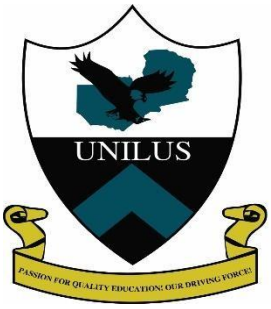


UNIVERSITY OF LUSAKA

UNIVERSITY OF LUSAKA
SCHOOL OF MEDICINE & HEALTH SCIENCES

BACHELOR OF PUBLIC HEALTH RESEARCH PROJECT

TITLE

Knowledge and Utilization of HIV post-exposure prophylaxis among Healthcare Workers at Buchi Clinic in Kitwe: a facility based cross-sectional study

By Prisca Nakamba

Supervisor: Dr John Haloka

A study submitted to the University of Lusaka in partial fulfillment of the requirements of a Degree in Bachelor of Science in Public Health

DECLARATION

Name of student and ID: Prisca Nakamba **Student ID: BSPH 211483315**

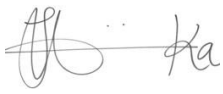
I declare that this proposal is my creative work and to the best of my acquaintance has not been presented for a degree in any other institution.

Signature:  **Date: 26.05.2023**

Supervisor Name: Dr John Haloka

This dissertation has been submitted with my approval as a University of Lusaka (UNILUS) supervisor.

School of Medicine and Health Sciences, Department of Public Health

Signature:  **Date: 26.05.23**

DEDICATION

I offer my work as a heartfelt dedication to my Almighty God, who has been my constant companion, providing unwavering encouragement and support in my journey of personal growth. I extend my deep gratitude to my daughters, Ketiwe and Esther, and my incredible family, whose limitless support, prayers, and reverence for education have been invaluable. I also express my appreciation to my extended family and friends who have consistently encouraged and believed in me during my university years. I sincerely thank you all, as I attribute my achievements to your influence and inspiration.

ACKNOWLEDGEMENTS

I would like to extend my heartfelt appreciation to all those who played a role, in any capacity, in bringing this study to fruition. My utmost thanks can't go without acknowledging the following:

1. The participants who willingly participated and provided valuable information, making this research possible.

2. I am immensely grateful to the University of Lusaka, specifically the School of Medicine and Health Sciences, for granting me the opportunity to pursue my aspirations. I would like to express my appreciation for the academic support I received and for creating an environment that fostered a conducive learning experience.

3. The Copperbelt Provincial Health Office for granting me an opportunity to conduct the study in their space, I say thank you.

4. The healthcare facility at Buchi for collaborating and facilitating the recruitment of participants for this study.

5. Dr John Haloka, my supervisor, for your time, your insightful supervision and guidance.

6. My support system that helped in putting ideas together and analyze the data.

Finally, but certainly not of lesser importance, I wholeheartedly recognize and give credit to God, the Great Almighty, who is the source of knowledge and immeasurable wisdom. It is due to His unwavering faithfulness, grace, favor, strength, and mercy that I am able to stand where I am today

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LIST OF ACRONYMS

AGYW	Adolescent Girls and Young Women
ART	Anti-retroviral Therapy ARVs Anti-retrovirals
CDC	Centers for Disease Control and Prevention
HCWs	Health Care Workers
HIV	Human Immunodeficiency Virus
PEP	Post-Exposure Prophylaxis
PrEP	Pre-Exposure Prophylaxis
UNAIDS	United Nations Program on HIV/AIDS
USA	United States of America
WHO	World Health Organization

ABSTRACT

Healthcare providers (HCPs) face an increased vulnerability to occupational exposure to HIV as a result of their frequent interaction with blood and various bodily fluids. Post-exposure prophylaxis (PEP) plays a pivotal role in averting HIV transmission following such incidents. The objective of this study was to evaluate the awareness and utilization of HIV PEP among healthcare workers stationed at Buchi Clinic in Kitwe, Zambia.

A cross-sectional study was carried out at Buchi Clinic in Kitwe, involving a total of 76 healthcare workers. Data pertaining to participants' socio-demographic background, knowledge pertaining to PEP, and the utilization of PEP services were collected using a structured questionnaire. Descriptive statistics were employed to analyze the collected data.

Out of the 76 participants, the majority were female (62.5%) and aged between 25 and 35 years (52.6%). The findings indicated that 72.4% of participants had good knowledge about HIV PEP. However, only 41.4% had received training on PEP, and 51.3% knew the ideal timeframe for commensing PEP after exposure. Of those reporting exposure incidents, 36.8% utilized PEP services. Factors associated with PEP utilization included awareness of the correct timeframefor initiating PEP and previous training on PEP.

Although a majority of the healthcare workers at Buchi Clinic accessed and utilized PEP, Knowledge of PEP services was suboptimal. Strengthening training programs and providing regular updates on PEP guidelines and procedures may enhance healthcare workers' knowledge and utilization of PEP services. These findings underscore the importance of continuous education and support to safeguard the safety and well-being of healthcare workers in preventing occupational HIV transmission

CHAPTER ONE

1.0 Introduction

PEP, a form of HIV prophylaxis, is commonly administered to individuals who have been exposed to HIV. Typically, a combination of three antiretroviral medications is taken orally (Esin et al., 2013). The World Health Organization (WHO) strongly advocates for the use of PEP as an effective strategy, as it has been proven to reduce the transmission of the disease and other associated risks when initiated within 72 hours of exposure to the virus (WHO, 2014). PEP is an integral part of the comprehensive HIV/AIDS prevention package within the healthcare system of Zambia. Engaging in unprotected sex with an HIV-positive individual, experiencing sexual harassment at work, being a victim of rape, or engaging in unprotected sex with a partner whose HIV status is unknown significantly increases the risk of contracting HIV. The U.S. Centers for Disease Control and Prevention (CDC) states that PEP offers over 80% protection against HIV seroconversion when initiated within 72 hours of exposure and followed diligently for 28 days (CDC). Zambia is deeply affected by the HIV epidemic, with a nationwide prevalence of approximately 11% among adults aged 15 to 59 and 14.6% among children living with HIV (CLHIV) (Zambia Narrative Country Report, 2021).

Healthcare workers face significant occupational exposure risks to infectious diseases such as HIV/AIDS, hepatitis B, and hepatitis C due to the nature of their work in resource-limited settings. Therefore, it is crucial to prioritize preventive measures, particularly among healthcare professionals who regularly come into contact with blood and other bodily fluids contaminated with HIV. According to the WHO, nearly 90% of occupational HIV exposures occur in sub-Saharan Africa, yet healthcare personnel remain unaware of this risk and preventive measures, including the use of PEP (Aminde et al., 2015). A study conducted by Leteka et al. (2020) at the Copperbelt University School of Medicine in Zambia examined the awareness and application of pre-exposure (PrEP) and post-exposure prophylaxis as workplace safety measures for clinical students. The majority of the participants (84%) demonstrated awareness of PEP and were familiar with its definition. However, about 51.7% of respondents believed that PEP usage was not entirely safe, even though 95.6% expressed willingness to use it. Approximately 21.2% of clinical students reported exposure to HIV during their hospital rotations, and 76.7% of those students who experienced exposure reported it (Leteka et al., 2020). Only a partial release of the data from this study, which was conducted at a school, is currently available.

As a result, additional data is required to accurately represent the population of healthcare

professionals who work full-time and are frequently exposed to HIV in a range of healthcare settings. To create measures to lower infection rates, more investigation on non-occupational exposure is required. Additionally, the aforementioned nationwide survey did not include information on any follow-up procedures that service consumers currently have after receiving PEP therapy. The reporting of PEP knowledge, particularly usage, is lacking as a result of the inclusion of current follow-up protocols. There aredisconnects between PEP usage, knowledge, and protocols in Zambia. Through examination of knowledge, application, and follow-up processes put in place by healthcare organizations, these must be balanced. For instance, it might be necessary to assess current policies to see whether theyare effective. This makes usage more evident. This study aims to fix these holes in HIV service planning when compared to WHO and country guidelines. In Zambia, there haven't been many studies on PEP usage and knowledge in various medical contexts. This is because the researcher only found a few published papers that addressed the gaps that this study is trying to fill.

This study's goal was to close the PEP awareness and usage gap among medical staff at the Buchi Clinic. This setting reflects the suburban area or neighborhood that accounts for the major portionof Zambia's population. The findings of this study can be applied to enhance current HIV-PEP usage and knowledge, as well as to facilitate more education.

