PERCEIVED FACTORS INFLUENCING ADHERENCE TO HIV POST-EXPOSURE PROPHYLAXIS AMONG HEALTHCARE WORKERS AT AIC KIJABE HOSPITAL

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A Thesis Submitted to the Institute of Postgraduate Studies of Kabarak University in Partial Fulfillment of the Requirement for the Award of Master of Medicine in Family Medicine Degree

KABARAK UNIVERSITY

NOVEMBER, 2025

DECLARATION

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The thesis entitled "**Perceived Factors Influencing Adherence to HIV Post-Exposure Prophylaxis among Healthcare Workers at AIC Kijabe Hospital"** and written by **Odhiambo Boaz Omenda** is presented to the Institute of Postgraduate Studies of Kabarak University. We have reviewed the thesis and recommend it be accepted in partial fulfillment of the Requirement for the Award of Master of Medicine in Family Medicine Degree.

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DEDICATION

I dedicate this research thesis to all healthcare workers. Your inspiration and unwavering commitment to serving humanity, irrespective of the challenges you experience, have fueled my passion and dedication to pursue this research. Your contributions have made a significant impact and are a constant reminder of the importance of our profession. This research thesis is an attribute to your tireless efforts to serve humanity.

ABSTRACT

Healthcare workers (HCWs) are at risk of HIV infection due to occupational exposure, this makes adherence to post-exposure prophylaxis (PEP) crucial in preventing HIV transmission. This study explores the perceived barriers and benefits to PEP adherence among HCWs at AIC-Kijabe Hospital and identifies mechanisms to improve adherence. It was a phenomenological qualitative research design that used semi-structured interviews to collect data from a purposive sample of 35 HCWs. The study was conducted in AIC-Kijabe Hospital. Data were collected through face-to-face interviews with HCWs who reported exposure to HIV and were initiated on PEP. Key informant interviews were also conducted, those of whom were Chronic Care Clinic (CCC) team members. The guide was pilot-tested at AIC-Kijabe Naivasha Medical Centre to enhance reliability and validity. The interviews were audio-recorded, with the consent of the participants. Were audio-recorded with the consent of participants to ensure accurate data was captured. The interview data was analyzed using deductive thematic analysis. The transcribed interview was coded and categorized into themes and sub-themes. NVivo data analysis software was used to facilitate the institutional and analysis process. The researcher adhered to ethical guidelines, protecting participants' privacy and confidentiality. Before conducting interviews, informed consent was obtained from all the participants. To ensure the ethical conduct of the study, ethical approval was sought from the Kijabe Institute Review Board (KIRB) and the National Commission for Science, Technology, and Innovation (NACOSTI). Several barriers to PEP adherence were identified, and they were based on Personal/ Individual drug-related, institutional, and interpersonal factors. Personal factors included forgetfulness, acceptance of stigma, and low-risk perception. Drug/Medicine-related were fear of side effects and logistical Challenges, e.g. pill too big to swallow. Institutional Factors included process inefficiencies and institutional Stigma. Interpersonal factors like lack of social support. The Perceived Benefits noted by the participants included a reduction of the risk of HIV transmission to HCWs, their spouses, and patients**.** It also gave them peace of mind. Adherence to PEP was also viewed as an ethical duty and obligation. Mechanisms to Improve Adherence proposed included enhanced accessibility of PEP 24/7, Staff sensitization and education, psychosocial support**,** Process improvement, and Follow-up support and Reminders. This study highlights significant barriers to PEP adherence among HCWs at AIC-Kijabe Hospital, including personal, drug-related, and institutional challenges. However, the perceived benefits, such as reducing HIV transmission risk and promoting occupational safety, provide strong motivation for adherence. Addressing the identified barriers through targeted interventions can enhance PEP adherence and improve healthcare delivery. For HCWs, engagement in continuous medical education, seeking support and encouraging the use of reminders to counter forgetfulness. Organizational recommendations: streamline processes at follow-up clinics, enhance confidentiality, and reduce stigma associated with PEP. Policy recommendations: develop clear guidelines on PEP management and Enforce workplace safety protocols.

Keywords: *Full Adherence, Health Care Workers and Post-Exposure Prophylaxis*

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

AIC	African Inland Church
AIDS	Acquired Immune Deficiency Syndrome
ARTs	Anti-retroviral Therapy
CCC	Chronic Care Clinic
HCWs	Healthcare Workers
HIV	Human Immunodeficiency Virus
PEP	Post-exposure Prophylaxis
Prep	Pre-Exposure Prophylaxis
PAHO	Pan American Health Organization
SDG	Sustainable Development Goals
UNAIDS	The Joint United Nations Program on HIV and AIDs
USAID	United States Agency for International Development
WHO	World Health Organization

CONCEPTUAL AND OPERATIONAL DEFINITION OF TERMS

Adherence: The degree to which an individual follows the prescribed PEP regime to reduce the risk of acquiring HIV after exposure.

Exposure: Contact with potentially infectious blood, tissue, or body fluid in a manner that allows for possible transmission of HIV.

HIV Epidemics The rapid and widespread occurrence of HIV infection within a specific population, community, or geographical area

HIV/AIDS: HIV is the virus that causes HIV infection. HIV causes AIDS, the most advanced stage of HIV infection.

Healthcare Workers are individuals employed in healthcare who provide medical services, care, and support to patients. They include both clinical and non-clinical staff.

Healthcare students: People pursuing formal education or training programs in healthcare-related fields.

PEP Full Adherence: PEP medicine for 28 consecutive days after a possible exposure.

PEP No adherence: This is failure to take the PEP for 28 consecutive days due to various reasons

Post-exposure prophylaxis (PEP): This means taking HIV medicine (ART) within 72 hours after exposure and taking it for 28 consecutive days to HIV to prevent or reduce the risk of HIV infection.

CHAPTER ONE

INTRODUCTION

This chapter discusses the study's background, problem statement, justification, purpose, research objectives, significance, and limitations.

1.1 Backgrounds to the Study

Infection with the Human immunodeficiency virus (HIV) is a severe health problem worldwide, costing the lives of approximately 39 million people. (Mponela et al., 2015). Kenya is one of the top twenty countries hit by the HIV pandemic. While the global prevalence is 0.8% (UNAID, 2022). Kenya's national prevalence is 4.9% (Ministry of Health, 2020). This makes Kenya's prevalence six times higher than the global average. Because HIV has become a chronic illness as a result of antiretroviral therapy (ART) use, healthcare workers are more likely to serve or treat HIV-positive patients. (Sematlane et al., 2021). The most significant risk factor for HIV transmission among healthcare workers is occupational contact with infectious pathogens due to their responsibilities and tasks. This risk is naturally higher amonghealthcare workersin Kenya, where there is a high prevalence of HIV. (Mohanty et al., 2019; Rosiek et al., 2016; Tarimo & Mashoto, 2019a).

It is estimated that 56.2% of healthcare workers worldwide sustained needle-stick and sharp injuries during their careers, making needle-stick injuries the most common form of HIV exposure in healthcare settings. (Mengistu et al., 2021). In Africa, the prevalence of occupational exposure to HIV is 58.2% among nurses, 30.8% among laboratory workers, and 23.3% among other professionals, according to a meta-analysis by Teklign et al. (2022). According to occupational reports of 2016, 23% to 30 % of healthcare workers in Kenya get needle stick injuries annually (Occupational Exposure to Blood and Body Fluids and HIV Post-Exposure Prophylaxis in Health Care Facilities in Kenya,

2016). This occupational exposure results in around 3 million healthcare workers globally unintentionally coming into contact with the virus each year, leading to 170,000 new HIV infections. (Mponela et al., 2015; Prüss-Üstün et al., 2005).

There are numerous strategies for avoiding HIV exposure at work. Healthcare workers should treat all bodily fluids as potentially infectious and take precautions such as wearing protective clothing like gloves and goggles, washing their hands immediately after coming into contact with blood or bodily fluids, handling needles and other sharp objects carefully, disposing of them properly, and using any available safety devices to prevent needle stick injuries. However, when someone is exposed, then chemoprophylaxis (use of post-exposure prophylaxis{PEP}) should be initiated as soon as possible and adhered to fully. (Cardo & Bell, 1997; *Kenya-ARV-Guidelines*, 2022; Rasweswe & Peu, 2020).

Post-exposure prophylaxis is a time-limited treatment that can significantly reduce the risk of HIV transmission after potential exposure if initiated promptly and adhered to effectivelysince it can reduce the risk of HIV infection by over 81% (Anteneh et al., 2019; Cardo et al., 1997; Makhado et al., 2022). Adherence to PEP medication is crucial for its effectiveness, yet studies have indicated suboptimal adherence rates among healthcare workers. One of the met analysis and a systemic review on adherence to HIV PEP among HCWs showed that generally, only 56.6% of healthcare workers worldwide adhere fully to PEP. (Ford et al., 2014), However, a study conducted in Gujarat, India, showed that more than 94% of their study participants completed the PEP regimen(Kumar et al., 2011). A study done among healthcare workers in Ho Teaching Hospital, Ghana, showed that 17.9 % of HCWs adhered to PEP (Suglo et al., 2021a). A study conducted in the Fako Division of Cameroon showed that 19.1% of the medical staff adhered to PEP (Ngwa et al., 2018). Health workers in Harare, Zimbabwe,

participated in a study that revealed a high post-exposure prophylaxis uptake of 96% but a low completion rate of 11% (Mushambi et al., 2021). According to research conducted in the Singida Region of Tanzania, just 23% of the region's healthcare workers who reported occupational exposure also completed the HIV PEP (Kimaro et al., 2018a). In contrast, in Addis Ababa, Ethiopia, 16.6% of HCWs finished the course of the PEP regime(Tsega et al., 2023). Kenya Occupational exposure reports of 2016 showed that 35.37% of healthcare workers nationally completed a 28-day course of PEP, while a study done at AIC Kijabe Hospital between May 2017 and May 2021 revealed that 26% of healthcare workers who reported and initiated PEP had full adherence to it (Osoo et al., 2023).

A study done among health professionals in 54 cities across fourteen provinces in China showed that occupational exposure to HIV and not using or not fully adhering to post-exposure prophylaxis cause occupational burnout and lack of job satisfaction among healthcare workers due to severe adverse psychological pressure, such as stress and anxiety. (Shi et al., 2020)This could largely erode the quality of healthcare services and, in turn, increasethe risk of injuries to healthcare workers. (Tsega et al., 2023).

One major factor contributing to non-compliance is the need for more understanding of PEP. Even though training programs have been implemented to educate healthcare workers on the importance and use of PEP, gaps in knowledge still exist. For instance, some HCWs may need help understanding the correct administration protocols, the importance of adherence to the Regimen, or the potential consequences of non-compliance. This lack of understanding can lead to misinformed decisions about discontinuing PEP prematurely (Ayesigye Abigeal et al., 2023). The perceived risk of HIV serocon version also plays a critical role in PEP adherence. HCWs who perceive their risk of HIV infection to be low are less likely to adhere to the PEP regimen (Tarimo

& Mashoto, 2019b). This perception can be influenced by factors such as the nature of the exposure, the known HIV status of the source patient, and the HCW's assessment of the risk. For instance, those who believed their exposure was low-risk could not see the necessity of adhering to the complete PEP regimen (Cresswell et al., 2022; Soares et al., 2023).

Side effects remain a significant barrier to PEP. Research has consistently shown that the adverse impact of PEP medications, such as nausea, fatigue, headache, and other gastrointestinal issues, deters HCWs from completing the regimen. For example, a study by Muzoora et al. (2022) identified drug side effects as the primary cause of non-compliance to PEP among medical staff at Mbarara University Science and Technology Regional Referral Hospital in Uganda. Similarly, a met analysis by (Liu et al., 2023). Found that intolerance to adverse events was a primary reason for truncating PEP. The burden of taking pills daily can be overwhelming for HCWs, leading to non-compliance (Awad et al., 2020). While efforts have been made to reduce the Pill burden, the complexity of the regimen still poses a challenge.(Nie et al., 2021; Villiera et al., 2022).

1.2 Background of the Study

The human immunodeficiency virus is a lentivirus member of human retroviruses (Retroviridae), a family that causes acquired immunodeficiency syndrome. (AIDs). HIV weakens the immune system by attacking CD5+ T cells, leading to increased susceptibility to opportunistic infections (UNAID, 2022).

HIV infection is acquired through various means which includes sexual contact: HIV is transmitted through unprotected vaginal, anal, or oral sex with an infected partner. Exposure to infected blood (including blood-contaminated body fluids): This includes transmission through blood transfusion, sharing needles or syringes contaminated with

infected blood, or exposure to blood-contaminated body fluids. Perinatal transmission: HIV can be passed from mother to child during pregnancy, childbirth, or breastfeeding (UNAID, 2022)

In Kenya, the first case of HIV was discovered in 1984. By 1996, the introduction of antiretroviral therapy. (ART) revolutionised HIV treatment, slowing the progression of the virus and helping people living with HIV manage their condition more effectively (UNAID, 2022). ART significantly improves the quality of life of individuals and helps prevent the transmission of the virus by reducing the viral load in the body.

Preventing occupational exposure to HIV is crucial for healthcare professionals and anyone who comes into contact with HIV-infected blood or body fluids in their work environment. Standard precautions, such as wearing gloves, using protective barriers, and properly disposing of sharp objects, are fundamental strategies to minimise the risk of HIV transmission. However, studies showed that African countries often poorly implement thestandard precautions to prevent occupational injuries, resulting in a high incidence of occupational injuries. For example, studies by Bezemer et al., 2010; Van Der Maaten et al., (2011). She highlighted significant gaps in applying these precautions across healthcare settings in Sub-Saharan Africa. Improving adherence to standard precautions is crucial for reducing occupational transmission. Training HCWs on infection control, providing adequate supplies, and enforcing protocols can significantly reduce occupational exposure to HIV (Bezemer et al., 2010; Van Der Maaten et al., 2011).

Chemoprophylaxis for HIV prevention, including pre-and post-exposure prophylaxis (PreP/PEP), has emerged as an essential component of HIV prevention efforts in recent

years even though studies still show that they are underusedby those who experience both occupational and non-occupational exposure. (Restar et al., 2017).

Pre-exposure prophylaxis (PrEP) is a preventive medication taken by an individual at high risk of HIV exposure, such as people with HIV -positive partners. Post-exposure Prophylaxis is an emergency medication regimen started within seventy-two hours after potential HIV exposure to prevent the virus from taking hold. PEP must be taken for twenty-eight consecutive days to be effective, and it is recommended that HCWs exposed to HIV-infected blood or body fluid, as well as individuals exposed to HIV through sexual encounters or needle-sharing. (Berhan et al., 2021). However, despite their proven efficacy, PrEp and PEP remain underutilised, particularly among HCWs who experience occupational exposure. This underuse is often attributed to a lack of awareness, stigma, and misconceptions about their effectiveness (Allan-Blitz & Mayer, 2024).

Health care workers (HCWs) are among the group of people named by the WHO to be at risk of infection with HIV as a result of exposure to infectious materials through injuries or accidents from sharp objects such as needles, scissors, and knives or contact with blood or other infectious body fluids. (S. Manyele et al., 2008)

Globally, it is estimated that 4.4% (0.8%–18.5%) of HIV/AIDS in healthcare workers are due to accidents with needles contaminated with biological material.More than 90% of these infections occurred in low and middle-income countries. It is thought thatmost ofthemcould have been prevented if all recommended protocols had been followed. (Kimaro et al., 2018a; Prüss-Üstün et al., 2005). In these low and middle-income countries, the risk of HIV infection due to occupational exposure is increased by a range of factors including but not limited to high workload, inadequate or unavailability of

protective gear, and lack of knowledge on standard precautions. (Tarimo & Mashoto, 2019; Tebeje & Hailu, 2010; Wilburn & Eijkemans, 2004).

This study's literature review will borrow more of the factors based on the Health Belief Model, providing a valuable framework for understanding the factors influencing PEP adherence among healthcare workers. It identifies critical determinants, including perceived benefits, severity, risk, barriers like side effects, stigma, confidentiality, organizational factors like (workplace policies, system support, accessibility, and availability of PEP), and mechanisms to improve adherence like social support.(Jones et al., 2015).

