

Predictors of Late Presentation for HIV Care Among Adults at AIDS Healthcare Foundation
Clinic in Matsapha, Manzini Region, Eswatini

By

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A dissertation submitted to the University of Zambia in partial fulfilment of the requirements
for the award of the degree of Master of Science in Clinical Nursing

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Lusaka

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I, **Dr Ruth Wahila**, having supervised and read this dissertation is satisfied that this is the original work of the author under whose name it is being presented. I confirm that the work has been completed satisfactorily and approve it for final submission.

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CERTIFICATE OF APPROVAL

The University of Zambia approves this dissertation on “Predictors of Late Presentation for HIV Care Among Adults at AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini” in partial fulfilment of the requirements for the award of degree of Master of Science in Clinical Nursing by the University of Zambia.

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Signature: _____ Date: _____

Examiner II

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Examiner III

Name: _____

Signature: _____ Date: _____

DEDICATION

This dissertation is dedicated to my mother Phindile Rita Ngidie and my Baptist Church friends for supporting and encouraging my education.

ABSTRACT

Background: There are growing concerns about patients presenting late for HIV care and this striking issue has become a central issue in the healthcare sector. Globally, much research in recent years has focused on determining the reasons why patients present late for HIV care in healthcare facilities. Identifying healthcare predictors surrounding late presenters is crucial to improving the patients' health outcome, to direct healthcare workers' treatment plan and to inform policy maker's decision making about emerging healthcare issues.

Aim of the study: To establish the predictors of late presentation for care by HIV populations at AHF Matsapha clinic, Manzini Region, Eswatini.

Materials and Methods: This descriptive cross-sectional research study selected 60 patients by probability, systematic sampling technique. Included, were those diagnosed HIV positive but not yet enrolled into care. Data was collected using a structured interview schedule. Study approval was sought from University of Zambia Biomedical Research Ethics Committee, National Health Research Authority and Eswatini Health and Human Research Review Board. SPSS version 27.0 was used to analyse data where descriptive statistics, Chi-square test and regression analysis were computed. A p-value of <0.05 was taken to declare the presence of a statistical significance.

Results: Data were obtained from sample of 60 respondents. The age of respondents ranged from 18 – 62 years. The mean age was 35.1 years. More than half (55%) of the respondents were males, 50% had attained secondary/high school level of education and 53.3% were currently in a relationship. The prevalence of Late Presentation for HIV care was 76.7 %. In Chi – square test, age and employment was statistically associated with late presentation for HIV care. In regression analysis, healthcare practices were statistically associated with late presentation to HIV care ($p = 0.007$).

Conclusion: The prevalence of late presentation to HIV care in Eswatini is high. Intervention measures to eradicate this high prevalence need to be implemented. In order to improve care and levels of good healthcare outcomes, the public health sector, clinic nurses should focus on understanding the predictors of late presentation for HIV care in order to lessen the burden of late presentation consequences on the patient, community and the healthcare system.

Keywords: Decision Making, Health Care, Human Immunodeficiency Virus, Late Presentation, Predictors.

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LIST OF ABBREVIATIONS

AHD	-	Advanced HIV Disease
AHF	-	AIDS Healthcare Foundation
AIDS	-	Acquired Immune Deficiency Syndrome
ART	-	Anti-Retroviral Therapy
CD4 count	-	Clusters of Differentiation 4
CDC	-	Center for Disease Control
CSO	-	Central Statistics Office
EMoH	-	Eswatini Ministry of Health
HBM	-	Health Belief Model
HIV	-	Human Immune-Deficiency Virus
HPV	-	Human Papilloma Virus
HTS	-	HIV Testing Services
LP	-	Late Presentation
NHRA	-	National Health Research Review Authority
RHIH	-	Rural Health Information Hub
SRH	-	Sexual Reproductive Health
STIs	-	Sexually Transmitted Infections
TB	-	Tuberculosis
UNAIDS	-	Joint United Nations Programme on HIV/ AIDS
UNZABREC	-	University of Zambia Biomedical Research Review Board
WHO	-	World Health Organization

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CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.0 Introduction

The Human Immune-Deficiency Virus (HIV) has received much attention in recent years due to its capacity to cause morbidity and mortality. Since 2016, the recommendations by World Health Organization (WHO) state that all newly diagnosed HIV positive people should start Anti-Retroviral Therapy (ART) on the same day as the diagnosis (WHO, 2021). Nevertheless, despite these recommendations, there is an increasing number of patients presenting late for HIV care and this striking issue has become a central issue in the healthcare sector. Globally, much research in recent years has focused on determining the reasons why patients present late for HIV care in healthcare facilities (Sun et al., 2021; Chone, Abecasis and Varandas, 2022; Frederic et al., 2021). However, in Eswatini, less is known about the fundamental issue pertaining the predictors for late presentation for HIV care.

Chapter one of this study presents a background about the prevalence of HIV and Late Presentation (LP) globally, regionally and in Eswatini. Literature from individual and group research studies was utilized to expand the discussion of late presenters. In addition, late presentation was explained in detail together with the importance of this subject in the context of HIV care. Furthermore, the chapter presents the statement of the problem, conceptual framework to guide the study and study justification. What's more, chapter one discusses the purpose of the study, research question, study objectives, hypothesis, significance of the study, scope of the study and variables. Conceptual and operational terms used in this study have been defined.

1.1 Background

It has been more than three and a half decades since the discovery of HIV. More than 37.7 million people are living with HIV and about 25.4 million of them are from Africa (WHO, 2021). Over time, global trends show that HIV prevalence is declining from 2.1 million in 2010 down to 1.5 million in 2020 (WHO, 2022). However, the Joint United Nations Programme on HIV/AIDS [UNAIDS], (2018) revealed that there is a proportion of 9.2 million people living with HIV but do not know that they are HIV infected. In addition, WHO, (2021) estimated a global coverage of only 73% in HIV care, whereas in Africa, only

70% are in HIV care (WHO, 2024 and Global AIDS Update, 2021), the rest are not in HIV care. It is feared that this proportion of patients will present late for HIV care (Ford, 2018). Globally, it is estimated that 22% – 25% present late for HIV care (Center for Disease Control and Prevention [CDC], 2017). Auld et al., (2015) stated that the trends in prevalence of advanced HIV disease at Antiretroviral Therapy (ART) enrolment in the Sub-Saharan region are declining. In Mozambique (2004 – 2014) and Namibia (2004 – 2012), the trends declined from 75% to 34% and 73% to 37% respectively. Similarly, Govender and Boulle, (2018) stated that in the same manner that South Africa recorded declining trends from 60.9% to 26.7% during the year 2016. In Eswatini, Auld et al, (2017) states that Eswatini prevalence trends of LP declined from 72% to 54% between 2004 and 2010. Even though the trends are declining, CDC (2017) attest that still, approximately one third of newly diagnosed HIV positive patients records a baseline CD4 count less than 200 cells, meaning the problem of LP still persists.

To control the high prevalence of the endemic, public health interventions have capitalized on raising awareness about HIV and AIDS. HIV Awareness messages are part of the activities aimed at preventing LP for HIV care among clients. The most widely disseminated information to the public is about the benefits of testing and starting Anti-Retroviral Therapy (ART) as early as possible (WHO, 2022; CDC, 2020; UNAIDS, 2018). Through the public health interventions done to curb the epidemic in Eswatini, significant progress has been achieved in halting the HIV and AIDS epidemic. The public health interventions include intensified education on benefits of early HIV testing, mass HIV testing of eligible populations together with test and treat all strategy.

Moreover, starting ART enables viral load suppression among HIV positive people, therefore reducing chances of further spread of HIV (Guaraldi, 2017). Not only does public health interventions help the individual patient, but the interventions make an impact for the primary health care provider. Since LP is associated with increased risk of HIV transmission and ART drug resistance (Frederik et al., 2021; WHO, 2021; Gidron 2013), public health interventions disseminate this information and this prompts individuals to screen for HIV infection and therefore get diagnosed early.

Eswatini has worked tirelessly towards diagnosing 95% HIV positive people, retaining on ART 95% of those diagnosed and maintaining 95% of those on treatment with an

undetectable viral load since the inception of the 95-95-95 targets by the United Nations AIDS in 2014 (UNAIDS, 2023 and UNAIDS, 2015). As a country with a previous history of the world's highest HIV prevalence rate which was reported to be at 26% in 2016-2017 (Swaziland HIV Incidence Measurement Survey 2 [SHIMS2], 2017), on average, Eswatini has managed to attain the UNAIDS targets a decade early whereby the target completion date was set to the year 2030 (UNAIDS, 2020).

However, some healthcare facilities in Eswatini including AIDS Healthcare Foundation (AHF) clinic in Matsapha, Manzini region still record a substantial number of patients presenting late for HIV/AIDS care. Presenting late for HIV/AIDS care refers to a patient who is age 5 years or older, newly diagnosed HIV positive with a baseline CD4 count below 350 cells/mm³ or WHO Stage III or IV (Degno et al, 2021; Sun, 2021, Gegesaw, 2018;). In this study, LP into HIV care refers to individuals coming to the healthcare facility, newly diagnosed HIV positive, presenting for HIV/AIDS care with a CD4 below 200 cells/mm³ and or WHO stage III or IV (WHO, 2021). The parameters of the baseline CD4 count of below 200 cells/mm³ [though the cut off has been raised to 350 cells/mm³ in resource rich settings (Mukolo, 2012)] and WHO clinical stage of III and IV signify that the patient is in Advanced HIV Disease (AHD) state.

Current statistics show that the prevalence of AHD in Eswatini is more than 18% (SHIMS2, 2017; Gama, 2020). The percentages are very high considering the UNAIDS 95-95-95 targets (UNAIDS, 2023) which gives a 5% percentage of HIV populations that may not be reached. It is therefore important to establish if there are health care disparities hindering early access to HIV/AIDS care.

Currently, Eswatini has a total population of 1.1 million (World Population Prospects, 2022). AHF Matsapha clinic is located in the Manzini Region, a densely populated area of about 110, 537 individuals (SHIMS2, 2018). In 2018, a survey was conducted and the results revealed that Manzini region has an HIV prevalence of 27.3% with the prevalence for late HIV diagnosis being 34.1% (SHIMS2, 2018). When HIV populations present late for care, there could be negative health consequences and huge costs to the person involved, families, communities and health care system. Therefore, understanding the predictors to LP for HIV care could help to identify the local elements needed to form strategies that will mitigate the LP problem (Ngongo et al., 2021). Hence this study was conducted to reveal the extent of the burden of LP for HIV care and its associated predictors.

1.2 Statement of the Problem

AHF Matsapha clinic is a high HIV volume healthcare facility, located in Matsapha Industrial Site which has been identified as the “epicentre” for HIV infection in the country (President’s Emergency Plan for AIDS Relief (PEPFAR), 2021). Despite the adoption of recommendations by CDC, (2021); WHO, (2020); Patel, (2021); Eswatini Ministry of Health (EMOH), (2018) to test and start ART early and UNAIDS 95-95-95 target strategies, the population based in AHF Matsapha Clinic Industrial Site continue to present late for care and are diagnosed with AHD. The test and start ART early strategy was implemented at AHF Matsapha Clinic in 2015. EMOH, (2015). Table 1 below shows figures for patients in Matsapha AHF clinic who tested HIV positive during the years 2019 to 2021 but presented late for enrolment into HIV care after the diagnosis was made.

Table 1.1: Late presenters among newly diagnosed HIV positive patients at Matsapha AHF clinic from 2019 - 2021

Period	2019	2020	2021	Total
Total number of newly diagnosed HIV positive	420	293	333	1046
Late presenters (CD4< 350 cells);				
Males	119 (28.3%)	98 (33.4%)	87 (26.1%)	304
Females	95 (22.6%)	84 (28.6%)	80 (24%)	259
Total	214 (50.9%)	182 (62%)	167 (50.1%)	563 (53.8%)

Source: AHF Matsapha clinic, ART initiation register, 2022

According to Table 1 above, the percentage of late presenters to HIV care has consistently been above 50% of the total newly diagnosed HIV positive patients, with an average of 54.3%. This was evidence that the problem of LP still persist and it is worrying that over half of newly diagnosed HIV populations are affected.