1.1 Statement of the problem

Healthcare workers in resource-limited settings face a significant risk of occupational exposure to HIV due to the large number of HIV-infected patients. Therefore, it is crucial to provide antiretroviral prophylaxis (PEP) after HIV exposure. Zambia, with a population exceeding 18 million, grapples with a high prevalence of HIV infection, alongside other health challenges. An estimated 1.2 million people are living with HIV in the country (UNAIDS, 2019). Healthcare workers are at a heightened risk of contracting HIV due to their direct contact with the blood and bodily fluids of HIV patients (Agaba et al., 2012). The increasing incidence of needle stick injuries (NSIs) and the rising rates of HIV infection among patient populations further elevate the risk of occupational exposure for healthcare workers (Agaba et al., 2012; Ashat, Bhatia, Puri, Thakare & Kousal, 2011; Cowan & Macklin, 2012).

Post-exposure prophylaxis (PEP) for HIV infection is an urgent antiretroviral treatment aimed at reducing the likelihood of HIV transmission in healthcare workers and others after exposure to the virus (WHO, 2016). It serves as a preventive measure to curb the spread of HIV. The high prevalence

of HIV infection among healthcare workers due to occupational exposure can be attributed to inadequate knowledge and practice of PEP, as well as underreporting of injuries among those caring for HIV-positive patients (Ekundayo et al., 2014). In Nigeria and other sub-Saharan countries, there is a dearth of literature and documentation on the factors influencing the utilization of HIV prophylaxis by healthcare workers following occupational exposure in hospitals, with the aim of preventing HIV transmission. This represents an under-researched area in public health that requires attention. Therefore, the outcomes of this study can enhance awareness among healthcare professionals and promote appropriate PEP practices.

1.2 Justification of the Study

The study's goal was to evaluate the knowledge and use of HIV-PEP by HCWs and other medical personnel at Buchi Clinic, a neighborhood clinic in the affluent city of Kitwe. Health professionals and other medical people in Zambia currently know very little about HIV-PEP. Although other research have looked at HIV-PEP in various demographics, the majority of studies done in Zambia have concentrated on PEP use in medical students. This study aims to measure knowledge and usage gaps of PEP in healthcare professionals to aid in decision- making. If left unaddressed, this issue could undermine numerous efforts made by different interest groups to eradicate HIV.

1.3 General Research Objective

a. To evaluate the knowledge and utilization of Post Exposure Prophylaxis among HIV exposed health workers at Buchi clinic.

Specific Research Objective

1.4.1To assess the knowledge levels of HCWs on HIV PEP

1.4.2To assess the uptake and utilization of HIV PEP by HCWs at Buchi Clinic

1.4.3To assess the common forms of exposure leading to HIV transmission

Research questions

1.4.4What knowledge gaps exist among HCWs regarding HIV PEP at Buchi Clinic?

1.4.5What is the prevalence of HIV PEP use among Health care workers at Buchi Clinic?

1.4.6What are the common forms of HIV exposure leading to HIV transmission at Buchi Clinic?

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter offers a comprehensive examination of the research conducted on the development of HIV post-exposure prophylaxis (PEP), encompassing a wide range of literature sources. The primary focus is on the knowledge and utilization of HIV-PEP among healthcare workers. The reviewed literature incorporates various sources such as books, articles, policy documents, journals, and both published and unpublished works. To provide a theoretical framework for this study, the Health Belief Model (HBM) of public health and disease prevention and control is utilized, and a conceptual framework is derived from it.

2.0.1 Knowledge on HIV PEP

In a descriptive study conducted in Delhi, India, to assess knowledge of occupational HIV exposure, 62.8% of participants reported how they would feel if occupational exposure to the blood of HIV-positive patients occurred. It has been shown that they were not aware of what precautions they should take. This study highlights the low awareness of post-exposure precautions among healthcare workers. As a result, needle stick injuries must be reported, looked into, and followed up on (Wig et al., 2013). Aminde et al. (2015) reported that less than half of the nurses recognized bodily fluids or contaminated samples at high risk of transmission of HIV in a different study conducted in Cameroon. Seventy-five percent of nurses and 70% of responders were unaware with the length of HIV post-exposure prophylaxis or the medications that were utilized. In actuality, 50% of those questioned were oblivious to the PEP indications. A different study done in Tanzania in 2015 by Mashot, Mbiyazi, and Musi, found that 96% of participants understood their risk of being exposed to HIV, but more than a quarter did not know who to inform when involved in an occupational accident putting them at risk of contracting HIV. Insufficient awareness regarding the appropriate contacts to reach out to in the event of occupational exposure can result in unreported injuries and a failure to initiate post-exposure prophylaxis (PEP). Only 68% of the participants displayed adequate knowledge concerning prophylaxis after HIV exposure, and approximately 65% were aware of the circumstances that necessitate PEP. According to Ekundayo et al. (2014), 47.4% of respondents who experienced exposure actually utilized PEP, while those who did not cited a lack of information about the existing HIV-PEP policy and fear of HIV-related stigma as reasons for not taking it. It appears that the respondents possessed a satisfactory understanding of HIV-PEP, but their implementation of it was inadequate.

2.0.2 Drug combination for PEP

The updated 2022 Zambian Consolidated Guidelines for HIV/TB infection prevention and treatment classified HIV regimens as follows.

The recommended antiretroviral therapy (ART) regimen for post-exposure prophylaxis (PEP) consists of a 28-day course of Tenofovir disoproxil (TDF) or Tenofovir alafenamide (TAF) in combination with either Lamivudine or Emtricitabine (XTC) or Dolutegravir (DTG). For children, the regimens include a combination of Zidovudine (AZT) and Lamivudine (3TC) with Lopinavir-ritonavir (LPV-r) for those weighing less than 20kg, or AZT and 3TC with DTG for children weighing 20kg or more, as well as TAF with Emtricitabine (FTC) with DTG for children weighing 25kg or more. Additionally, all individuals seeking PEP should undergo a review by a clinical officer or medical officer to assess their risk level. It is also important for clients to undergo an HIV test before initiating PEP, as well as follow-up tests at 6 weeks and 3 months after completing the PEP course. While on PEP, clients should receive regular reviews and be offered appropriate laboratory investigations.

A cross-sectional study conducted in Uganda aimed to evaluate the knowledge, attitudes, and practices of surgical staff regarding HIV control measures, specifically PEP. Despite the presence of protocols and guidelines, the study revealed a lack of knowledge among many healthcare workers in this area. The study indicated that only 23.5% of participants were aware of the specific drug combination for PEP (Alenyo et al., 2017).

2.0.3 Importance of PEP

According to Aminde et al. (2015), it may take up to 3 days (72 hours) for HIV to be detectable in the blood and up to 5 days to be detected in the lymph nodes after exposure. This highlights the relatively short duration of protection provided by HIV post-exposure prophylaxis (PEP). The primary objective of HIV-PEP is to empower the human immune system to defend against the virus and prevent its establishment in the body. HIV-PEP works by suppressing viral replication and preventing the irreversible establishment of HIV infection (Aminde et al., 2015).

In a study conducted by Myers, Myers, Wheat, and Yin et al., it was found that dental students exhibited low knowledge of post-exposure management, with only 25% demonstrating sufficient understanding. The study also revealed that 8.2% of respondents expressed reluctance to perform procedures on HIV-infected patients due to fear of exposure (Myers et al., 2011). This highlights the importance of assessing knowledge, as inadequate understanding of infection prevention and control may contribute to hesitancy in providing care to HIV-positive individuals. Myers et al. (2011)

identified knowledge gaps among respondents, inadequate control of exposure to blood-borne pathogens, and reluctance to treat HIV-infected patients, all of which undermine the care of patients with these conditions. Thus, there is a need for enhanced education on blood-borne pathogen exposure in dental schools.

Mathewos et al. (2013) conducted a cross-sectional study among healthcare workers in Gondar, Ethiopia, to assess their knowledge, attitudes, and practices regarding HIV-PEP. The study revealed that 37% of the respondents had insufficient knowledge of HIV-PEP. Additionally, 75.4% of the participants agreed on the importance of HIV-PEP, and 78.5% strongly believed that PEP could reduce the likelihood of HIV infection following exposure. The researchers observed that despite the high prevalence of HIV infection in the region, healthcare workers had limited knowledge regarding the risks of occupational HIV exposure. The anxiety associated with the risk of HIV infection often leads to healthcare workers refusing or being reluctant to provide care to HIV-positive patients. Limited awareness of occupational HIV exposure may affect the practices related to post-exposure prophylaxis among healthcare workers (Mathewos et al., 2013).

2.0.4 Initiation of PEP

Volverding et al. (2012) highlighted the narrow window of opportunity for administering antiretroviral drugs to prevent systemic infection following HIV exposure. Generally, post-exposure prophylaxis (PEP) needs to be initiated within 72 hours of exposure to be effective. This approach has demonstrated efficacy in preventing HIV transmission in both occupational and non-occupational exposures. However, the effectiveness of HIV PEP in curbing the spread of the virus depends on various factors, such as the route and dose of exposure, the effectiveness of the prescribed medications, the timing of drug initiation after exposure, and the level of adherence to the treatment regimen (Volverding et al., 2012).