1.2 Statement of the Problem

The Kenyan government and its allies have recently committed several resources to facilitate accessible access to PEP. This strongly supports the fight against HIV/AIDs and, in turn, helps in the realization of the sustainable development goal (SDG), goal number three, which is good health and well-being, with target 3.3 of the goal indicating the ending of the epidemics of AIDS and other infectious diseases by the year 2030. PEP has an 81% plus reduction in the likelihood of HIV seroconversion. Researchers have found that a significant portion of healthcare workers exposed to HIV on the job begin PEP. However, only a tiny portion fully adheres to treatment. Low PEP adherence is problematic since it can increase the risk of HIV seroconversion. To develop strategies to encourage successful adherence to PEP therapy, it is crucial to understand the factors affecting PEP adherence among healthcare professionals. Prior studies have demonstrated that inadequate understanding of PEP, side effects, perceived risk of HIV seroconversion, and pill burden are some of the factors contributing to non-compliance to PEP. The researcher believes there is more to PEP adherence because, even with the

majority of the corrections, such as the reduction of pill burden and the training of healthcare workers on PEP, the adherence rate is still low (Suglo et al., 2021b). Therefore, this research aims to explore these factors, shedding light on the perceived barriers and perceived benefits to adherence and providing insight into developing interventions to improve adherence rates.

1.3 Purpose of the Study

This study aimed to explore and determine the factors influencing adherence to HIV PEP among healthcare workers at AIC-Kijabe Hospital.

1.3.1 Specific Objectives of the Study

i. To explore the perceived barriers to adherence to post-exposure prophylaxis
ii. To explore the perceived benefits of adherence to post-exposure prophylaxis
iii. To explore perceived mechanisms to improve PEP adherence.

1.4 Research Questions

i. What are the primary barriers perceived by healthcare workers (HCWs) at AIC-Kijabe to adhering to post-exposure prophylaxis (PEP) for HIV?
ii. How do healthcare workers at AIC-Kijabe perceive the benefits of adhering to post-exposure prophylaxis (PEP) for HIV?
iii. What mechanisms do healthcare workers at AIC-Kijabe suggest for improving adherence to post-exposure prophylaxis (PEP) for HIV?

1.5 Justification for the Study

A study conducted at AIC Kijabe Hospital revealed that 74% of those exposed to and initiated on PEP did not finish the28-day course, even though adherence to PEP is

essential for their health and safety, as well as preventing the spread of HIV. PEP medication is accessible in most if not all, health facilities in Kenya.

While research has been conducted on PEP adherence among healthcare workers globally, there remains a significant gap in local data. Despite the existing interventions to improve adherence, there is still a persistent low adherence rate. Understanding the local context is crucial; it allows for developing tailored interventions that are more likely to be effective. This study can help identify and address these factors that affect PEP adherence among HCWs. This could contribute to both the global and local data. This dual contribution enhances the understanding of the PEP issue both locally and globally. The researcher chose aphenome-logical qualitativestudbecause it provided a more robust and nuanced understanding of the perceived factors influencing adherence to HIV Post-Exposure Prophylaxis among healthcare workers at AIC Kijabe Hospital, offering valuable insights for both research and practical applications in the healthcare setting. Qualitative methods provide in-depth insights into healthcare workers' specific experiences and perspectives, helping identify factors contributingto HIV PEP adherence.

1.6 Significance of the Study

A study on factors that influence PEP adherence among healthcare workers holds significant importance in improving occupational safety. Identifying these factors helps healthcare organisations create tailored interventions and policies to reduce the risk of occupational exposure to infectious illness among healthcare personnel. By addressing the identified barriers, interventions can be implemented to ensure healthcare workers promptly receive PEP and fully adhere to it, hence reducing the chances of HIV seroconversion. Ultimately, this contributes to creating a safer working environment and preventing infection-related problems in the medical field.

This research can also aid decision-makers in implementing strategies that maximize the value of resources while minimizing the financial burden associated with occupational exposure. Identifying these factors also helps healthcare organisations allocate resources effectively, invest in target interventions, and improve cost-effectiveness. Further, the findings of this study provide valuable insights for policymakers and healthcare regulatory bodies to develop evidence-based policies and guideline

1.7 Scope of the Study

The study was focused on HCWs at AIC Kijabe Hospital, a prominent mission and teaching healthcare facility in Kenya. The hospital was chosen because a previous study in the same facility showed a low adherence rate to PEP among HCWS. This facility's geographical scope was more comprehensive, making the findings directly applicable to the local and international healthcare setting. Because healthcare professionals from AIC-Kijabe Hospital can work in any of the hospitals worldwide, these results can also be generalizable to healthcare workers in similar regional or global institutions.

This study primarily examined factors influencing adherence to HIV post-exposure prophylaxis among HCWs. The target population was HCWs at AIC-Kijabe Hospital, particularly those exposed to patients' body fluids and who had initiated PEP at AIC-Kijabe Hospital. This included nurses, clinical officers, medical officers, consultants, and support staff like security guards, laundry personnel, and cleaners, among many others.

1.8 Limitations of the Study

This study focuses on the perceived factors influencing PEP adherence, which may not necessarily align with an objective measure of adherence since individual biases, beliefs, or experiences can influence perceptions. Thus, the study could not fully capture the true determinants of adherence. This study focused only on those who finished a twenty-eight days regimen.

One limitation of this study was its focus on a single healthcare facility. Future research could expand upon these findings by conducting larger-scale studies involving multiple healthcare settings and exploring the effectiveness of specific interventions aimed at improving adherence to PEP among HCWs.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews various variables that either promote or hinder adherence of HIV exposure prophylaxes among health care workers.

2.2 Literature Review of the Study Variables

2.2.1 Personal/ Individual Factors

Perceived benefits refer to a person's perception of the effectiveness of various actions to reduce the threat of illness or disease. When healthcare professionals perceive a high benefit from PEP, it increases their motivation and willingness to adhere to PEP medicine fully. (Oldenburg et al., 2014). Several factors influence the perceived benefits of PEP, including, but not limited to, Knowledge of its importance, individual beliefs in its efficacy, and the medicine's side effects.(Benn et al., 2014; Sousa et al., 2021).

One's ability to know the benefits and drawbacks of a particular thing or action depends much on one's knowledge of the said activity or thing. PEP adherence might be facilitated or hindered by one's level of PEP knowledge. The way a client comprehends PEP therapy management, including when to take medications, when to come for follow-up, what to avoid while in therapy, and what type of diet to follow, will determine how well they adhere to PEP (Owolabi et al., 2012). The client receives this kind of guidance at the beginning of PEP therapy, often known as adherence counselling. Information about HIV and the side effects of different ARTs is provided during adherence counselling. (Fetene & Mesfin, 2013). A systematic review of the USA paper showed that the driving force for good adherence to HIV PEP was knowledge of IPC. (Alhumaid et al., 2021).

According to studies, HCWs are more likely to comprehend the significance of PEP and adhere to the recommendations if they have received thorough training and regular education about it. One study in South Africa showed that healthcare workers who had information on PEP were better able to seek and even adhere to it than students who had little information on PEP (Chimoyi et al., 2022a). It was found in another systemic analysis of South African studies that many healthcare students stopped taking PEP before completing the course because they tested negative. This was a result of their lack of knowledge of the fact that when an individual who gets HIV exposure tests negative, PEP must be completed. When the individual tests positive, ARTs should be initiated. (Makhado et al., 2022).

A study done in northwest Nigeria among healthcare workers showed that HCWs receiving detailed training on PEP had a significantly higher comprehension of its significance and showed better adherence to recommended protocols than those without such knowledge or training (Adebimpe, 2018).

Another Nigerian study among dentists showed that slightly below half of the population of Nigerian dentists needed to be made aware of and had poor attitudestoward post-exposure prophylaxis treatment.(Okeigbemen & Umweni, 2010)According to a study conducted in the Cameroonian health districts of Biyem-Assi, Buea, and Limbe, medical professionals aware of the HIV PEP guideline were four times more likely to adhere to recommended HIV PEP use practices. (Esum et al., 2022)A study in Ghana also found that HCWs who had PEP training were four times more likely to fully adhere to PEP than those who had never received any training.(Suglo et al., 2021a).

A study at St. Peter’s Specialised Hospital in Addis Ababa, Ethiopia, showed that healthcare workers with master's degrees and above had a 3.69 times higher chance of

using and adhering to post-exposure prophylaxis than those with only a diploma. (Tsega et al., 2023). Research in the same country's Tigray state revealed that PEP adherence was substantially correlated with healthcare PEP training (Gebreslase, 2014). Healthcare professionals who are well informed about the mode of HIV transmission, the risks associated with exposure, and the potential long-term consequences of HIV infection are more likely to perceive it as a severe condition. This knowledge motivates them to adhere to PEP medicine (Tsega et al., 2023). HCWs familiar with the current PEP guidelines, including the recommended drugs, dosage, and duration of treatment, are more likely to adhere to them knowing the evidence-based recommendation that instills confidence in the effectiveness of PE P (Thomas et al., 2015).

According to a systemic review and meta-analysis, lack of awareness or low knowledge were the main reasons for low adoption and adherence to PEP among African health professionals (Tekalign et al., 2022). Lack of proper information on PEP was one of the primary causes of poor adherence to PEP, according to a study in Kenya (Mugo et al., 2016). A survey done in Kenya also showed that students made up the majority of those who are exposed to HIV due to occupational contact, accounting for 33.1% of all cases as compared to qualified HCWS. They also had low adherence (Occupational Exposure to Blood and Body Fluids and HIV Post-Exposure Prophylaxis in Health Care Facilities in Kenya, 2016). However, a study done among family physicians in Nigeria showed that despite having a high level of knowledge and awareness about PEP, access and adherence among them were sub-optimal, showing that education does not guarantee adherence (Agaba et al., 2023).

Healthcare professionals' beliefs about PEP efficacy can significantly determine their adherence to the treatment after exposure. If an HCW believes that PEP is highly effective in preventing transmission or seroconversion, they are more likely to see the

benefits of adhering to the medicine. However, if they doubt the effectiveness of PEP, they are more likely not even to start, and if they do start, they might have poor compliance. (Sousa et al., 2021).

According to a Tanzanian study, HCWs aware of some of their coworkers who had cut or pricked themselves while handling wastes had access to PEP, stuck to it, and tested negative. They were likelier to adhere to it than those who did not. The same study discovered that everyone who received training on IPC and PEP use was likelier to adhere to PEP than those who did not.(Tarimo & Mashoto, 2019a).

Perceived severity is an individual's subjective judgment or evaluation of the gravity or scope of a specific health condition or risk. Perceived severity can substantially impact healthcare workers' compliance with HIV post-exposure prophylaxis. (Luo et al., 2022). Healthcare professionals are more likely to follow PEP guidelines if they believe that HIV infection is a severe and potentially fatal condition. The dedication to the recommended treatment regime may be increased by the knowledge that noncompliance with PEP could result in HIV transmission and consequent health effects. HCWs are more likely to consider the risks of contracting the virus from occupational exposure to be significant if they believe that HIV infection is severe. This enhanced risk awareness could result in a more substantial commitment to PEP medicine. (Tarimo & Mashoto, 2019b).

Healthcare professionals may get fearful and anxious if they believe a severe health hazard such as HIV infection exists. As people attempt to reduce their fear and the perceived threat, this emotional reaction may help to promote adherence to PEP. (Anteneh et al., 2019b; Orser et al., 2022). HCWs who have more excellent knowledge about HIV transmission and the consequences of non-adherence to PEP are more likely

to perceive the virus as a severe threat. Research suggests that healthcare professionals who have witnessed the devastating effects of HIV, either in their patients or colleagues, tend to exhibit higher adherence rates due to their increased awareness of the disease's severity (Suglo et al., 2021b). This aligns with (Addo et al., 2022), who found that direct or indirect experiences with HIV-related complications significantly increase perceived severity and, consequently, adherence to PEP.

Cultural and societal views of HIV can also influence perceived severity. In some settings, the stigma surrounding HIV amplifies the perceived severity of the disease. This stigma may either enhance adherence to PEP, as individuals fear the social consequences of being infected, or it may act as a barrier to HCWs' fear of being associated with HIV treatment. (Przybyla et al., 2021). A workplace culture that emphasizes the danger of HIV transmission and the importance of prevention can reinforce perceived severity among HCWs. Institutions that promote strict adherence to PEP guidelines and offer regular training on the risk of HIV may see high adherence rates as workers internalise the message of HIV severity. (Mwangi et al., 2022).

The perceived risk of acquiring HIV following occupational exposure can impact adherence to PEP. If healthcare workers believe their exposure is low risk, they may be less likely to adhere to PEP. On the other hand, if they perceive the exposure as high risk, they are more likely to adhere to PEP. (Suglo et al., 2021a)

The level of risk depends on the HIV prevalence of patients and the precautions the HCWs observe during surgical, medical, and clinical procedures while dealing with blood and bodily fluids. (Suglo et al., 2021a; Tarimo & Mashoto, 2019b). Before the introduction of antiretroviral therapy (ART), the occurrence of HIV transmission varied according to the type of exposure and skin condition of the HCW. For example, in a

review of prospective studies of seroconversion after occupational exposure to an HIV-infected source, 20 of 6,135 cases (0.33%) became infected following percutaneous exposure; 1 case out of 1,143 (0.09%) became infected following exposure to the mucosa of the HCW; and there were no cases after 2,712 intact skin exposures. In a multisite case-control study by the Centre for Disease Control (CDC), needle stick injuries from an infected source revealed that the depth of injury and needle placement in a vein or artery increased the risk of acquiring HIV. In this situation, most cases appeared injured by a hollow bore instead of a solid needle. This makes healthcare workers who had perceived high-risk exposure, like injury with hollow needles and non-intact skin, more likely to fully adhere to PEP as opposed to those who think they had low-risk exposure. (Ajibola et al., 2014; Cardo et al., 1997a; Lopes et al., 2017; Tarimo & Mashoto, 2019b).

A study in Ghana among HCWs found that those with perceived low-risk exposure to HIV were less likely to adhere to PEP. (Suglo et al., 2021a). According to a study conducted at St. Peter's Specialized Hospital in Addis Ababa, Ethiopia, HCWs' perception of their susceptibility to HIV infection encouraged them to use PEP and adhere to treatment regimes after they were exposed to HIV at work. (Tsega et al., 2023).

A study in Tanzania demonstrated that healthcare professionals may see the risk as being more severe and be more motivated to adhere to PEP if they have seen or heard about colleagues who contracted HIV as a result of workplace exposures. (Tarimo & Mashoto, 2019b). While in Uganda, nurses were reluctant to take PEP because they believed the risk of transmission was low (Mill et al., 2019a).

2.2.2 Drug-Related Factors

PEP medicines have side effects such as dizziness, insomnia, inability to concentrate, pancreatitis, abnormal dreams, fatigue, muscle pain, headache, loss of appetite, nausea,

vomiting, and diarrhoea, among many other side effects(*Kenya-ARV-Guidelines*, 2022; *UNAIDS Global AIDS Update 2022*, n.d.). These side effects may vary among individuals. Those who experience mild effects are more likely to continue with the treatment. However, those who experience severe or persistent side effects are likelier to have poor adherence. When the client receives effective communication about the side effects, their likelihood, and how to manage them, adherence can improve.(Fernandez-Lazaro et al., 2019).

A meta-analysis of China-based cohort studies showed that adverse drug reaction was the primary reason for poor adherence to PEP. (Liu et al., 2023).

According to a cohort study conducted at Korle-Bu Teaching Hospital in Accra, Ghana, the only factor cited for truncating PEP was intolerance to adverse events. This demonstrates the need for adequate, appropriate, and effective counselling, education, active follow-up, and management of adverse events. The same study showed that education about PEP and expected adverse effects can increase adherence, which is essential for reducing the risk of HIV seroconversion. (Tetteh et al., 2015).

A study done in Ethiopia showed that those who had not encountered PEP medicine side effects were 2.69 times more likely to adhere to ART medication than those who had encountered the drug side effects. (Aychew Legesse & Abate Reta, 2019). Another study conducted in the same country at the Hiwot Specialized University Hospital found that PEP's side effects were the primary driver of its cessation.

A 2015 study by Chalya et al, in Tanzania showed that healthcare workers did not report occupational accidents. If they did report them and started on PEP, they did not complete the course because of the side effects. According to a study conducted in Uganda, one of the main reasons why people do not adhere to ART is the adverse effects they encounter.

(Bukenya et al., 2019). A study at Mbarara University of Science and Technology Regional Referral Hospital in Uganda revealed that drug side effects were the primary cause of PEP non-completion among the facility's medical staff. (Muzoora et al., 2022a).