LP for HIV care can result in one or more of the following; increased onward transmission of HIV, early development of opportunistic infections, poor treatment outcomes, prolonged hospital stays with loss of income, increased healthcare costs or mortality (Zannou et al., 2017; Fomundam et al., 2017, Steinert, 2021; BMC Infectious Diseases, 2020). In addition, WHO (2021) states that LP is also associated with immune reconstitution syndrome,

incomplete immune reconstitution, higher viral reservoirs, increased risk of non-AIDS related comorbidities and increased need for hospital visits. All these consequences are likely to lead to high morbidity and mortality among HIV populations, increase in the number of new infections for HIV and an economic burden for the patient, family and the population.

The health and economic burden brought about by LP of HIV populations into care prompted the researcher to conduct this study. In addition, the researcher is motivated to conduct this study because literature search did not yield any studies investigating predictors of LP for care focusing on AHF Matsapha clinic in the Manzini region. The only study found was conducted by Kujawski et al., (2017), a retrospective by design that combined two countries (Mozambique and Eswatini) and also utilized data from other previous studies. The main focus of this study was solemnly on the Matsapha, Manzini region population and results have rightfully generalized to the country of Eswatini thus contributing valuable information about the extent and solution to LP for HIV care.

1.3 Conceptual Framework

The Health Belief Model (HBM) was used to provide a framework for the study using the constructs of which were found relevant in addressing the research question.

1.3.1 Description of the Health Belief Model

The HBM was developed in the early 1950s (LaMorte, 2019; Montanaro and Bryan, 2014). This model was coined in order to comprehend the failure of people to embrace disease prevention strategies or utilise screening tests for early detection of disease (Jones, Smith and Llewellyn, 2014). By description, according to Rural Health Information Hub (RHIH), (2018), the HBM is a theoretical model useful in guiding health promotion and disease prevention programmes. RHIH (2018) further laments that the HBM is used to explain and predict individual changes in health behaviours.

The HBM is formed by six constructs of which, according to Jones et al., (2015), HBM constructs are key factors that predicts or influence health behaviour (LaMorte, 2019). The constructs are outlined as follows; risk susceptibility (perceived threat to illness), risk severity (belief of consequence), benefits to action (perceived benefits), barriers to action (perceived hindrances towards change), self-efficacy (confidence in ability to succeed) and cues to action (exposure to factors that prompt action).

1.3.2 Application of the Health Belief Model (HBM) to this Study

The HBM is explicitly applicable to this study; Predictors of Late Presentation for HIV care because most of the constructs of the model are associated with a desired health behaviour; which is preventing the afflictive consequences of LP for HIV care. According to (LaMorte, 2019; RHIH, 2018), perceived susceptibility, refers to individual subjective observation about the risk of acquiring an illness or disease. The population attending at Matsapha AHF Clinic, Manzini region seem to be less responsive to utilisation of health care facilities to gain access to HIV care. This group may perceive themselves in good health since they do their daily living activities without any hindrance by ill-health. Such clients may develop a poor attitude towards seeking for HIV care because of the presumed good health being experienced in the early stages of the infection and refute the perceived susceptibility to AHD; leading to LP upon realisation of the severity of infection.

Secondly, perceived severity refers to individual's feelings on seriousness of the disease (LaMorte, 2019; RHIH, 2018). The population to be observed in this study could have had the perception that they can live with HIV without health care because they may have not perceived the need when they were not expressing an illness behaviour. Some clients may not consider the impending negative consequences of progressively weakening immunity such as contracting a WHO stage III or IV infection as a result of inadequate knowledge and poor attitude towards HIV and its care. Therefore, such a client may not comprehend that HIV is a serious infection that can lead to AIDS and therefore more likely to develop opportunistic infections.

Thirdly, perceived benefits are described by LaMorte (2019) as the perception of the effectiveness of actions available to reduce the threat of the disease. If HIV populations in Matsapha realise that early presentation into HIV care will lead to near normal life expectancy provided they start life-long ART before the CD4 count decreases below 200 cells (Sun et al., 2021). On the other hand, according to Luma et al., (2018) if benefits of early testing and starting ART are unknown, the individual will be less likely knowledgeable about issues surrounding HIV and AIDS, such as being ignorant about the early signs and symptoms of HIV infection therefore resulting in delay to seek HIV care. Progressive impairment of the immune system causes typically mild infections to become life threatening (WHO, 2022; Luma et al., 2018).

LaMorte, (2019) commended that perceived barriers are the person's feelings on hindrances to performing a recommended action. The populations in Matsapha are employed in factories and they value their jobs more than their health because of impoverishment. Lack of prioritizing HIV care, on account of perceived barriers, will lead to early development of opportunistic infections, prolonged hospital stays with loss of income and increased healthcare costs or mortality (Guaraldi et al., 2017). If the population in Matsapha are aware of the aforementioned escapable consequences, they would seek treatment early.

In summary, the Health Belief Model (HBM) stipulates that an individual makes their own assessment before taking the opportunity to adopt a healthy behaviour, in this case, seeking early HIV care to avoid LP for HIV and AIDS care. Outcomes of the assessments include perceived susceptibility, benefit, threat or cues for action. The population in Matsapha tend to evaluate their chances of being HIV infected and disregard the possibility of a positive result, thus they present late for HIV care. Equally important, with perceived benefits, a negative attitude among the population is likely to undermine their perception about engaging in healthy behaviours and seeking routine HIV testing. Additionally, other important aspects encompasses motivation about knowledge on health matters. Once an individual is knowledgeable, they will understand the benefits of early HIV care and prevent LP to care.

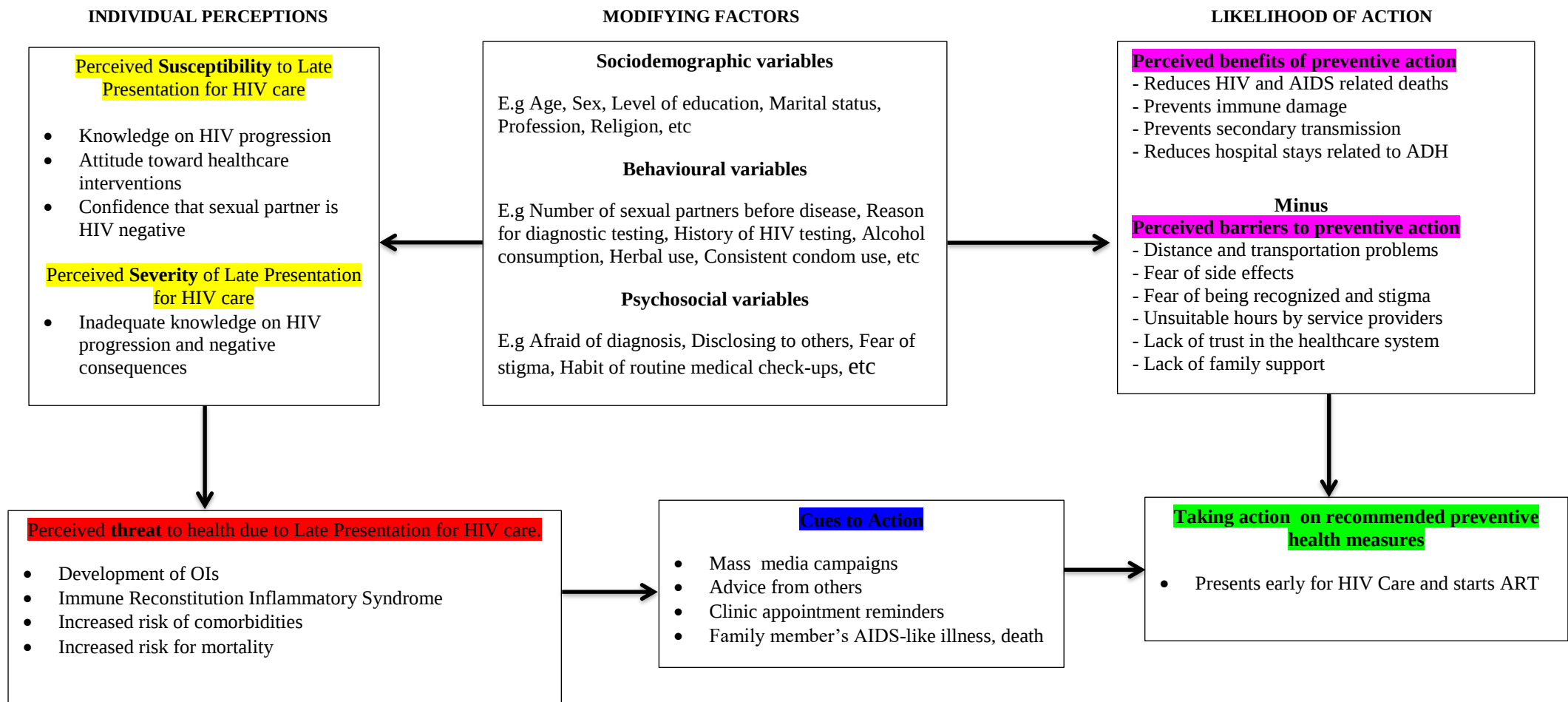


Figure 1.1: Conceptual framework on Late Presentation for HIV care. Adapted from: Health Belief Model by Becker, Drachman and Kirscht, (2020) in source (Author, 2024)

1.4 Study Justification

Late presentation for HIV and AIDS care studies are important in bringing together subtle details to create more proveable assumptions about predictors of LP (McLeod, Payne and Event, 2016). Such type of studies will in turn reveal gaps in literature pertaining the country's position on LP for HIV care and lead to suggestions for future research (Valcarcel, 2017). It is expected that results from this study will reveal significant socio-demographic, behavioural and social psychosocial predictors of LP for ART care. The HIV population is likely to benefit from this study through acquiring tailored interventions that are designed by public health and primary health care to curb the devastating consequences of LP. In this way, morbidity and mortality rates due to LP are likely to be de-escalated.

To the healthcare system, results generated from this study will facilitate in proposing effective programs that promote early presentation for care such as mass and free distribution of HIV Self-test kits; the same way condoms are easily accessible. Upon realising the HIV status, an individual will be prompted to seek more information and enrol in care. The public health sector is thus informed about local strategies to formulate with the aim of decreasing LP into HIV care. Consequently, the findings could help to contextualise HIV interventions that considers the local population of Manzini region, Matsapha Industrial Site. Thus, the expected results from this study are intended to solve the problem of LP into HIV care by reinforcing ancient public health interventions and establishing improved new interventions.

There is a great need to investigate the predictors of LP among the population attending at AHF Matsapha clinic as it seems that there is limited information on the issue. The researcher only observed one single study by Kujawski et al., (2017) that investigated the extent of AHD in both Eswatini and Mozambique in 2017. This was a country study and results revealed that among 2333 study respondents, more than half (56.5%) had a CD4 count less than 350 cells/ul while 13.9% had CD4 count less than 100 cells/ul. This information is not sufficient to help solve the problem of LP for HIV care for the population of Matsapha as Kujawski et al., (2017) seem to have focused on the prevalence of LP for HIV care as defined by AHD and not predictors. Therefore, the researcher found it prudent to establish the predictors of LP into care by HIV populations at AHF Matsapha clinic in the Manzini region and thus, this study.

1.5 Purpose of the study

The purpose of this study was to establish the predictors of LP for care by HIV populations at AHF Matsapha clinic, Manzini Region, Eswatini.

1.6 Research Question

What are the predictors of late presentation for HIV Care among the adults at AHF Matsapha Clinic in Manzini Region, Eswatini?