In a study conducted by Mathewos et al. (2013), it was found that only approximately 51% of the participants were aware of the appropriate time to initiate treatment following exposure. Furthermore, only 29% of the participants believed that HIV post-exposure prophylaxis was necessary for any type of occupational exposure. Ajibola et al. (2014) conducted a cross-sectional study using a self-administered questionnaire among 372 healthcare workers from different departments at a teaching hospital in Lagos, Nigeria. The study revealed that 83.3% of the respondents were aware of PEP, but only 32% were able to correctly name at least two of the recommended drugs for PEP and had uncertainty about the appropriate timing to start PEP after exposure. This indicates a low level of knowledge regarding HIV PEP, with approximately 54% of the participants demonstrating awareness

of it. Despite experiencing frequent needlestick injuries and expressing positive attitudes towards PEP, the actual uptake rate of PEP was reported to be very low, at 6.3% (Ajibola et al., 2014).

2.0.5 Duration of PEP

In Abuja, Nigeria, a public secondary care facility, a study of health care professionals revealed that respondents were less knowledgeable about suggestions for post-exposure precautions. Nearly 49.4% of doctors were aware that PEP was advised if the HIV test came back negative and that HIV counseling and testing were required following occupational exposure. 62% of nurses and around 68.67% of doctors were aware of her PEP's proper length. According to Okechuku et al. (2009), the majority of respondents (85.54% of doctors and 69.07% of nurses) were aware that PEP requires the use of two to three antiretroviral medications within 72 hours of exposure. Likewise, a separate study was carried out to evaluate the knowledge, attitudes, and practices related to HIV post-exposure prophylaxis (PEP) among 190 surgical workers in Uganda. The findings revealed that 95% of the respondents were familiar with HIV PEP, but only 61% believed it could effectively reduce the risk of HIV infection. Furthermore, 48.1% of the participants expressed uncertainty regarding the appropriate timing to initiate PEP and the duration of its continuation. However, 82.9% of HCWs were exposed to potentially infectious fluids and only 28% sought help and followed PEP advice because of the percutaneous injury (Alenyo et al., 2009).

2.0.6 Side Effects

The low rate of PEP usage and non-compliance with HIV treatment have been attributed to a number of factors. These explanations include personal preferences, drug side effects, chronic drug use, challenges with drug availability, difficulty getting the services of PEP in the required 3 days, and drug unavailability (Rodrguez et al. al., 2013). According to research by Tetteh et al. (2015), 64% of the 228 healthcare professionals treated with PEP between January 2005 and December 2010 identified drug side effects and adverse drug events as justifications for noncompliance. In a study from Tanzania, over three quarters of participants didn't finish the full 28 days of therapy. In Tanzania, non-compliance was associated with concerns about PEP's effectiveness and side effect anxiety. Healthcare professionals worldwide face these worries, yet we cannot discount the fact that PEP shields themfrom infection. These could be rectified to offer the desired protection with the right counseling and follow-up (Mashoto et al., 2015).

2.0.7 Utilization of PEP

Approximately 2.5% of global HIV cases are attributed to occupational exposure among healthcare workers (Singh et al., 2015). In a study conducted in India by Guru Prasad and Chauhan, the knowledge regarding needle stick injuries was assessed among 120 dental students, revealing that around 11% of them were unaware that the virus could be transmitted through an infected needle (Guruprasad et al., 2011). Regarding the management of needle stick injuries, 26% of the participants stated that they would promote active bleeding in the affected area to prevent disease spread, and 30% mentioned they would seek PEP. This highlights the existence of misconceptions that need to be addressed, emphasizing the importance of providing guidelines for the management of needle stick injuries.

Aminde et al. (2015) conducted a study to assess nurses' knowledge and practice of PEP, revealing that 73.7% of the respondents had limited understanding of HIV-PEP. Furthermore, 85% of the participants felt at risk of acquiring HIV at work, and 67.5% reported previous exposures. However, only 18.9% of those exposed actually received PEP. This study concluded that nurses in Cameroon have a low level of understanding and practice regarding HIV-PEP. Similarly, at a tertiary care hospital in Delhi, India, a cross-sectional study was conducted to evaluate the prevalence and response to needle stick injuries among healthcare personnel. The findings indicated that the majority (79.5%) of healthcare workers reported experiencing one or more needle stick injuries during their careers. Among recent needle stick injuries, 60.9% of individuals washed the injury site with soap and water, while 14.8% did not take any action. Shockingly, only 7.8% of the 20 healthcare workers who experienced needle stick injuries received HIV/AIDS post-exposure prophylaxis (PEP) (Sharma et al., 2010).

Furthermore, a retrospective study was carried out to investigate occupational HIV exposure followed by post-exposure prophylaxis (PEP) among 306 healthcare workers in Bangkok, Thailand.

The study concluded that themost commonly exposed health care workers were nurses (34.0%) and the most common exposuremethod was percutaneous injury (91.4%). Approximately 56% of HCWs who underwent PEP completed the 4-week course, while the rest dropped out of PEP prematurely (Hiransuthikul et al.,2007). Regarding PEP use and follow-up, Malinverni et al. (2018) investigated the follow-up and rates of completion in his 5-year cohort study (prospective) in Belgium. Of the total numberof people who received PEP, 66.4% completed the 4 weeks course of PEP. (Malinverni et al., 2018).However, follow-up rates were very low in Ethiopia. Temesgen et al., (2020) noted that PEP completion rates and outcomes could not be determined because there was no follow-up

mechanism. It is important to note that patient follow-up is part of PEP implementation. Therefore,it is important to carefully track PEP service users.

2.0.8 Barriers to the utilization of PEP

According to Pieterse (2011), stigma-fear was a significant obstacle to the utilization of PEP in an event of HIV exposure. In Malawi, healthcare workers are often hesitant to undergo HIV screening after an occupational exposure due to the fear of being stigmatized, as noted by Glauser (2014). Ncube et al. (2014) further explain that colleagues, patients, and the community may avoid receiving care from a healthcare worker who has been diagnosed with HIV, leading to isolation and discrimination. Furthermore, the lack of knowledge regarding post-exposure prophylaxis among healthcare workers is highlighted as another barrier to its utilization, as noted by Esin et al. (2011) and Omorogbe et al. (2012). Despite healthcare workers being aware of post-exposure prophylaxis, only a few of them practice it or possess comprehensive knowledge of its administration, as observed in studies conducted by Nwankwo & Aniebue (2011), Omorogbe et al. (2012), and Ryback et al. (2013). Therefore, it is crucial for healthcare workers to have sufficient knowledge regarding the practice of post-exposure prophylaxis for HIV in order to prevent and treat HIV/AIDS while adhering to universal precautions and providing quality care, as emphasized by Delobelle et al. (2009). The aim of this study is to investigate the factors that influence the practice of post-exposure prophylaxis among healthcare workers in Nigeria.

2.0.9 Conclusion

The literature reviewed in this chapter shows that, in addition to other criteria, knowledge is a critical component in determining the utilization and acceptance of PEP among HCWs. The execution of the established protocols and guidelines is also crucial. There is a dearth of literature on PEP use by HCWs, and the researcher was unable to find any data to corroborate this claim in several internet sources for the situation in Zambia.

2.1.0 Theoretical Framework

In this study, the theoretical framework of the Health Belief Model, proposed by Becker (1974), was utilized. The Health Belief Model has been widely employed to explain health-related behaviors and guide programs focused on health promotion and disease prevention. This model comprises five key components: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action.

Perceived susceptibility refers to an individual's subjective assessment of their risk of contracting a particular illness or condition. According to the Health Belief Model, perceiving oneself as vulnerable to a condition acts as a motivating factor for taking preventive measures against it. On the other hand, perceived severity reflects the perception of how serious or severe an individual considers a condition to be. It is believed that the greater the perceived severity of a health problem, the more likely an individual is to take action to address it.