2.2.3 Organizational Factors

Organisational factors within healthcare systems, such as access to PEP, workload, time constraints, and access to follow-up care, can affect adherence. Adequate support from healthcare facilities, including clear guidelines, monitoring systems, and follow-up services, can enhance adherence rates. (Vaismoradi et al., 2020).

Easy access to PEP medications and availability of support services can contribute to full adherence; however, costs and inaccessibility to PEP medications may hinder adherence among healthcare workers. (UNAID, 2022). However, a Chinese study underscored the importance of institutional support in promoting compliance with PEP among Healthcare workers. (Chunqing Lin et al., 2008).

In a study of healthcare professionals at a public hospital in Ghana, it was discovered that only a tiny percentage of HCWs were aware of the office in charge of post-exposure prophylaxis (5.3%) or the existence of a hospital occupational safety unit (26.4%). A high percentage of the people said it was difficult to get PEP medication attention when injured, leading to poor uptake and adherence. (Appiagyei et al., 2021). According to a study conducted in Ethiopia, healthcare professional who had PEP available in their facility were 3.41 times more likely to adhere to PEP medication. (Tsega et al., 2023)When medicines like PEP are unavailable, adherence rates decline sharply, highlighting the necessity of maintaining a consistent supply of medication in healthcare settings. A study in the Dodoma region of Tanzania supports the notion that the

continuous absence of medicines in a health facility influences healthcare utility and adherence. (Kuwawenaruwa et al., 2020).

2.2.4 Social Support

Support from family, colleagues, supervisors, and healthcare institutions can play a crucial role in promoting adherence. Positive social support can help reduce stress, provide encouragement, and address concerns related to adherence. (Ozbay et al., 2017).

The Pan American Health Organization (PAHO) and WHO recommend social support to increase PEP adherence and completion rate (PAHO/WHO, 2018). According to a Brazilian study, psychosocial support was the main factor that promoted PEP adherence. (Nisida et al., 2019). A South African study has proven that social supports, even those given over the phone, boost PEP adherence. (Abrahams et al., 2010). In another study conducted in South Africa, many participants who found support from people they had close, trustworthy relationships with, such as family and fellow HCWs, had enhanced adherence despite concerns about actual, predicted stigma and discrimination. (Chimoyi et al., 2022b). According to a Ugandan study, lack of social support, particularly among unmarried HCWs, resulted in non-compliance. Without encouragement or emotional reinforcement typically provided by a spouse or close family members, unmarried individuals find it harder to adhere to PEP, mainly when dealing with side effects or the emotional toll of occupational exposure to HIV.s (Muzoora et al., 2022a).

2.2.5 Perceived (Anticipated) Stigma and Confidentiality

The stigma associated with HIV and concerns about confidentiality may affect adherence to PEP; HCWs may fear discrimination or breaches of privacy if they disclose their occupational exposure or use of PEP.

According to a study conducted in a tertiary academic hospital in South Africa, nurses were reluctant to report unintentional blood and body fluids exposure at their facility. Instead, they sought HIV PEP outside their workplace because of concerns about stigma and confidentiality. (Rasweswe & Peu, 2020). Concern about being perceived as promiscuous was a significant barrier to PEP adherence among HCWs, according to a South African study. (Chimoyi et al., 2022b)

The perception of stigma was one of the many factors in a Tanzanian study that prevented healthcare workers who were exposed to HIV-positive sources from taking PEP. Due to stigma and confidentiality concerns, 87.7 per cent of healthcare professionals who reported exposure did not report follow-up. (Chalya et al., 2015; Tarimo & Mashoto, 2019a). According to research from Uganda, some nurses have been reluctant to report their occupational exposure injuries because of the stigma associated with them. (Mill et al., 2019a).

2.3 Conceptual Framework

The diagram above is a Conceptual Framework Based on Health Belief Model that guides the understanding of factors influencing PEP adherence among healthcare workers. It contains both Independent Variable and dependent Variable

The independent variable includes:

Social demographic factors and PEP knowledge, such as age, gender, and educational level, all negatively or positively impact an individual's attitudes, beliefs, and behaviours, which can affect their decision to adhere to PEP.

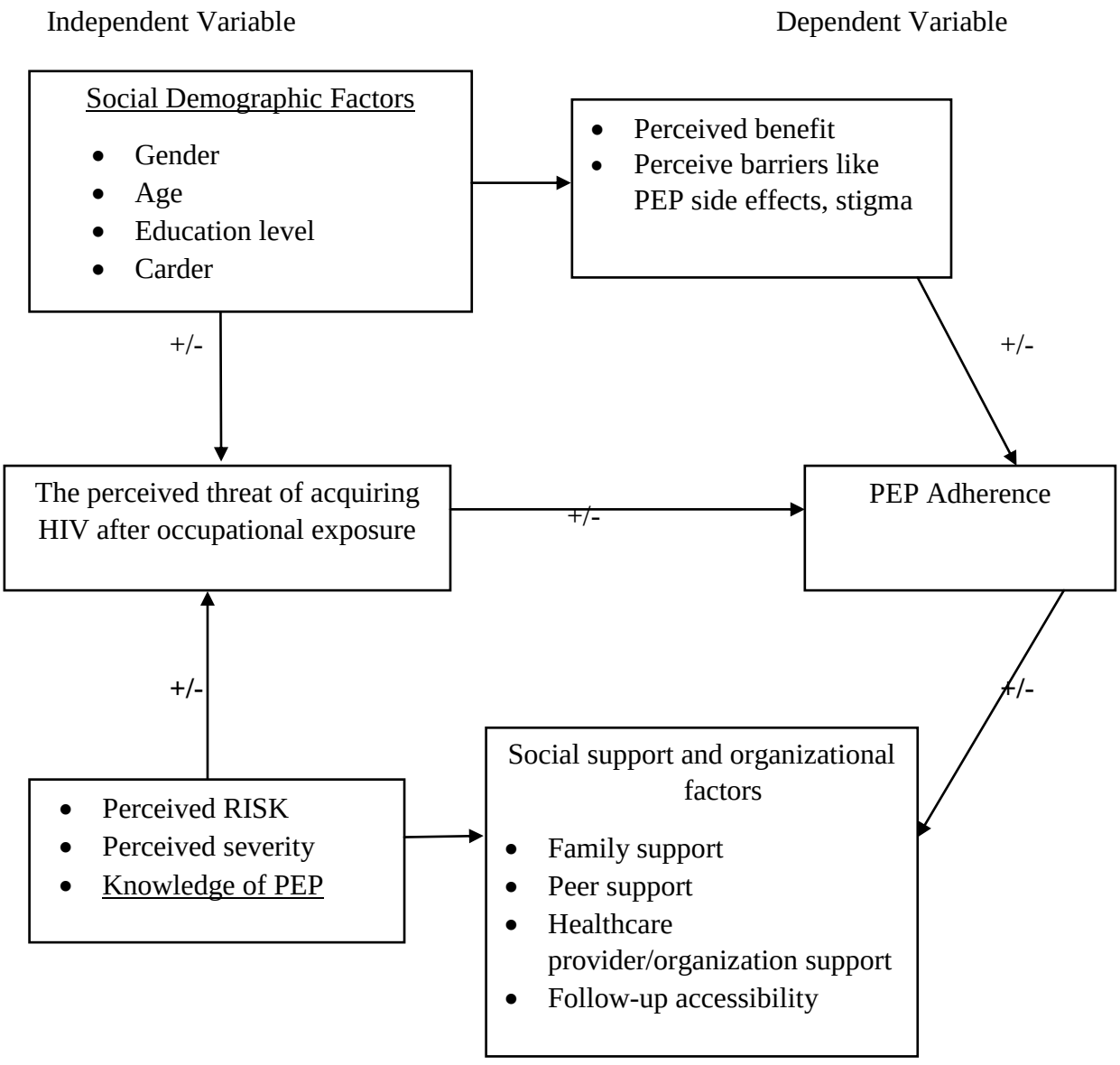
An individual's impression of the danger of contracting HIV following occupational exposure can be influenced by factors like perceived risk and perceived severity of the disease, which will, in turn, affect his adherence to PEP.

Family support, peer support, and access to healthcare services are examples of social and organisational factors that can positively or negatively impact a person's motivation and capacity to adhere to PEP.

The dependent variable in this framework is the level of adherence to the prescribed PEP regimen. It reflects the extent to which an individual follows the recommended PEP treatment, varying from complete adherence to partial or non-adherence.

Figure 1

Conceptual Framework



Source: Author (2024)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides insight into the study design, location, population, sampling technique, sample size, inclusion and exclusion criteria, data collection procedure, data analysis, and ethical considerations.

3.2 Research Design

A phenomenological qualitative research design was employed for this study. The researcher chose a qualitative studbecause it was well-suited to provide a more robust and nuanced understanding of the factors perceived to influence adherence to HIV Post-Exposure Prophylaxis among healthcare workers at AIC Kijabe Hospital. Qualitative methods offer in-depth insights into the specific experiences and perspectives of healthcare workers, hence helping to identify factors to HIV PEP adherence. A semi-structured interview guide was developed, encompassing open-ended questions to explore and determine the factors perceived to influence PEP adherence. The guide was pilot-tested in one of the AIC-Kijabe satellite clinics (AIC-Kijabe Naivasha Medical Center) before it was used to enhance its reliability and validity.

In-depth interviews and key informants allowed the participants to freely and openly discuss their experiences. This approach yields rich and detailed data, giving the researcher a comprehensive understanding of the factors perceived to influence PEP adherence from the perspective of the HCWs (Kegler et al., 2019; Palinkas et al., 2019).

3.3 Location of the Study

The study was conducted at AIC-Kijabe Hospital in Kiambu County, Kenya. It is one of Kenya’s teaching and referral mission hospitals, which receives and serves patients from

all over Kenya and its neighbouring countries, thus making it one of the busiest hospitals in the region with about 930 employees. It provides postgraduate training in various fields, including family medicine, surgery, obstetrics and gynaecology, and anaesthesia. It also offers higher diploma and diploma programs in health sciences. It serves as an internship centre and welcomes students from around the globe who travel there to gain experience in the health field.

The hospital provides inpatient and outpatient services with a bed capacity of three hundred and sixty-three. One of the outpatient clinics is the Chronic Care Clinic (CCC), where PEP services are offered. One reason for selecting AIC-Kijabe Hospital was that a previous study there had already shown that healthcare personnel had low adherence to HIV PEP. This research builds on this knowledge by delving deeper into the factors influencing PEP adherence among HCWs.

3.4 Population of the Study

The study was conducted among healthcare workers at AIC-Kijabe Hospital, including clinical and non-clinical staff, who reported occupational exposure and initiated PEP at the same facility.

3.4.1 Inclusion Criteria

Healthcare workers employed at AIC Kijabe Hospital who have experienced a recent or past incident that led to the initiation of HIV Post-Exposure Prophylaxis (PEP) between January 1, 2020, and December 31, 2023. Participants who had voluntarily provided informed consent and consent to be included in the study. For those who could communicate in English or Kiswahili, this was to help researchers understand the clear meaning of what participants were talking about.

3.4.2 Exclusion Criteria

Healthcare workers who were directly involved in the planning or implementation of the study to avoid potential bias or conflicts of interest. Healthcare workers who were on PEP at the time of the study.

3.5 Sampling Procedure and Sample Size Determination

A qualitative study utilized in-depth interviews of the participants and key informants. The number of participants was determined by the point of data saturation, with no new themes emerging. Thirty-five participants were interviewed. Previous studies have shown that this typically occurs between 11 -17 interviews.(Guest et al., 2020).

3.5.1 Recruitment Procedure and Sampling Process

The researcher used the chronic care clinic team to ask all HCWs who reported and initiated PEP at AIC-Kijabe Hospital via phone call from their databaseif they could participate in the study. Those who gave oral consent to the CCC team were then selected through purposive sampling to ensure a diverse sample of healthcare workers, including different professional backgrounds, carders, and experience levels. They were then requested to give written consent, after which the researcher and the research assistant conducted in-depth interviews (appendix ii of this study). The researcher also interviewed the CCC team's key informants, including the clinicians, nurses, and adherence counsellors.

3.6 Data Collection Procedures

The researcher and the research assistant, who was also the contact person at the chronic care clinic, conducted a face-to-face, in-depth interview using a semi-structured interview guide. This process was in the hospital's private, quiet, undisturbed environment. All the interviews were conducted in the English and Kiswahili languages,

as all of the participants were comfortable with it. Each interview lasted for approximately 30 to 45 minutes. The research assistant was trained on the scope of the study and the interview guide before he could use it.

The participants and the Key informants were allowed to express their experiences, perspectives, and challenges related to PEP adherence. Interviews were audio-recorded with the consent of the research participant and transcribed for analysis. Otte translation software and Microsoft Office 365 were used to transcribe the data. The principal investigator read through each transcript multiple times to get a sense of the entire work.

3.7 Data Analysis and Presentation

Deductive thematic analysis was employed to identify common themes and patterns in the data. (Schoonenboom & Johnson, 2017). The transcripts were coded, and codes were organized into broader themes and subthemes. The researcher employed a vigorous data analysis process, including regular meetings with the supervisors to discuss emerging themes and ensure the accuracy of the findings. (Onwuegbuzie et al., 2010; Onwuegbuzie & Combs, 2011). Dedoose data analysis software was used to facilitate the organization and analysis process.

All data, such as the interview transcripts and observational notes, were securely stored to ensure the security and integrity of the data collected during the study. The digital data were stored on a password-protected computer, while the hard copies of any written documents were kept in a locked cabinet in the principal researcher's house. All personal identifiers were removed from the data, and participants were assigned unique identification numbers. These identifiers were used in all data analyses and reports to avoid linking any data back to individual participants.

3.8 Ethical Considerations

The researcher adhered to the ethical guidelines, protecting study participants' privacy, anonymity, and confidentiality. Written Informed consentwas obtained from all participants before conducting interviews. Ethical approval was sought from the Kijabe Hospital Institutional Scientific and Ethical Review Committee and the National Commission for Science, Technology, and Innovation (NACOSTI).The principal investigator and the research assistant also signed the data-sharing agreement form from AIC-Kijabe Hospital.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This Chapter presents the findings, interpretations, and discussion according to the research objectives.

4.2 General and Demographic Information

Table 1

Demographic of the Research Participants

Character	Categories	Number of Participants
Age in years	20-24	3
	25-29	18
	30-34	8
	35-39	2
	40 and above	4
Gender	Male	19
	Female	16
Marital status	Married	11
	Single (Never married)	22
	Single (Separated/Divorced)	2
	Single (Widowed)	0
Education Level	No Formal education/Primary	0
	Secondary	1
	Tertiary (Diploma and Higher Diploma)	25
	Tertiary (Degree/ Bachelors)	6
	Tertiary (Master/equivalent and above	3
Carder	Support staff (security officer/Cooks and others)	5
	Nutritionist	1
	Nurses	10
	Anesthesiologist /anesthetist/Theater technologist	5
	Registered Clinical officer/Clinical officer	7
	interns	2
	Medical Officer/Medical officers' intern	5
	Registrars and Consultants	

Table 1 presents the demographic characteristics of the thirty-five healthcare workers participating in this study, providing a comprehensive overview of their age, gender, marital status, education level, and professional role (Carder). Their ages were between twenty and fifty-two years. The majority of participants (eighteen) are in the 25-29 age range, indicating a relatively young cohort of healthcare workers. The least represented age groups are 20-24 and 35-39, with three and two participants, respectively. The gender distribution is fairly balanced, with a slight male predominance (nineteen males compared to sixteen females).

Most participants (twenty-two) are single and have never been married. A smaller portion are married (eleven), and a small number are separated or divorced (two). There are no widowed participants. Most participants have a tertiary-level education, with the majority holding a diploma or higher diploma (25 participants). This indicates a highly educated group, with fewer participants holding a bachelor's degree (6) or master's degree and above. Only one participant has secondary education, and none have only primary or no formal education. Nurses constitute the largest professional group among the participants, followed by registered clinical officers and clinical officer interns. Support staff, anaesthesiologists/ anaesthetists /theatre technologists, and registrars /consultants are relatively evenly distributed, while medical officers and their interns are the least represented.

4.3 Perceived Barriers to PEP Adherence

The results shows healthcare workers (HCWs) at AIC Kijabe Hospital identified several barriers to adherence to HIV post-exposure prophylaxis (PEP). These barriers could be divided into four categories: personal/ individual, drug/ medicine-related, organizational/ institutional-related, and other interpersonal factors.

