a health care worker provides service

Operational Definitions:

i) Provision of non- occupational post exposure prophylaxis refers to a client receiving PEP after being attended by a health care provider in any of the sections that the client passes through

ii) Provide appropriate management refers to management of life threatening conditions and sustained injuries, proper history taking and examination, evaluation and prophylaxis for HIV, counselling and crisis prevention and on-going psychosocial support, provision of mental health care, follow up care to monitor other possible infections and referral to appropriate organisations

iii) Knowledge of non- occupational PEP refers to in this study what was knowledgeable to the health care worker regarding PEP use and all the procedures that are required to be followed as

per national guideline once a client is exposed to HIV. Eight (8) questions were asked to test the level of knowledge of health care workers. Each question was assigned a score. The scores were as follows:

Question 22- 10

Question 23- 10

Question 24- 20

Question 25- 10

Question 26- 20

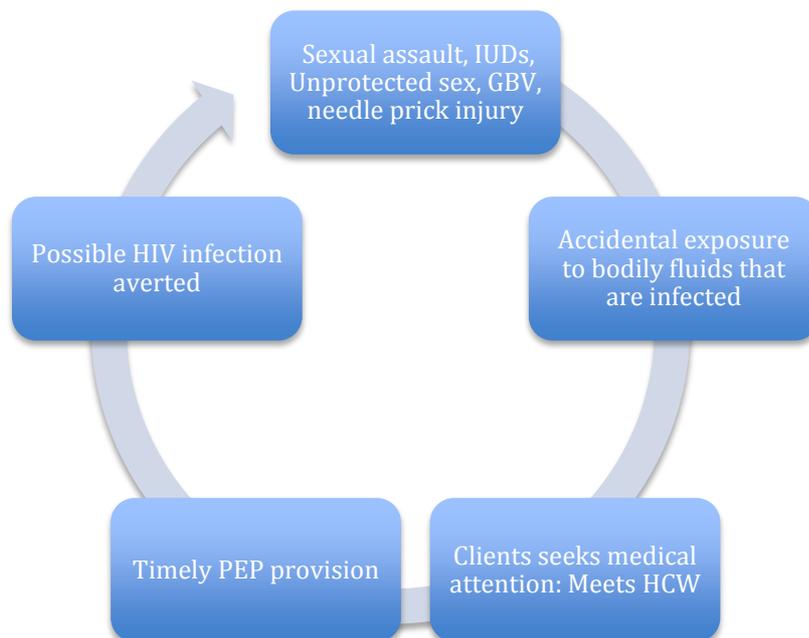
Question 27- 10

Question 28-10

Question 29-10

Those who score 0-60 were graded as having low knowledge. Those who scored from 61-100 were graded as having high knowledge.

Conceptual framework:



3.7 Ethical Considerations

Ethical approval was obtained from MUHAS Senate Research and Publications Committee. Informed consents were obtained from health care providers before their enrolment in the study. From the Regional Medical Officer and District Medical Officers of Ilala, Kinondoni and Temeke districts, permission to conduct the study was obtained. Confidentiality was maintained by ensuring only authorized study personnel would access the data.

3.8 Pre-testing

Before the study, the questionnaire was pretested at Mwananyamala district hospital to check whether the questionnaires were understood, the sequence of the questions were logical and if there was a need to modify or restructure some of the questions (Mponella, 2009)

CHAPTER 4

4. RESULTS

4.1 Social demographic characteristics of the study population

A total of 384 health care providers participated in the study with a response rate of 100%. Among the 384 participants, 274 (71.4%) were females and 110 (28.6%) were males. The overall mean age of the participants was 40 years (Range 25-55 years) with 8.6% having the age of 43 years. Two hundred and three (52.9%) had an average age between 36-45 years with only 10(2.6%) having age equal and below 25 years (Table 1).

The majority of the study participants which constituted 344 participants (89.6%) were married. Two hundred and thirty two (60.4%) participants attained college education and 91(23.7%) had attained university level of education. The highest frequencies of respondents were nurses 176 (45.8%) followed by doctors 128(33.3%).

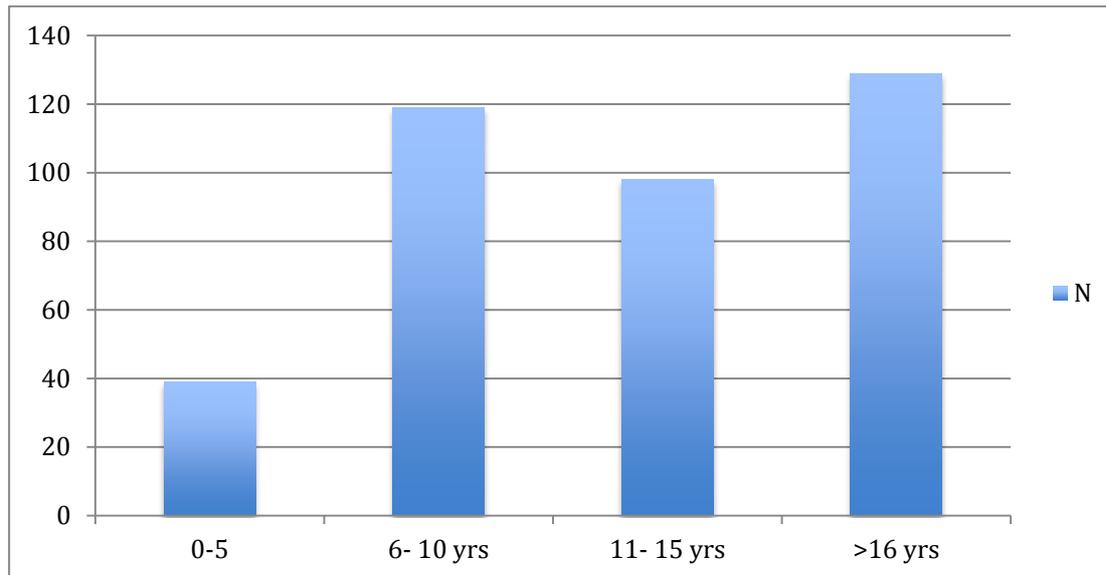
Table 1: Distribution of study population (N=384) by sex and age

Sex	Age (Years)				Total
	<25	26-35	36 – 45	46 – 55	
Males	0	20	51	39	110
Females	10	71	152	41	274
Total	10(2.6%)	91(23.7%)	203(52.9%)	80(20.8%)	384

4.2 Health care providers working experience

Among the 384 study participants, the majority of the health care workers had a more than five years experience in working in the medical field, whereby 124 (32.3%) had worked for more than 16 years (Fig. 1).