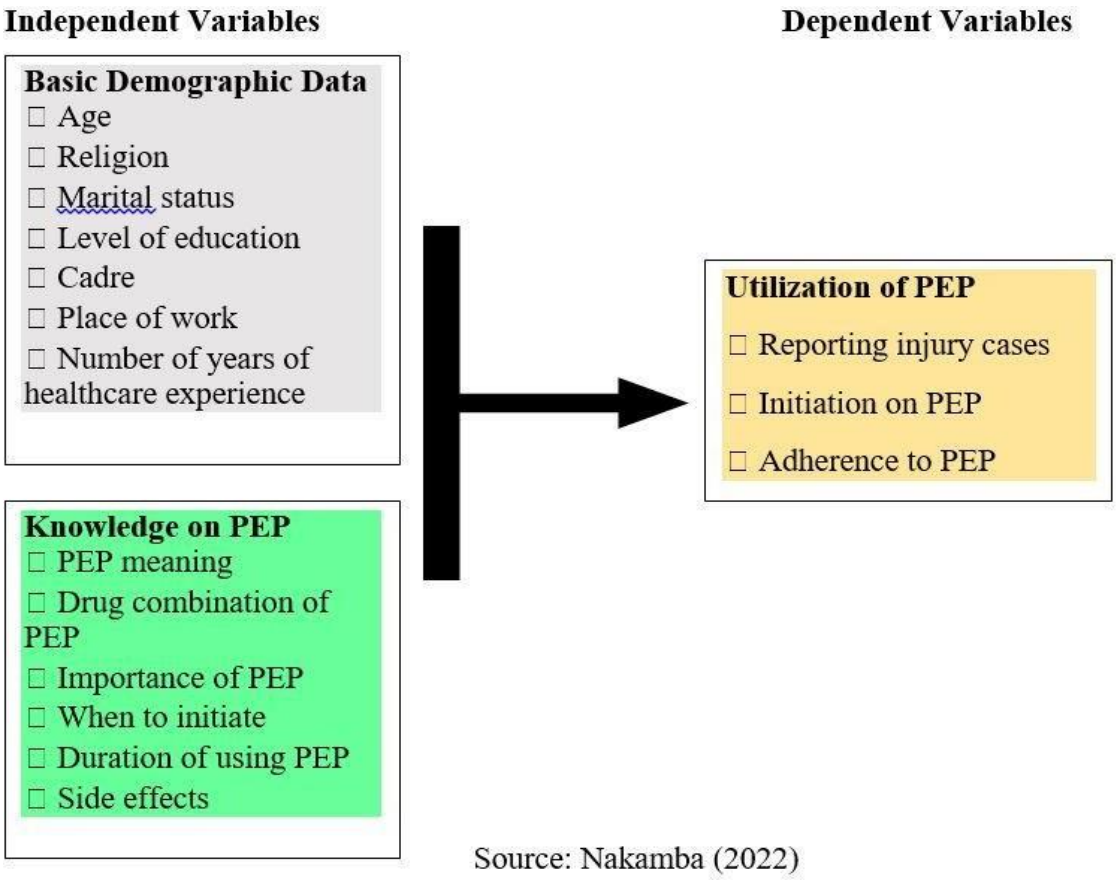
The model suggests that an individual's likelihood of taking action is influenced by their belief that the benefits of the action outweigh the barriers associated with it. Perceived benefits refer to the belief that taking action will lead to positive health outcomes. Perceived barriers, on the other hand, represent the obstacles that may hinder an individual from taking action. Cues to action are factors that stimulate or prompt health-related behaviors.

In this particular study conducted at Buchi Clinic in Nigeria, the Health Belief Model is employed to investigate the knowledge and behaviors of healthcare workers regarding post-exposure prophylaxis. If healthcare workers perceive susceptibility and severity in relation to needle stick injuries or exposure to bodily fluids, they may be more inclined to utilize post-exposure prophylaxis

2.1.1 Conceptual Framework

Figure 1. Conceptual Framework

Conceptual Framework showing factors leading to the utilization of PEP among healthcare workers



Source: Nakamba (2022)

The conceptual framework of this study operates on the assumption that there exists a relationship between the independent variables and the dependent variable, which in this case is the reporting of injury cases and initiation of post-exposure prophylaxis (PEP). The study considers various socio-demographic factors as independent variables, including age, gender, religion, marital status, and level of education. Additionally, confounding variables such as the healthcare worker's knowledge about PEP, understanding of its meaning and importance, awareness of when to initiate PEP and for how long to use it, familiarity with its side effects, as well as their attitude towards PEP including completion rates, religious beliefs surrounding PEP, and perceptions of its usefulness, are also taken into account. These variables collectively contribute to the conceptual framework and are expected to influence the reporting of injury cases and the initiation of PEP.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter provides a comprehensive description of the methodology employed in the study. It encompasses the research design, the target population, the determination of sample size, and the sampling technique utilized. Moreover, it elucidates the tools used for data collection. Furthermore, the chapter delineates the procedure for data management and analysis, outlining how the data was analyzed, and discussing the measures taken to ensure the validity and reliability of the study.

3.1 Study Approach

A quantitative research approach was utilized to assess the knowledge and utilization levels of post-exposure prophylaxis (PEP) among healthcare workers. Quantitative research focuses on investigating measurable and quantifiable occurrences (Polit & Beck, 2012). The study employed a descriptive design, as it aimed to describe and analyze the data in numerical form using measurable variables. The researcher determined that a quantitative approach was most suitable for this study, considering that participants could easily provide data without the need to visit specific locations. The participation decision may be influenced by factors such as the number and difficulty of questions, but the primary cost to participants is their time. Consequently, this approach is more cost-effective compared to other methods. However, a limitation of this approach is that the characteristics of the participants may not be representative of the general population (Thomas, 2013).

3.2 Study design

An evaluation of Knowledge of PEP and its Utilization by healthcare professionals at a Buchi clinic in the Kitwe district was conducted in this cross-sectional descriptive study. In descriptive study, data are gathered without manipulating the surroundings (i.e., nothing is changed). Observational studies are another name for them (Calderon, 2006).

3.3 Study Site

Site for this study was Buchi Clinic, a premier small hospital that offers minorprocedures, HIV care, outpatient and inpatient care, and other medical services. The Kitwe District's Buchi Clinic is a municipal health center that provides care to residents of Buchi, Kwacha, Chimwemwe, and Parkland.

3.4 Target population

This study consisted of (76) participants (health care workers) at Kitwe's Buchi Clinic, a public health facility on theCopperbelt.

3.5 Study population

Healthcare professionals at Buchi clinic in the Kitwe district who willingly and voluntarily agreed andfulfilled the eligibility requirements listed below:

3.6 Inclusion criteria

Buchi Clinic healthcare workers who had previous direct clinical contact with patients and who consented to participate in the study at the time participated in the study.

3.7 Exclusion criteria

The researcher excluded all health care workers who were purely in administrative roles and those who refused consent, or who were uncooperative, sick and those on leave.

3.8 Sampling Technique

Because research participants had an equal probability of being chosen as participants, convenience sampling was chosen as the best sample approach. Targeting was limited to healthcare professionals who interact with patients directly. Because they were medical experts and fit the inclusion criteria, participants were specifically chosen. As a result, interviews were conducted with all medical experts who were available at the time of data collection.

3.9 Data collection methods

Data were collected during the day. Make decisions based specifically on staff availability. A structured, self-administered, closed questionnaire was used to collect the required information from healthcare professionals.

3.10 Data collection tool

A structured self-administered questionnaire was used to collect data for this study. The questionnaire was divided into three sections. Section A focused on gathering demographic information from the respondents. Section B aimed to assess the respondents' knowledge of post-exposure prophylaxis (PEP), while Section C aimed to determine the utilization of PEP among

healthcare professionals. It included questions for the questionnaire was written in English because most healthcare professionals are familiar with English.

3.11 Data Analysis

Completed questionnaires were checked for data inconsistencies and corrected. Questionnaires were pre-tested prior to data collection to ensure that all study-related questions were adequately covered in the questionnaire. Data were calculated and analyzed using the Social Science Statistical Package (SPSS) software version 20 to allow detailed analysis and were cleaned to minimize error. Data were summarized using descriptive statistics and displayed using counts, percentages, pie charts, and graphs.

3.12 Ethical considerations

During the data collection process, strict adherence to ethical principles was maintained. The study obtained necessary approvals and a letter of referral from the University of Lusaka. Additionally, approval was obtained from the Copperbelt Provincial Health Office (PHO), and the purpose and significance of the study were explained to the participants to ensure their understanding and consent. To ensure privacy and confidentiality, the survey did not include the respondent's name but instead used a unique code for identification purposes. Each participant willingly and voluntarily participated in the study, as evidenced by the signing of a study consent form (refer to Appendices 1 and 2). It is important to note that no monetary or material incentives were provided to the respondents for their participation in the study.

CHAPTER FOUR
PRESENTATION OF FINDINGS

4.0 Introduction

This chapter presents the results of the study. It presents Tables and Figures on socio-demographic characteristics, Knowledge levels and Utilization rates of PEP in Health care workers at Buchi Clinic, Kitwe.