Table 2

Perceived Barriers to PEP Adherence According to the Research Participants

Personal/Individual factors (Challenges)	Forgetfulness
	Acceptance stigma.
	HIV risk perception
	Knowledge gap
Drug/ Medicine (PEP) Related Factors	Side effects
	Logistical challenges e.g. pill size
Organization/Institutional related factors	Process in efficiency
	PEP Accessibility difficulty
	Work schedules
	Institutional stigma
Other factors/Interpersonal	Lack of social support
	Societal stigma

4.3.1 Personal/Individual Factors

Forgetfulness was a commonly reported barrier to PEP adherence. Many participants acknowledged that due to the demanding nature of their work, it was easy to forget to take the PEP medication as prescribed. This lapse, whether occasional or frequent, poses a significant risk as it can compromise the effectiveness of PEP in preventing HIV transmission. Participant twenty-eight said, "With the hectic schedule we have, it is easy to forget to take the pills. Sometimes, by the time I remember, it is already too late".

The results on Acceptance stigma refers to the internalized fear of being judged or stigmatized by others if they are seen taking PEP medication, which is often mistakenly associated with being HIV positive. Most HCWs reported that they feared being judged by their colleagues within the healthcare setting. Participant Sixteen noted, "Taking PEP feels like a label. I worry that if others see me with the pills, they will assume I am HIV positive, and that kind of judgment is hard to deal with, even among colleagues".

Participant thirty-two said, “I did not think the exposure was serious enough to worry about. It was just a small scratch, so I did not see the need to follow through with the entire PEP course”. Some of the participants expressed a low perception of their risk of contracting HIV following occupational exposure, leading to complacency in adhering to PEP. This misjudgment resulted in inconsistent adherence to the PEP regimen, underestimating the potential threat of HIV infection. Participant Five said,” I did not feel like the exposure was severe enough to take PEP for the full twenty-eight days, but then I thought, what if I am wrong? That fear kept me going.”

Another barrier identified was a lack of awareness about PEP, particularly among those new or junior HCWs. Some participants expressed uncertainty about the effectiveness of PEP, leading to hesitance to adhere to the entire course of treatment. For example, an HCW participant twenty-two mentioned, “I was not sure how well it works, and I thought, what if I still get HIV even after going through all the side effects? Is it worth it?” This lack of trust in the efficacy of PEP contributed to a lower adherence rate, particularly among those who had limited training or exposure to HIV prevention programs.

4.3.2 Drug/Medicine-Related Factors

Participant Nineteen said, “I know PEP is important, but the side effects are unbearable. I have struggled with nausea, abdominal upset, and headache, and that made me hesitant to complete the course”. Another echoed this sentiment, stating, "The medicine made me so sick; I felt worse than before. I could not even perform my duties, and I just stopped taking it a few days". The side effects associated with PEP medications were frequently cited as a significant barrier to adherence. The participants reported nausea, vomiting, fatigue, dizziness, yellowish of the eyes, headache, and abdominal upset, among many other adverse effects that made it challenging to complete the entire course of PEP. The

discomfort caused by these side effects led many participants prematurely to stop using PEP medicine. Participant Twenty-seven said, "The nausea was unbearable during the first week. It made me think about stopping, but I knew I had to push through for my safety."

Participants also noted logistical challenges related to the PEP medication itself, such as the size of the pills, which some found difficult to swallow. Additionally, the complexity of the medication regimen, particularly the specificity of the exact timing of the dose, was mentioned as a deterrent to consistent adherence. "The pills are so large, it is hard to swallow them, especially when you are already stressed. It is one of the reasons I found it difficult to stick to the regimen". As noted by Participant thirty-four. Participant Twenty-seven also said, "The pills are too big, and I struggle to swallow them. It is uncomfortable and makes it harder to stick to the regimen, especially when you are already feeling unwell from the side effects."Participant twenty three said, "The pills are just too large, and swallowing them every day is a struggle, it feels like a chore, especially when you already stress from work, sometimes, I forget because the schedule is complicated, and I wish there were an easier option, like a single dose injection."

4.3.3 Organization/Institutional-Related Factors

Process inefficiencies within the institution, specifically at the chronic care clinic, were identified as barriers to PEP adherence. Delays in accessing PEP medication during the follow-up clinic and lack of clear guidelines on what to do during the follow-up were cited as the factors that hindered adequate adherence. "Getting the PEP meds during follow-up is frustrating. The clinic delays and not knowing what to do next make it hard to keep up with the treatment," As noted by participant eighteen. Participant Three said, "It takes so long to get the medication. You must wait in line, fill out forms, and go through the same process every time, even after just seven days. It is frustrating and

time-consuming. I feel like they could streamline the process more." Participant Seven said, "Every time I visit the clinic for a refill, I wait hours. The process is exhausting, and I question whether it is worth the effort.

Some of the HCWs reported difficulties in accessing PEP, especially during the night and weekends, in case they had forgotten to take it from their homes and needed to obtain it from the hospital. Participant One described the process: "It took long to get the medicine at night. By the time it was ready, I had already decided it was not worth it" Another one added, "The process of getting PEP on one of the weekends I had forgotten to take the PEP medicine at home was as if I was searching for gold, I thought I would just go back to my house and get it, I would have taken a shorter time.

The demanding work schedule of healthcare workers was also highlighted as a barrier to adherence. Long time shifts, irregular hours, and a busy schedule made it difficult for the participants to adhere to the strict timing required for PEP medication. Participant number thirty-three noted, "It is hard to keep up with the medication when you are working long shifts. Sometimes, you are so busy that you forget to make it to the right time or are too exhausted to even think about it. The irregular hours make it difficult to follow the strict schedules PEP requires.

Participant Twenty-eight said, "*There is a fear that if you are seen taking PEP, your colleagues will start gossiping or assume the worst. Plus, I worry that my information will not stay confidential, making me hesitant to proceed with the treatment*". Another added, "*I was not sure if my information would remain private. I was scared that my colleagues or supervisor would think I had done something wrong like I was not careful enough*". Institutional stigma refers to the negative attitudes or discriminatory practices within the healthcare setting that discourage healthcare workers from adhering to PEP. Participants expressed concerns about being judged by their colleagues or supervisors

when they were seen taking PEP. They also expressed fear of confidentiality breaches, which emerged as a significant barrier to PEP completion.

4.3.4 Other Factors/Interpersonal Challenges

The absence of a supportive social network was another barrier to PEP adherence that participants identified. Those who lacked encouragement or understanding from their family, friends, or colleagues were more likely to struggle with adherence, as they had no one to help them stay committed to the regimen. **Participant number twenty-seven** said, "*Once I started the treatment, there was no one checking up on me to see how I was doing; I felt like I was on my own".*

The societal stigma surrounding HIV and PEP also played a significant role in hindering adherence. Participants expressed fear of being judged or discriminated against by society at large. This external pressure contributed to their reluctance to adhere to the PEP regimen. Participant twenty-five said, "I was scared people would think I have HIV just because I was taking PEP. The stigma is real, and I did not want anyone to know. I felt like if people found out, they would judge me, and that made me hesitant to continue with the medication."

4.3.5 Perceived Benefits of Adherence

This section explores the perceived benefits of adherence to HIV post-exposure prophylaxis (PEP) as identified by the research participants. The findings indicate that HCWs at AIC Kijabe Hospital recognized numerous benefits associated with adherence to PEP. The perceived benefits of PEP adherence among HCWs at AIC Kijabe Hospital are extensive and deeply rooted in both the personal and professional spheres. These benefits are categorized into the following themes: reducing the risk of HIV

transmission, peace of mind, sense of responsibility, ethical obligation, and professional responsibility.

Table 3

Perceived Benefits of PEP According to the Research Participants

Reduces the risk of HIV Transmission	To themselves To their spouse To their patients
Peace of mind	Mental and emotional well-being
Sense of Responsibility	Towards their health Towards the health of their spouse Towards the health of their patients
Ethical obligation and professional responsibility	Ethical obligation Professional Responsibility Promoting the culture of safety.

Reduced the Risk of HIV Transmission

A primary benefit identified by the research participants was the significant reduction in the risk of HIV transmission to them. HCWs reported that those who adhere to PEP are less likely to contract HIV following occupational exposure. This awareness motivated them to adhere strictly to the PEP regimen to protect their health. The participant number one said, “Knowing that PEP can protect me from getting HIV after an exposure is what keeps me strict with the regimen. I cannot take any chances with my health”. Another participant, number seven, echoed this sentiment: "I was not going to take any chances. PEP is protective to me, so I made sure to take it seriously”. Participant Twenty-six said,

“Taking PEP is not an option for me; it is necessary. I need to stay healthy, not just for my sake but also for my family. If I fall sick, who will care for them?

Participants also highlighted the benefit of reducing the risk of HIV transmission to their spouses or partners. By adhering to PEP, healthcare workers can safeguard their loved ones from potential exposure to HIV, mainly if they are sexually active during the post-exposure period. This understanding reinforces the importance of completing the PEP regimen. One of the HCWS said, “Taking PEP is not just about protecting myself; it is about keeping my spouse safe too. I would not want to risk exposing them, so I make sure to stick to the treatment”.

HCWs expressed a strong sense of their duty to protect their patients from potential harm. Adhering to PEP reduces the risk of HCWs becoming HIV-positive and, in turn, minimizes the risk of transmitting the virus to patients. This benefit underscores the importance of PEP adherence in maintaining patient safety and upholding the integrity of healthcare service. “I owe it to my patients to stay healthy and avoid any risk of transmitting HIV. Adhering to PEP is part of my responsibility to ensure their safety,” as per participant number thirteen. Participant Eighteen said, “I work with patients daily and feel I should protect them. By taking PEP, I ensure that I am not risking their health, even after an accidental exposure.”

Adherence to PEP provides the HCWs peace of mind, contributing to their mental and emotional well-being. Knowing that they are taking proactive steps to prevent HIV transmission alleviates anxiety and stress associated with the risk of infection. This peace of mind allows them to focus more effectively on their work and personal lives, free from the constant worry of potential HIV infection. A participant said, “Taking PEP gives me peace of mind. Knowing I am doing everything I can to prevent HIV helps me focus on my work without the constant worry of what might happen”.

Participants expressed a strong sense of responsibility toward their health. Adhering to PEP was seen as a crucial step in safeguarding their well-being, ensuring that they remain healthy to provide care to others. This personal responsibility drove their commitment to the PEP regimen. Participant thirty-three said, “I knew I had to take care of myself first. How can I care for my patients if I do not say healthy? That is why I made sure to stick to the PEP regimen, no matter how hard it was. It is my responsibility to protect myself and others.” Participant twenty-five also said, “I must stay healthy, not just for myself, but for my patients and family. Taking PEP after exposure is my way of ensuring I remain strong enough to continue providing care for others. It is not just about me; it is about everyone who depends on me being there for them.”

The sense of responsibility extended to their spouse’s health as well. HCWs who adhere to PEP are taking necessary precautions to prevent exposing their spouses to HIV, reflecting their commitment to protecting their loved ones. Most of them reported that this reinforced the importance of completing the PEP regimen, not just for their own sake but also for the well-being of their partners. Participant Ten reported, “I was not just thinking about myself. I knew if I did not finish the PEP, I could put my spouse at risk, too. That kept me going; I had to protect her as much as I was protecting myself.

A strong sense of duty towards the health of their patients also motivated the participants to adhere to PEP. By following the PEP regimen, the research participants believed they minimized the risk of becoming a potential source of infection to their patients, thereby upholding the ethical standards of patient care and maintaining the trust placed in them by those they serve. “I have a responsibility to my patients and my family to stay healthy. Following through with PEP was part of that responsibility”. As noted by Participant Twelve. Participant Seventeen said, “It is my responsibility to stay healthy for my patients. If I do not follow through with PEP after exposure, I am not just risking my

health but also putting my patients at risk. I must ensure I can continue caring for them without fear."

Ethical Obligation and Professional Responsibility

The research participants perceived adherence to PEP as an ethical obligation grounded in non-male ficence and beneficence. By adhering to PEP, the HCWs reported that it was ensuring that they were doing everything within their power to prevent harm to themselves, their loved ones, and their patients. Hence, this ethical responsibility was a powerful motivator for their adherence. Participant fourteen said, "It is not just about me; it is about doing the right thing for everyone involved. By taking PEP, I am making sure I do not harm myself, my family, or my patients. It is a duty I must uphold".

Adherence to PEP was also seen as a professional responsibility by the HCWs, which is integral to the standard of practice in healthcare. Participants acknowledged that healthcare workers must adhere to safety protocols and guidelines, including PEP, to protect themselves and others. This professional duty reinforced their commitment to following through with the PEP regimen. Participant Twenty-nine noted, "As a healthcare worker, I must protect myself and my patients. Adhering to PEP is part of my professional responsibility. It is not just about following protocol, but ensuring that I remain fit to continue my work and protect others from any risks."

Finally, adherence to PEP was viewed as one of the ways of promoting a culture of occupational safety within the healthcare environment. By adhering to PEP, HCWs felt they were setting a positive example to their colleagues, encouraging their peers to prioritize safety and take the necessary safety precautions during occupational exposure. This collective commitment to safety strengthens the overall healthcare system and enhances patient care and the overall quality of health delivery. "By taking PEP

seriously, I am showing my colleagues that safety comes first. It is about setting a standard so that everyone knows we must protect ourselves and each other". As noted by participant twenty-three.

4.3.6 Mechanisms to Improve Adherence

This section outlines the proposed mechanism to improve adherence to HIV post-exposure prophylaxis as suggested by the research participants.

The findings indicate that HCWs at AIC Kijabe Hospital believe that various strategies can enhance adherence to PEP. These strategies are categorized into the following areas: accessibility, staff sensitization and education, psychosocial support, process improvement, follow-up support, and reminders.

Table 4

Propose Mechanisms by the Research Participants to improve PEP Adherence

Accessibility
Staff sensitization and education
Psychosocial support
Process improvement and Follow-up supports
Reminders

Participants emphasized ensuring that PEP medications are easily accessible to all HCWs. This includes streamlining the process for obtaining PEP 24/7 and ensuring that the PEP medicines are available in multiple locations within the hospital. PEP must be easy to access, especially in emergencies. All these are critical in PEP adherence. Participant number six suggested, "The hospital should make PEP easily available 24/7 and ensure that anyone exposed can get it immediately without any delay".

Research participants suggested regular sensitization and education sessions should be conducted to raise awareness about the importance of PEP adherence, the risk of non-adherence, the anticipated PEP medicine side effects, how to handle them, and the correct procedure for accessing and using PEP. They recommended that these programs be integrated into routine staff training and ongoing medical education to ensure HCWs are knowledgeable about PEP and motivated to adhere to the prescribed regimen.

Participant number four noted, "*We need more education about PEP, especially about how to handle the side effects. If people know what to expect, they are less likely to stop taking it*." Another stated, "*I think ongoing training on HIV prevention and PEP would help. Many of us don't fully understand how it works or why it is important to complete the full course."*These quotes reflect the belief that more information and continuous education would help HCWs adhere better to PEP.

HCWs highlighted the need for psychosocial support to address the emotional and psychological challenges associated with PEP adherence. This support could include counselling services, peer support groups, and access to mental health professionals who can provide guidance and reassurance throughout the PEP regimen. It was noted that there was a need to establish supportive workplace policies, such as a confidential reporting system and non-punitive approaches to PEP use, which were essential for creating an environment conducive to adherence.

Participant Number Three remarked, "*After exposure, it is not just the hard medication. The whole experience is stressful. Having someone to talk to, even a counsellor, would greatly help."* Another suggested, "*Support for HCWs who have been through the same experience could encourage more people to stick with treatment*."

These quotes underscore the need for emotional and psychological support to complement the medical intervention.

Participant number eight suggested, “There needs to be more regular check-ins, not just at the start but throughout the treatment. If someone follows up with us more frequently, it would remind us to stay on track and finish the PEP course. Also, clear communication is important- we should be able to reach someone easily if we have questions or concerns” Participant number eleven also suggested, “Making the Follow-up process faster and integrating services like VCT and STI care at the same clinic would reduce waiting times, making it easier to stay committed to the treatment”. Participants recommended process improvement to make follow-up more efficient. Regular follow-up support was identified as a key mechanism to improve adherence. Participants suggested regular monitoring by increasing the frequency of follow-ups between doses. This was to ensure that HCWs receive the necessary support and guidance to complete the PEP regimen successfully.

Additionally, a recurring theme was the need to enhance clear and consistent communication channels and coordination among healthcare workers and between healthcare providers and their patients. Improving efficient communication channels could facilitate more timely follow-ups and support adherence. They believed that providing comprehensive care and support by providing services for voluntary counselling and testing (VCT) and sexually transmitted infections at the chronic care clinic could help shorten follow-up visit wait time.