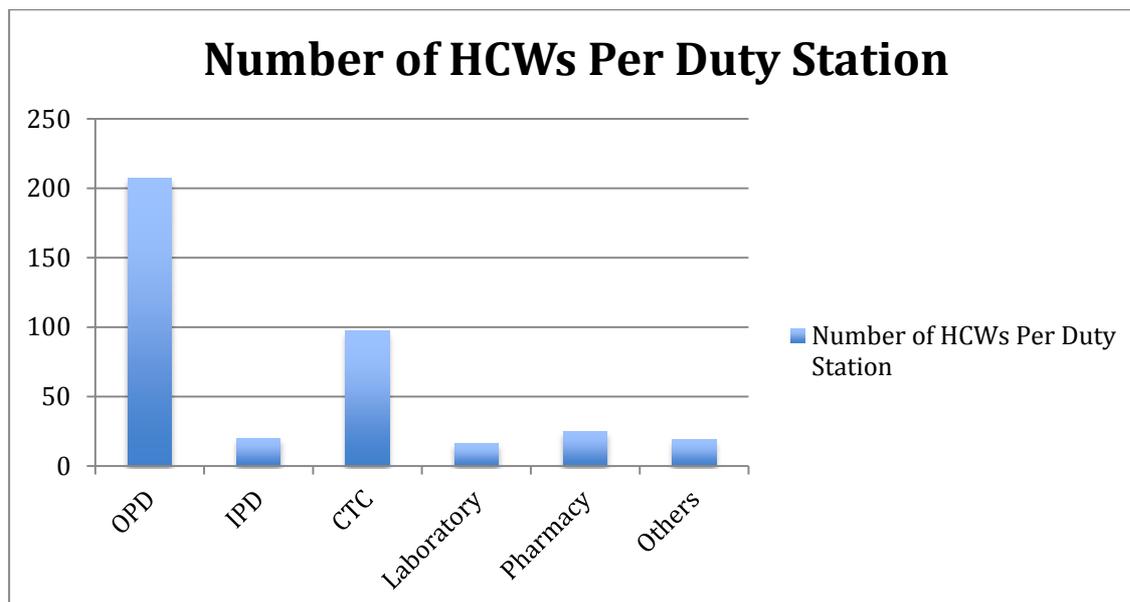
Fig 1: Distribution of Health care workers (N=384) by working experience



4.3 Health care providers by duty station

Of 384 health care workers that were interviewed, 207 (53.9%) worked in outpatient departments while 97 (25.3%) worked in Care and treatment department (CTC) (Fig. 2).

Fig 2: Distribution of health care workers (N=384) by duty station



4.4 KNOWLEDGE ON NON-OCCUPATIONAL EXPOSURE TO HIV AND PEP

Of the respondents, 220 (57.3%) had ever heard of non-occupational post exposure prophylaxis (Figure 1). Fifty three participants (14%) had attended a training which PEP was part of the course that was taught, while 153 (40%) had heard from fellow staff and another 42(11%) had heard about PEP for non occupational exposure from reading the national HIV guideline (Figure 2)

Figure 3: Health care workers and hearing about non-occupational PEP

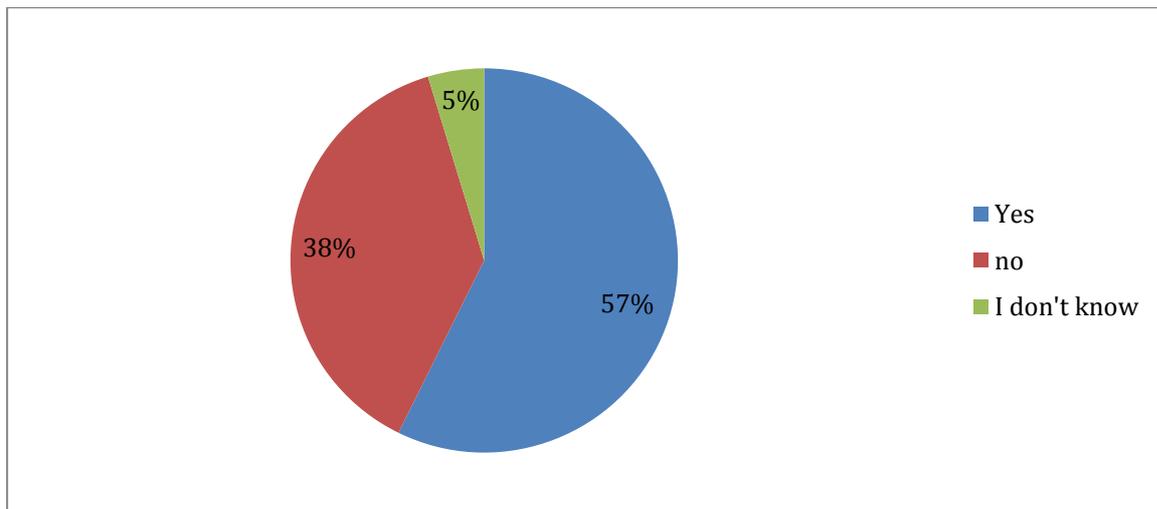
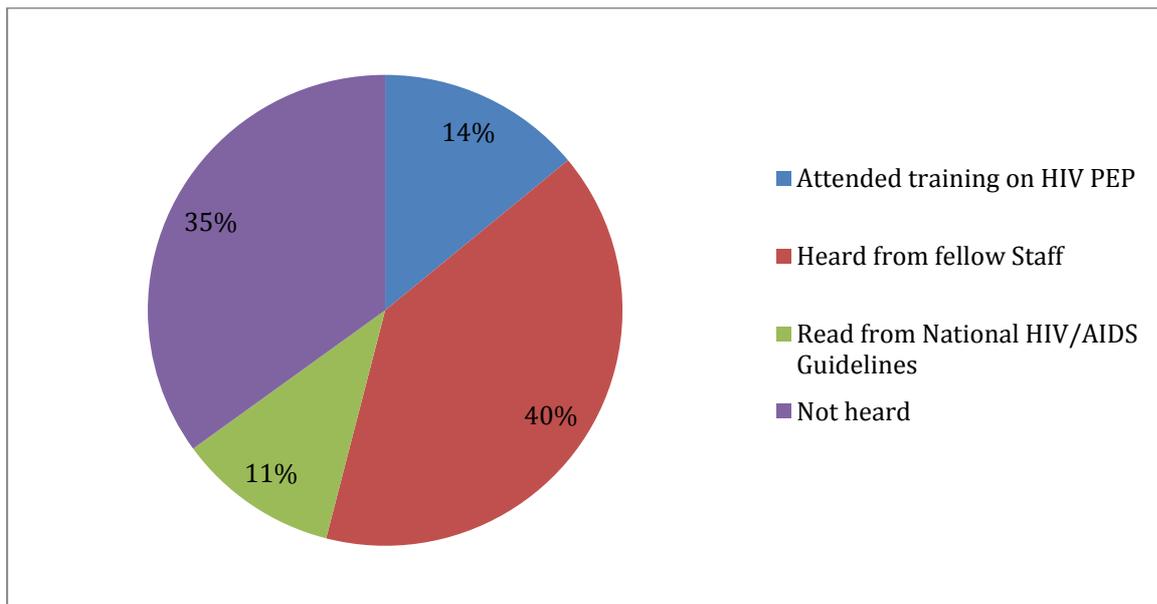
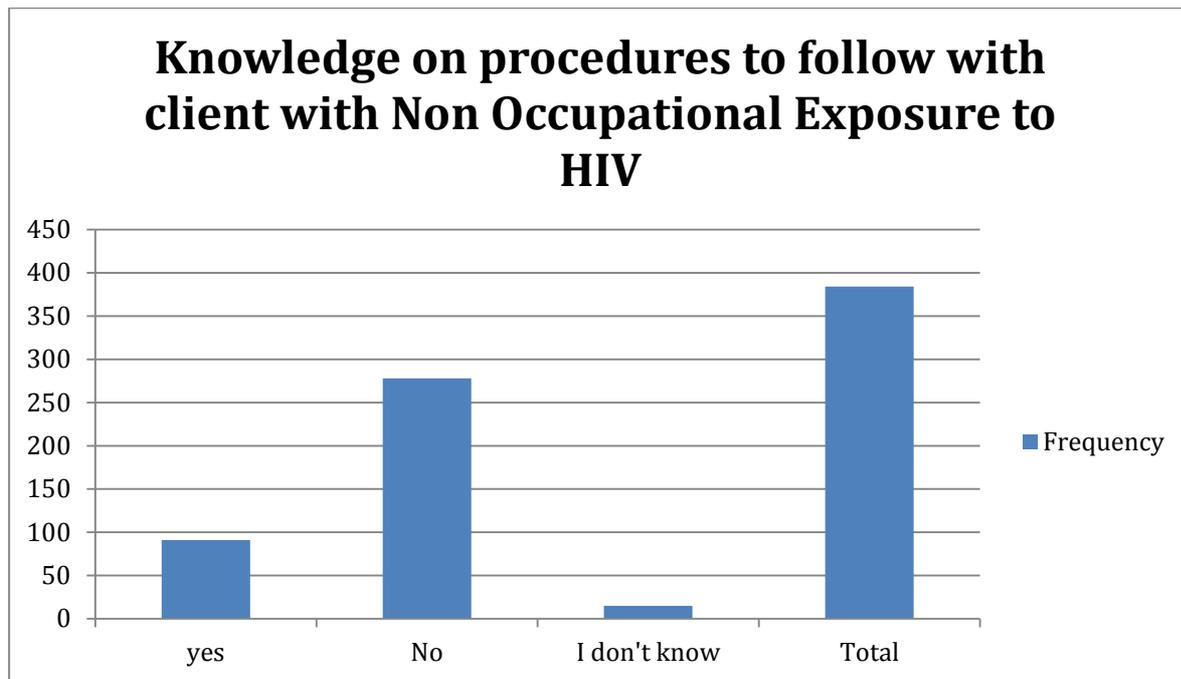