4.1 Socio demographic data

The socio-demographic variables measured included: age, gender, level of education, occupational status, marital status, religious affiliation and monthly income. As shown in Table 1 below, the total number of respondents were 76. More female compared to male participated in the study (67% vs. 63%). The majority (54%) of the respondents were aged between 18 and 40 years, with the mean age of 33. More respondents (51%) were married, while 45% reported that they had never been married. In terms of religion, 100% of respondents were Christians. The education level of the respondents reports that most (80%) of the respondents had attained tertiary educationwhile 20% had attained secondary level of education. The majority cadres (34%) were nurse, whilethe other categories comprised of Midwives 28%, Cleaners 20%, Clinical officers 7%, and General Medical Doctors 1%. The response rate for this section was at 100%

Table 1. Socio-demographic data

Variables	Categories	Frequencies (F)	Proportion of responses (%)
Gender	Male	28	36.8
	Female	48	63.2
Age Categories	18-40	41	53.9
	41 and Above	35	46.1
Marital status	Single	34	44.7
	Married	39	51.3
	Divorced	3	3.9
Religion	Christian	76	100
	Islam	0	0
	Hindu	0	0
	Judaism	0	0
	Other	0	0
Educational level	No education	0	0
	Grade 1-7	0	0
	Grade 8-12	15	19.7
	Tertiary	61	80.3
Cadre Status	Nurse	26	34.2
	Clinical Officer	6	7.9
	Doctor	1	1.3
	Midwife	28	26.8
	Cleaner	15	19.7

4.2 Knowledge levels of HCWs regarding HIV PEP

Table 2 shows that majority of the participants (78%) had heard of PEP (Post-Exposure Prophylaxis), which is an antiretroviral (ARV) drug used for HIV prevention. However, some participants (22%) were not familiar with PEP.

Regarding the purpose of PEP, 64% of respondents correctly identified it as a drug given to HIV-negative individuals who are at risk of HIV. However, 32% of participants were unaware of this fact, and a small percentage (4%) responded with "I don't know."

When asked about the duration of PEP treatment, 68.4% of respondents correctly stated that it should be taken for 28 days. However, a notable proportion (26.3%) provided the incorrect response or were unsure.

When asked about PEP being a lifelong ARV drug, the majority (76.3%) recognized that PEP was not a lifelong medication, but 15.8% believed it to be true. Additionally, a small percentage (7.9%) responded with uncertainty.

It was clear that participants recognized the existence of side effects associated with PEP, as 52.6% responded correctly that the medication does have side effects. However, a considerable portion (40.8%) believed PEP had no side effects, and a few (6.6%) were unsure.

The importance of HIV testing prior to receiving PEP was understood by the majority (60.5%), while 36.8% believed it was unnecessary or were unsure.

There was a significant understanding that PEP cannot cure HIV, with only 3.9% of participants expressing this misconception. The vast majority (88.2%) correctly recognized that PEP does not cure HIV, while a small percentage (7.9%) were uncertain.

When asked about the number of drug combinations in PEP, 78.9% correctly identified that PEP consists of three drug combinations. However, a minority (17.2%) provided the incorrect response or were unsure.

Finally, an overwhelming majority (81.5%) correctly recognized that PEP must be taken within 72 hours after exposure to HIV, while 14.6% believed otherwise or were unsure.

Table 2. Data on Knowledge

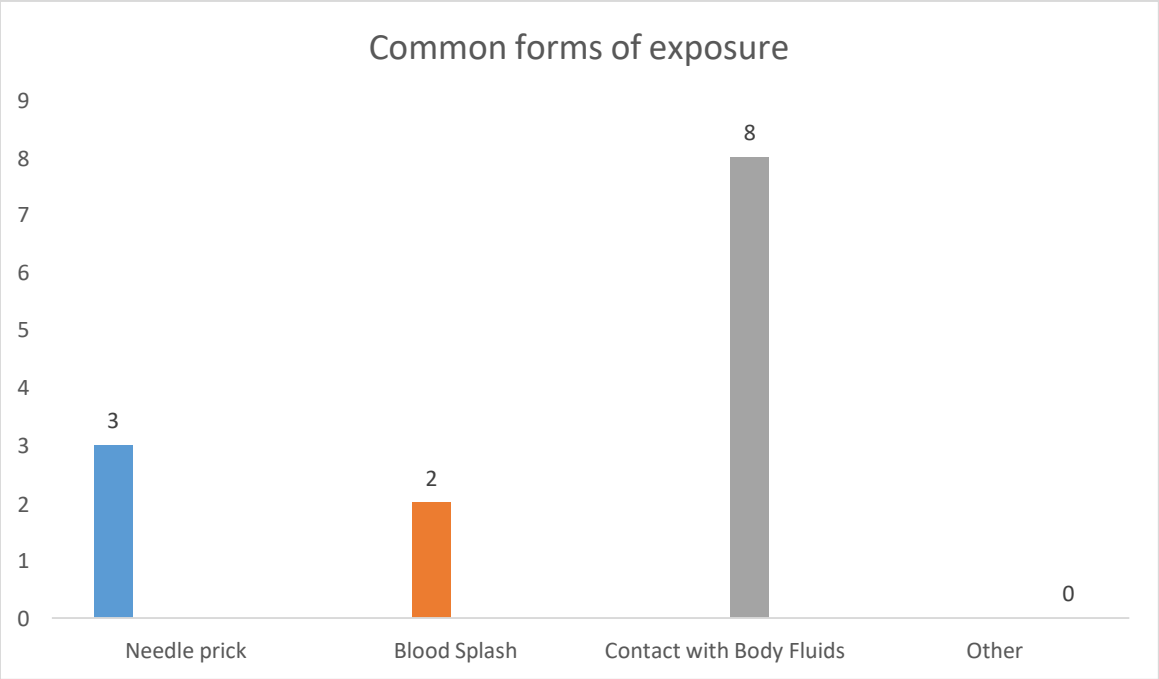
Question	Response	N	%
Have you ever heard of PEP before?	Yes	59	78
	No	17	22
PEP is an ARV drug for HIV prevention	Yes	43	64
	No	29	32
	I don't know	4	4
PEP is given to HIV Negative people at Risk of HIV	Yes	49	64.5
	No	24	31.6
	I don't know	3	3.9
PEP should be taken for 28 days	True	52	68.4
	False	20	26.3
	I don't know	4	5.3
PEP is a life-long ARV Drug	True	12	15.8
	False	58	76.3
	I don't know	6	7.9
PEP Medication has no Side effects	True	40	52.6
	False	31	40.8
	I don't know	5	6.6
You need to test for HIV before receiving PEP	True	46	60.5
	False	28	36.8
	I don't know	2	2.6
PEP can cure HIV	True	3	3.9
	False	67	88.2
	I don't know	6	7.9
How many drug combinations are in PEP?	Two	13	17.2
	Three	60	78.9
	I don't know	3	3.9
PEP must be taken within 72 hours after exposure	True	62	81.5
	False	11	14.6
	I don't know	3	3.9

4.3 Common forms of HIV exposure leading to increased HIV risk

Figure 2 shows that out of a total of 13 participants that reported PEP use, three main forms of exposure were reported: needle pricks, blood splashes, and contact with bodily fluids.

Bar graph in Figure 2 below shows needle pricks accounted for approximately 23% (3 out of 13) of the reported cases of HIV exposure. Blood splashes were responsible for around 15% (2 out of 13) of the reported cases while contact with bodily fluids accounted for approximately 62% (8 out of 13) of the reported cases.

Figure 2. Reasons for Exposure



4.4 Utilization of HIV PEP

According to Figures 3 and Figure 4 below, out of the 76 participants interviewed on the utilization of HIV PEP, approximately 17.1% (13 out of 76) reported using PEP. Notably, within the group of PEP users, approximately 69.2% (9 out of 13) were female.