Lastly, those with authority at the facility and the national level should ensure that PEP medicine and associated services remain accessible to healthcare workers exposed to help sustain adherence rates.

Participants suggested using reminders, such as mobile phone alerts, to help them remember to take their PEP medication as prescribed. These reminders can be automated and customized to fit the individual's schedules, ensuring that doses are not missed. Reminders are a practical tool to support adherence, particularly in busy work schedules. Participant Fifteen suggested, "A simple reminder like a text message every day or someone checking on you weekly or daily would make a big difference"

4.4 Findings from the Key Informant Interviews

Key informants included clinical officers, nurses, and adherence counsellors, all working at the chronic care clinic where HCWs with occupational exposure get PEP medication. Five key informants were interviewed. The key informant number one said, "The perception of exposure risk significantly influences PEP adherence among HCWs at AIC-Kijabe Hospital."

The key informant's number two said, "*When a healthcare worker experiences a high-risk exposure like a needle stick injury, there is immediate fear. They are more likely to follow through with the entire PEP regimen because they understand the seriousness of the situation. The fear of contracting HIV drives them to stick to the medication*". High-risk exposure, e.g. needle pricks, led to better adherence due to the immediate fear of contracting HIV.

Participant Eleven noted, *"For low-risk exposures, like a superficial scratch or contact with intact skin, many healthcare workers tend to be more relaxed. They don't always see the need to finish the PEP course, thinking the chances of getting HIV are low. This leads to lower adherence"*. Low-risk exposure, e.g. superficial scratches or contact with intact skin, results in lower adherence. "There is a noticeable knowledge gap. Some HCWs don't fully understand that even what seems like a minor exposure could still carry a risk.

This lack of awareness about the guideline causes them to underestimate the situation and results in poor adherence".

The key informant reported that *HCWs who perceived a high risk were more likely to complete the PEP regimen, while those who perceived a lower risk were less likely to adhere.* They attributed this to the knowledge gap about current guidelines, which led to underestimating the potential threat of HIV exposure. This finding aligns with previous studies, such as those by Suglo et al., (2021) and Mill et al., (2019), which observed that low-risk perception due to ignorance of guidelines contributed to a lower adherence rate. Tekalign et al., (2022). It also highlighted a lack of knowledge as a reason for non-adherence.

4.5 Discussions of the Findings

The findings of this study on the perceived barriers, benefits, and mechanisms to improve PEP adherence among HCWs at AIC Kijabe Hospital resonate with and, in some cases, differ from those other studies conducted in various settings.

This section discusses these findings compared to the existing literature, highlighting similarities, contrasts, and implications for practice.

4.5.1 Perceived Barriers to PEP Adherence

The study identified several barriers to PEP adherence, including personal factors like forgetfulness and acceptance stigma, drug-related factors such as side effects, and institutional challenges like process inefficiencies and accessibility difficulties. These barriers are consistent with the findings from other studies conducted in different contexts.

Forgetfulness and acceptance stigma were significant barriers reported by the participants in this study. These findings align with those of Chirwa et al. (2018), who found that stigma and low-risk perceptions were significant barriers to PEP adherence among HCWS in Malawi. Similarly, Agaba et al., (2023) identified personal factors such as fear of stigma and forgetfulness as a common challenge in Nigerian healthcare professionals on PEP regimens. However, a contrary finding was reported by Muzoora et al.,(2022). In Uganda, healthcare workers demonstrated a high level of awareness and motivation for PEP medication adherence despite stigma. The finding of a study in Ghana by Suglo et al. (2021) reported that personal fear of HIV infection motivated HCWs to adhere strictly to PEP, contrary to the complacency noted in some participants in this study. The difference in risk perception might be influenced by contextual differences in the workplace and HIV prevalence across regions.

The side effects of PEP were a prominent barrier, with participants reporting nausea, fatigue, abdominal upset, headache, and other adverse reactions. These findings are similar to that of a study conducted by Tetteh et al., (2015). At Korle Bu Teaching Hospital, Acra, Ghana, cited that the primary reason for truncating PEP medication was the intolerance of adverse effects. Similarly, a study at St Peter's Hospital Addis Ababa by Tsega et al., (2023). Ethiopia also reported that adverse drug reactions were significant deterrents to PEP adherence among HCWs. According to another Ethiopian study by Aychew Legesse & Abate Reta, (2019), those who did not encounter PEP medicine side effects were 2.9 times more likely to adhere to PEP medicine than those who had experienced the drug effects. This was also supported by another study done at Mbarara University of Science and Technology Regional Referral Hospital in Uganda by Muzoora et al.,(2022)That revealed that drug side effects were the primary cause of PEP non-compliance among medical staff. However, Vardhini et al., (2020). In South India,

the study found that while side effects were present, they were not the primary reason for non-adherence, with logistical challenges taking precedence.

A meta-analysis by McCoy et al. (2020) identified that while side effects were common, proper counselling and management of these effects significantly improved the adherence rate. This suggests that enhanced communication regarding side effects management at AIC Kijabe Hospital could mitigate these barriers. The regimen has not changed; hence it was difficult to know if a change of regimen would affect adherence, as suggested in a study by Osoo et al., (2023).

On Institutional barriers, such as process inefficiencies and accessibility issues, were also highlighted in this study. These findings are consistent with the results of a survey by Weiser et al. (2023) in Botswana, where HCWs faced challenges related to the availability of PEP and the efficiency of the delivery system. Similar challenges were also reported by Makhodo et al. (2022) in Southern Africa, where delays in accessing PEP and negative attitudes from colleagues and supervisors hindered adherence. A meta-analysis by McCoy et al. (2015). Further emphasizes that institutional barriers are a common impediment to PEP adherence globally. In contrast, a study by (2021) in Ghana found that institutional support was relatively strong, with fewer reports of process inefficiencies, suggesting that the institutional context can significantly influence PEP adherence.

This study found that social support influences PEP adherence. Those who received social support from their spouse, family, and friends reported good adherence, in that those social networks consistently urged them to follow through and reminded them to take their medicine. This finding aligns with another research. For example, a study by Chirwa et al. (2018) found that married individuals were more likely to adhere to HIV treatment regimens, mainly due to support and reminders from their spouses. A study by

Tette et al. (2018) at Korle Bu Teaching Hospital in Accra, Ghana, and Muzoora et al., (2022), Uganda also found that social support was a crucial factor in adherence.

Tarimon and Mashoto (2019) found similar results in Tanzania, where a lack of family and peer support affected adherence to PEP among HCWs. Vardini et al. (2020) in South India reported that strong peer networks and institutional support helped HCWs maintain a high level of PEP adherence, highlighting the importance of a supportive social environment in overcoming interpersonal barriers.

4.5.2 Perceived Benefits of PEP Adherence

Healthcare workers at AIC Kijabe Hospital recognized various benefits of adhering to PEP. These benefits, as perceived by the participants in this study, included reducing the risk of HIV transmission, achieving peace of mind, fulfilling a sense of responsibility, and upholding ethical and professional obligations. The findings are well-supported by existing literature.

Participants recognized the importance of PEP in protecting themselves, their spouses, and their patients from HIV transmission. This finding is consistent with the study by Mill et al., (2019), which reported that HCWs who adhered to PEP were primarily motivated by the desire to prevent HIV transmission to themselves and others. Similarly, the study by Aychew Legesse & Abate Reta, (2019). In Ethiopia, the primary motivator for PEP adherence was the protection it offered against HIV infection. Tette et al. (2019) in Ghana reported that HCWs highlighted personal and familial protection as critical motivators for adherence. These results suggest that personal and professional responsibilities drive adherence to PEP across various settings, emphasizing the need to strengthen awareness of these benefits in adherence interventions.

The mental and emotional well-being derived from PEP adherence and a sense of responsibility towards one's health and others were also significant findings. This aligns with the study by Agaba et al., (2023)In Nigeria, where HCWs reported that adherence to PEP provided peace of mind and reinforced their professional commitment to patient safety. Teo et al. (2019) in Singapore also had similar findings. HCWs cited relief from anxiety as a significant outcome of PEP adherence. This emotional benefit can be a powerful motivator for adherence, as it directly impacts the mental health of healthcare workers post-exposure.

A strong sense of responsibility towards one's health and others was evident among participants in this study, which resonates with the findings fromVardhini et al., (2020)In South India, it highlighted that HCWs felt a strong moral and ethical responsibility to adhere to PEP, driven by the desire to protect themselves and their patients. Similar findings were also noted from a study by Makhado et al. (2020) in Southern Africa and Chimoyi et al. (2022) in South Africa. Both studies emphasized a sense of responsibility as a key motivator for PEP adherence, as HCWs felt compelled to protect themselves and their patients.

Adherence to PEP as an ethical and professional Responsibility was another key benefit identified in this study. This aligns with the findings of Muzoora et al., (2022), who reported that HCWs in Uganda felt a profound ethical obligation to adhere to PEP, viewing it as an essential part of their professional duty. The study by Tsega et al., (2023) Ethiopia also emphasized the role of professional responsibility in motivating PEP adherence, with participants citing a commitment to patient safety as a driving factor.

4.5.3 Mechanism to Improve Adherence

Participants in this study proposed several mechanisms to improve PEP adherence, including improving accessibility, staff sensitization and education, providing psychosocial support, process improvements, follow-up support, and the use of reminders. These suggestions are consistent with the recommendations from other studies.

Improving access to PEP was a primary recommendation from the participants, aligning with findings from Chirwa et al, (2018), who emphasized the need for better access to PEP medication to enhance adherence. Similarly, Liu et al.,(2023), who highlighted the importance of ensuring that PEP is readily available and accessible to HCWs. Legesse and Reta (2019) in Ethiopia also identified that better accessibility to PEP drugs, especially outside working hours, would enhance adherence. This suggests that improving logistical support and expanding access can effectively address one of the major barriers identified in various settings.

The need for ongoing education and sensitization programs was also emphasized, which is consistent with the study by Vardhini et al., (2020), where education and training were identified as critical to improving PEP adherence. A similar recommendation was made by Suglo et al., (2021), who stressed the importance of regular training sessions to keep HCWs informed about PEP protocols. This was also supported by Gina et al. (2024), who found that knowledge gaps significantly reduced adherence among student nurses in Eswatini. Chimoyi et al. (2022) emphasized that continuous training and education initiatives improve HCWs adherence by reinforcing the importance of PEP in HIV prevention.

The provision of psychosocial support was another key mechanism identified by participants. This is supported by the findings of Muzoora et al., (2022), who reported that emotional and psychological support played a significant role in encouraging PEP adherence among HCWs in Uganda. The study by (Mill et al., 2019b)It also highlighted the importance of providing counselling and support services to address the emotional challenges associated with PEP adherence. Asmal (2021) also noted that counselling services improved adherence among doctors in South Africa. Access to mental health support post-exposure is crucial, as it addresses the emotional burden that might otherwise lead to non-adherence.

Streamlining the PEP process and providing regular follow-up support were also suggested as part of the mechanisms to improve adherence. These recommendations are consistent with the study by (Tsega et al., 2023), who found that process inefficiencies were a major barrier to PEP adherence and recommended improvement in this area. Agaba et al. (2023) also emphasised the need for regular follow-up support and noted that consistent monitoring and support were crucial for ensuring that HCWs complete the PEP regimen. Makhado et al. (2022) and Aychew and Reta (2019) also found that process inefficiencies hampered adherence, suggesting that simplifying PEP protocols and ensuring consistent follow-ups can significantly enhance adherence outcomes.

The use of reminders to enhance adherence was another suggestion from participants to improve adherence. This aligns with the findings of Anteneh et al.,(2019) and McCoy et al., (2015), who all reported that automated reminder systems, such as SMS alerts, were effective in improving adherence to PEP and other HIV-related treatments. This can be a practical and effective tool for PEP adherence at AIC Kijabe Hospital.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study's key findings, draws conclusions based on them, and provides actionable recommendations targeted at healthcare workers, organizations, policymakers, and future research to enhance PEP adherence.

5.2 Summary of the Findings

This study explored the perceived barriers to PEP adherence, the benefits of adherence, and the mechanisms to improve adherence among HCWs at AIC-Kijabe Hospital. The key findings are summarized as follows.

5.2.1 Perceived Barrier to PEP Adherence

Participants identified various barriers, including personal factors (e.g. forgetfulness, acceptance stigma), drug-related factors (e.g. side effects), organizational factors (process inefficiencies, accessibility issues), and interpersonal challenges (e.g. lack of social support, societal stigma).

5.2.2Perceived Benefits of PEP Adherence

The study highlighted significant benefits, such as reducing the risk of HIV transmission to oneself, spouse, and patients, promoting peace of mind, fostering a sense of responsibility towards health, and fulfilling ethical and professional obligations.

5.2.3 Mechanisms to Improve PEP Adherence

Suggested mechanisms included improving accessibility to PEP, enhancing staff sensitization and education, providing psychosocial support, streamlining the PEP process, offering regular follow-up support, and utilizing reminders

5.3 Conclusions

Based on the findings, the following conclusions are drawn: Barriers to PEP adherence remain a significant challenge among healthcare workers at AIC Kijabe Hospital, with stigma, side effects, and institutional inefficiencies being the most prominent.

PEP adherence is perceived to offer considerable benefits, particularly in reducing the risk of HIV transmission and promoting mental well-being and professional responsibility. Enhancing PEP adherence will require a multifaceted approach involving improvements in accessibility, education, psychosocial support, process efficiency, and regular follow-up.

5.4 Recommendations

5.4.1 Policy Recommendations

The recommendations are categorized into healthcare workers, organizations, and policy recommendations. Healthcare professionals should actively seek educational opportunities to better understand PEP, its importance, and strategies for overcoming barriers to adherence. They should also regularly participate in training and sensitization programs.

HCWs are encouraged to use digital tools such as mobile phone reminders or applications to ensure timely adherence to PEP regimens, particularly during busy work schedules. Seek support: HCWS should access psychosocial support services, including counselling and peer support groups, to manage the emotional and psychosocial challenges associated with PEP adherence.

Adopt a proactive approach: HCWs should take personal responsibility for their health by adhering to PEP protocol diligently and seeking guidance when faced with barriers such as side effects or logistical challenges.

Improves accessibility to PEP: AIC Kijabe Hospital should ensure that PEP medications are easily accessible at multiple points within the hospital 24/7, with a streamlined process for quick and efficient distribution.

Strengthen staff sensitization and training programs: The organization should regularly conduct education and sensitization programs to raise awareness about the importance of PEP adherence, address stigma, and provide clear guidelines on PEP protocol.

Enhance process efficiency: Process improvements are needed to streamline PEP follow-up, reduce bureaucratic delays, and ensure clear communication about PEP procedures.

Implement follow-up system: Establish a robust follow-up system to monitor PEP adherence, including regular check-ins, reminders for follow-up appointments, and personalized support to address any challenges HCWs may face.

5.4.2 Recommendations for Further Research

Continue to develop and enforce clear PEP guidelines: Policymakers should continue to develop, disseminate, and enforce clear guidelines on PEP use, ensuring that HCWs adhere to standardized protocols to support consistent and effective PEP delivery.

Address stigma in healthcare settings: Policies should be implemented to reduce the stigma associated with PEP use, including campaigns to educate HCWs and the broader community about the importance of PEP and to normalize its use following occupational exposure.

Incorporate PEP adherence into occupational health policies: PEP adherence should be explicitly addressed in occupational health policies, with provisions for regular training, access to PEP, and psychosocial support for HCWs.

Mandate reporting and monitoring: They should continue with mandatory reporting and monitoring systems like the KENYA-EMR to track PEP adherence rate and identity barriers within the healthcare setting, allowing for timely intervention and policy adjustments.