Figure 4: Source of information about non-occupational PEP



Two hundred and seventy eight out of 384, 278 (72.4%) did not know the procedures to follow so as to attend a patient with non-occupational exposure to HIV (Figure 5). When asked to mention the procedures, 59/384 (15.4%) were able to mention some of the procedures to follow after a patient had non-occupational exposure.

Figure 5: Knowledge on procedures to follow after non-occupational exposure to HIV



Considering the knowledge on when to start PEP after non-occupational exposure to HIV, 328/384 (85.4%) responded that it is within 72 hours after the initial exposure (Table 2).

Table 2: Response on when to start PEP after non-occupational exposure to HIV

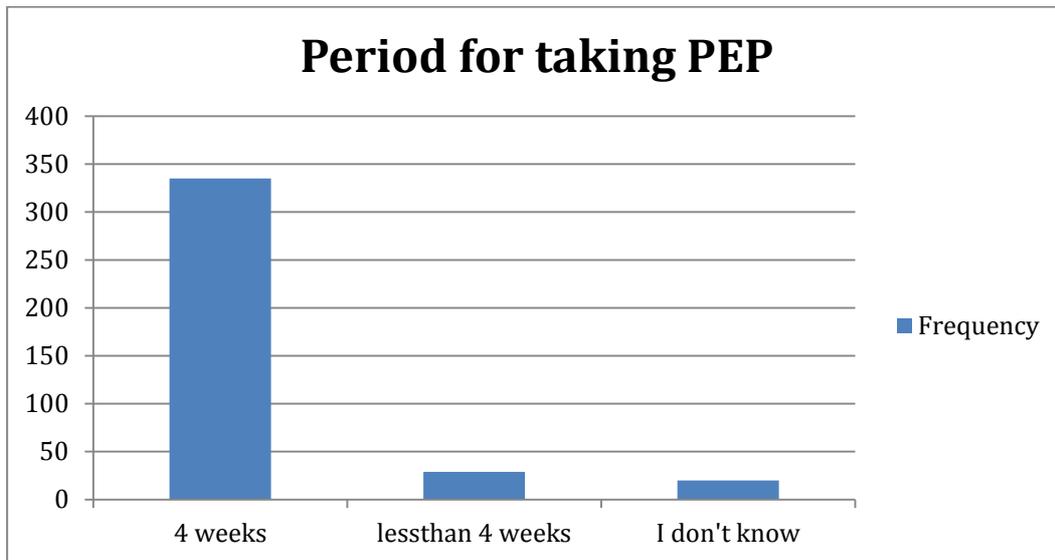
Timeline	N	%
Within 24 hours	38	10.0
Within 72 hours	328	85.4
Didn't know	13	3.4
Non respondents	5	1.3
Total	384	100

Two hundred and four (53.1%) health care workers responded that PEP was provided when client HIV status was negative (Table 3).

Table 3: Circumstances for providing PEP

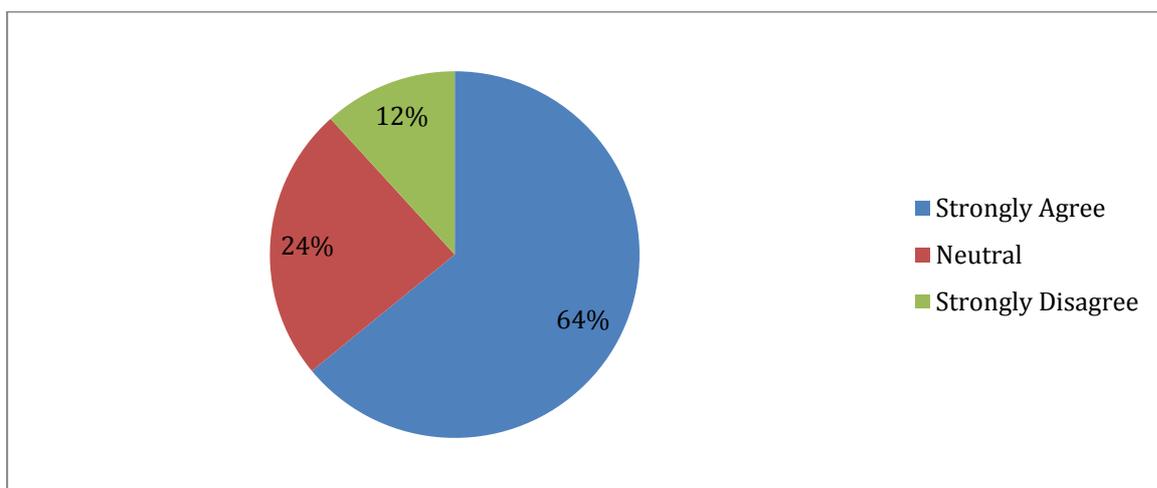
Circumstance	N	%
When the source is HIV Negative	42	10.9
When the source is HIV positive	42	10.9
When the Client is HIV positive	7	1.8
When the Client is HIV negative	204	53.1
When the HIV status of the source is unknown	84	21.9
I don't know	5	1.3
Total	384	100.0

Of 384 respondents, 335(87.2%) responded that a client is supposed to take PEP for 4 weeks (Figure 6)

Figure 6: Duration for taking PEP

4.5 ATTITUDE TOWARDS THE PROVISION OF NON-OCCUPATIONAL PEP

Three hundred and fifty three participants (91.9%) agreed that it is important to provide PEP to clients who have experienced non-occupational exposure to HIV. Furthermore, 246/384 (64.1%) strongly agreed that provision of PEP had an effect on the sexual behaviour of individuals (Figure 7).