Figure 3. Participants who used PEP

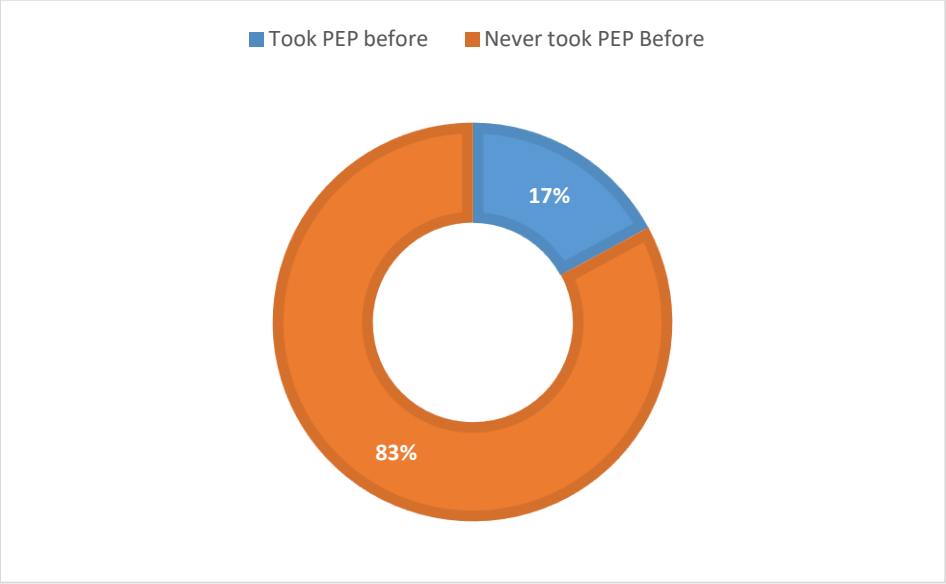


Figure 3. PEP utilization by Gender

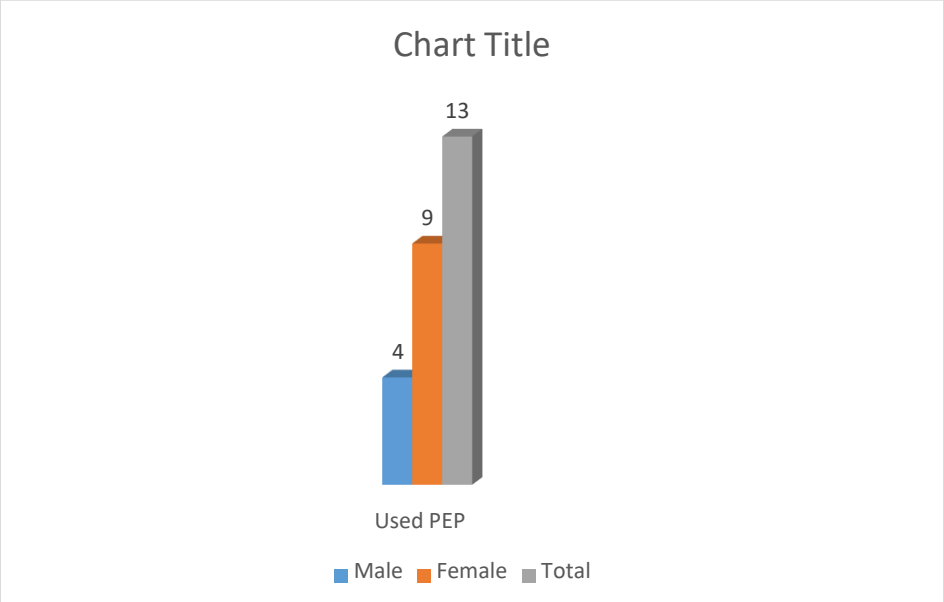


Table 3 below provides insights into the duration of PEP initiation, adherence to the recommended 28-day course, reasons for stopping PEP, and the prevalence of HIV testing before starting PEP.

PEP initiation data was available for 13 participants. Among these participants, approximately 76.9% initiated PEP on the same day as the potential exposure while 15.4% initiated PEP on the second day after exposure. The least group (7.7%) initiated PEP on the third day after exposure.

Available data on adherence shows that of the 13 participants who initiated PEP, 92.3% completed the full 28-day course of PEP as recommended, and only 7.7% stopped taking PEP between day 14 and day 28. Among the participants who stopped taking PEP prematurely, the reason for stopping was due to experiencing bad side effects.

Further, Table 3 shows data regarding HIV testing before starting PEP. All participants that started PEP reported undergoing HIV testing before initiating PEP.

Table 3. PEP Utilization

Variable	Duration	N	%
Initiation on PEP	Same day	10	76.9
	Day 2	2	15.4
	Day 3	1	7.7
Adherence to PEP	Completed 28 day course	12	92.3
	Stopped between 14-28	1	7.7
Reason for Stopping	Bad Side effects	1	100
	Feel no need anymore	0	0
	Fear of Stigma	0	0
	Source tested Negative	0	0
Did HIV testing before PEP?	Yes	13	100
	No	0	0

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

This study assessed knowledge and utilization of HIV PEP among Healthcare Workers (HCWs) at Buchi Clinic, a government health facility in Kitwe, Zambia. The main findings of the study indicate that the prevalence of HIV PEP among the HCWs was 17%. The rate was higher in females than in males (69%). In terms of gender distribution, the study observed that more female participants (67%) were involved compared to male participants (33%). This higher representation of females in the study might reflect the gender composition of healthcare workers at Buchi Clinic or could be influenced by other factors such as willingness to participate in research.

The majority of respondents (54%) fell within the age range of 18 to 40 years, with a mean age of 33. This finding suggests that the healthcare workforce at Buchi Clinic is relatively young, which is consistent with the general trend observed in many healthcare settings.

In terms of occupational status, the largest group was nurses, comprising 34% of the participants. Other categories included midwives (28%), cleaners (20%), clinical officers (7%), and general medical doctors (1%). This distribution reflects the diverse roles and responsibilities within the healthcare workforce at Buchi Clinic.

The socio-demographic characteristics provide important contextual information about the study population. Understanding these factors helps in interpreting and contextualizing the knowledge and utilization of HIV post-exposure prophylaxis among healthcare workers at Buchi Clinic. These findings can inform future interventions and strategies to improve the awareness, training, and utilization of HIV PEP among healthcare workers in similar settings.

5.1 PEP Knowledge

In terms of awareness of PEP, the current study reported that 78% of participants had heard of PEP, while Aminde et al. (2015) found a similar level of awareness (78.8%) among healthcare workers in Cameroon. Mathewos et al. (2013) conducted their study among medical and health science students in Ethiopia, reporting a higher awareness level of 95.5%. This suggests that awareness of PEP among healthcare workers at Buchi Clinic is relatively comparable to other studies.

Regarding the purpose of PEP, this study found that 64% of respondents correctly identified it as a drug given to HIV-negative individuals at risk of HIV. This finding aligns with the results of Aminde et al. (2015), where 65.8% of participants had the correct understanding. In contrast, Mathewos et al. (2013) reported a higher correct response rate of 86.4% among medical and health science students. This indicates that there might be some variation in the understanding of PEP's purpose among healthcare workers at Buchi Clinic compared to other populations.

Regarding the duration of PEP treatment, this study reported that 68.4% of respondents correctly stated that it should be taken for 28 days. Aminde et al. (2015) found a higher correct response rate of 81.4% among healthcare workers in Cameroon. The lower correct response rate in this study suggests a potential knowledge gap among healthcare workers at Buchi Clinic regarding the duration of PEP treatment.

Regarding the importance of HIV testing prior to receiving PEP, the current study found that 60.5% of respondents recognized its significance. Aminde et al. (2015) reported a higher correct response rate of 90.9% among healthcare workers in Cameroon. The lower correct response rate in the current study suggests a potential knowledge gap regarding the necessity of HIV testing before initiating PEP.

In terms of the number of drug combinations in PEP, this study reported that 78.9% of participants correctly identified it as consisting of three drug combinations while Mathewos et al. (2013) found a higher correct response rate of 95.5% among medical and health science students. This suggests a potential knowledge gap among healthcare workers at Buchi Clinic regarding the composition of PEP.

5.2 PEP Utilization

In terms of PEP utilization, the current study reported that approximately 17.1% of participants reported using PEP. Temesgen et al. (2020) conducted a study among healthcare workers in Ethiopia and found a higher utilization rate of 22.7%. Tetteh et al. (2015) focused on healthcare workers in Ghana and reported a lower utilization rate of 8.9%. Alenyo et al. (2017) conducted a study among healthcare workers in Uganda and found a utilization rate of 21.7%. These variations in PEP utilization rates might be influenced by factors such as awareness, accessibility of PEP services, occupational exposure rates, and healthcare policies in different settings.

Among the participants who reported using PEP, this current study observed that approximately, 69.2% were female. This gender distribution aligns with the findings of Alenyo et al. (2017), where a higher proportion of female healthcare workers utilized PEP.

Regarding the initiation of PEP, the current study found that approximately 76.9% of participants initiated PEP on the same day as the potential exposure, while 15.4% initiated it on the second day after exposure. A small percentage (7.7%) initiated PEP on the third day after exposure. Tetteh et al. (2015) reported that 65.8% of healthcare workers in Ghana initiated PEP within 24 hours of exposure, which is higher than the current study's findings.

Regarding adherence to the full 28-day course of PEP, the current study reported a high adherence rate of 92.3% among participants who initiated PEP. Only 7.7% stopped taking PEP prematurely between day 14 and day 28 due to experiencing side effects. Tetteh et al. (2015) reported a lower adherence rate of 62.8% among healthcare workers in Ghana. Alenyo et al. (2017) reported a higher adherence rate of 94.4% among healthcare workers in Uganda. These variations in adherence rates might be influenced by factors such as healthcare worker training, counseling, support, and access to healthcare services.