1.7 Study Objectives

1.7.1 General Objective

To establish the predictors of late presentation for HIV care among the adults at AHF Matsapha clinic, Manzini Region, Eswatini.

1.7.2 Specific Objectives

- I. To determine the proportion of HIV populations presenting late for care at AHF Matsapha clinic, Manzini Region, Eswatini
- II. To describe the socio-demographic characteristics of HIV populations presenting late for HIV care at AHF Matsapha clinic, Manzini Region, Eswatini
- III. To assess the clinical status of HIV populations presenting late for HIV care at AHF Matsapha clinic, Manzini Region, Eswatini
- IV. To examine the healthcare practices that predicts late presentation for HIV care at AHF Matsapha clinic
- V. To determine whether stigma and discrimination is a predictor of late presentation for HIV care at AHF Matsapha clinic

1.8 Research Hypothesis

1.8.1 Null Hypothesis:

There is no association between late presentation for HIV care and socio-demographic characteristics, clinical status, healthcare practices and, stigma and discrimination among HIV populations utilizing AHF Matsapha Clinic, Manzini Region, Eswatini.

1.9 Variables, indicators and cut-off points

The following were variables of the current study:

Dependent variable: Late Presentation for HIV care

Independent variables:

1. Socio-demographic characteristics
2. Clinical status of patient
3. Healthcare practices of patients presenting late for HIV care
4. Stigma and discrimination

Table 1.2: Variables, indicators and cut-off points

Variable	Conceptual definition	Operational definition	Level of measurement			Question number
			Indicator	Cut off points	Type	
Dependent variable						
Late Presentation for HIV care	This refers to an individual that is newly diagnosed HIV positive, presenting for HIV/AIDS care with a CD4 below 350 cells/mm3 and or WHO stage III or IV (WHO, 2022).	Patient diagnosed HIV positive presenting late at AHF Matsapha Clinic for HIV/AIDS care with a CD4 below 350 cells/mm3 and or WHO stage III or IV.	CD4 count >350 = Early presentation. CD4 count <350 and or WHO stage III or IV = Late presentation.	1 2	Nominal	1.13
Independent variables						
Socio-demographic Characteristics	This refers to attributes that define a population of the selected location (Abullahi and Kabir, 2019).	The characteristics of the patients presenting for HIV care at Matsapha AHF clinic.	Subgroups	Not applicable	Not applicable	1.2 – 1.8
Clinical status of patient	This relates to the observation a patient, course and treatment of his or her disease (Schrame, 2023; Reverso, 2022)	The state of health of a patient determined by the presence of common HIV and AIDS defining parameters.	Good Poor	Good = 1 Poor = 2	Categorical	1.9 – 1.17
Healthcare practices of patients presenting late for HIV care	This refers to actions and behaviours that individuals engage in to promote their wellbeing and prevent spread of illnesses (Diane et al., 2019 and Cohn, 2014).	The extent to which an individual tends to regularly utilize HIV and STI screening services	Good Poor	Good = 1 Poor = 2	Categorical	2.1 – 2.10
Stigma and discrimination	This refers to a social phenomenon involving negative attitudes about others based on defining characteristics (Kalonde, et al., 2023; Kumar, 2023).	The patient admits or denies experiences of stigma; (internalized, perceived and anticipated) rooting from their HIV and AIDS condition.	Presence of stigma and discrimination Absence of stigma and discrimination	Yes = 1 No = 2	Categorical	3.1 – 3.15

Conclusion

Chapter one presented a background about the prevalence of HIV and Late Presentation (LP) for HIV care globally, regionally and in Eswatini. Literature from individual and group research studies was utilized to expand the discussion of late presenters. There is evidence about the increasing number of patients presenting late for HIV care (WHO, 2024; Global AIDS update, 2020 and Gegesaw, 2018). Identifying factors that lead to people being late presenters is crucial to improve health outcomes, to direct healthcare workers' treatment plans, and to inform policy makers' decisions about emerging healthcare issues. Additionally, Chapter one presented the definition of late presentation for care as per World Health Organization standards. The benefits of testing and starting ART early as well as the consequences of delaying ART were also stated in this section.

Using latest survey statistics about late presentation in Eswatini and in the proposed study site, the statement of the problem have been formulated. The framework for the study was provided by the Health Belief Model (LaMorte, 2019) of which its' application to this study has been broadly explained in this chapter. Furthermore, the purpose of this study, the study objectives as well as the study variables have all been discussed in chapter one.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This literature review focuses on studies conducted in the area of HIV disease globally where researchers seek predictors of LP for HIV care among human populations. Google Scholar, PubMed, Science Direct and Research Gate are the search engines used to search the phrases; factors associated with LP for HIV care, predictors of LP for HIV care and Advanced HIV disease. The chapter begins with an overview of predictors of LP for HIV care, followed by a review of the prevalence of HIV populations presenting late for HIV care. The predictors of late presentation are also critically discussed. Even though the literature covers a broad spectrum of explanations, this review focused on three major predictors which emerge repeatedly throughout the literature reviewed. These predictors are as follows: socio-demographic characteristics of HIV populations presenting late for HIV care, behavioural predictors of LP for HIV care and lastly, the psychosocial predictors for HIV care. The chapter ends with a conclusion which also outlines the gaps identified from literature.

2.1 Overview of Predictors of Late Presentation for HIV Care

Suffering from a chronic debilitating illness has been widely associated with the AIDS disease since the beginning of public sensitization about HIV and AIDS. Chronic debilitating illness is a factor that has prompted most individuals to radically respond to the HIV test and start ART strategy to prevent advancing to the AIDS stage after HIV infection. A prospective national cohort study entitled Swaziland HIV Incidence Measurement Survey (SHIMS), (2017) and Eswatini Ministry of Health, (2020) reported that a majority of the population (87.1%) in Eswatini has ever tested for HIV and received results. Nonetheless, there is a significant proportion of people with unknown HIV status who only present late for healthcare services, that is when they already have a severely compromised immune system possibly with Advanced HIV Disease (AHD). In a survey across the country, SHIMS, (2017) recorded that in Eswatini, 38.9% of adults living with HIV did not know their “current” HIV positive status and had a late diagnosis with CD4 less than 350cells/mm³. Similarly, Global AIDS Monitoring, (2020) reported that during the year 2019 in Eswatini, 56.2% of people living with HIV had an initial CD4 less than 350cells/mm³ and 32.5% had an initial CD4 less than 200 cells/mm³.

Reseachers such as Degno et al., (2021); Luma et al., (2018) and Jeong (2016) conducted a study with the aim of identifying predictors of LP for HIV/AIDS care among people living with HIV and attending ART clinics in respective sites. Moreover, Luma et al., (2018); Agaba, (2014) and Abaynew, (2011) went on to describe associated factors and consequences of LP for HIV care. Similarly, Chone, Abecasis and Varandas (2022) identified and analysed the factors associated with late presentaion in patients newly diagnosed HIV positive. On the other hand, some studies, such as one conducted by Belay (2019) and Fomundam et al., (2017) had the objective of describing both the prevalence of LP for HIV care among newly diagnosed HIV positive individuals and continued to evaluate variables associated with late presenation for HIV care.

Comparatively, Lim and Kumar (2019) and Sun et al., (2017) studied and analysed only the trends in baseline CD4 count among people living with HIV with the aim of utilizing the results as an indicator to assess the effectiveness of national HIV awareness campaigns. All the above mentioned studies has been included in this literature review because identifying the proportion of late presenters in healthcare facilities is one of the objectives in this current study.

2.2 Prevalence of HIV Populations Presenting Late for HIV Care

Trends in prevalence of late presentation for HIV are assessed to provide public health officials with standardized information about the extent of HIV infection in population subgroups.

There has been tremendous progress in the fight against HIV worldwide; although challenges such as high prevalence of late presenters still persist (Chone, Abecasis and Varandas, 2022). HIV continues to be a major global public health concern, having claimed 40.1 million lives to date (WHO, 2022; CDC, 2021). Advanced HIV disease is a major contributing factor to these statistics. A majority of people living with HIV continue to present late for HIV care resulting in Advanced HIV desease and increased mortality (WHO, 2022; CDC, 2020; Jeong et al., 2016). The Late Presentation Working Groups in EuroSIDA and COHERE study (2020) explored data from 34 countries across Europe on prevalence and risk factors for LP for HIV care and uncovered that about 53.8% of the patients who tested HIV positive presented late for care. In addition, the study revealed that late presenters were highest among heterosexuals by 66.1% . Comparatively, about 57% of the population studied was from European countries whereas 65.1% reflected the population from Africa. In China, Sun et al.,

(2021) from a data base published in 2010 to 2020 found that the pooled prevalence of LP for HIV and AIDS care was 43.2%, whereas in Guatemala, from the year 2000 to 2015, 81.1% of new diagnoses were categorised as LP for HIV care (Melendez et al., 2019).

Jeong et al., (2016) conducted a large scale study with the aim of describing the trends in LP into care of HIV disease and to determine the associated factors in Asia. The gap identified prior inception of the project was the inadequate surveillance to identify the prevalence and risk factors of LP for care across Asia. To point out from their findings; 72% of the patients in the study presented late, furthermore, older patients (>51 years) were likely to be late presenters than young patients (less than 30 years). In contrast, Mojumdar et al., (2010); Culica et al., (2002) and Merzel, (2000) stated that the frequency of late presenters in India was highest among male and age group 25-34 years old. Moreover, Mojumdar et al., (2010) added that injection drug users and people with low income tend to present late as well. Utilising secondary database from another older study (TAHOD, 2003) is the study's weakness. It is mentioned that the TAHOD data was initially collected for separate objectives other than this study. Likewise, the data was collected from urban referral centers which normally receive patients referred from rural clinics who are severally immune compromised thus exponentially increasing the number of late presenters in this setting. The recommendations from the study was to exert all efforts to reduce the number of patients seeking care when they are gravely sick. This can be done through utilising the risk factors that were pin-pointed as those associated with LP to formulate targeted public health interventions that will drive this population to care.

Lim and Kumar (2019) conducted a retrospective cohort study with the aim of determining trends in baseline CD4 count at presentation to care among HIV-positive patients in a certain hospital in Malaysia. The gap identified by the researchers was that as a developing country, Malaysia has little information known about proportion and characteristics of people unknowingly living with HIV who then present late for HIV care. Findings from this study revealed that the median CD4 count was (52) 103 cells/mm³ among patients presenting with AHD and median of (381) 230 cells/mm³ among late presenters. It was recorded in the cohort study that the yearly median initiation CD4 count ranged from 157 to 271 cells/mm³ followed by a surge in median CD4 count. This was a result of the national strategic plan that was implemented with an aim of improving early HIV care. Limitations of this study was that the results could not be fairly generalised because the sample is from a referral hospital which

may have overrepresented data. Additionally, this study could not take into consideration factors for LP such as educational level, partner status and other social factors as did other studies like (Girardi et al., 2007; Castilla et al., 2002; Sabin et al., 2004). Implications of this study suggest that it is worth investigating the trends of LP locally after the implementation of the test and start strategy.

In sub-Saharan African, (Haas et al., 2022; Sharma, 2015; Surtha, 2013) revealed that 49% of HIV new diagnosed patients were late presenters. In South Africa, (Fomundam, 2017; Fleishman, 2010; Dickson, 2010) found that about 79% of patients were late presenters in 2015. In Eswatini, the prevalence of Advanced HIV Disease is more than 18% (SHIMS2, 2017; Gama, 2020).

From review of literature on prevalence of late presentation for HIV care, multifaceted factors reveal that HIV mortality is increased by HIV populations who present late for HIV care. Continued monitoring of prevalence rates will provide opportunities to close gaps in areas that contribute to late presentation for HIV care.

2.3 Socio-demographic Characteristics of HIV Populations Presenting Late for HIV Care

The socio-demographic characteristics of individuals presenting late for HIV care play a crucial role in understanding the dynamics of late HIV diagnosis and implementing targeted interventions.