REFERENCES

Abrahams, N., Jewkes, R., Lombard, C., Mathews, S., Campbell, J., & Meel, B. (2010). Impact of telephonic psycho-social support on adherence to post-exposure prophylaxis (PEP) after rape. *AIDS Care*, *22*(10), 1173–1181. https://doi.org/ 10.1080 /09540121003692185

Addo, M. K., Aboagye, R. G., & Tarkang, E. E. (2022). Factors influencing adherence to antiretroviral therapy among HIV/AIDS patients in the Ga West Municipality, Ghana. *IJID Regions*, *3*, 218–225. https://doi.org/10.1016/j.ijregi.2022.04.009

Adebimpe, W. O. (2018). Knowledge and practice of health care workers towards post exposure prophylaxis in the era of low and stable HIV prevalence in Southwestern Nigeria. *Bulletin of Faculty of Pharmacy, Cairo University*, *56*(1), 104–108. https://doi.org/10.1016/j.bfopcu.2018.03.003

Agaba, P., Agaba, E., Akanbi, M., Daniyam, C., Ocheke, A., & Okeke, E. (2023). Awareness and knowledge of human immunodeficiency virus post exposure prophylaxis among Nigerian Family Physicians. *Nigerian Medical Journal*, *53*(3), 155. https://doi.org/10.4103/0300-1652.104386

Ajibola, S., Akinbami, A., Elikwu, C., Odesanya, M., & Uche, E. (2014). Knowledge, attitude and practices of HIV post exposure prophylaxis amongst health workers in Lagos University Teaching Hospital. *Pan African Medical Journal*, *19*. https://doi.org/10.11604/pamj.2014.19.172.4718

Alhumaid, S., Al Mutair, A., Al Alawi, Z., Alsuliman, M., Ahmed, G. Y., Rabaan, A. A., Al-Tawfiq, J. A., & Al-Omari, A. (2021). Knowledge of infection prevention and control among healthcare workers and factors influencing compliance: A systematic review. *Antimicrobial Resistance & Infection Control*, *10*(1), 86. https://doi.org/10.1186/s13756-021-00957-0

Allan-Blitz, L.-T., & Mayer, K. H. (2024). Missed Opportunities: A Narrative Review on Why Non-occupational Post-exposure Prophylaxis for HIV Is Underutilized. *Open Forum Infectious Diseases*, *11*(8), ofae332. https://doi.org/ 10.1093/ofid /ofae332

Anteneh, B., Belachew, S. A., Endeshaw, A., Wubneh, Z. B., & Sarkar, B. R. (2019a). Knowledge, attitude and practices of medical and health science students on the antiretroviral based HIV post-exposure prophylaxis in an Ethiopian hospital: An institutional based cross-sectional study. *BMC Health Services Research*, *19*(1), 713. https://doi.org/10.1186/s12913-019-4611-2

Anteneh, B., Belachew, S. A., Endeshaw, A., Wubneh, Z. B., & Sarkar, B. R. (2019b). Knowledge, attitude and practices of medical and health science students on the antiretroviral based HIV post-exposure prophylaxis in an Ethiopian hospital: An institutional based cross-sectional study. *BMC Health Services Research*, *19*(1), 713. https://doi.org/10.1186/s12913-019-4611-2

Anteneh, B., Belachew, S. A., Endeshaw, A., Wubneh, Z. B., & Sarkar, B. R. (2019c). Knowledge, attitude and practices of medical and health science students on the antiretroviral based HIV post-exposure prophylaxis in an Ethiopian hospital: An institutional based cross-sectional study. *BMC Health Services Research*, *19*(1), Article 1. https://doi.org/10.1186/s12913-019-4611-2

Appiagyei, H., Nakua, E. K., Donkor, P., & Mock, C. (2021). Occupational injuries among health care workers at a public hospital in Ghana. *Pan African Medical Journal*, *39*. https://doi.org/10.11604/pamj.2021.39.103.23542

Awad, A., Alhadab, A., & Albassam, A. (2020). Medication-Related Burden and Medication Adherence Among Geriatric Patients in Kuwait: A Cross-Sectional Study. *Frontiers in Pharmacology*, *11*, 1296. https://doi.org/ 10.3389/fpha r.2020.01296

Aychew Legesse, T., & Abate Reta, M. (2019). Adherence to Antiretroviral Therapy and Associated Factors among People Living with HIV/AIDS in Hara Town and Its Surroundings, North-Eastern Ethiopia: A Cross-Sectional Study. *Ethiopian Journal of Health Sciences*, *29*(3). https://doi.org/10.4314/ejhs.v29i3.2

Ayesigye Abigeal, Ampumuza Dalton, & Natwijuka Andrew. (2023). *Knowledge and Attitude of Post-Exposure Prophylaxis for HIV among Medical Students Practicing at Mbarara Regional Referral Hospital*. https://doi.org/ 10.13140/R G.2.2.30834.89281

Benn, P., Sultan, B., & Waters, L. (2014). Current perspectives in HIV post-exposure prophylaxis. *HIV/AIDS - Research and Palliative Care*, 147. https://doi.org/ 10.214 7/ HIV.S46585

Berhan, Z., Malede, A., Gizeyatu, A., Sisay, T., Lingerew, M., Kloos, H., Dagne, M., Gebrehiwot, M., Ketema, G., Bogale, K., Eneyew, B., Hassen, S., Natnael, T., Yenuss, M., Berhanu, L., Abebe, M., Berihun, G., Wagaye, B., Faris, K., … Adane, M. (2021). Prevalence and associated factors of needle stick and sharps injuries among healthcare workers in northwestern Ethiopia. *PLOS ONE*, *16*(9), Article 9. https://doi.org/10.1371/journal.pone.0252039

Bezemer, D., Van Sighem, A., Lukashov, V. V., Van Der Hoek, L., Back, N., Schuurman, R., Boucher, C. A., Claas, E. C., Boerlijst, M. C., Coutinho, R. A., & De Wolf, F. (2010). Transmission networks of HIV-1 among men having sex with men in the Netherlands. *AIDS*, *24*(2), 271–282. https://doi.org/ 10.1097/ QAD.0b013e328333ddee

Bukenya, D., Mayanja, B. N., Nakamanya, S., Muhumuza, R., & Seeley, J. (2019). What causes non-adherence among some individuals on long-term antiretroviral therapy? Experiences of individuals with poor viral suppression in Uganda. *AIDS Research and Therapy*, *16*(1), 2. https://doi.org/10.1186/s12981-018-0214-y

Cardo, D. M., & Bell, D. M. (1997). BLOODBORNE PATHOGEN TRANSMISSION IN HEALTH CARE WORKERS. *Infectious Disease Clinics of North America*, *11*(2), 331–346. https://doi.org/10.1016/S0891-5520(05)70359-7

Cardo, D. M., Culver, D. H., Ciesielski, C. A., Srivastava, P. U., Marcus, R., Abiteboul, D., Heptonstall, J., Ippolito, G., Lot, F., McKibben, P. S., & Bell, D. M. (1997a). A Case–Control Study of HIV Seroconversion in Health Care Workers after Percutaneous Exposure. *New England Journal of Medicine*, *337*(21), 1485–1490. https://doi.org/10.1056/NEJM199711203372101

Cardo, D. M., Culver, D. H., Ciesielski, C. A., Srivastava, P. U., Marcus, R., Abiteboul, D., Heptonstall, J., Ippolito, G., Lot, F., McKibben, P. S., & Bell, D. M. (1997b). A Case–Control Study of HIV Seroconversion in Health Care Workers after Percutaneous Exposure. *New England Journal of Medicine*, *337*(21), 1485–1490. https://doi.org/10.1056/NEJM199711203372101

Chalya, P. L., Seni, J., Mushi, M. F., Mirambo, M. M., Jaka, H., Mabula, J. B., Kapesa, A., Ngallaba, S. E., Massinde, A. N., & Kalluvya, S. E. (2015). Needle-stick injuries and splash exposures among health-care workers at a tertiary care hospital in north-western Tanzania. *Tanzania Journal of Health Research*, *17*(2).

Chimoyi, L., Chikovore, J., Musenge, E., Mabuto, T., Chetty-Makkan, C. M., Munyai, R., Nchachi, T., Charalambous, S., & Setswe, G. (2022a). Understanding factors influencing utilization of HIV prevention and treatment services among patients and providers in a heterogeneous setting: A qualitative study from South Africa. *PLOS Global Public Health*, *2*(2), e0000132. https://doi.org/10.137 1/journal. pgph.0000132

Chimoyi, L., Chikovore, J., Musenge, E., Mabuto, T., Chetty-Makkan, Candice. M., Munyai, R., Nchachi, T., Charalambous, S., & Setswe, G. (2022b). Understanding factors influencing utilization of HIV prevention and treatment services among patients and providers in a heterogeneous setting: A qualitative study from South Africa. *PLOS Global Public Health*, *2*(2), e0000132. https://doi.org/10.1371/journal.pgph.0000132

Chunqing Lin, Li Li, Zunyou Wu, Sheng Wu, & Manhong Jia. (2008). Occupational Exposure to HIV Among Health Care Providers: A Qualitative Study in Yunnan, China. *Journal of the International Association of Physicians in AIDS Care*, *7*(1), 35–41. https://doi.org/10.1177/1545109707302089

Cresswell, F., Asanati, K., Bhagani, S., Boffito, M., Delpech, V., Ellis, J., Fox, J., Furness, L., Kingston, M., Mansouri, M., Samarawickrama, A., Smithson, K., Sparrowhawk, A., Rafferty, P., Roper, T., Waters, L., Rodger, A., & Gupta, N. (2022). UK guideline for the use of HIV post- exposure prophylaxis 2021. *HIV Medicine*, *23*(5), 494–545. https://doi.org/10.1111/hiv.13208

Esum, M. E., Nwana, Y. N., Ngwayu, C. N., Lum, L. N., & Akoachere, A. J.-F. (2022). Prevalence of Occupational Exposure to HIV and Factors Associated with Compliance with Post-Exposure Prophylaxis Among Health Workers of the Biyem-Assi, Buea, and Limbe Health Districts of Cameroon Maternal and Child Health and AIDS. *International Journal of Maternal and Child Health and AIDS (IJMA)*, *11*(1). https://doi.org/10.21106/ijma.557

Fernandez-Lazaro, C. I., García-González, J. M., Adams, D. P., Fernandez-Lazaro, D., Mielgo-Ayuso, J., Caballero-Garcia, A., Moreno Racionero, F., Córdova, A., & Miron-Canelo, J. A. (2019). Adherence to treatment and related factors among patients with chronic conditions in primary care: A cross-sectional study. *BMC Family Practice*, *20*(1), 132. https://doi.org/10.1186/s12875-019-1019-3

Fetene, G. T., & Mesfin, R. (Eds.). (2013). *Antiretroviral Treatment in Sub-Saharan Africa. Challenges and Prospects*. OSSREA.

Ford, N., Irvine, C., Shubber, Z., Baggaley, R., Beanland, R., Vitoria, M., Doherty, M., Mills, E. J., & Calmy, A. (2014). Adherence to HIV postexposure prophylaxis: A systematic review and meta-analysis. *AIDS*, *28*(18), 2721–2727. https://doi.org/10.1097/QAD.0000000000000505

Gebreslase, T. (2014). HIV Post-Exposure Prophylaxis Use and Associated Factors among Health Professionals of Governmental Health Institutions in Mekelle Town, Tigray Ethiopia, Cross-Sectional Study. *Journal of AIDS & Clinical Research*, *05*(06). https://doi.org/10.4172/2155-6113.1000313

Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLOS ONE*, *15*(5), e0232076. https://doi.org/10.1371/journal.pone.0232076

Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication*, *30*(6), 566–576. https://doi.org/10.1080/10410236.2013.873363

Kegler, M. C., Raskind, I. G., Comeau, D. L., Griffith, D. M., Cooper, H. L. F., & Shelton, R. C. (2019). Study Design and Use of Inquiry Frameworks in Qualitative Research Published in *Health Education & Behavior*. *Health Education & Behavior*, *46*(1), 24–31. https://doi.org/10.1177/1090198118795018 *Kenya-ARV -Guidelines*. (2022, January 9). https://nphl.go.ke/wp-content/uploa ds/202 2/11/Kenya-ARV-Guidelines-2022-2.pdf

Kimaro, L., Adinan, J., Damian, D. J., & Njau, B. (2018a). Prevalence of occupational injuries and knowledge of availability and utilization of post exposure prophylaxis among health care workers in Singida District Council, Singida Region, Tanzania. *PLOS ONE*, *13*(10), e0201695. https://doi.org/ 10.1371/jo urnal.pone.0201695

Kimaro, L., Adinan, J., Damian, D. J., & Njau, B. (2018b). Prevalence of occupational injuries and knowledge of availability and utilization of post exposure prophylaxis among health care workers in Singida District Council, Singida Region, Tanzania. *PLoS ONE*, *13*(10), e0201695. https://doi.org/ 10.1371/jo urnal.pone.0201695

Kumar, P., Purohit, H., Nihalani, U., Shah, A., Shevkani, M., & Kavina, B. (2011). An overview of post exposure prophylaxis for HIV in health care personals: Gujarat scenario. *Indian Journal of Sexually Transmitted Diseases and AIDS*, *32*(1), 9. https://doi.org/10.4103/0253-7184.81247

Kuwawenaruwa, A., Wyss, K., Wiedenmayer, K., Metta, E., & Tediosi, F. (2020). The effects of medicines availability and stock-outs on household's utilization of healthcare services in Dodoma region, Tanzania. *Health Policy and Planning*, *35*(3), 323–333. https://doi.org/10.1093/heapol/czz173

Liu, S., Yuan, D., Zhou, Y., Fu, G., & Wang, B. (2023). Adherence, adverse drug reactions, and discontinuation associated with adverse drug reactions of HIV post-exposure prophylaxis: A meta-analysis based on cohort studies. *Annals of Medicine*, *55*(2), 2288309. https://doi.org/10.1080/07853890.2023.2288309

Lopes, B. L. W., Eron, J. J., Mugavero, M. J., Miller, W. C., & Napravnik, S. (2017). HIV Care Initiation Delay Among Rural Residents in the Southeastern United States, 1996 to 2012. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *76*(2), 171–176. https://doi.org/10.1097/QAI.0000000000001483

Luo, Q., Luo, Y., Li, T., & Cui, T. (2022). An integrated online-to-offline model for HIV post-exposure prophylaxis (O2O-PEP) scale-up among men who have sex with men (MSM): Protocol for developing a pilot randomized controlled trial. *Frontiers in Public Health*, *10*, 1026137. https://doi.org/ 10.3389/fp ubh.2022. 1026137

Makhado, L., Musekwa, O. P., Makhado, T. G., & Otsheleng, R. (2022a). Healthcare practitioners and students' PEP knowledge, attitude and adherence in Southern Africa. *Health SA Gesondheid*, *27*. https://doi.org/10.4102/hsag.v27i0.2036

Makhado, L., Musekwa, O. P., Makhado, T. G., & Otsheleng, R. (2022b). Healthcare practitioners and students' PEP knowledge, attitude and adherence in Southern Africa. *Health SA Gesondheid*, *27*. https://doi.org/10.4102/hsag.v27i0.2036

Manyele, S., Ngonyani, H., & Eliakimu, E. (2008). The status of occupational safety among health service providers in hospitals in Tanzania. *Tanzania Journal of Health Research*, *10*(3), 159–165. https://doi.org/10.4314/thrb.v10i3.14356

Manyele, S. V., Ngonyani, H. a. M., & Eliakimu, E. (2008). The status of occupational safety among health service providers in hospitals in Tanzania. *Tanzania Journal of Health Research*, *10*(3), 159–165. https://doi.org/10.4314/thrb.v10i3.14356

McCoy, K., Higgins, M., Zuñiga, J. A., & Holstad, M. M. (2015). Age, Stigma, Adherence and Clinical Indicators in HIV-Infected Women. *HIV/AIDS Research and Treatment: Open Journal*, *2015*(SE3), S1–S8. https://doi.org/1 0.17140/HARTOJ-SE-3-101

Mengistu, D. A., Tolera, S. T., & Demmu, Y. M. (2021). Worldwide Prevalence of Occupational Exposure to Needle Stick Injury among Healthcare Workers: A Systematic Review and Meta-Analysis. *Canadian Journal of Infectious Diseases and Medical Microbiology*, *2021*, 1–10. https://doi.org/10.1155/2021/9019534

Mill, J., Nderitu, E., & Richter, S. (2019a). Post-exposure prophylaxis among Ugandan nurses: "Accidents do happen." *International Journal of Africa Nursing Sciences*, *1*, 11–17. https://doi.org/10.1016/j.ijans.2014.05.003

Mill, J., Nderitu, E., & Richter, S. (2019b). Post-exposure prophylaxis among Ugandan nurses: "Accidents do happen." *International Journal of Africa Nursing Sciences*, *1*, 11–17. https://doi.org/10.1016/j.ijans.2014.05.003

Ministry of Health. (2020). *Kenya National HIV Survey*. https://www.h ealth.go.ke/kenyas-nationa l-hiv-survey-shows-progress-towards-control-of-the-epidemic-nairobi-20th-february-2020/