Figure 7: Effect of PEP on sexual behaviour

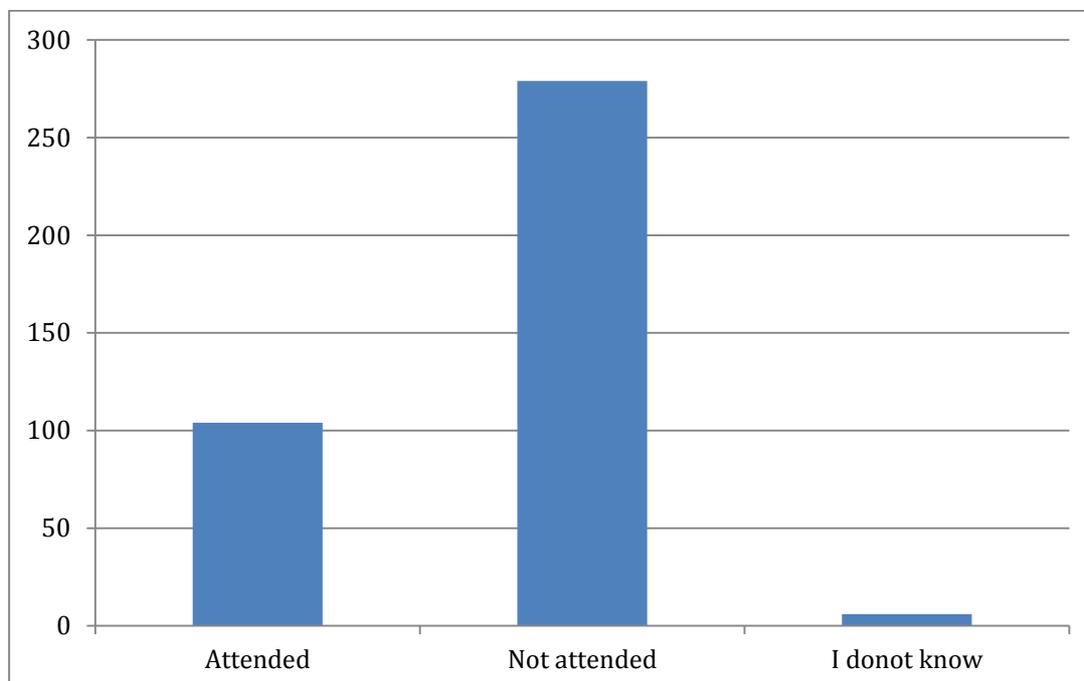
Three hundred and thirty five (87.2%) strongly agreed that patients who have experienced non-occupational exposure to HIV should be closely followed up and referred to necessary units for continuum of care. Furthermore, 331/384 (86.2%) strongly agreed that patients who have experienced non-occupational exposure to HIV should seek medical help immediately and should be treated as a medical emergency when they go to a health care facility to seek medical attention.

4.6 PRACTICES ON NON-OCCUPATIONAL EXPOSURE TO HIV AND USE OF PEP

4.6.1 Attending a patient with non-occupational exposure to HIV

Of 384 respondents that were interviewed, 279 (72.7%) had reported not to personally attended a patient who had been exposed to HIV in a non occupational setting in the past 12 months while 104 (27.1%) had reported to have attended at least one patient at their duty station.(Figure 8)

Figure 8: HCWs attending a patient with non-occupational exposure to HIV



Among the respondents, 165 (43%) reported that they would do counselling for the patient who has experienced non-occupational exposure to HIV. Mostly respondents replied that counselling to be done would be HIV testing and counselling 169 (44.0%) and adherence counselling 22 (5.7%). Among the 104 health care workers who attended PEP patients, 99(95.2%) ensured that ARVs were provided as PEP to a client who is non-occupationally exposed to HIV so as to prevent new HIV infection.120 (64.5%) respondents explained that they would give Combivir and Efavirenz to the patients. None of the respondents said they would provide a fixed dose combination of Combivir only or a fixed dose combination of Combivir and Lopinavir boosted with ritonavir Among the respondents, 340 (88.5%) described that they would give the PEP medication within 72 hours While 12 (3.1%) did not know when PEP was provided. 343 (89.3%) health care providers knew that PEP medication was taken for 4 weeks while 22(5.7%) stated that it was taken for 8 weeks.

Furthermore, none of the respondents described that patient laboratory testing was not recommended as routine testing unless the condition of the patient necessitates laboratory investigations. Among the respondents, 311 (81%) described that the exposed clients is expected to test again for HIV after12 weeks so as to ensure the client is not HIV infected.

4.7 FACTORS THAT INFLUENCE THE USE OF NON-OCCUPATIONAL PEP

In univariate analysis, marital status, education level and duty station working experience, were significantly associated with health care providers attending a patient who has experienced non-occupational exposure to HIV (Table 4). In addition, gender, marital status, education level, cadre, working experience and duty station were all significantly associated with Health care workers providing PEP (Table 5). A further analysis of the factors observed to be statistically significant in univariate analysis in the provision of PEP was done using multiple logistic regression.

Table 4: Univariate analysis of factors influencing attendance of exposed patients to HIV among health care providers

Variable	HCWs Attended patients with Non Occupational Exposure (N=104) n (%)	P-value (HCWs attended patients with non occupational exposure)
Gender		
Male	29 (27.9)	0.789
Female	75 (72.1)	
Marital Status		
Married	98 (94.2)	0.000
Divorced	6 (5.8)	
Education		
Primary level & Secondary level	13 (12.5)	0.0005
College and University	91(87.5)	
Cadre		
Doctors and nurses	90(86.5)	0.06
Other cadres	14(13.5)	
Working experience		

0-10years	42(40.4)	0.006
11yrs and above	62 (59.6)	
Duty Station		0.0001
OPD and CTC	83(79.8)	
Other duty station	21(20.2)	

Table 5: Univariate analysis of factors influencing PEP provision among health care providers

Variable	HCWs that Provided ARVs as PEP to exposed patients (N=79) n (%)	P- value (HCWs that Provided ARVs as PEP to exposed patients)
Gender		0.007
Male	28(35.4)	
Female	51(64.6)	
Marital Status		0.006
Married	73(92.4)	
Divorced	6(7.6)	
Education		

Primary level & Secondary level	13(16.5)	0.0005
College and University	66(83.5)	
Cadre		
Doctors and nurses	33(41.8)	0.0006
Other cadres	9(11.4)	
Working experience		
0-10years	24(30.4)	0.0001
11yrs and above	55(69.6)	
Duty Station		
OPD and CTC	63(79.7)	0.0001
Other duty stations	16(20.3)	

4.8 Multivariate Analysis of factors influencing use of HIV PEP among HCWs

A In multivariate analysis, cadre and duty station predicted significantly use of HIV PEP among HCWs

Table 6: Multivariate analysis of factors associated with use of HIV PEP among HCWs

Associated factor or Predictor	AOR	95% CI
Gender	1.4	0.05- 0.57
Education level	0.56	0.01- 0.22
Cadre	7.71	0.07- 1.24
Working experience	2.04	0.05- 0.95
Duty Station	1.32	0.1- 2.81

Among the 384 participants only 36 (0.09%) participants could clearly define what is non-occupational post exposure prophylaxis as per national Tanzanian guidelines.

Among the 384 participants, 88(22.9%) replied to knowing the procedures to follow when attending a patient who is exposed to HIV non-occupationally. Among the 88, only 58(65.9%) mentioned the procedures needed but only 5 among the 58(0.09%) could clearly mention the procedures.