In India, a retrospective cross sectional study conducted by Mojumdar, (2012) discovered that if an HIV diagnosis is delayed, the prognosis negatively affects the individual patient, community and the public health system. Further findings from the study revealed that 83% of the study respondents were late presenters with more than half of the males presenting late for care. Of note in the study by Mojumdar, (2012), the older aged group (45 years and above) had higher chance of presenting late and this was in line with findings from a study by (McMillan, 2018; Rotily, 2010; Samji 2013) who observed that 47% of patients above 50 years old were positively associated with LP for care. Mojumdar, (2012) concluded by making an emphasis on thorough screening and testing for HIV infection among older patients, especially males. Strengths displayed by the study was the distribution of the characteristics of the study respondents, i.e; sex, age groups, transmission route and HIV infection symptoms. It is of importance even to this researcher to obtain a fair distribution of

sudy respondents by age and sex for better generalizability. Among the weaknesses noted from the Mojumdar (2012 study) was that the study setting was in a referral hospital where most patients with AHD are referred to. This is a common practice even in Eswatini whereby AHD patients are referred to higher level hospitals for further investigations and care. Therefore, in the Mojumdar (2012) study, this means the magnitude of sickly patients was higher than any other healthcare facilities making the results of the study not generalizable to the entire region or country. It was then concluded that there is a need for expanded routine HIV testing services targeting a specific group which is the older male group.

Degno et al., (2021) in South Ethiopia investigated predictors of LP for HIV/AIDS care. They aimed at identifying predictors of why patients present late to public health institutions. The problem that was identified was that, in reality, huge investments have been made to sensitize the public about HIV, however, a significant number of patients still do the opposite of what they are educated about – they delay getting tested and starting care. The study, therefore had the mandate to address different predictors of LP so that target interventions are created based on the unveiled predictors. Findings from the study showed that early ART initiation is fundamental for the purpose of favourable health outcomes. Additionally, the findings revealed that people staying in rural areas are 8 times more likely to present late for care compared to those living in urban areas. Similar to Belay, et.al. (2019), odds of presenting late for care were higher in patients consuming alcohol compared to those who do not drink alcohol. Additionally, Luma, et al., (2018); Belay, et al., (2019) and Degno, et al., (2021) all attest that as much as patients know the dangers of delaying to seek care, they mostly have fear for losing their job should they absent themselves from work or should it be known that they are HIV positive. This signifies presence of external and internal stigma associated with the HIV diagnosis. Limitation of the study was the possibility of biasness secondary to relying on patient's memory regarding events that occurred in the past. The recommendation for future research is to investigate the impact of lack of health facilities in rural areas and how this contributes to LP to care.

Kujawski et al., (2017) conducted a study in Eswatini and Mozambique with the objective of investigating the proportion of patients with AHD at diagnosis and severe immunosuppression and predictors of these variables. The study by Kujawski et al., (2017) had an aim of addressing the gap in knowledge pertaining the prevalence of ADH and its predictors. Further, findings from studies by (Coul et al., 2016; Gesesew, Tesfamicheal and

Adamu, 2013) revealed that a vast number of people in each country diagnosed HIV positive presented with severe immunosuppression with a mean CD4 count of 313cells/mm³. Determining factors reported for AHD included coming to the facility only because they felt ill, their sex and level of education. Similar to studies by (Gay, 2006; Gupta, 2000 and Samet, 2001), male sex is the number one determining factor to LP. Additionally, it was concluded that there is an urgent need for innovative strategies to upscale early diagnosis of HIV positive people for early ART initiation. The weakness of the Kujawski, et al., (2017) study was their definition of AHD (CD4 count <350 cells/mm³) which is not in line with that of WHO CD4<200 cells/mm³ as described in (WHO, 2023; WHO 2017; CDC, 2017; Antinori, 2011). The use of CD4 <350 cells/mm³ unnecessarily increases the study sample, therefore exaggerating the statistics. Similarly, other studies like (Vogler 2018; Battegay, 2007) also define LP as CD<200cells or an HIV positive patient with an AIDS defining event regardless of CD4 count at first encounter. On the other hand, notably a weakness, combining the results of the non-identical study samples does not provide a clear picture of the magnitude of the problem.

From this review, it shows that age and sex are the leading socio-demographic characteristics of HIV populations presenting late for HIV care. The male older patient has more chances of presenting late for HIV care.

2.4 Clinical Status of HIV Populations Presenting Late for HIV Care

The clinical status of HIV populations presenting late for HIV care is a critical aspect that impacts both individual health outcomes and public health strategies. Understanding the clinical status of individuals at the time of HIV diagnosis helps shape interventions for improved healthcare delivery and prevention efforts (Threats et al., 2021). Clinical aspects associated with late presentation of HIV include: CD4 count, opportunistic infections and presence of an AIDS-defining illness.

In 2015, the Joint United Nations Program on HIV and AIDS (UNAIDS) set a target that 90% of all people living with HIV will know their status, 90% of those will receive Anti-Retroviral Therapy (ART) and 90% of those will have a suppressed HIV viral load by the year 2020. On that note, a retrospective analysis study was conducted by Khamis et al., (2018) in a hospital in Oman to determine the clinical and epidemiological characteristics of HIV infected patients attending at an Infectious Diseases Clinic. Khamis et al., (2018) acclaimed that in the Middle East North Africa (MENA) region, ARVs intake remained low

despite the UNAIDS target, owing to the increasing prevalence of late presentation for HIV and AIDS care. The results of the study revealed that at first presentation, the CD4 count was less than 200 cells/mm³ in 38% of the patients. More to that, over a quarter, (26.1%) of the HIV patients had WHO stage IV infection. The rates of HIV and Hepatitis B with Human Papillomavirus Virus (HPV) co-infection was 15.8% thus increasing cancer cases. Tartaglia et al., (2017) attest that the prevalence of HPV in HIV positive populations increases by 48% compared to 28% in HIV negative populations. Notably, among the 326 study respondents, 6.7% (22) had poor clinical status and eventually died. Khamis et al., (2018) concluded that late presentation results in poor clinical outcomes thus increasing mortality rates.

To enumerate, Moralis et al., (2022) also performed a cross sectional study. The aim of the study was to examine the prevalence and association between different health conditions that depicts one's clinical status in HIV infected individuals. The data source was from a pool of Adult Medical Records linked to hospital admissions where 964 HIV positive patients with physical and mental health conditions were examined. Of the whole group, 61.7% were males, 92.8% were below 65 years. Adult male patients most likely presented with poor clinical status because they presented late for HIV care. In the Moralis et al., (2022) study, prevalent clinical conditions included pulmonary infections, liver fibrosis, liver sclerosis, infertility, bipolar disorder, depression, genital malignancy and bacterial infections. Moralis et al., (2022) concluded that comorbidity is common among adults with HIV, with physical and mental health conditions spanning a wide spectrum.

Similarly, Majigo et al., (2020) attest that approximately 80% of HIV associated mortality cases are associated with pulmonary infections, particularly Tuberculosis (TB). Additionally, the incidence of TB was found to be higher in patients not on ART, male patients as well as those presenting with advanced HIV disease (Majigo et al., 2020). Significantly, throughout the literature search, a majority of researchers studying clinical status of HIV populations emphasized the need for early ART initiation thus enabling favourable clinical outcomes.

2.5 Healthcare Practices Among Adults Presenting Late for HIV Care

Globally, late presentation for HIV care often involves a combination of individual, societal, and systemic factors that influence healthcare-seeking behaviors (Chen et al., 2023; Belay, Endalamaw and Ayele, 2019). In China, Sun et al., (2021), a systematic review and meta analysis study was conducted to uncover healthcare practices associated with late presentation for HIV care. The pooled prevalence of late presentation for HIV care was

43.26% with major risk factors being poor health seeking practices. The findings from the Sun et al., (2021) study aligns with those from the Chen et al., (2023) study where it was revealed that people, not just in particular regions, but worldwide, they have preconceived fears about seeking and practicing good healthcare habits. Such fears are significant barriers to HIV testing and accessing treatment. In addition to that, Ang et al., (2021); Tan and Cook (2022) concur that lack of knowledge about HIV facts and benefits of antiretro viral drugs, contributes to late presentation for care. Darcis, (2018) and Degno et al., (2021) states that lack of healthcare practices such as voluntary regular health screening, including HIV and Sexually Transmitted Infections (STIs) also contributes massively to late presentation for HIV care.

In Ethiopia, Belay, et al., (2019) investigated LP of HIV positive adults and its predictors to HIV care. Their objective aimed to estimate the predictors and pooled prevalence of LP for HIV care. The problem that the researchers had identified was that LP for HIV care has costly consequences to the patient, health care system and the community. Belay, et al., (2019) acknowledged that there is available evidence on the prevalence and the predictors of LP, however, there are noticeable discrepancies resulting in different data on this area. (Mukolo, 2013) attested to the forementioned insight by highlighting that limited exploration of healthcare predictors collerates as well as the inconsistencies in the definition of LP. (Mukolo, et al., 2013) added that the inconsistencies in the definition of LP makes it impossible to compare findings across different study results.

Researchers in the Belay et al., (2019) study addressed the gap of limited LP data by conducting a systematic review and meta-analysis study on 8 carefully selected articles from a pool of 1133. The findings from the study showed that the pooled prevalence of LP to HIV care in Ethiopia was 52.89%. Moreover, predictors of LP to HIV care were categorised as; socio-demographic, clinical status and treatment related predictors. It was therefore concluded that indeed the prevalence of LP into HIV care is high. Fear of stigma, frequent alcohol usage and presence of symptoms at diagnosis were among the leading factors for LP. The study had its own limitations, including not getting samples that represents all the regions of the country. In spite of this, the strength of the study lies in the thorough screening and process of article selection which assures the validity of the study results.

In a health centre in Mozambique, a retrospective cross-sectional study was conducted with the aim of analysing the factors that influence LP in patients attending at Ndlavela health

centre (Chone, Abecasis and Varandas, 2022). The gap that was recognized by the researcher was the numerous disadvantages of LP; including reduced survival chances in the grip of AHD and the increased risk of transmitting HIV given the fact that these patients' viral load is very high. Findings of the Chone Abecasis and Varandas (2022) study show that out of the 519 study respondents, 47% were late presenters, whereas another study by Horino, (2016) demonstrated a rate 61.6%. One of the factors that was identified as highly associated with LP was being a male, just as in the (Nabikande 2022; Ngongo, 2021; Fomundam, 2017) study. More to that, (The Panel of Anti-retroviral Guidelines for Adults and Children, 2022; Jeong, et al., 2016; Loufty, 2013) revealed that females present early because of antenatal care visits and that is where they are compelled to test for HIV. Another point worth noting is that people with a fear of stigma were almost 3 times more likely to present late as compared to those without fear. Chone, Abecasis and Varandas (2022) concluded that socio-demographic, behavioural and physiological factors contribute to LP and therefore public health measures to promote early testing should target these factors. The implication of this study predicts that if the measures are implicated timely, by 2030, the HIV pandemic will be mitigated thus bringing a relief on the heavily burdened healthcare system.

Healthcare practices among clients presenting late for HIV care can vary, and understanding these practices is crucial for designing effective interventions to improve early detection and timely initiation of treatment (Chen, Lyu and Yeon-Sook Kim, 2023). Understanding the complex interplay of these factors is crucial for developing targeted interventions aimed at improving healthcare practices among individuals presenting late for HIV care.

2.6 Stigma and discrimination among patients presenting late for HIV Care

Stigma and discrimination is a barrier that has persisted since the genesis of sexually transmitted infections, especially HIV diagnosis and treatment (Hutchinson and Dhairyawan, 2017). Globally, some key considerations regarding healthcare practices among individuals presenting late for HIV care are fear of stigma and discrimination.