Overall, the findings indicate that PEP utilization rates among healthcare workers at Buchi Clinic in Kitwe are moderate, with a relatively high adherence rate among those who initiated PEP. However, further research is needed to explore the factors influencing PEP utilization and adherence in this setting.

5.3 Forms of Exposure

The current study reported three main forms of exposure leading to PEP utilization among the participants who reported PEP use. Needle pricks accounted for approximately 23% of the reported cases, indicating that accidental needlestick injuries were a significant factor in HIV exposure among healthcare workers at Buchi Clinic. This finding aligns with the study conducted by Malinverni et al. (2018), where needlestick injuries were also identified as one of the main forms of exposure leading to PEP utilization among healthcare workers.

Blood splashes were responsible for around 15% of the reported cases in the current study. This type of exposure occurs when healthcare workers come into contact with blood or other potentially infectious materials that splash or splatter onto their mucous membranes or non-intact skin. The

specific proportion reported in the current study is consistent with the findings of Malinverni et al. (2018), which also identified blood splashes as a form of exposure leading to PEP utilization.

Contact with bodily fluids accounted for approximately 62% of the reported cases in the current study. This category includes situations where healthcare workers have direct contact with bodily fluids such as saliva, urine, or other fluids containing potentially infectious agents.

The findings highlight the importance of addressing needle stick injuries, blood splashes, and contact with bodily fluids as potential sources of HIV exposure among healthcare workers. Implementing comprehensive infection control measures, including safe injection practices, proper use of personal protective equipment, and adequate training on handling bodily fluids, can help minimize the risk of exposure and subsequent need for PEP.

Further research and surveillance on the forms of exposure leading to PEP utilization are necessary to inform targeted interventions and preventive strategies to reduce occupational HIV transmission among healthcare workers.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Conclusion

This study provides valuable insights into the knowledge and utilization of HIV post-exposure prophylaxis (PEP) among healthcare workers at Buchi Clinic in Kitwe. The findings demonstrate a moderate level of awareness regarding PEP, with some misconceptions and knowledge gaps identified. The utilization of PEP among the participants was relatively low, indicating a need for improved uptake and adherence to this preventive measure. The study also highlights specific areas for intervention, including addressing misconceptions about the duration of PEP treatment, the need for HIV testing prior to initiating PEP, and the understanding that PEP is not a lifelong medication.

6.1 Limitations

Participants were aware that the interviewers were medical professionals. This may have affected the information collected, giving rise to a social desirability bias, depending on whether participants felt it was appropriate to share some information. Interviewers tried to mitigate this problem by allowing participants to speak freely and avoid making critical remarks. Nevertheless, the results of this study complement the existing literature.

6.2 Recommendations

Based on the findings of this study, the following recommendations are suggested:

1. Education and Training: Develop and implement comprehensive educational programs to enhance healthcare workers' knowledge about PEP. These programs should focus on correct information regarding the duration of PEP treatment, the importance of HIV testing prior to initiating PEP, and the misconceptions surrounding PEP as a lifelong medication. Training sessions and workshops can be conducted regularly to ensure healthcare workers stay updated on PEP guidelines.
2. Strengthening Occupational Safety Measures: Implement and reinforce strict adherence to universal precautions and occupational safety measures within the clinic. This includes providing adequate personal protective equipment (PPE), promoting safe injection

practices, and ensuring proper disposal of sharps and bio hazardous waste. Regular training and reminders on these practices should be provided to healthcare workers.

3. Collaboration and Support: Foster collaboration among healthcare workers, administrators, and relevant stakeholders to create a supportive environment for PEP utilization. This includes providing easy access to PEP medications, establishing clear protocols for reporting and managing occupational exposures, and offering counseling and support services for healthcare workers who may experience anxiety or concerns related to HIV exposure.
4. Further Research: Conduct further research to explore the barriers and facilitators influencing PEP utilization among healthcare workers. This research can help identify additional factors specific to the context of Buchi Clinic and Kitwe, which can inform targeted interventions and strategies to improve PEP uptake and adherence.

By implementing these recommendations, healthcare workers at Buchi Clinic can enhance their knowledge, increase utilization of PEP, and ultimately reduce the risk of occupational HIV transmission. Improved understanding and utilization of PEP will contribute to creating a safer working environment for healthcare workers and ensure effective management of occupational exposures.

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APPENDIX 1- INFORMATION SHEET

TITLE: Knowledge and Utilization of HIV post-exposure prophylaxis among Healthcare Workers at Buchi Clinic in Kitwe

Dear Prospective Participant

My name is Prisca Nakamba. I am a student at the University of Lusaka (UNILUS) currently doing a Degree in Public Health and I have to complete a dissertation as part of the requirements for the program. The title of my intended study is as follows: TITLE: Knowledge and Utilization of HIV post-exposure prophylaxis among Healthcare Workers at Buchi Clinic in Kitwe**.** The study will be supervised by Dr John Halooka of the Department of Health Sciences.

I am therefore requesting you to participate in this study.

PURPOSE OF THE STUDY

The purpose of the study is to determine knowledge, and utilization of HIV Post-Exposure Prophylaxis among Healthcare workers of Buchi Clinic in Kitwe order to develop an efficient strategy for promoting the use of PEP among HCWs.

WHY AM I BEING INVITED TO PARTICIPATE?

You were chosen randomly as a Health Care worker of Buchi Clinic and you will be participating in the study with 63 other Healthcare workers.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

As a participant, you will be required to complete a questionnaire. The questionnaire consists of multiple-choice questions with options to choose from, questions in the form of a checklist and a few questions that require responses in writing. The questionnaire will require approximately 20 minutes of your time.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Your participation is completely voluntary, you are free to refuse to participate, to withdraw your consent (if the questionnaire has not yet been submitted) or to discontinue participating in the study at any point you feel you need to without having to explain, and you will suffer no penalty or loss.

If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

There will be no direct benefits or compensation to you for taking part in the study, however the researcher hopes the findings will help benefit the Nation and other Healthcare workers in the fight against HIV/AIDS.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

You will suffer no harm by taking part in the study, and the researcher guarantees anonymity to ensure that no information obtained from you as a participant leaks. The researcher however apologizes in advance for any inconvenience that may result from your taking part in the study.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

Only the researcher and or the fieldworker, having delivered the questionnaire to you, will know about your involvement in this research and no one will be able to connect you to the answers you give. Even the researcher will not be able to connect the data to individual respondents as completed questionnaires will be dropped in boxes placed at different stations at the Clinic, and findings will be generalized. Only the researcher will have access to the data, and all data will be kept under lock and key at the researcher's office.

The information you provide may be used in the research report or in journal articles should the study be submitted for publication, however individual respondents will not be identifiable.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

Respondents will not receive any form of payment or incentives for taking part in the study. Should respondents incur any costs as a result of the study, the researcher will refund them accordingly.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact the researcher, Prisca Nakamba on +260963640077 or email Prisca_nakamba@zm.jsi.com

Should you require any further information or want to contact the researcher about any aspect of this study, please contact the above mentioned person.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

APPENDIX 2- CONSENT FORM

CONSENT TO PARTICIPATE IN THIS STUDY

I,_____(participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the questionnaire.

I have received a signed copy of the informed consent agreement.

Participant Signature……..Date……

Researcher's Name & Surname…….

Researcher's signature……..Date……

APPENDIX 3- QUESTIONNAIRE

INSTRUCTIONS:

Do not write your name in the questionnaire.

Complete the following items by circling the appropriate response and by writing a short response where necessary.

The questionnaire has Three (3) Sections.

Give your most honest response for each question.