CHAPTER FIVE

5.1 DISCUSSION

Non-occupational PEP can reduce the risk of acquisition and contribute to decreasing the burden of new HIV infection. Knowledge of post exposure prophylaxis and correct management for non-occupational exposure to HIV is therefore a necessity among health care workers. Majority of health care providers do not come into contact with patients who are non-occupationally exposed to HIV. This can be contributed by the fact that most lower level health facilities do refer such patients to higher facilities for further management and therefore contribute to less knowledge on PEP. Although health care workers knew that thorough physical examination, HIV testing and counselling and psychosocial support were given to exposed patients, most health care workers could not classify these as procedures to implement following exposure to HIV and therefore these are procedures that might not be adhered to as per national guidelines in the management of HIV contributing to patients missing the most important aspects of HIV care.

Most health care providers knew when PEP was to be initiated, and for how long, but only one three drug regimen was stated as a drug used for PEP while there are two other fixed combination regimens that can be used alternatively. This knowledge of which ARVs to be used is crucial and supposed to be known by health care providers as patients present to facilities as high risk cases or low risk cases and what type of risk will determine what kind of drug is to be used. In addition for those HCWs who attended exposed patients, not all did ensure that the patients have left the health care facility with PEP medication at hand. This is a contribution to mismanagement of such cases and poor follow up.

This may show that although the concept of PEP might be known by health care providers but the main concept is not understood as most information on non occupational exposure and PEP is just passed from one health care provider to the other and these providers might not get the concept as perfect as if they would have received training on PEP. In a study done in South Africa on HIV and post exposure prophylaxis it showed that lack of training for health care providers constitute significant obstacles in implementation of comprehensive management of patients who are exposed to HIV in non occupational settings.(Kim JC *et al*).in this study there is a similar observation where few HCWs have received training on PEP. Majority of HCWs agreed to the importance of providing PEP in preventing new HIV infections, in treating such

cases as emergency cases that need close follow up and the necessity of referring patients to necessary units for continuum of care.

The observed proportion of health care workers in this study is very much higher compared to previous studies (e.g. Mathewos *et al*), although those that attended to patients with non-occupational exposure to HIV were only 104 (27.1%). For example in a study done in Gondar, North West Ethiopia only 195 HCWs were reviewed with 72(36.9%) having been found to have inadequate knowledge about PEP for HIV. (Mathewos *et al*). The observed difference between the current and previous studies could have been contributed by recall bias because HCWs were asked if they had attended a patient who was exposed up to the past one year.

In this study Females provided PEP more than male HCWs, but this might be contributed by the fact that more females were in the study than males, but this finding is still statistically significant. HCWs with more working experience are likely to see more patients who are exposed to HIV and hence attend to them than patients with less working experience. This can be contributed by the gain of knowledge through trainings or site level orientations of these more experienced HCWs. Non occupational patients are seen by health care workers mostly at OPD and CTC. This is because almost all patients that attend to a facility start off getting services at the OPD before being referred to specific departments. This was followed by CTC as in most facilities this is where HIV infected clients are managed.

The study showed that nurses and doctors are the ones that mostly provided PEP to patients as compared to other cadres. Nurses and doctors are the cadre that most patients who are non-occupationally exposed are first attended by due the procedures as required as per national guidelines. Laboratory personnel do not normally see patients for routine testing unless the condition of the patients necessitates so and this cadre, as per regulations does neither prescribe nor dispense medications in health facilities including ARV drugs that are given out as PEP. In most studies seen, as in Macausland *et al* and Ooi *et al*, 2003 most studies were done on physicians and other general practitioners only as these were cadres that patients were seen by first for physical examination and prescribing PEP.

In the current study, knowledge on PEP provision was observed to be low. Most health care providers did not know the procedures to follow in management of patients and in addition did not know what drugs to give. In a study by Ndesendo in 2014 on the assessment of knowledge, attitude and perception of HCWs towards HIV PEP at Magu District Hospital in Mwanza,

Tanzania showed that 71/114(61.7%) of respondents had adequate knowledge on PEP for HIV (Ndesendo, 2014)). A significant number of respondents had less knowledge of HIV PEP, which may be contributed by lack of training and practice among HCWs. Only a minority of participants could list the procedures followed in attending a patient who has had non-occupational exposure to HIV. This contributed to patients not getting the comprehensive package in PEP management as per national Tanzanian national guidelines.

In this study, majority of HCWs had a positive attitude in treating patients that are exposed and referring them to appropriate institutions for further management. Also most HCWs agreed that use of PEP had an effect on sexual behaviour of patients. These results coincide with results in a study done on the use of PEP against HIV infection following sexual exposure in 2004 whereby it was found that use of PEP among the patients does not lead to an increase in high risk behaviours (Martin *et al*, 2004). Among 397 adults that were studied, following receipt of PEP, 83% of participants did not request a repeat course of PEP and after 12 months after exposure, 73% of participants reported a decrease compared with baseline in the number of times they had performed high risk sexual acts with 135 reported no change and 145 reported an increase (Martin *et al*). In another study in Rio de Janeiro in Brazil, it showed that PEP was important and there was no increase in high-risk behaviours among participants after the use of PEP. (Stechter *et al*, 2004)

Drug regimens used for PEP are of three kinds as per Tanzanian national guidelines but in the current study it was observed that HCWs mentioned only a fixed combination of Combivir and Efavirenz. In a study by Laporte *et al* in 2002, it showed that there was an increase in use of 3-drug combination therapy from 46% in 1997 to 80% in 1999 (Laporte *et al*, 2004). This may be a positive finding but it also shows there is a great need in revising drug regimens for PEP among HCWs so that patients are given the right drugs according to the level of risk of HIV exposure. In addition health care workers need to know the different levels of risks so that patients are given the appropriate regimen and overall management.

None of the health care providers when asked about laboratory monitoring of a patient with non occupational exposure was able to answer the question accordingly, as none was able to explain what laboratory procedures are required to be followed. As per national guideline it is recommended that routine laboratory testing is not necessary and this should be done only if the patient condition necessitated so. This is quite different from a study done in India on

overview of post exposure prophylaxis for HIV in health care personnel where it showed that relevant laboratory investigation of a patient are taken after taking informed consent of the exposed patient and source. (Shevkani *et al*, 2011) This may be due to implementation of different national guidelines and also depends on availability and cost effectiveness of performing such laboratory tests.

In the current study one of the strength of the current study is that it was carried out in 18 health care facilities which constituted both district referral hospitals, health centres and dispensaries which constitute institutions providing primary health care in Dar es Salaam region. Some health care providers could not recall accurately the way they had managed a client who had non-occupational exposure. Some providers were very reluctant to fill in questionnaires unless they were paid to do so.

CHAPTER 6

6.1 CONCLUSION AND RECOMMENDATIONS

As in many other resource-limited countries, the study showed that knowledge on PEP for non-occupational exposure was low especially on explaining what non-occupational exposure was, and what were the procedures that were supposed to be followed when attending a client who has been exposed to non-occupational exposure to HIV. Most health care workers had a positive attitude in ensuring non-occupational exposed cases are treated promptly and referred accordingly for continuum of care. Management of PEP was not accurately followed as per national guideline contributing to poor management of PEP cases.