UNAIDS, (2021) states that globally, it is estimated that HIV related stigma and discrimination continues to be pervasive. UNAIDS, (2021) revealed that in 25 out of 36 countries with recent data, more than 50% of people aged from 15-49 years hold discriminatory attitudes towards people living with HIV. Additionally, people living with HIV who perceive high levels of HIV related stigma are 2.4 times more likely to delay

enrolment in care until they are very ill (Gesese et al., 2017), thus contributing to HIV mortality rates.

On the other hand, in the United States of America, a study by Gay, (2006) was conducted where results showed more than 50% patients presenting late for care with an average CD4 <200 cells/mm³ (Gay, 2006). Comparatively, the Luma, et, al. (2018) study uncovered that among the HIV populations, young students had lower odds of presenting late compared to adult patients who had full time jobs. A study in sub-Saharan Africa showed that where the age of consent for HIV testing is 15 and below, HIV testing rates were 75% higher among adolescents as compared with other countries where the age of consent is 15 and above (McKinnon, 2018). Normalising testing for HIV at young age reduces stigma and discrimination in the general population and therefore reduces late presentation for HIV care.

The conclusion made in the Luma et al., (2018) study was that compared to patients with perceived stigma and discrimination, morbidity and mortality rates remained at extreme measures in patients presenting late even after ART initiation, especially at 3 to 12 months in care. With attention to strengths of the aforementioned study, the retrospective design chosen for the study favoured the aim of ascertaining the risk factors and consequences of late presentation. This study implies that in future it will be a fundamental deed to investigate the common opportunistic infections post ART initiation on late presenters to sensitize clinicians.

Equally, Luma et al., (2018) also studied LP for HIV/AIDS care in a tertiary hospital in Cameroon. Determining associated factors and consequences of LP for HIV care was the study's major objective. The study pursued to address a knowledge gap about the magnitude of those with fears of stigma and discrimination and at increased risk of clinical disease progression. Findings of the study revealed that out of the 1866 files that were retrospectively studied, LP prevalence was 89.7% and the mean CD4 count was 147 cells/mm³ whereas a Swiss Cohort study done in 2005 showed that about 30% patients presented with CD of <200 cells/mm³. The global AIDS Societal Enabler Targets for 2025 states that less than 10% of people living with HIV reported internalized stigma or experienced stigma and discrimination in healthcare and community settings (UNAIDS, 2021). As such, where programs have been put in place to respond to stigma and discrimination, access to HIV care services has improved significantly (United Nations General Assembly, (2019) and UNAIDS (2017).

By addressing barriers to testing, promoting awareness, reducing stigma and discrimination, and enhancing healthcare accessibility, it is possible to encourage earlier diagnosis and better health outcomes for individuals living with HIV.

2.7 Conclusion

This literature review has revealed notable gaps in the HIV study area. LP for HIV care is critical for immunological recovery and overall sustainability of life. According to the literature reviewed in this study, there is evidence that other studies agree that LP for HIV care results in dire consequences to the individual patient, family, community at large and the public healthcare system Luma et al., (2018); Hutchinson and Dhairyawan, (2017); Darcis, (2018) and Degno et al., (2021). The literature shows that there are different predictors for LP for HIV care. The studies reviewed showed a good picture of strategic plans aimed at targeting populations eligible for HIV screening and testing which therefore promote early presentation for HIV care.

Notably, gaps identified by previous studies during the review of literature include the serious need for the individual patient and the healthcare worker to commit themselves to taking action towards understanding issues surrounding LP for HIV care (WHO, 2022; CDC, 2020; Jeong et al., 2016). This implies that patient and the healthcare worker are both equally needed to positively contribute to HIV prevention while simultaneously reducing LP for HIV care. Secondly, another gap noted is that globally, a few studies have focused on the predictors of LP for HIV (Haas et al., 2022; Sharma, 2015 and Surtha, 2013). In the Sub-Saharan region, the area of immunological characteristics at presentation for HIV care has not been investigated much (Fomundam, 2017; Fleishman, 2010; Dickson, 2010). In Eswatini specifically, little is known pertaining the predictors and prevalence of LP to care. After a thorough literature review, it seems that only one study by Auld et al, (2017) investigated LP for HIV in Eswatini. Therefore, this current study will contribute new knowledge that the Eswatini Ministry of Health, the health care facilities and the relevant stakeholders will utilise for policy formulation that will aim at ending late presentation for HIV care.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

Chapter three discussed the methodology that was employed in the study. The chapter contained information about the study design, the study setting, and the study respondents and how they were selected. The researcher also discussed the data collection tool, data collection technique, plan for data analysis and dissemination of results. Information on the pilot study that was conducted together with ethical considerations is discussed in this chapter.

3.1 Research Design

The researcher adopted a quantitative, descriptive, cross-sectional design in the study. This design allowed the researcher to collect data from many different respondents in a single point in time. Moreover, the cross-sectional approach, being a snap shot of a set point in time, allowed the researcher to assess prevalence of late presentation for HIV care as well as a number of variables of interest which determined late presentation. This approach generated descriptive statistics regarding late presentation for HIV care. In addition, this design shows whether there are associations between disease and risk factors, in this case, late presentation for HIV care and the predictors.

3.2 Study Setting

The selected study setting was Matsapha AIDS Healthcare Foundation (AHF) Comprehensive Clinic situated in Matsapha Industrial Site, Eswatini. This site, is the main clinic within a peri-urban and most densely populated environment in the country. Eswatini is segmented into four regions and Matsapha AHF clinic is situated in the Manzini Region. Matsapha area is the centre for Manzini and also the main industrial area of the country. The population for Matsapha Industrial site is estimated to be over 35, 000 (Central Statistical Office [CSO], 2007).

Apart from HIV/AIDS care, Matsapha AHF clinic offers other healthcare services to the population of Matsapha. Correspondingly with HIV patient's needs, out-patient curative care, testing and treatment of Tuberculosis together with Sexual Reproductive Health (SRH)

services, are all part of the care provided in Matsapha AHF Clinic. Additionally, there are services such as screening, diagnosing, linkage and medical care for Non-Communicable Diseases (Hypertension, Diabetes and Cancer), linkage to diabetes clinics or cancer services as these are common among HIV populations.

The reason for choosing Matsapha AHF Clinic as the study site was because the enrolment goals were likely to be reached on time owing to the population's profile and accessibility to the clinic.

3.3 Study Population

The study population were all the adult clients who receive care at Matsapha AHF Clinic, HIV positive, not yet on ART and residing in Matsapha, Eswatini.

3.3.1 Target Population

The newly tested HIV positive clients attending at Matsapha AHF clinic and were not yet enrolled into HIV care.

3.3.2 Accessible Population

The accessible population were sixty (60) patients residing in Matsapha, Manzini region who utilized the Matsapha AHF Clinic, tested HIV positive and had a same day baseline CD4 count. All clients who met the study criteria, who consented for participation in the study and residing in the following areas were included; Mhlaleni, Logoba, Mathangeni, Mobeni, Mahhala, Eteni, Kwaluseni, and, Ludzeludze, Mbikwakhe, Bethany and Sibayeni.

3.4 Sampling Technique

A propability, systematic sampling technique was employed. This choice of sampling method suited the study because it allowed control and sense of process flow. In addition, systematic sampling eliminated clustered selection of study respondents (Centre for Evidence Based Medicine, 2022). Hence in this study, clients receiving HIV care were chosen at regular intervals. Every participant was assigned a unique number for identity. According to Fleetwood (2018), the systematic sampling formula for intervals is as follows and this formula was employed in this study; $i = N/n$.

Whereby **i** = interval, **N**= size of the population, **n**= size of the sample

Clients receiving HIV care were selected from those who met the inclusion criteria. Then the researcher chose the starting participant (**r**) of the study sample and added the interval to the random number and kept adding individual clients receiving HIV care in the sample. For instance; **r, r + i, r + 2i, r + 3i, r + 4i** and so on until the sample size was reached.

3.5 Inclusion Criteria

Clients meeting the following criteria participated in the study:

- 1) Those diagnosed with HIV but were not yet enrolled into care
- 2) Clients with CD4 cell count result available
- 3) Clients aged 18 years and above, both males and females
- 4) Clients who had been residents of Matsapha community for three consecutive months prior to the diagnosis of HIV and continued to be residents of the community until day of data collection
- 5) Clients who provided an informed consent to participate in the study.

3.6 Exclusion Criteria

Clients who were too ill to participate in the study were excluded.

3.7 Sample Size Determination

In Matsapha AHF Clinic, on average, about 20 patients test HIV positive per month. The data collection process for this study was expected to run for a period of 3 months. Using this target population, the sample size was calculated using the Cochran's sample size formula. Since the Cochran formula is used in large populations (Glen, 2022), whereas this study had a whole infinite population that was relatively small, the value determined by the Cochran's formula was therefore reduced using the Modified Cochran's formula.

Sample calculator using Cochran's formula; $n_0 = \frac{z^2 pq}{e^2} = ((1.96)^2 (0.5) (0.5)) / (0.05)^2 = 385$

Where **e** = the desired level of precision (margin of error),

p = the estimated proportion of the population

p = 1 – p

z = value extracted from the Z table

Modified Cochran's formula; $N_0 = \frac{n}{1 + \frac{(n-1)}{N}} = 385 / (1 + (385 - 1) / 60) = \underline{\underline{60 \text{ patients}}}$

Where **N₀** = Population of the study

n = Computed value using the Cochran's Formula

3.8 Data Collection Instrument

For this study, the researcher utilized a structured interview schedule to collect data adapted from an already developed instrument. Study questionnaires on patient's socio-demographic, behavioural and psychosocial variables was adapted from the research study entitled "Determinants of Late HIV Presentation at Ndlavela Health Center in Mozambique" developed by Chone, Abecasis and Varandas in 2022. Permission to utilise the developed tool (Study questionnaire on Determinants of Late HIV Presentation at Ndlavela Health Center in Mozambique) was requested and granted (attached in Appendix section V). However, the data collection instrument developed by Chone, Abecasis and Varandas, included a section for "Economic variables" which was exempted in this study as they were not part of this research objectives. According to Chone, Abecasis and Varandas (2022), the Chronbach alpha of the tool was 0.8. In a documented communication, the researchers affirmed that this tool was used because the research team already knew how to utilize the tool to measure the internal consistency or reliability for the research study.

The data collection instrument developed by Chone, Abecasis and Varandas was chosen by the researcher to be utilised as this current research's data collection tool because the tool was used in Mozambique where the setting in terms of HIV and late presentation prevalence are similar. In addition, the similar rural geographical location, race and culture allowed the research questions to be applicable in the proposed study. Moreover, the scope of both studies was the same, that is, the extent to which the study will explore and the duration of the study. The conceptual framework underpinning both studies is indistinguishable.

3.8.1 Reliability

Reliability refers to how consistent a method measures value (Middleton, 2022). This ensures that the same result can be achieved by using the same methods under the same

circumstances, as Groove et al., (2014) attested. In this study, the researcher applied the following three types of reliability.

3.8.2 Test-retest reliability

According to Middleton (2022) and Groove et al., (2014), test-retest refers to the consistency of a measure across time. In this study, to ensure that the same results were produced when repeating the measurement, 6 randomly picked clients receiving HIV care were requested to repeat the questionnaire two weeks and one month apart after the initial test. This was the period when newly ART initiated patients visited the clinic for review. The same results were obtained, indicating high test-retest reliability.

3.8.3 Interrater reliability

This is the consistency of a measure across raters or observers. In this study, to ensure that the same results were reproduced when different people conduct the same measurement, five examiners who are experts in quantitative research were selected to answer the questionnaire to determine interrater reliability. High interrater reliability rates were obtained.

3.8.4 Internal consistency

Groove et al., (2014) asserts that internal consistency is the consistency of the measurement itself. To ensure that the same results from different parts of the data collection tool were obtained, the researcher randomly split the results into two halves. A strong correlation between the two sets of results indicated high internal consistency.

3.9 Validity

According to Middleton (2022), validity refers to how accurately a method measures what it is intended to measure. To ensure high validity in this study, three types of validity were evaluated.