Mohanty, A., Kabi, A., & Mohanty, A. (2019). Health problems in healthcare workers: A review. *Journal of Family Medicine and Primary Care*, *8*(8), 2568. https://doi.org/10.4103/jfmpc.jfmpc_431_19

Mponela, M. J., Oleribe, O. O., Abade, A., & Kwesigabo, G. (2015). Post exposure prophylaxis following occupational exposure to HIV: A survey of health care workers in Mbeya, Tanzania, 2009-2010. *Pan African Medical Journal*, *21*. https://doi.org/10.11604/pamj.2015.21.32.4996

Mugo, N. R., Ngure, K., Kiragu, M., Irungu, E., & Kilonzo, N. (2016). The preexposure prophylaxis revolution; from clinical trials to programmatic implementation: *Current Opinion in HIV and AIDS*, *11*(1), 80–86. https://doi.org/ 10.1097/COH.0000000000000224

Mushambi, F., Timire, C., Harries, A. D., Tweya, H., Goverwa-Sibanda, T. P., Mungofa, S., & Apollo, T. (2021). High post-exposure prophylaxis uptake but low completion rates and HIV testing follow-up in health workers, Harare, Zimbabwe. *The Journal of Infection in Developing Countries*, *15*(04), 559–565. https://doi.org/10.3855/jidc.12214

Muzoora, D. M., Atwine, D., Nyanzi, D. J., & Yadesa, T. M. (2022a). *HIV post-exposure prophylaxis: In-take, completion rates and reasons for non-completion among health care workers at a regional referral hospital* [Preprint]. In Review. https://doi.org/10.21203/rs.3.rs-1404297/v1

Muzoora, D. M., Atwine, D., Nyanzi, D. J., & Yadesa, T. M. (2022b). *HIV post-exposure prophylaxis: In-take, completion rates and reasons for non-completion among health care workers at a regional referral hospital* [Preprint]. In Review. https://doi.org/10.21203/rs.3.rs-1404297/v1

Mwangi, J., Miruka, F., Mugambi, M., Fidhow, A., Chepkwony, B., Kitheka, F., Ngugi, E., Aoko, A., Ngugi, C., & Waruru, A. (2022). Characteristics of users of HIV self-testing in Kenya, outcomes, and factors associated with use: Results from a population-based HIV impact assessment, 2018. *BMC Public Health, 22*(1), 643. https://doi.org/10.1186/s12889-022-12928-0

Ngwa, C. H., Ngoh, E. A., & Cumber, S. N. (2018). Assessment of the knowledge, attitude and practice of health care workers in Fako Division on post exposure prophylaxis to blood borne viruses: A hospital based cross-sectional study. *Pan African Medical Journal, 31*. https://doi.org/10.11604/pamj.2018.31.108.15658

Nie, J., Sun, F., He, X., Liu, J., Wang, M., Li, C., Gu, S., Chen, Z., Li, Y., & Chen, Y. (2021). Tolerability and Adherence of Antiretroviral Regimens Containing Long-Acting Fusion Inhibitor Albuvirtide for HIV Post-Exposure Prophylaxis: A Cohort Study in China. *Infectious Diseases and Therapy, 10*(4), 2611–2623. https://doi.org/10.1007/s40121-021-00540-5

Nisida, I. V. V., Boulos, M.-I. C., Da Silva, L. M. B., Mayaud, P., Avelino-Silva, V. I., & Segurado, A. C. (2019). Predictors of Adherence to HIV Post-Exposure Prophylaxis and Retention in Care After an Episode of Sexual Violence in Brazil. *AIDS Patient Care and STDs, 33*(9), 399–405. https://doi.org/1 0.1089/ap c.2019.0080

Occupational Exposure to Blood and Body Fluids and HIV Post-exposure Prophylaxis in Health Care Facilities in Kenya. (2016). https://stacks.cdc.go v/view/cdc/44 641/cdc_4 4641_DS1.

Okeigbemen, S. A., & Umweni, A. A. (2010). Awareness and attitude of Nigerian dentists to occupational HIV post-exposure prophylaxis. *Sahel Medical Journal, 13*(1), Article 1. https://doi.org/10.4314/smj2.v13i1.67501

Oldenburg, C. E., Bärnighausen, T., Harling, G., Mimiaga, M. J., & Mayer, K. H. (2014). Adherence to Post-Exposure Prophylaxis for Non-forcible Sexual Exposure to HIV: A Systematic Review and Meta-Analysis. *AIDS and Behavior, 18*(2), 217–225. https://doi.org/10.1007/s10461-013-0567-0

Onwuegbuzie, A. J., Collins, K. M. T., Leech, N. L., & Jiao, Q. G. (2010). Mixed data collection and analysis for conducting research on giftedness and beyond. In B. Thompson & R. F. Subotnik (Eds.), *Methodologies for conducting research on giftedness.* (pp. 113–143). American Psychological Association. https://doi.org/ 10.1037 /12079-006

Onwuegbuzie, A. J., & Combs, J. P. (2011). Data Analysis in Mixed Research: A Primer. *International Journal of Education, 3*(1), 13. https://doi.org/10.5296/ije.v3i1.618

Orser, L., O'Byrne, P., & Holmes, D. (2022). Perceptions, motivations, and beliefs about HIV risk and pre-exposure prophylaxis (PrEP) among participants in a nurse-led PrEP service (PrEP-RN). *BMC Infectious Diseases*, *22*(1), 196. https://doi.org/10.1186/s12879-022-07146-3

Osoo, M. O., Otieno, G. O., & Halestrap, P. (2023). *HIV post-exposure prophylaxis adherence following occupational exposure due to needle sticks and sharp injuries among healthcare workers in a tertiary, peri-urban hospital in Kenya* [Preprint]. HIV/AIDS. https://doi.org/10.1101/2023.04.25.23289085

Owolabi, R. S., Alabi, P., Ajayi, S., Daniel, O., Ogundiran, A., Akande, T. M., & Onafowokan, A. T. (2012). Knowledge and Practice of Post-Exposure Prophylaxis (PEP) against HIV Infection among Health Care Providers in a Tertiary Hospital in Nigeria. *Journal of the International Association of Physicians in AIDS Care, 11*(3), 179–183. https://doi.org/10. 1177/154510 9711401409

Ozbay, F., Johnson, D. C., Dimoulas, E., Morgan, C. A., Charney, D., & Southwick, S. (2017). Social support and resilience to stress: From neurobiology to clinical practice. *Psychiatry (Edgmont (Pa.: Township)), 4*(5), 35–40.

PAHO/WHO. (2018). https://www3. paho.org/hq/ index.php?o ptioncom _content& viewa rticle&id14821:post-exposure-prophylaxis-pep&It emid0&lan gen#g sc.t ab0

Palinkas, L. A., Mendon, S. J., & Hamilton, A. B. (2019). Innovations in Mixed Methods Evaluations. *Annual Review of Public Health, 40*(1), 423–442. https://doi.org/ 10.1 146 /annurev-publhealth-040218-044215

Prüss-Üstün, A., Rapiti, E., & Hutin, Y. (2005). Estimation of the global burden of disease attributable to contaminated sharps injuries among health-care workers. *American Journal of Industrial Medicine*, *48*(6), 482–490. https://doi.o rg/10.1002 /ajim.20230

Przybyla, S., Fillo, J., Kamper-DeMarco, K., Bleasdale, J., Parks, K., Klasko-Foster, L., & Morse, D. (2021). HIV pre-exposure prophylaxis (PrEP) knowledge, familiarity, and attitudes among United States healthcare professional students: A cross-sectional study. *Preventive Medicine Reports, 22*, 101334. https://doi.org/ 10.1016 /j.pmedr.2021.101334

Rasweswe, M. M., & Peu, D. M. (2020). Occupational exposure to blood and body fluids and use of human immunodeficiency virus post-exposure prophylaxis amongst nurses in a Gauteng Province hospital. *Health SA Gesondheid, 25*. https://doi.org/10.4102/hsag.v25i0.1252

Restar, A. J., Tocco, J. U., Mantell, J. E., Lafort, Y., Gichangi, P., Masvawure, T. B., Chabeda, S. V., & Sandfort, T. G. M. (2017). Perspectives on HIV Pre- and Post-Exposure Prophylaxes (PrEP and PEP) Among Female and Male Sex Workers in Mombasa, Kenya: Implications for Integrating Biomedical Prevention into Sexual Health Services. *AIDS Education and Prevention*, *29*(2), 141–153. https://doi.org/10.1521/aeap.2017.29.2.141

Rosiek, A., Wyzgowski, P., Grzela, T., & Leksowski, K. (2016). Occupational HIV risk for health care workers: Risk factor and the risk of infection in the course of professional activities. *Therapeutics and Clinical Risk Management*, 989. https://doi.org/10.2147/TCRM.S104942

Schoonenboom, J., & Johnson, R. B. (2017). How to Construct a Mixed Methods Research Design. *KZfSS Kölner Zeitschrift Für Soziologie Und Sozialpsychologie*, *69*(S2), 107–131. https://doi.org/10.1007/s11577-017-0454-1

Sematlane, N. P., Knight, L., Masquillier, C., & Wouters, E. (2021). Adapting to, integrating and self-managing HIV as a chronic illness: A scoping review protocol. *BMJ Open*, *11*(6), e047870. https://doi.org/10.1136/bmjopen-2020-047870

Shi, Y., Xue, H., Ma, Y., Wang, L., Gao, T., Shi, L., Wang, Y., Cui, M., Wang, C., Yang, X., Liu, M., Fan, L., & Yan, G. (2020). Prevalence of occupational exposure and its influence on job satisfaction among Chinese healthcare workers: A large-sample, cross-sectional study. *BMJ Open*, *10*(4), e031953. https://doi.org/10.1136/bmjopen-2019-031953

Soares, F., Magno, L., Da Silva, L. A. V., Guimarães, M. D. C., Leal, A. F., Knauth, D., Veras, M. A., De Brito, A. M., Kendall, C., Kerr, L. R. F. S., & Dourado, I. (2023). Perceived Risk of HIV Infection and Acceptability of PrEP among Men Who Have Sex with Men in Brazil. *Archives of Sexual Behavior*, *52*(2), 773–782. https://doi.org/10.1007/s10508-022-02342-3

Sousa, L. R. M., Elias, H. C., Fernandes, N. M., Gir, E., & Reis, R. K. (2021). Knowledge of PEP and PrEP among people living with HIV/aids in Brazil. *BMC Public Health*, *21*(1), 64. https://doi.org/10.1186/s12889-020-10135-3

Suglo, R. E., Aku, F. Y., Anaman-Torgbor, J. A., & Tarkang, E. E. (2021a). Predictors of adherence to HIV Post-Exposure Prophylaxis protocol among frontline healthcare workers at the Ho Teaching Hospital, Ghana. *International Journal of Infectious Diseases*, *106*, 208–212. https://doi.org/10.1016/j.ijid.2021.03.079

Suglo, R. E., Aku, F. Y., Anaman-Torgbor, J. A., & Tarkang, E. E. (2021b). Predictors of adherence to HIV Post-Exposure Prophylaxis protocol among frontline healthcare workers at the Ho Teaching Hospital, Ghana. *International Journal of Infectious Diseases*, *106*, 208–212. https://doi.org/10.1016/j.ijid.2021.03.079

Tarimo, E. A., & Mashoto, K. O. (2019a). A Qualitative Study of Perceived Risk of Occupational Exposure to HIV and Use of Post Exposure Prophylaxis Services Among Health-Care Workers in Tanzania. *The East African Health Research Journal*, *3*(2), 96–104. https://doi.org/10.24248/EAHRJ-D-19-00018

Tarimo, E. A., & Mashoto, K. O. (2019b). A Qualitative Study of Perceived Risk of Occupational Exposure to HIV and Use of Post Exposure Prophylaxis Services Among Health-Care Workers in Tanzania. *The East African Health Research Journal*, *3*(2), 96–104. https://doi.org/10.24248/EAHRJ-D-19-00018

Tebeje, B., & Hailu, C. (2010). Assessment of HIV Post-Exposure Prophylaxis Use Among Health Workers of Governmental Health Institutions in Jimma Zone, Oromiya Region, Southwest Ethiopia. *Ethiopian Journal of Health Sciences*, *20*(1), 55–64. https://doi.org/10.4314/ejhs.v20i1.69429

Tekalign, T., Awoke, N., Eshetu, K., Gelaw Walle, B., & Teshome Guta, M. (2022). HIV/AIDS post- exposure prophylaxis knowledge and uptake among health professionals in Africa: Systematic review and meta- analysis. *HIV Medicine*, *23*(8), 811–824. https://doi.org/10.1111/hiv.13271

Tetteh, R. A., Nartey, E. T., Lartey, M., Mantel-Teeuwisse, A. K., Leufkens, H. G. M., Nortey, P. A., & Dodoo, A. N. O. (2015). Adverse events and adherence to HIV post-exposure prophylaxis: A cohort study at the Korle-Bu Teaching Hospital in Accra, Ghana. *BMC Public Health*, *15*, 573. https://doi.org/10.1186/s12889-015-1928-6

Thomas, R., Galanakis, C., Vézina, S., Longpré, D., Boissonnault, M., Huchet, E., Charest, L., Murphy, D., Trottier, B., & Machouf, N. (2015). Adherence to Post-Exposure Prophylaxis (PEP) and Incidence of HIV Seroconversion in a Major North American Cohort. *PLOS ONE*, *10*(11), e0142534. https://doi.org/ 10.1371/ journal.pone.0142534

Tsega, D., Gintamo, B., Mekuria, Z. N., Demissie, N. G., & Gizaw, Z. (2023). Occupational exposure to HIV and utilization of post-exposure prophylaxis among healthcare workers at St. Peter's specialized hospital in Addis Ababa, Ethiopia. *Scientific Reports*, *13*(1), 7021. https://doi.org/10.1038/s41598-023-34250-4

UNAID. (2022). *Global HIV & AIDS statistics*. https://www.unaids.or g/en/resources/ fact-sheet

UNAIDS Global AIDS Update 2022. (n.d.).

Vaismoradi, M., Tella, S., A. Logan, P., Khakurel, J., & Vizcaya-Moreno, F. (2020). Nurses' Adherence to Patient Safety Principles: A Systematic Review. *International Journal of Environmental Research and Public Health*, *17*(6), 2028. https://doi.org/10.3390/ijerph17062028

Van Der Maaten, G. C., Davies, J., Nyirenda, M., Chitani, A., Allain, T. J., Beeching, N. J., Beadsworth, M. B. J., & Van Oosterhout, J. J. (2011). HIV post-exposure prophylaxis programmes in the developed and developing world: Can we learn from each other? *International Journal of STD & AIDS*, *22*(12), 751–752. https://doi.org/10.1258/ijsa.2011.010423

van der Maaten, G. C., Nyirenda, M., Beadsworth, M. J., Chitani, A., Allain, T., & van Oosterhout, J. J. (2010). Post exposure prophylaxis of HIV transmission after occupational injuries in Queen Elizabeth Central Hospital, Blantyre, Malawi, 2003—2008. *Malawi Medical Journal: The Journal of Medical Association of Malawi*, *22*(1), 15–19. https://doi.org/10.4314/mmj.v22i1.55903

Vardhini, H., Selvaraj, N., & Meenakshi, R. (2020). Assessment on knowledge and practice of postexposure prophylaxis of human immuno-deficiency virus among staff nurses and paramedical workers at a tertiary care hospital in South India. *Journal of Education and Health Promotion*, *9*(1), 279. https://doi.org/ 10.4103 /jehp.jehp_234_20

Villiera, J. B., Katsabola, H., Bvumbwe, M., Mhango, J., Khosa, J., Silverstein, A., & Nyondo-Mipando, A. L. (2022). Factors associated with antiretroviral therapy adherence among adolescents living with HIV in the era of isoniazid preventive therapy as part of HIV care. *PLOS Global Public Health*, *2*(6), e0000418. https://doi.org/10.1371/journal.pgph.0000418

Wilburn, S. Q., & Eijkemans, G. (2004). Preventing Needlestick Injuries among Healthcare Workers: A WHO-ICN Collaboration. *International Journal of Occupational and Environmental Health*, *10*(4), 451–456. https://doi.org/10. 1179/oeh.2 004.10.4.451