Regular Clinical mentorship for health care providers at facility level should be emphasized for all cadres so as to improve knowledge and skills in the management of patients who are non-occupationally exposed to HIV. Guidelines and job aids are necessary to be at facilities so as to remind HCWs on important steps in patient management. Follow up of patients to necessary institutions should be done for continuum of care. Supportive supervision should be conducted at facilities and ensure all necessary issues pertaining to non-occupational exposure to HIV is addressed.

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ANNEXES

1. CONSENT FORM (ENGLISH VERSION)

Consent to participate in study:

MUHIMBILI UNIVERSITY COLLEGE OF HEALTH SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS, MUHAS

CONSENT FORM

ID NO:.....

**NON-OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS: KNOWLEDGE,
ATTITUDE AND PRACTICES AMONG PRIMARY HEALTH CARE WORKERS IN
DAR ES SALAAM**

Consent to participate in study:

Principal Investigator: Talumba Samatta

Introduction

This Consent Form contains information about the research named above. In order to be sure that you are informed about being in this research, we are asking you to read (or have read to you) this Consent Form. You will also be asked to sign it (or make a statement of whether you agree or not in front of a witness). This consent form might contain some words that are unfamiliar to you. Please ask us to explain anything you may not understand.

Reason for the Research, You are being asked to take part in this research to determine knowledge attitude and practice of health care workers in the provision of non-occupational post exposure prophylaxis and therefore identify gaps and challenges and explore strategies that address the challenges available.

General Information about *the Research*, To determine knowledge, attitude and practice of health care workers in the provision of non-occupational post exposure prophylaxis in primary health care facilities.

Your Part in the Research, If you agree to participate in this study, you will be required to answer a series of question that have been prepared for the study through interview in order to obtain the intended information. You will be interview for 10-30 minutes.

Possible Risks, You will spend your time at maximum of 30 minutes answering the questions.

Possible Benefits, You will not be paid for participating in this study and will receive no other form of compensation however the findings from your participation will further knowledge of and improve practices in the provision of non occupational post exposure prophylaxis in your Country and across the World.

If You Decide Not to Be in the Research, Participating in this study is completely voluntary. You are free to decide if you want to be in this research. Your decision will not affect the health care you would normally receive.

Confidentiality, We will protect information about you and your taking part in this research to the best of our ability. Your identifiable particulars such as names, phone numbers and your address will not be taken and you will not be named in any reports.

If You Have a Problem or Have Other Questions, If you have a problem that you think might be related to taking part in this research or any questions about the research, please call Talumba Samatta, Muhimbili University Of Health and Allied Sciences, P.O Box 65001,Dar es Salaam. Tel: 0789371223. If you need more help, you can also contact Prof S. Aboud, P.O.Box 65001,Dar es Salaam

Your rights as a Participant, This research has been reviewed and approved by the IRB of Muhimbili University of Health and Allied Sciences. An IRB is a committee that reviews research studies in order to help protect participants. If you have any questions about your rights as a research participant you may contact Chairperson MUHAS IRB, address P.O. Box 65001, Dar es Salaam, telephone number 2150302-6.

Volunteer agreement,

The above document describing the benefits, risks and procedures for the research titled (**NON-OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS TO HIV: KNOWLEDGE, ATTITUDE AND PRACTICES AMONG PRIMARY HEALTH CARE WORKERS IN DAR ES SALAAM**) has been read and explained to me. I have been given an opportunity to ask any questions about the research and they have been answered to my satisfaction. I agree to participate as a volunteer.

Signature (or thumb print) of Participant _____

Signature of witness (if participant cannot read) _____

Signature of research assistant. _____

Date of signed consent. _____

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

2. CONSENT FORM (SWAHILI VERSION)

CHUO KIKUU CHA AFYA –MUHIMBILI

KURUGENZI YA UTAFITI NA MACHAPISHO

HUDUMA YA KINGA TIBA KWA MADHARA/AJALI MAENEO YASIYO YA KAZI: UJUZI, TABIA NA MAZOEZI KWA WAHUDUMU WA AFYA ,DAR ES SALAAM.

FOMU YA RIDHAA

Namba ya utambulisho: _____

Ridhaa ya kushiriki kwenye utafiti

Mtafiti Mkuu: Talumba Samatta

Utangulizi

Fomu hii ya ridhaa ina taarifa zinazohusiana na utafiti wa jina lililotajwa hapo juu. Ilikuhakikisha kuwa unaelewa juu ya utafiti huu, tunakuomba kusoma au kusikiliza wakati ukisomewa. Utaombwa kuweka saini au kuweka alama ya kukubali au hukubali mbele ya shahidi. Ikiwa fomu hii ya ridhaa ina maneno mengine ambayo huyaelewi, tafadhali uliza iliupewa ufafanuzi na maelekezo.

Madhumuni ya Utafiti. Tunakuomba ushiriki kwenye utafiti huu juu kuainisha masuala yahasuyo ujuzi,tabia na mazoezi ya wahudumu wa afya katika utoaji huduma ya kinga tiba kuzuia maambukizi ya VVU katika maeneo yasiyo ya kazi. Pia kupata maelezo juu ya mapungufu yaliyopo katika utoaji wa huduma hiyo, changamoto na kutambua njia zinazoweza kukabili changamoto hizo.

Taarifa kuhusu utafiti, utafiti unafanyika ili kuangalia ujuzi ,tabia na mazoezi kati ya wafanyakazi wa afya katika utoaji wa huduma ya kinga tiba dhidi ya maambukizi ya VVU katika maeneo yasiyo ya kazi katika vituo vya afya vilivyopo.

Ushiriki wako katika utafiti, Ikiwa utakubali kushiriki katika utafiti huu, utahitaji kujibu maswali kadhaa ambayo yameandaliwa katika utafiti huu ilikuweza kupata taarifa zinazohitajika. Itachukua kati ya dakika 10 hadi 30 katika kujibu maswali hayo.

Usumbufu unaweza kujitokeza, utatoa muda wako wakati wa kujibu maswali kwa kipindi cha takribani dakika 10 hadi 30.

Faida ya ushiriki, Ushiriki wako katika utafiti huu ni wa kujitolea, hivyo hauna malipo ya fedha au fidia yeyote, lakini matokeo ya utafiti huu utapanua uelewa na kutoa fursa ya kuboresha huduma za utoaji kinga tiba ya kuzuia maradhi yatokanayo na VVU katika nchi hii na duniani kote.

Kama utaumua kutoshiriki kwenye utafiti, Ushiriki katika utafiti ni suala la kujitolea. Unauhuru wa kuamua endapo unapenda kushiriki au la. Uamuzi wako hautaathiri huduma ya afya ambayo huwa unaipata.

Usiri, Taarifa zitakazokusanywa kutoka kwako kupitia dodoso la utafiti huu kutakuwa na usiri kadiri tunavyoweza. Pia hatutaandika taarifa za utamburisho binafsi kama vila jina, nambari ya simu na hata anuani yako na pia jina lako halitatajwa kwenye ripoti ya utafiti huu.

Kama una Tatizo au Swali lolote, Kama una tatizo unalofikiri linahusiana na kushiriki kwako katika utafiti huu au una swali lolote juu ya utafiti huu, tafadhali piga simu 0789371223 ya Talumba Samatta, Chuo Kikuu Cha Afya na Sayansi ya Tiba Muhimbili, S.L.P 65001, Dar es Salaam. Ikiwa unahitaji maelezo zaidi pia wasiliana na Prof.S Aboud, Chuo Kikuu cha Afya na Sayansi ya Tiba Muhimbili, S.L.P 65001, Dar es Salaam, mshauri katika utafiti huu.