3.9.1 Internal and External Validity

Internal validity is researcher's ability to rule out other causes for the study results and have confidence on those results. To ensure internal validity in this study, the researcher utilised another personnel for data collection to avoid researcher bias and therefore influence the data to favour the researcher's hypothesis. Secondly, the data collection period was conducted outside of historical events such as HIV testing campaigns or natural disasters which can

have an impact on the outcomes of the study results. Thirdly, diffusion is a threat to internal validity. During the data collection exercise to deflect diffusion, it was ensured that the study respondents do not interact or observe one another during the interviews which can compromise the study's findings.

External validity is the extent to which study findings can be generalized to other people or settings. To ensure external validity, the study utilized samples the representative of the target population which was people living with HIV and are based in Matsapha, Manzini Region, Eswatini. This population reflects the diversity and distribution as close as possible to the sample that was required for the study. Utilizing this representative sample helped to avoid bias. Secondly, multiple methods of analysing data were used to ensure external validity. In this study, four different variables were measured using different statistical tests to analyse predictors of late presentation for HIV care. Thirdly, external validity was ensured by comparing the study results with results from other similar studies. Comparing the results helped to avoid overgeneralization and also increased relevance of the results.

3.9.2 Construct validity

Middleton (2022) describes construct validity as the adherence of a measure to existing theory and knowledge of the concept being measured. In this study construct validity was measured by adopting an existing validated tool. Permission was requested and granted by the developer of the tool. The questionnaire included relevant indicators to measure socio-demographic, healthcare practices, clinical status of patients, stigma and discrimination variables that answered the question about predictors of late presentation for HIV care.

3.9.3 Content validity

Content validity is the extent to which the measurement covers all aspects of the concept being measured (Middleton, 2022; Groove et al., 2014). In this study, content validity was measured by ensuring that all characteristics of an individual were included in the questionnaire to give an insight about predictors of late presentation for HIV care. There were more than 10 questions to answer in each category to cover all variables about each category.

3.9.4 Criterion validity

The extent to which the result of a measure corresponds to other valid measures of the same concept is criterion validity (Middleton, 2022). In this study, criterion validity was measured

by searching for another existing data collection instrument used to measure the predictors of late presentation for HIV care. Both instruments were issued to the same group of clients receiving HIV care and the results were compared and found to be similar. Therefore, the selected instrument was considered as having a high criterion validity.

3.10 Data Collection Technique

A research proposal was presented and approved. Permission to collect data was granted and the data collection exercise was conducted at Matsapha AHF clinic.

Within the Matsapha AHF clinic, all patients are seen and triaged at the HIV Testing Services (HTS) department. There are three HTS personnel stationed in different rooms. Prior to the beginning of the data collection exercise, the HTS personnel was informed about the study and requested to refer eligible individuals (as per the inclusion criteria in 3.4.1 above). The HTS personnel escorted the individual to the designated office for conducting interviews where the researcher received each individual. The researcher welcomed the individual, explained the importance of their participation in the study, read the information sheet as well as the informed consent. Upon gaining a verbal consent for participating, the researcher administered the questions face to face by reading and writing the responses on the respondent's allocated interview schedule. Upon completion of each interview, in the presence of the respondent, forms were checked for completion of all questions then stored in a lockable cabinet for confidentiality purposes. Approximately 15 minutes was spent by each participant from start to end of the interview.

3.11 Data Analysis

Data was collected from 60 patients presenting for HIV Care at AHF clinic in Matsapha. Data was analysed using Statistical Package for Social Science (SPSS) version 27.0. Descriptive statistics such as frequencies, percentages, mean, maximum and minimum values and standard deviation were used to summarise the categorical variables of sociodemographic data. Additionally, frequencies and proportions were used to summarise all the categorical and nominal variables. Categorical variables included healthcare practices and stigma and discrimination, whereas nominal variables comprised of the dependent variable, that is, late presentation for HIV care.

The Chi-square and Fisher's exact tests for tables bearing units less than 5, were used to test for association and differences in distribution for all categorical independent variables such as age, gender, level of education, marital status, religion, employment, estimated time to reach facility, diagnosed and treated for STIs, symptoms of HIV, WHO clinical stage, CD4 count, state of HIV defining illness, syphilis test and Hepatitis B test with the dependent variable early or late presentation to HIV care.

Multiple logistic regression was used to predict the relationship between health practices, stigma and discrimination and late presentation to HIV care. A statistical significance of 0.05 was considered in this study.

3.12 Data Management and Storage

Upon completion of the interview schedule by respondents, the tool was labelled and concealed in a lockable cabinet for storage. The questionnaires were then cleaned, coded, and entered into SPSS for Windows Version 27 for statistical analysis. Thereafter, the interview schedules were locked in a cabinet, only accessible to the researchers. The SPSS data has been secured with a password and a backup copy has been kept on an external drive, which has also been secured for data security reasons.

3.13 Pilot Study

The researcher conducted a pilot test as a way of making means to determine if the interview schedule will work effectively in reality. The pilot study was conducted at the same site as the main study, which was at AHF Matsapha Clinic. The reason for conducting the pilot study in this site was to check suitability or fitness of the interview schedule for the proposed population. Literature, as stated by Connelly (2018) and Hertzog (2018) suggests that a pilot study sample should be 10% of the sample projected for the larger parent study. On the other hand, Johanson and Brooks (2020) suggests a minimum of 10% and maximum of 30%. As such, for this current study, 60 was the sample size for the main study, therefore, the researcher sampled 16% resulting in 10 clients receiving HIV care. It was ensured that these were clients receiving HIV care who met the inclusion criteria to test whether the questions were relevant, questions were covering all the range of each study variable.

The pilot study was conducted in standardized ethical manner. During the pilot study, rising challenges included time constraints as verbalized by the respondents. Therefore, the starting and finishing time was recorded to determine average time spent during the interview. The

reason for determining the interview duration was to plan for the whole period of data collection and to assist with correct information about length of interview to those in the main study.

Additionally, a trend of missing data was noted for questions that seemed vague, especially under the stigma and discrimination section. As a result, the interview questions were rephrased to make them more clearer in consultation with an HIV care expert at the clinic and the supervisors. Other than that, minor technical issues such as delayed laboratory results (CD4 Count, Syphilis and Hepatitis B) were noted and corrected. The delay of blood test results was set right by liaising with the laboratory technician to prioritise the blood test results as urgent.

Strengths of the interview schedule included the clear and straight forward questions with one word answers. This prompted the researcher to modify the original semi-structured to an interview schedule. This was a corrective action to shorten the interview time and avoid interviewer bias. Moreover, the pilot study equipped the researcher with practical experience to boost confidence and competence for the main study.

3.14 Ethical Consideration

Ethical clearance to conduct the study was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) (Reference No.: 4133-2023) and authority to proceed with the study was sought from the National Health Research Authority (NHRA) (Reference No.: NHRA-R-365/12/05/2023) in Zambia where the researcher is pursuing her studies. Permission to conduct the study was then sought from the University of Zambia School of Nursing Sciences in Zambia. Further ethical clearance was obtained from Eswatini Health and Human Research Review Board (EHHRRB) (Reference No. EHHRRB130/2023) as this is the country where the study was anchored.

The researcher ensured privacy and confidentiality of clients receiving HIV care in this study. The collected data was only accessible to the researcher for the purpose of confidentiality. Respondents' information were kept on a password protected database, and associated only with a study identification number for this research. There are no patient identifiers. All data were entered into a computer that is password protected. Data were stored in a locked office of the researcher and will be maintained for a minimum of three years after the completion of the study.

For this research study, the researcher conducted a risk benefit analysis. Benefits for participating in the study involved enhanced understanding of the condition by the patient which was late presentation for HIV care. The clients receiving HIV care received the exclusive privilege to spend expanded period of time (20 – 45 minutes) with the researcher after the interview where they asked questions related to the HIV and AIDS subject. The researcher willingly addressed the participants' questions with hope that as clients receiving HIV care, they will thereafter exhibit full cooperation during their life long treatment and achieve improved healthcare outcomes. However, some patients articulated some anxiety about participating but also expressed a tendency to get involved in the research activity despite these feelings. The researcher noted that after a moment of conversation about the study, patients were willing to become respondents for the sake of the benefit of being able to talk to someone in confidence about their HIV status. Despite the impacts of being interviewed on sensitive past experiences, respondents did not report any concern or regret regarding their decision to participate in the study.

In contrast, risks such as physiological, economic and legal risks were not anticipated at all since there was no physical harm or need for financial transactions while participating in this study. Additionally, loss of confidentiality was another potential risk, however, the researcher understood the sensitivity of all research materials and therefore exercised great care in obtaining, handling and storing participants' data.

CHAPTER FOUR

STUDY RESULTS

4.0 Introduction

This chapter outlines the results of the current research study, which aimed to establish the predictors of late presentation for care by HIV populations at AHF Matsapha clinic. Data were obtained from all the sampled 60 respondents, resulting in a 100% response rate. The chapter begins with an introduction, followed by a description of results of the respondents' socio-demographic characteristics, proportion of patients presenting late for HIV care, patient's experiences of stigma and discrimination and lastly, healthcare practices as predictors of late presentation for HIV care. Furthermore, the chapter describes results of the relationship between the dependent variable, and the independent factors.

4.1 Presentation of Results

The results of this study are presented using frequency tables, charts, and contingency tables with textual explanations of significant data. This is intended to provide a summary of results and aid comprehension of the study's findings. The results have been arranged in accordance with the order of questions and sections in the interview schedule which represents the specific objectives. Some data were grouped together to give an overall picture. Results from associations between socio-demographic characteristics and late presentation for HIV care, categorical dependent variables and binary logistic regression have also been presented.

4.1.1 Socio-demographic Characteristics of the Sample

Table 4.1 below displays the distribution of the respondents' socio-demographic characteristics which were considered in the study. These include age, sex, level of education, marital status, religion and employment status. This information was collected because socio-demographic data is significant when interpreting results of a study.

Table 4.1: Socio-demographic characteristics of the sample (n = 60)

Variable	Frequency	Percentage
Age (years)		
20 years/ less	5	8.3
21 – 30 years	13	21.7
31 – 40 years	30	50.0
41 – 50 years	8	13.3
51 – 60 years	4	6.7
Mean: 35.1	35.1	
Standard Deviation (SD)	9.75	
Range	18 – 62 years	
Total	60	100.0
Sex		
Male	33	55.0
Female	27	45.0
Total	60	100.0
Level of education		
No formal education	10	16.7
Primary School	12	20.0
Secondary/ High School	30	50.0
Tertiary School	8	13.3
Total	60	100.0
Marital Status		
Single	12	20.0
In a relationship	32	53.3
Married	15	25.0
Divorced	1	1.7
Total	60	100.0
Religion		
Christian	57	95.0
Swazi Traditional Religion	2	3.3
Other	1	1.7
Total	60	100.0
Employed		
Yes	14	23.3
No	46	76.7
Total	60	100.0

Table 4.1 above illustrates that the age of respondents ranged from 18 – 62 years with half 50% (30) of them being in the age group of 31 – 40. The mean age is 35.1 years. More than half 55% (33) of the respondents were males, 50% (30) had attained secondary/high school level of education and 53.3% (32) were currently in a relationship. Majority 95% (57) of the respondents reported that they affiliated with the Christian religion. Additionally, more than three quarters (76.7%, n = 46) of the respondents were not employed at the time of study. It is

assumed that the lack of employment could pose challenges to access to HIV care and thus late presentation for HIV care.

4.1.2: Prevalence of Late Presenters for HIV care

Prevalence of Late Presenters (LP) for HIV care was measured using frequency, percentage and confidence interval. The response to this question was dichotomized as early and late presentation for HIV care.