SECTION A: SOCIO-DEMOGRAPHIC DATA	
1	What is your gender? ✓ Male ✓ Female
2	How old are you? ✓ 18-30 years old ✓ 31-40 years old ✓ 41-50 years old ✓ Above 50 yrs old
3	What is your marital status? ✓ Single ✓ Married ✓ Divorced ✓ Other (Specify)…….
4	Indicate your highest level of education ✓ None ✓ Primary ✓ Secondary ✓ Tertiary
5	What is your religion? ✓ Christianity

	✓ Islam ✓ Hinduism ✓ African ancestral worship ✓ Other (specify)…….
6	What is your Occupation?.....
SECTION B: KNOWLEDGE	
7	Have you ever heard of Post-Exposure Prophylaxis? ✓ Yes ✓ No
8	If your answer above is yes, where did you hear it from? ✓ Friend/ Relative ✓ Health Facility ✓ Radio ✓ Television ✓ Social Media ✓ HIV Brochures ✓ Other (Specify)……..
9	PEP refers to Antiretroviral (ARV) drugs used to prevent HIV infection ✓ True ✓ False ✓ I don't know
10	PEP is medication given to HIV positive people after being tested Positive. ✓ True ✓ False ✓ I don't know
11	PEP is medication given to HIV negative people to prevent acquisition of HIV after being exposed to HIV infected body fluids. ✓ True ✓ False

	✓ I don't know
12	PEP is taken for one week only ✓ True ✓ False ✓ I don't know
13	HIV Negative people do not need to take PEP ✓ True ✓ False ✓ I don't know
14	PEP is given to Nurses and Doctors only ✓ True ✓ False ✓ I don't know
15	PEP can be started 5 days after being exposed to HIV. ✓ True ✓ False ✓ I don't know
16	You cannot be given PEP when you have been exposed to HIV through consensual sexual intercourse. ✓ True ✓ False ✓ I don't know
17	PEP is taken for 28 days only. ✓ True ✓ False ✓ I don't know
18	PEP is a life-long medication ✓ True

	✓ False ✓ I don't know
19	PEP medication can be used as a primary preventive measure for HIV. ✓ True ✓ False ✓ I don't know
20	PEP medication has no side effects ✓ True ✓ False ✓ I don't know
21	You need to be tested for HIV before you can receive PEP medication. ✓ True ✓ False ✓ I don't know
22	PEP can cure HIV. ✓ True ✓ False ✓ I don't know
SECTION C: PEP UTILIZATION	
23	Have you ever taken PEP? ✓ Yes ✓ No
24	If you answered Yes above (23), what was the reason for taking PEP? **…….**
25	Do you know of anyone from this facility who has taken PEP before? ✓ Yes ✓ No
26	If you answered Yes above (25), what was their reason for taking PEP? **……...**
27	Do you know of anyone who has tried to access PEP services but was unable to? ✓ Yes ✓ No

28	If you answered Yes above (27), why was that individual unable to access PEP services? ……..
29	Do you think you have ever been exposed to potentially HIV-infected body fluids? (e.g. condom slippage/breakage, unanticipated unprotected sexual intercourse, exposure to infected blood, etc.) ✓ Yes ✓ No ✓ I don't know
30	If you answered Yes above (29), what did you do after the incident? ✓ Visited a health care facility ✓ Washed the affected area ✓ Nothing ✓ Other (specify)…….

Thank You for participating

SCHOOL OF MEDICINE AND HEALTH SCIENCES LEOPARDS HILL CAMPUS
Plot No. 37413, Off Alick Nkhata Mass Media. P. O Box 36711, Lusaka.
Phone: +260211258505, 258409 Fax +260211233409; Cell +260976075850,961917862,
E-mail:unilus@zamnet.zm,ictar@zamnet.zm

SCHOOL OF MEDICINE AND HEALTH SCIENCES RESEARCH ETHICS COMMITTEE

Ref no: IORG0010092-2023/053

Date: 15th DECEMBER, 2022

PRISCA NAKAMBA - BSPH 211483315

Re: RESEARCH TITLE: KNOWLEDGE AND UTILIZATION OF HIV POST- EXPOSURE PROPHYLAXIS AMONG HEALTHCARE WORKERS AT BUCHI CLINIC IN KITWE: A FACILITY BASED CROSS-SECTIONAL STUDY

The above research was submitted to the research ethics committee for review. The study has no major ethical problems and is approved subject to the following:

1. The study cannot be changed without express permission of the UNILUS Research ethics committee
2. Approval from the Lusaka District health Management or equivalent health authorities should be sought.
3. The study tools should be added.
4. An informed consent form should be attached and filled by all study participants (If dealing with primary data)
5. The risks and benefits should be included in the consent form.
6. Ensure before commencement that approval is sought from ZNHRA

Congratulations and the committee wishes you success in your work.

Prof Kasonde Bowa
MSc(Glasgow),M.Med(UNZA),FRCS(Glasgow),FACS,FCS,DPH(LSTMH),MPH(UCL)
Chairman- UNILUS REC
Professor of Urology and Consultant Urologist
Executive Dean
University of Lusaka and University Teaching Hospital School of Medicine and Health Sciences.

APPENDIX- C Type text here

SCHOOL OF MEDICINE AND HEALTH SCIENCES LEOPARDSHILL CAMPUS
Plot No. 37413, Off Alick Nkhata Mass Media. P. O Box 36711, Lusaka.
Phone: +260211258505, 258409 Fax +260211233409; Cell +260976075850,961917862,
E-mail:unilus@zamnet.zm,ictar@zamnet.zm

Date: 15th DECEMBER, 2022

……

……..

……..

PERMISSION FOR **PRISCA NAKAMBA - BSPH 211483315 TO** CONDUCT A RESEARCH STUDY AT YOUR FACILITY/ INSTITUTION/ORGANIZATION

Reference is made to the above subject matter

The University of Lusaka, School of Medicine and Health Sciences here by requests for permission for **PRISCA NAKAMBA** Public Health Student to conduct research at your facility/ institution/ organization, entitled**; KNOWLEDGE AND UTILIZATION OF HIV POST-EXPOSURE PROPHYLAXIS AMONG HEALTHCARE WORKERS AT BUCHI CLINIC IN KITWE: A FACILITY BASED CROSS-SECTIONAL STUDY.** The research is in partial fulfillment of the requirements for the degree of Bachelor of Science Public Health. This is purely for academic purposes and information gained in such a way will not be used in the public domain without prior authorization from the institutions/ organizations involved.

The research topic has been cleared by the University of Lusaka, School of Medicine and Health Sciences Research Ethics Committee as per the attached copy. Data collection is expected to be done from **1st January, 2023 to 31st March, 2023**.

The University of Lusaka avails itself of this opportunity to review to your office the assurances of its highest considerations and looks forward to your timely and favorable response.

Prof Kasonde Bowa
MSc(Glasgow),M.Med(UNZA),FRCS(Glasgow),FACS,FCS,DPH(LSTMH),MPH(UCL)
Chairman- UNILUS REC
Professor of Urology and Consultant Urologist
Executive Dean University of Lusaka and University Teaching Hospital School of Medicine and Health Sciences.

APPENDIX-D

NATIONAL HEALTH RESEARCH AUTHORITY

Lot No. 18961/M, off Kasama Road, Chalala, P.O. Box 30075, LUSAKA

Tell: +260211 250309 | Email: znhrasec@nhra.org.zm | www.nhra.org.zm

Ref No: NHRA00005/16/02/2023 Date: 16th February, 2023

The Principal Investigator,
Prisca Nakamba,
University of Lusaka,
Lusaka, Zambia.

Dear Ms. Nakamba,

Re: Request for Ethical Clearance and Authority to Conduct Research

The National Health Research Authority is in receipt of your request for ethical clearance and authority to conduct research titled **"Knowledge and Utilization of HIV Post-Exposure Prophylaxis among Healthcare Workers at Buchi Clinic in Kitwe: A Facility Based Cross-Sectional Study."**

I wish to inform you that following submission of your request to the Authority, our review of the same and in view of the ethical clearance, this study has been **approved** on condition that:

1. The relevant Provincial and District Medical Officers where the study is being conducted are fully appraised;
2. Progress updates are provided to NHRA bi-annually from the date of commencement of the study;
3. The final study report is cleared by the NHRA before any publication or dissemination within or outside the country;
4. After clearance for publication or dissemination by the NHRA, the final study report is shared with all relevant Provincial and District Directors of Health where the study was being conducted, University leadership, and all key respondents.

Yours sincerely,

NATIONAL HEALTH RESEARCH AUTHORITY

Ms. Sandra Chilengi-Sakala,
ACTING DIRECTOR/CHIEF EXECUTIVE OFFICER

APPENDIX- E

PHO/CB/ 2/17/1

All Correspondences should be addressed to the Provincial Health Director
Telephone/ Mobile No. +260861274/ +260 978529175
Email: copperbeltpho@gmail.com

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
COPPERBELT PROVINCIAL HEALTH OFFICE

PWD Yard, Kabompo Road
P.O. Box 70032,
Kansenshi
NDOLA

6th April, 2023

Prisca Nankamba
The University of Lusaka,
LUSAKA

Dear Ms. Nankamba,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Reference is made to your letter regarding the above captioned subject.

I am pleased to inform you that Management has favourably considered your request and has granted you permission to conduct the Research entitled: **"Knowledge and Utilization of HIV Post-Exposure Prophylaxis among Healthcare Workers at Buchi Clinic in Kitwe: A facility based cross-sectional study."** Copperbelt Province.

Kindly note that the data you will collect should not be used for any other purposes other than for academic purposes only.

Share your findings with this office for our reference and information purposes.

I wish you a successful study.

Yours faithfully
COPPERBELT PROVINCIAL HEALTH OFFICE

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
COPPERBELT PROVINCIAL HEALTH OFFICE
11 APR 2023
PROVINCIAL HEALTH DIRECTOR
P.O. BOX 70032 NDOLA

Dr. Charles Mwinuna
PROVINCIAL HEALTH DIRECTOR