APPENDICES

Appendix1: Semi-Structure Interview Guide

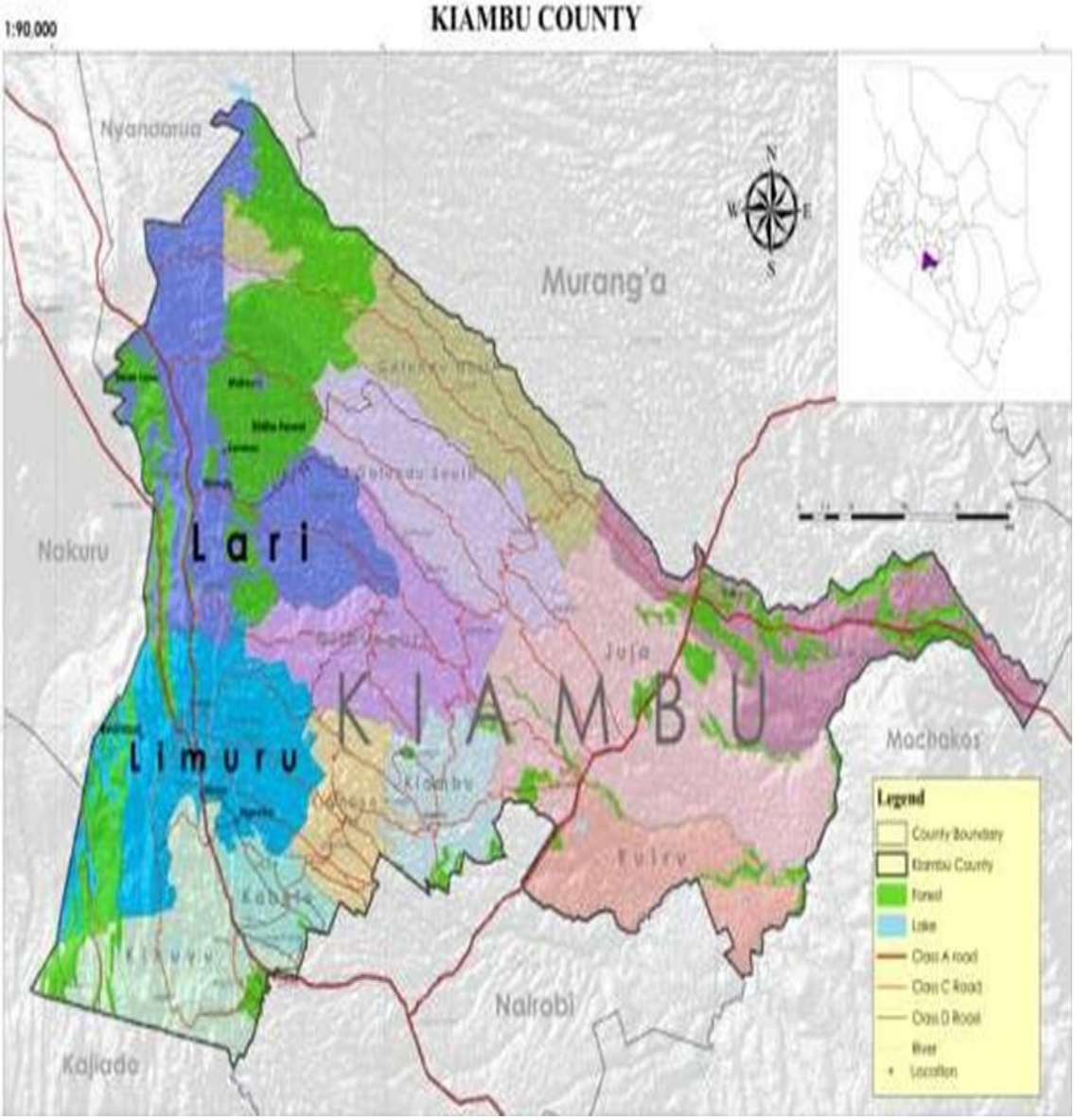
This semi-structured interview guide on factors influencing Post-Exposure Prophylaxis (PEP) adherence among healthcare workers. The guide includes a mix of open-ended questions and probing follow-up questions to allow for a more in-depth exploration of the participants' perspectives and experiences.

1. Demographic
    - Gender
    - What is your age?
    - What is your marital status?
    - What cadre are you?
    - What is your level of education?
2. Background and experiences
    - Can you describe your experience with PEP?
    - What are your general thoughts or feelings about PEP adherence among healthcare workers?
    - When you took PEP, did you finish the entire regimen, yes or no? What were the reasons that made you not finish the regimen?
3. Perceived importance and benefits of PEP
    - From your perspective, what are the key reasons why PEP adherence was crucial for you?
    - In your opinion, what benefits does PEP offer to healthcare workers (HCWs) who adhere to the prescribed regimen?
4. Barriers and challenges to PEP adherence
    - In your experience, what are the factors that made it /could have made it difficult for you to adhere to the prescribed PEP regimen?
    - Are there any specific challenges that you faced or experienced regarding PEP adherence?
    - Did you observe any organizational or departmental barriers that can hinder PEP adherence?

5. Mechanisms or suggestions to improve PEP adherence
    - Based on your experience, what strategies or interventions could be implemented to improve PEP adherence among HCWs?
    - Are there any best practices from other settings or institutions that you think could be beneficial?
6. Closing
    - Is there anything else you would like to share about PEP adherence?

Thank you so much for your valuable insight. God bless you.

Appendix II: Map of Kiambu County where AIC-Kijabe Hospital is found



Appendix III: Informed Consent Form

KABARAK UNIVERSITY RESEARCH ETHICS COMMITTEE

ADULT INFORMED CONSENT FORM FOR PARTICIPATION IN RESEARCH STUDY

(The form is written in English language but can be translated to Kiswahili or any other appropriate language)

STUDY TITLE: PERCEIVED FACTORS INFLUENCING ADHERENCE TO HIV POST-EXPOSURE PROPHYLAXIS AMONG HEALTHCARE WORKERS AT AIC KIJABE HOSPITAL.

Principal Investigator: Boaz Odhiambo Omenda

Affiliated Institution: Kabarak University and AIC-Kijabe Hospital

INTRODUCTION

You are invited to participate in this research study being undertaken by the above-listed investigator. This form will help you gather information about the study so that you can voluntarily decide whether you want to participate or not. You are encouraged to ask any question regarding the research process as well as any benefit or risk that you may accrue by participating. After you have adequately been informed about the study, you will be requested to either agree or decline to participate. Upon agreeing to participate in the study, you will be further requested to affirm that by appending your signature/thumbprint on this form. Accepting or declining to participate in this study does not in any way waive the following rights which you're entitled to:

a) Voluntary participation in the study

b) Withdrawing from the study at any time without the obligation of having to explain and;

c) Access to services to which you're entitled to

Should I continue YES/NO? _____

This study has been reviewed and approved by the Kabarak University Research Ethics Committee (KUREC) and the Kijabe Institute Review Board, Kabarak University Research Ethics Committee (KUREC) and permission has also been sought from NACOSTI

What is the Purpose of the Study?

The purpose of this study is to explore the factors that influence healthcare workers' adherence to HIV Post-Exposure Prophylaxis (PEP) at AIC Kijabe Hospital.

(To answer these research questions, you are requested to voluntarily answer the questions). We will ask you questions in a private place where you will feel comfortable. In case there is any question you feel uncomfortable responding to, you will not be coerced to respond.

Risk and Benefits: Participation in this study involves minimal risks. However, discussing topics related to HIV and healthcare practices may evoke personal or emotional responses. To mitigate any potential discomfort, we encourage you to take breaks or skip questions that you find distressing.

There are no direct benefits to you, but the information gathered from this study will contribute to a better understanding of factors influencing PEP adherence among healthcare workers, potentially leading to improvements in healthcare practices

Investigator's Certification: I have explained the nature, purpose, and potential risks/benefits of the study to the participant. I am available to answer any questions throughout the study

Investigator's Name _____ Signature and Date_____

Appendix IV: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **172536**

Date of Issue: **03/May/2024**

RESEARCH LICENSE

This is to Certify that Dr.. Boaz odhiambo Omenda of Kabarak University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kiambu on the topic: Factors Perceived to Influence Adherence to HIV Post-Exposure Prophylaxis Among Healthcare Workers at AIC Kijabe Hospital. for the period ending : 03/May/2025.

License No: **NACOSTI/P/24/34728**

172536

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix V: ISERC Approval Letter

KIJABE HOSPITAL INSTITUTIONAL SCIENTIFIC AND ETHICAL REVIEW COMMITTEE
PO Box 20 Kijabe 00220, Kenya
Tel: 0709728032
Fax: 020-3246335
E-mail:researchcoord@kijabehospital.org
Website: www.kijabehospital.org

28th March 2024

REF: KH/ISERC/0014/2024
Approval No: KH/ISERC/02718/0010/2024

Dear Boaz Omenda,

RE: FACTORS PERCEIVED TO INFLUENCE ADHERENCE TO HIV POST-EXPOSURE PROPHYLAXIS AMONG HEALTHCARE WORKERS AT AIC KIJABE HOSPITAL.

Many thanks for your submission to KH ISERC.

This is to inform you that KH ISERC has reviewed and **approved** your above research protocol. Your application approval number is **KH/ISERC/02718/0010/2024.**
The approval period is starting from 28th March 2024 to 28th March 2025.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consent, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KH ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KH ISERC within 72 hours of notification.

iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KH ISERC within 72 hours.

v. Clearance for export of biological specimens must be obtained from relevant institutions.

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

vii. Submission of an executive summary report within 90 days upon completion of the study to KH ISERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Please do not hesitate to contact the AIC Kijabe Hospital ISERC Coordinator (researchcoord@kijabehospital.org) for any clarification or query.
Thank you,

Yours Sincerely,

Peter M Nthumba
MBChB, MMed; PRS Fellowship; Hand Fellowship; MSc(Epid),FCS(ECSA)
Ag Chair AIC Kijabe Hospital ISERC

Appendix VI: Data Sharing Agreement Form

AIC Kijabe Hospital
Health Care to God's Glory

CHAK
CHRISTIAN HEALTH ASSOCIATION OF KENYA

Data-Sharing and Use Agreement

This agreement establishes the terms and conditions under which non-Kijabe AIC Hospital staff can acquire and use data from Kijabe AIC Hospital-Chronic Care Centre (CCC). The user maybe and not limited to MoH staff, County staff, Partners, Community Health Team and others.

1. The confidentiality of data pertaining to individuals will be protected as follows:
   a. The data recipient will not include the names of individuals, or information that could be linked to an individual, nor will the recipient present the results of data analysis (including maps) in any manner that would reveal the identity of individuals.
   b. The data recipient will not release individual addresses, nor will the recipient present the results of data analysis (including maps) in any manner that would reveal individual addresses.
   c. Both parties shall comply with all National and International laws and regulations governing the confidentiality of the patient/client information that is the subject of this Agreement.
2. The data recipient will not release data to a third party without prior approval from the data provider.
3. The data recipient will not share, publish, or otherwise release any findings or conclusions derived from analysis of data obtained from the data provider without prior approval from the data provider.
4. Data transferred pursuant to the terms of this Agreement shall be utilized solely for the purposes set forth in the "Partnership Agreement".
5. Any third party granted access to data, as permitted under condition #2, above, shall be subject to the terms and conditions of this agreement. Acceptance of these terms must be provided in writing by the third party before data will be released.
6. This document is valid for a period of 12 months from signature date.

DECLARATION.

I, Boaz Odhiambo Omuoda I.D. No. 24947549, have read, understood and agreed to all terms and conditions outlined in this data sharing and usage agreement.

Signature..... **Date** 8/5/2024

HIV Services Manager: P.O. Box 20 - 00220: Tel: 0709 728274: email: hivmgr.kh@kijabe.net / hivmgr@gmail.com

Kijabe	Naivasha	Mairo
Data: 0733422556	Data: 0789776109	Data: 0734492111
Clinic: 0735456052	Clinic: 0733422346	Clinic: 0735118527
Comm: 0733422062	Comm: 0735108488	Comm: 0734572247

CHAP Staw

AIC Kijabe Hospital
Health Care to God's Glory

CHAK

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5. Any third party granted access to data, as permitted under condition #2, above, shall be subject to the terms and conditions of this agreement. Acceptance of these terms must be provided in writing by the third party before data will be released.
6. This document is valid for a period of 12 months from signature date.

DECLARATION.

I, Emmanuel Ndolo I.D. No 21673841 have read, understood and agreed to all terms and conditions outlined in this data sharing and usage agreement.

Signature.....**Date**.....08/05/2024

HIV Services Manager: P.O. Box 20 – 00220: Tel: 0709 728274: email: hivmgr.kh@kijabe.net / hivmgr@gmail.com

Kijabe	Naivasha	Marira
Data: 0733422556	Data: 0789776109	Data: 0734492111
Clinic: 0735456052	Clinic: 0733422346	Clinic: 0735118527
Comm: 0733422062	Comm: 0735108488	Comm: 0734572247

CHAP Staw

Appendix VII: Evidence of Conference Participation

KABARAK UNIVERSITY

Certificate of Participation

Awarded to

BOAZ OTHIAMBO

For successfully participating in the 15th Annual Kabarak University International Research Conference held from 13th-14th May 2025 and presented a paper entitled ***"Factors Influencing Adherence to HIV Post-Exposure Prophylaxis Among Healthcare Workers at AIC Kijabe Hospital."***

Conference Theme

Translation of Health Research and Innovation into Policy and Practice.

Prof. Pamela Kimeto Tinge'i
Dean, School of Medicine & Health Sciences

Dr. Phillip Nyawere
Ag.Director - Research, Innovation and Outreach

Kabarak University Moral Code

As members of Kabarak University family, we purpose at all times and in all places, to set apart in our's heart, Jesus as Lord.

(1 Peter 3:15)

Kabarak University is ISO 9001:2015 Certified


Kijabe Hospital
110
CERTIFICATE
OF APPRECIATION
This is to certify that
Boaz Odhiambo Omenda
Participated and presented his research titled
"Factors influencing HIV Post exposure Adherence among Healthcare workers at AIC Kijabe Hospital" at the 5th Annual Research Conference held at AIC Kijabe Hospital on March 21st 2025.
Dr Chege Macharia
Executive Director
Dr. Arianna Shirk
Education & Research Division Director

Appendix VIII: List of Publication

JOURNAL OF CLINICAL CARE AND MEDICAL ADVANCEMENT

https://doi.org/10.58460/jcma.v2i1.115

ORIGINAL ARTICLE

Open Access

MJM BIOLABS

Factors Influencing Adherence to HIV Post-Exposure Prophylaxis Among Healthcare Workers at AIC Kijabe Hospital

Boaz Odhiambo Omenda[1*], Patrick Asaava[1], and Pete Halestrap[1]

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Submitted: 14th October 2024

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To read this paper online, please scan the QR code below:

ABSTRACT

Healthcare workers (HCWs) are at risk of HIV infection due to occupational exposure, making adherence to post-exposure prophylaxis (PEP) crucial in preventing HIV transmission. This study explored the barriers and benefits to PEP adherence among HCWs at AIC-Kijabe Hospital and identified mechanisms to improve adherence. It was a phenomenological qualitative research design that used semi-structured interviews to collect data from a purposive sample of 35 HCWs. The study was conducted in AIC-Kijabe Hospital. Data were collected through face-to-face interviews with HCWs who reported exposure to HIV and were initiated on PEP. Key informant interviews were also conducted, those of whom were Chronic Care Clinic (CCC) team members. The guide used was pilot-tested at AIC-Kijabe Naivasha Medical Centre to enhance its reliability and validity. The interviews were audio-recorded, with the consent of the participants. Deductive thematic analysis was employed to analyze the interview data. The transcribed interview was coded and categorized into themes and sub-themes. NVivo data analysis software was used to facilitate the organization and analysis process. Several barriers to PEP adherence were identified and they were based on Personal/ Individual drug-related, organizational, and interpersonal factors. Personal factors included forgetfulness, acceptance of stigma, and low-risk perception. Drug/Medicine-related were fear of side effects, and logistical challenges e.g. pill too big to swallow. Organizational/Institutional factors included process inefficiencies and institutional Stigma. Interpersonal factors like lack of social support. The perceived benefits noted by the participants included a reduction of the risk of HIV transmission to HCWs, their spouses, and patients. It also gave them peace of mind. Adherence to PEP was also viewed as an ethical duty and obligation. The findings underscore the importance of addressing multi-level barriers to PEP adherence among HCWs. Interventions should include educational programs to reduce stigma and improve risk perception, organizational reforms to streamline PEP access, and provision of psychological and social support for HCWs.

Keywords – *Full adherence, Health care workers and post-exposure prophylaxis*