Table 4.2: Presentation for HIV care (n=60)

Presentation for HIV care	Frequency (n)	Percentage (%)	95% CI*
Early presentation for HIV care	14	23.3	12.9 – 32.6
Late presentation for HIV care	46	76.7	67.3 – 86.2
Total	60	100.0	

CI: Confidence Interval

As indicated in Table 4.2 above, among HIV positive clients, the prevalence of Late Presentation for HIV care is 76.7 %, with a confidence interval of 12.9 – 32.6.

4.1.3 Clinical Status of Respondents

Table 4.3 below shows the clinical status of the sample. These include estimated time to reach facility, diagnosed and treated for STIs, symptoms of HIV, WHO clinical stage, CD4 count, presence of AIDS defining illness, presence of cormobidies, syphilis test and Hepatitis B test.

Table 4.3: Clinical Status of Respondents (n=60)

Variable	Frequency	Percentage
Estimated time to reach facility		
Less than 30 minutes	7	11.7
30 - 60 minutes	47	78.3
Over 60 minutes	6	10.0
Total	60	100.0
Diagnosed and treated for STIs		
No	23	38.3
Yes	37	61.7
Total	60	100.0
Symptoms of HIV		
No	17	28.3
Yes	43	71.7
Total	60	100.0
WHO clinical stage		
I	14	23.3
II	14	23.3
III	32	53.3
Total	60	100.0
CD4 Count		
100 or less	15	25.0
101 – 200	16	26.7
201 – 300	11	18.3
301 – 400	7	11.7
401 – 500	5	8.3
More than 500	4	6.7
Total	60	100.0
Presence of AIDS defining illness		
No	13	21.7
Yes	47	78.3
Total	60	100.0
Presence of Cormobidies		
TB	18	39.1
Hepatitis B	2	4.3
Cryptococcus Meningitis	1	2.2
Diabetes	3	6.5
Elevated Blood Pressure	4	8.7
Kaposi Sarcoma	1	2.2
Malnutrition	10	21.7
Pneumonia	5	10.9
Other	2	4.3
Total	60	100.0
Syphilis test		
Positive	20	33.3
Negative	40	66.7
Total	60	100.0
Hepatitis B test		
Positive	10	16.7
Negative	50	83.3
Total	60	100.0

More than three quarters (78.3%, n = 47) of the study respondents were taking 30 – 60 minutes to reach the health care facility. Among the respondents (61.7%, n = 37) had previously been diagnosed and treated for Sexually Transmitted Infections (STIs). Seventy one percent (71.3%, n = 43) of the study respondents presented with symptoms associated with HIV and 53.3% (32) of them were classified under WHO clinical stage III. A total of (78.3%, n = 47) of the respondents had AIDS defining illnesses and 39.1% (18) had TB infection.

Summary of Clinical Status

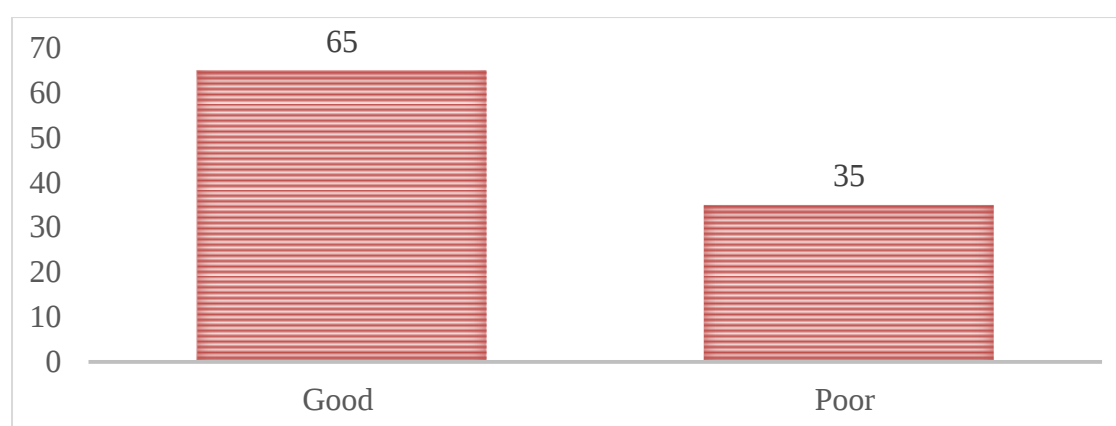


Figure 4.1: Clinical status of patients presenting for HIV care at Matsapha AHF Clinic

Generally, more than half (61.7%, n = 37) of the respondents reported that their clinical status was good (Figure 4.1 above).

4.1.4 Healthcare practices by patients presenting late for HIV care

Table 4.4 below depicts the healthcare practices of HIV populations presenting late for care at AHF Matsapha Clinic. These practices comprises of number of sexual partners, probable knowledge on HIV acquisition, reason for diagnostic testing, regular STIs screening before HIV diagnosis, alcohol consumption at HIV diagnosis, illicit drug usage at diagnosis, injectable drug at diagnosis, tobacco smoking, regular use of condoms before HIV diagnosis, and ART initiation from time of diagnosis.

Table 4.4: Healthcare practices of HIV populations presenting late for HIV care (n= 60)

Variable	Frequency	Percentage
Number of sexual partners		
One	33	55.0
Two	21	35.0
Three or more	5	10.0
Probable knowledge on mode of HIV acquisition		
Yes	29	48.3
No	31	51.7
Reason for diagnostic testing		
Client – initiated	18	30.0
Provider – initiated	37	61.7
Medical – initiated	1	1.7
Pregnancy	4	6.7
Regular STIs screening before HIV diagnosis		
Yes	19	31.9
No	41	68.3
Alcohol consumption at HIV diagnosis		
No	30	50.0
Yes	30	50.0
Illicit drug usage at diagnosis		
No	60	100.0
Injectable drug at diagnosis		
No	59	98.3
Yes	1	1.7
Tobacco smoking		
No	41	68.3
Yes	19	31.7
Regular use of condoms before HIV diagnosis		
No	52	86.7
Yes	8	13.3
ART initiation from time of diagnosis		
1 year or less	35	58.3
2 – 5 years	21	35.0
More than 5 years	4	6.7

Table 4.4 above shows that 55% (33) of the respondents had one sexual partner whilst almost half (n = 29, 48.3%) had probable knowledge on the mode of HIV acquisition. Furthermore, the observation in Table 4.3 states that 61.7% (37) of the respondents were tested because of the Provider Initiated Diagnostic testing strategy and only 31.9% (19) had regular screening for STIs before being diagnosed with HIV. Additionally, half (n = 30, 50%) of the respondents were in the habit of drinking alcohol at diagnosis and about 31.7% (19) were smoking tobacco. All (n = 60, 100%) of the study respondents were not illicit drug users at diagnosis and only 1.7% (1) of them was using injectable drugs. On the contrary, only 13.3%

(8) were regularly using condoms before HIV diagnosis. Furthermore, only 58.3% (35) initiated ART within 1 year of being diagnosed with HIV.

Summary of Healthcare practices

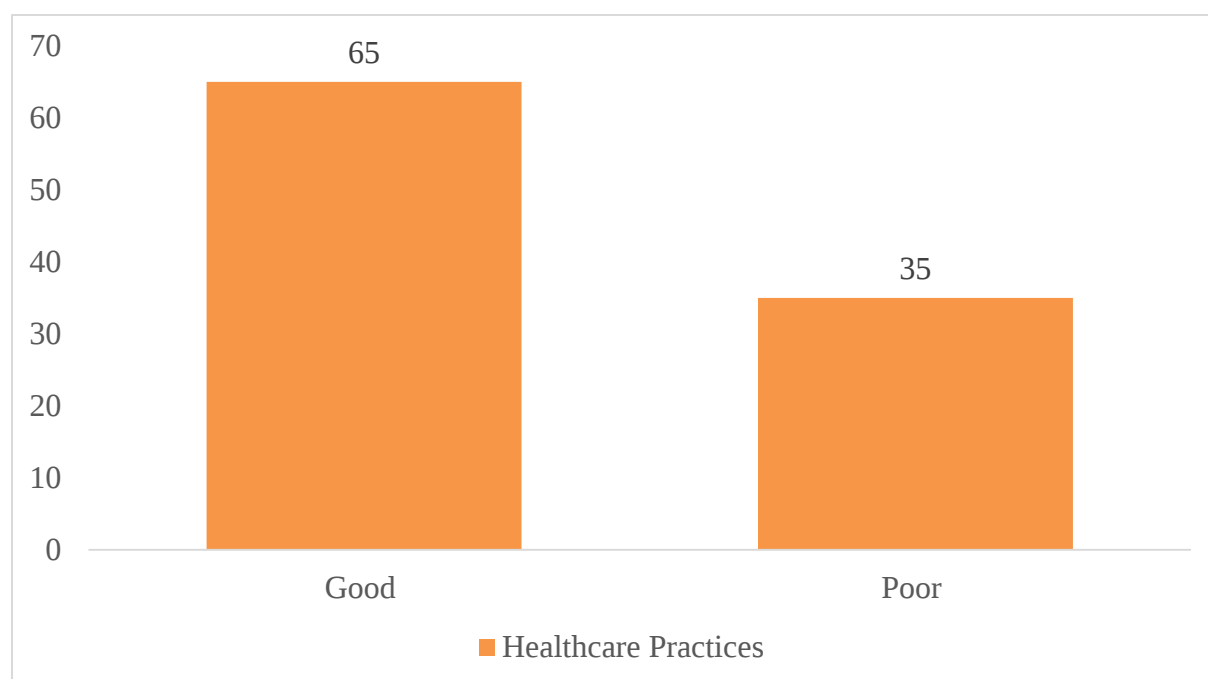


Figure 4.2: Summary for healthcare practices of late presenters to HIV care

Generally, majority (65%, 39), of the respondents reported that their healthcare practices was good (Figure 4.2 above)

4.1.5 Stigma and discrimination among patients presenting late for HIV care

Table 4.5 below presents the experiences of stigma and discrimination among HIV populations presenting for care at AHF Matsapha Clinic.

Table 4.5: Stigma and discrimination among patients presenting for HIV care (n=60)

Variable	Yes n (%)	No n (%)
1. Does anyone know your HIV status (besides partner and/or confidant)	31 (51.7)	29 (48.3)
2. Do you fear any stigma?	39 (65.0)	21 (35.0)
3. Have you ever been stigmatized??	38 (63.3)	22 (36.7)
4. Are you afraid of third parties knowing your HIV status?	43 (71.7)	17 (28.3)
5. At the time of diagnosis, was this the first test done?	40 (66.7)	20 (33.3)
6. Do you talk openly about HIV with neighbours or friends?	21 (35.0)	39 (65.0)
7. Does your current sexual partner know your HIV status?	30 (50.0)	30 (50.0)
8. Before diagnosis, did you have any prior information about HIV?	21 (35.0)	39 (65.0)
9. Before diagnosis, did you have any previous information about antiretroviral treatment?	24 (40.0)	36 (60.0)
10. Were you afraid of the diagnosis?	41 (68.3)	19 (31.7)
11. Were you afraid of being rejected by society because of having HIV?	42 (70.0)	18 (30.0)
12. Before diagnosis, were you in the habit of having regular health check-ups for your general exams?	17 (28.3)	43 (71.7)
13. After the positive result, did you experience depression (feeling isolated, helpless, thinking about suicide)?	25 (41.7)	35 (58.3)
14. When you had the positive result, did you look for someone from traditional medicine (healer)?	14 (23.3)	46 (76.7)
15. When you tested positive, did you look for someone to talk to about your HIV status (in addition to your family and confidant)?	25 (41.7)	35 58.3)

The above table displays that more than half (51.7%, n = 31) of the respondents had their status known by others, 65% (n = 39) had fear of stigma and 63.3% (n = 38) have been stigmatized because of their HIV positive status. While 71.7% (n = 43) reported that they are afraid to have their HIV positive status known by third party (other than sexual partner), half (n = 30, 50%) of the respondents highlighted that their partners knew their HIV status. Notably, more than half (66.7%, n = 40) tested HIV positive while they were testing for the first time. Over three-fifth 68.3% (n = 41) of the respondents were afraid of being diagnosed with HIV and not surprisingly, 70% (n = 42) were afraid of being rejected by society because they are HIV positive. Exactly a quarter (41.7%, n = 25) of the respondents experienced depression immediately after being diagnosed with HIV while less than a quarter (23.3%, n =

14) of the respondents sort for healing from traditional healers after being diagnosed with HIV.