Haki ya Mshiriki

Utafiti huu unapitiwa na kupata rishaa ya ruhusa ya utafiti (IRB) ya Chuo cha Muhimbili. Kamati ya kutoa ruhusa ya utafiti ilipitia maelezo ya kufanyika kwa utafiti huu ili kuhakikisha inajiridhisha na maelezo juu ya washiriki ilikuwalinda. Ikiwa unaswali lolote kuhusu staili zako kama mshiriki unaweza kuwasiliana na Mwenyekiti wa kamati ya utafiti na uchapishaji, S.L.P 65001, Dar es salaam, Simu 2150302-6

Makubaliano ya Hiari

Nyaraka hii inaelezea juu ya faida, madhara, na taratibu za utafiti wenye kichwa cha habari hapo juu. Nimesoma na kuelezea na nimepewa nafasi ya kutosha kuuliza maswali na nimepewa majibu ya kuridhisha. Nakubali kushiriki kwa hiari.

Sahihi (au alama ya dole gumba) ya Mshiriki _____

Sahihi ya shahidi (kama mshiriki hawezi kusoma) _____

Sahihi ya msaidizi wa mtafiti _____

Tarehe makubaliano yaliposainiwa _____

Nakubaliana kwamba taratibu na madhumuni, faida za msingi, na changamoto au hasara zinazoweza kutokea kwa kushiriki kwenye utafiti huu zimeelezwa kwa ufasaha kwa mshiriki hapo juu.

3. QUESTIONNAIRE (ENGLISH VERSION)

NON-OCCUPATIONAL POST EXPOSURE PROPHYLAXIS: KNOWLEDGE, ATTITUDE AND PRACTICES AMONG HEALTH CARE PROVIDERS IN DAR ES SALAAM

Questionnaire Number:.....

Name of Interviewer:.....

Name of Health care Facility:.....

Date of the Interview:.....

Starting time for the interview.....

PART A: SOCIO-DEMOGRAPHIC INFORMATION

1. What is your age?years

2. Respondent gender

1. Male

2. Female

3. What is your marital status?

1) Single

2) Married

3) Divorced

4) Cohabiting

5) Widowed

4. What is your highest level of education?

1) Primary School

2) Secondary School

3) College level

4) University level

5. What is your cadre in this hospital?

- 1) Doctor (MO,AMO,CO)
- 2) Nurse(NO,RN,NM,EN,MCHA)
- 3) Laboratory personnel
- 4) Medical Attendant
- 5) Others (specify).....

6. How many years have you been working in the medical field?

- 1) 0-5 years
- 2) 6-10 years
- 3) 11-15 years
- 4) >16 years

7. What is your duty station?

- 1) General outpatient clinic
- 2) Inpatient wards
- 3) Care and Treatment clinic
- 4) Laboratory
- 5) Pharmacy
- 6) Others (specify).....

PART B: PRACTICES ON NON OCCUPATIONAL EXPOSURE TO HIV AND USE OF PEP

8. Have you attended a patient who had non occupational exposure to HIV in the last twelve months?

- 1) Yes
- 2) No
- 3) I don't know

9. If Yes in question 7 above, Indicate the types of exposure (if no to question 8 above, go to question 10)

- 1)
- 2)
- 3)
- 4)
- 5)

10. Indicate ways that the client was exposed to HIV in non occupational exposure

- 1)
- 2)
- 3)
- 4)
- 5)

11. Was the HIV status of the exposure source known?

- 1) Yes
- 2) No
- 3) Dont Know

12. Was counselling and testing performed at baseline?

- 1) Yes
- 2) No
- 3) Don't know

13. Was ARVs provided to the client?

- 1) Yes
- 2) No
- 3) Dont Know

14. if Yes to question 13,which ARV drugs were given to the patient? (If no to question 13,go to question 15)

- 1)
- 2)
- 3)
- 4) I Don't know

15.How long should it take to take the drug after being exposed?

- 1) Within 24 hours
- 2) Within 72 hours

- 3) More than 72 hours
- 4) I don't know

16. For how long is the PEP medication taken?

- 1) Four weeks
- 2) 8 weeks
- 3) Less than four weeks
- 4) Don't know

17. What laboratory tests do you order for the client before and after taking ARV for PEP?

- 1)
- 2)
- 3)
- 4)
- 5) Dont know

18. What other interventions other than laboratory tests did you do for the client with non occupational exposure to HIV?

.....
.....
.....

19. Was counselling done to the client?

- 1) Yes
- 2) No
- 3) Don't know

20. If yes to question 19, what kind of counselling was the client given? (If no or don't know to question 19 above, go to question 21)

- 1)
- 2)

21. After what period was the client told to test again for HIV infection?

- 1) 4 weeks
- 2) 8 weeks
- 3) 12 weeks
- 4) Don't know

PART C: KNOWLEGE ON NON OCCUPATIONAL EXPOSURE POST EXPOSURE PROPHYLAXIS

22. Have you ever heard of non occupational post exposure prophylaxis?

- 1) Yes
- 2) No
- 3) Don't know

23. If yes to question 22 above, Where did you get the information? (tick that apply) ,If no or don't know go to question 24

- 1) Attended training on HIV PEP
- 2) Heard from fellow staff
- 3) Read from the national HIV guideline
- 4) Heard from the media
- 5) Others (specify).....

24.What is non occupational post exposure prophylaxis?

.....
.....
.....

25.Do you know the procedures to follow once you have a client that has had non occupational exposure to HIV?

- 1) Yes
- 2) No
- 3) Don't know

26. If yes, mention them(if no or don't know go to question 27)

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

27.when should a client start PEP after a non occupational exposure?

- 1) Within 24hours
- 2) Within 72 hours
- 3) After 72 hours
- 4) Don't know

28. Under what circumstances is PEP provided to the exposed client? (tick that apply)

- 1) When the source is HIV negative
- 2) When the source is HIV positive
- 3) When the client is HIV positive
- 4) When the client is HIV negative
- 5) When the HIV status of the source is unknown
- 6) Don't know

29. For how long is the client supposed to take ARVs for PEP?

- 1) Four weeks
- 2) Less than 4 weeks
- 3) Don't know

PART D: ATTITUDE TOWARDS THE PROVISION OF NON OCCUPATIONAL PEP

30. It is important to provide non occupational PEP to clients with non occupational exposure to HIV?

- 1) Strongly agree
- 2) Neutral
- 3) strongly disagree

31. Providing nonPEP to clients has an effect on their sexual behaviours

- 1) Strongly agree
- 2) Neutral
- 3) strongly disagree

32. If strongly agree ,how?

.....
.....
.....

33. Patients who have experienced non occupational exposure to HIV should be closely followed up and be referred to necessary units for continuum of care

- 1) Strongly agree
- 2) Neutral
- 3) strongly disagree

34. All patients who have experienced non occupational exposure to HIV should seek medical help immediately and they should be treated as a medical emergency when they go to a health care facility

- 1) Strongly agree
- 2) Not sure
- 3) strongly disagree

4.DODOSO (SWAHILI VERSION)

Number ya fomu ya maswali.....

Jina la Mhojaji.....

Jina la Kiyuo cha Afya.....

Tarehe ya Mahojiano.....

Muda wa kuanza mahojiano.....

SEHEMU YA KWANZA: TAKWIMU ZA KIJAMII

1.Una umri wa miaka mingapi? Miaka.....

2.Jinsia ya mfanyakazi

1.Kiume

2.Kike

3.Hali yako ya ndoa ni ipi?

1.Hajaoa/Hajaolewa

2.Ameoa/Ameolewa

3.Mtalaka

4.Anaishi kinyumba

5.Mjane

4.Kiwango chako cha juu cha elimu ni kipi?

1.Elimu ya msingi

2.Elimu ya sekondari

3.Elimu ya chuo

4.Mafunzo ya chuo kikuu

5.Kada yako ya kazi ni ipi?

1.daktari

2.Muuguzi

3.Msanifu maabara

4.Mhudumu wa afya

5.kada nyingineyo(taja).....

6.Ni kwa muda gani umefanya kazi katika sector ya afya?

1)Miaka 0-5

2)Miak 6-10

3)Miaka 11-15

4)Zaidi ya miaka 16

7.Kitengo chako cha kazi ni kipi?

1)kliniki ya wagonjwa wan je

2)Wodi za wagonjwa wa ndani

3)Kliniki ya huduma na matibabu

4)Maabara

5)Kitengo cha kutoa dawa

6)Kitengo kingine (taja)

SEHEMU YA PILI: MAZOEZI KATIKA KUPATA MADHARA/AJALI MAENEO YASIYO YA KAZI PAMOJA NA MATUMIZI YA HUDUMA YA KINGA TIBA

8.Umewahi kumhudumia mteja aliyepata madhara/ajali ya VVU(Virusi Vya Ukimwi) sehemu isiyo ya kazi katika miezi kumi na mbili iliyopita?

1)ndiyo

2)Hapana

3)sijui

9. Kama jibu ni ndiyo katika swali la 8 juu,taja ni aina gani ya madhara/ajali

1).....

2).....

3).....

4).....

5).....

10.Taja ni kwa njia gani mteja alipata madhara/ajali yasiyo ya kikazi

1).....

2).....

3).....

4).....

5).....

11)Je, hali ya chanzo kuhusu maambukizi ya Ukimwi ilikuwa inajulikana?

1)Ndiyo

2)Hapana

3)Sijui

12) Je,Ushauri nasaha na kupima VVU vilifanyika siku ya kwanza?

1)Ndio

2)hapana

3)sijui

13)Je, mteja alipewa dawa za kinga tiba?

1)Ndio

2)hapana

3)sijui

14)Kama jibu ni ndiyo kwa swali la 13,dawa za kinga tiba aina gani alipewa mteja? (kama jibu ni hapana au sijui kwa swali 13,nenda swali nambari 15)

1).....

2).....

3).....

4)Sijui

15)Je inatakiwa ichukue kipindi cha muda gani toka kupata madhara/ajali mpaka kupewa dawa za kinga tiba?

- 1)ndani ya saa 24
- 2)Ndani ya saa 72
- 3)Zaidi ya saa 72
- 4)Sijui

16)Ni kwa urefu wa kipindi gani dawa za kinga tiba zilitumika?

- 1)wiki nne
- 2)Wiki nane
- 3)Pungufu ya wiki nne
- 4)Sijui

17)Ni vipimo gani vya maabara mteja anahitaji kuchukuliwa kabla na baada ya kumeza tiba kinga?

- 1).....
- 2).....
- 3).....
- 4).....
- 5)Dont know

18)Je,ni mambo gani muhimu ya kuingilia kati zaidi ya vipimo vya mabara kwa mteja aliyepata madhara/ajali maeneo yasiyo ya kazi?

.....
.....

19. Ushauri nasaha ulitolewa kwa mteja?

- 1)Ndiyo
- 2)hapana
- 3)Sijui

20. Kama ndio kwa Swali la 19 juu,ushauri nasaha wa aina gani ulitolewa? (kama hapana au sijui kwa Swali la 19 juu,nenda swali nambari 21)

1).....

2).....

21. Baada ya kipindi cha muda gani mteja aliambiwa apime tena VVU?

1)4 weeks

2)8 weeks

3)12 weeks

4) sijui

SEHEMU TA TATU: ELIMU KUHUSU HUDUMA YA KINGA TIBA

22.Je umewahi kusikia kuhusu huduma ya kinga tiba dhidi ya maambukizi ya VVU kwa mteja maeneo yasiyo ya kazi?

1)Ndio

2)Hapana

3)sijui

23.Kama jibu ni ndio,Je wapi ulikopatia habari kuhusu kinga tiba dhidi ya maambukizi ya VVU maeneo yasiyo ya kazi? (kama jibu hapana au sijui swali nambari 22 juu nenda swali nambari 24)

1)Kupitia mafunzo

2)Nilisikia kwa wafanyakazi wenzangu

3)Nilisoma kwenye muongozo wa kinga tiba

4)Nilisikia kwenye luninga/radio

5)Nyingineyo(taja).....

24.Je,huduma ya kinga tiba dhidi ya maambukizi ya VVU maeneo yasiyo ya kazi inahusu nini?.....
.....

25. Je ,anazijua hatua za kufuata za kumhudumia mteja aliyepata madhara/ajali maeneo yasiyo ya kazi?

1)Yes

2) No

3)Sijui

26.Kama jibu ni ndio swali la 25,zitaje hatua hizo (kama jibu ni hapana au sijui nenda swali nambari 27)

1).....

2).....

3).....

4).....

5).....

27. Je,ni muda gani mteja aanze aanze kutumia dawa za kinga tiba kinga baada ya kupata madhara/ajali maeneo yasiyo ya kazi?

1)Ndani ya saa 24

2)Ndani ya saa 24

3)Baada ya saa 72

4)Sijui

28. Ni katika mazingira yapi mteja anatakiwa kupewa dawa za kinga tiba? (weka alama ya vema panapostahili)

1)kama hali ya maambukizi ya VVU ya chanzo ikiwa hasi

2) Kama hali ya maambukizi ya VVU ya chanzo ikiwa chanya

3)Kama hali ya maambukizi ya VVU ya mteja ni chanya

4)Kama hali ya maambukizi ya VVU ya mteja ni hasi

29. Je,dawa ya kinga tiba inatakiwa kumezwa kwa kipindi cha muda gani?

1) wiki 4

2)chini ya wiki nne

3)sijui

SEHEMU YA NNE: TABIA KUELEKEA UTOAJI WA HUDUMA YA KINGA TIBA

30. Je ni muhimu kutoa huduma ya kinga tiba dhidi ya maambukizi ya VVU kwa mteja aliyepata madhara/ajali maeneo yasiyo ya kazi?

1)nakubali kabisa

2)Upande wowote

3)sikubali kamwe

31)Kutoa kinga tiba kwa wateja ina athari kwa tabia zinazohusiana na ngono kwa mteja

1)nakubali kabisa

2)Upande wowote

3)sikubali kamwe

32) Kama unakubali kabisa katika swali nambari 31,ni kwa njia gani huduma hii ina athari?

.....
.....

33)kwa wateja waliopata madhara/ajali maeneo yasiyo ya kazi ni lazima wafuatiliwekwa ukaribu na kupewa rufaa kwa vitengo muhimu ya afya kwa ajili ya huduma endelevu

1)nakubali kabisa

2)Upande wowote

3)sikubali kamwe

34)Wateja wote waliopata madhara/ajali maeneo yasiyo ya kazi ni muhimu wapate huduma ya afya mara moja and na watibiwe kama kesi ya matibabu ya dharura waendapo katika kituo cha afya

)nakubali kabisa

2)Upande wowote

3)sikubali kamwe