Summary of Stigma and Discrimination

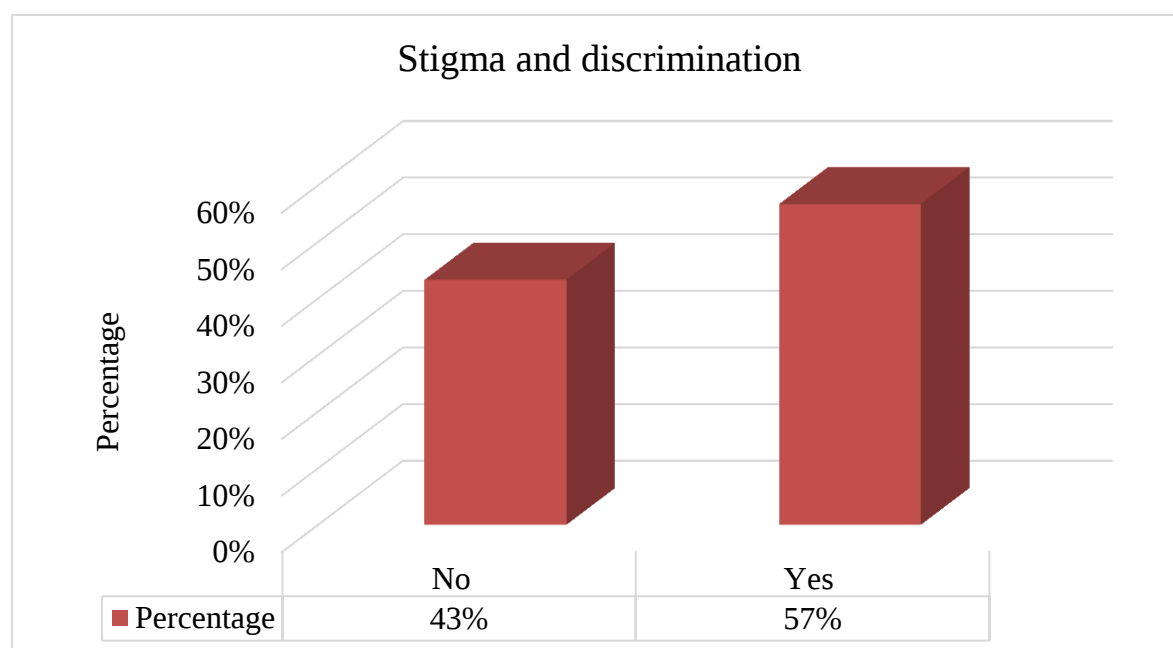


Figure 4.3: Summary for stigma and discrimination of late presenters for HIV care.

Generally, more than half (57.6%, $n = 34$), of the respondents reported that they have experienced stigma and discrimination (Figure 4.3 above).

4.1.6 Association between variables: Results from Chi-square and Fisher's Exact Tests

This section presents the results from Chi-square and Fishers' exact tests which tested the association between each predictor and the dependent variable, as shown by the p -values.

a) Association between socio-demographic characteristics and presentation for HIV care

Table 4.6 below presents the association between socio-demographic characteristics and presentation for HIV care among adult patients.

Table 4.6: Relationship between socio-demographic characteristics and late presentation for HIV care

Variable	Late presenters n (%)	Early presenters n (%)	Total n (%)	p-value (Chi ²)
Age				
20 years/ less	2 (40.0)	3 (60.0)	5 (100.0)	0.04 ^{FE}
21 – 30 years	10 (76.9)	3 (23.1)	13 (100.0)	
31 – 40 years	25 (86.2)	4 (13.8)	29 (100.0)	
41 – 50 years	7 (100.0)	0 (0.0)	8 (100.0)	
51 – 60 years	2 (66.7)	1 (100.0)	3 (100.0)	
More than 60 years	0 (0.0)	1 (100.0)	1 (100.0)	
Gender				
Male	27 (84.4)	5 (15.6)	32 (100.0)	0.29
Gender	19 (73.1)	7 (26.9)	26 (100.0)	
Level of education				
No formal education	9 (90.0)	1 (10.0)	10 (100.0)	0.26 ^{FE}
Primary School	9 (75.0)	3 (25.0)	12 (100.0)	
Secondary/ High School	20 (71.4)	8 (28.6)	28 (100.0)	
Tertiary School	8 (100.0)	0 (0.0)	8 (100.0)	
Marital Status				
Single	9 (81.8)	2 (18.2)	11 (100.0)	0.95 ^{FE}
In a relationship	24 (77.4)	7 (22.6)	31 (100.0)	
Married	12 (80.0)	3 (20.0)	15 (100.0)	
Divorced	1 (100.0)	0 (0.0)	1 (100.0)	
Religion				
Christianity	45 (80.4)	11 (19.6)	56 (100.0)	0.37 ^{FE}
STR	1 (50.0)	1 (20.0)	2 (100.0)	
Employment				
No	7 (53.8)	6 (46.2)	13 (100.0)	0.01
Yes	39 (86.7)	6 (20.7)	45 (100.0)	

FE= Fishers' exact text

Table 4.6 above shows that out of the 46 respondents who presented late for HIV care at AHF Matsapha clinic, (86.2%, n = 25) were in the age range of 31 – 40 years. Based on the Chi – square test results, participant's age ($p = 0.047$) and employment status ($p = 0.010$) were statistically significant and associated with late presentation with HIV care.

4.1.6.2 Association between clinical status, healthcare practices, and stigma and discrimination and presentation for HIV care

Table 4.7 below presents the association between clinical status, healthcare practices, and stigma and discrimination and presentation for HIV care among adult patients.

Table 4.7: Relationship between clinical status, healthcare practices, and stigma and discrimination and late presentation for HIV care

Variable	Late presenters n (%)	Early presenters n (%)	Total	p- value
Clinical status				
Good	29 (82.9)	6 (17.1)	35 (100.0)	0.411
Poor	17 (73.9)	6 (26.1)	23 (100.0)	
Healthcare practices				
Good	34 (91.9)	3 (8.1)	37 (100.0)	0.002*
Poor	12 (57.1)	9 (42.9)	21 (100.0)	
Stigma and discrimination				
No	16 (66.7)	8 (33.3)	24 (100.0)	0.046*
Yes	30 (88.2)	4 (11.8)	34 100.0)	

* $p < 0.05$

Based on the Chi – square test results above, healthcare practice ($p = 0.002$) and stigma and discrimination status ($p = 0.046$) were significantly associated with late presentation for HIV care.

4.1.7 Predictors of late presentation for HIV care – Results from Multiple Logistic Regression

This section presents the results from binary regression analysis which identified the predictors of late presentation of HIV care, as shown by the p-values which are less than 0.05.

4.7.1.1 Socio-demographic characteristics predictors of late presentation to HIV care

Table 4.8 below present the regression analysis for sociodemographic characteristics such as age, gender, marital status, level of education.

Table 4.8 Sociodemographic characteristics predictors of late presentation to HIV care

Variable	Unadjusted Odds Ratio (95% CI)	p-value	Adjusted Odds Ratio (95% CI)	p-value
Age				
20 years/ less			Ref	
21 – 30 years	1.31 (0.680 – 2.53)	0.419	1076982406 (0.00)	1.00
31 – 40 years	1.31 (0.680 – 2.53)	0.419	5384912030 (0.00)	1.00
41 – 50 years	1.31 (0.680 – 2.53)	0.419	10096710057 (0.00)	1.00
51 – 60 years	1.31 (0.680 – 2.53)	0.419	2.6^18 (0.00)	0.999
More than 60 years	1.31 (0.680 – 2.53)	0.419	3230947218 (0.00)	1.00
Gender				
Female			Ref	
Male	0.503 (0.139 – 1.82)	0.296	1.99 (0.548 – 7.22)	0.296
Level of education				
No education			Ref	
Primary school	1.00 (0.507 – 1.99)	0.990	0.00 (0.00)	0.999
Secondary school	1.00 (0.507 – 1.99)	0.990	0.00 (0.00)	0.999
Tertiary	1.00 (0.507 – 1.99)	0.990	0.00 (0.00)	0.999
Marital status				
Single			Ref	
In a relationship	1.08 (0.468 - 2.51)	.850	0.00 (0.00)	1.00
Married	1.08 (0.468 - 2.51)	.850	0.00 (0.00)	1.00
Widowed	1.08 (0.468 - 2.51)	.850	0.00 (0.00)	1.00
Divorced	1.08 (0.468 - 2.51)	.850	0.00 (0.00)	1.00
Religion				
Christianity	0.244 (0.014 – 4.22)	0.332	4.09 (0.237 – 70.7)	0.332
STR	Ref			
Employment				
Yes			Ref	
No	5.57 (1.39 – 22.3)	0.015	0.015 (0.045 – 0.719)	0.015*

STR- Swazi Traditional Religion; * $p < 0.05$

In terms of gender, male patients were more likely to present late for HIV care than females by a factor of 1.99 (AOR = 1.99, 95% confidence interval = 0.548 – 7.22, $p = 0.296$). In terms of religion, patients who were christians were more likely to present late for HIV care than those who were believing in STR by a factor of 4.09 (AOR = 4.09, 95% confidence interval = 0.045 – 0.719, $p = 0.332$). In terms of employment, patients who were not employed were more likely to present late for HIV care than those who were employed by a factor of 0.015 (AOR = 0.015, 95% confidence interval = 0.045 – 0.719, $p = 0.015$).

4.7.1.2 Predictors of late presentation for HIV care

Table 4.9 below present the regression analysis for clinical status, healthcare practices and stigma and discrimination.

Table 4.9: Predictors of late presentation for HIV care

Variable	Unadjusted Odds Ratio (95% CI)	p-value	Adjusted Odds Ratio (95% CI)	p-value
Clinical status				
Good			Ref	
Poor	3.02 (0.617 – 14.8)	0.172	0.331 (0.068 – 1.62)	0.172
Healthcare practices				
Good			Ref	
Poor	9.44 (1.83 – 48.8)	0.007*	0.106 (0.020 – 0.548)	0.007*
Stigma & discrimination				
No			Ref	
Yes	2.47 (0.552 – 11.0)	0.237	0.405 (0.091 – 1.81)	0.237

* $p < 0.05$

In terms of clinical status, patients with poor clinical status were more likely to present late for HIV care than those with good clinical status by a factor of 0.331 (AOR = 0.331, 95% confidence interval = 0.068 – 1.62, $p = 0.172$). On another note, patients with poor healthcare practices were more likely to present late for HIV care than those with good healthcare practices by a factor of 0.106 (AOR = 0.106, 95% confidence interval = 0.020 – 0.548, $p = 0.007$). Moreover, patients who were stigmatized and discriminated against were more likely to present late for HIV care than those who were not stigmatized and discriminated by a factor of 0.405 (AOR = 0.405, 95% confidence interval = 0.091 – 1.81, $p = 0.237$).

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 Introduction

This chapter discusses the results from the previous chapter. The discussion aims to contribute to the ongoing dialogue on optimizing HIV prevention and care strategies, ultimately fostering earlier presentation to HIV care and improved health outcomes for HIV populations. The analysis considered socio-demographic, clinical status, healthcare practices, stigma and discrimination variables to elucidate the complex interplay of predictors of LP to HIV care. Thus, understanding the key results of predictors of LP is essential for developing targeted interventions to enhance early diagnosis and timely initiation of treatment.

Chapter 5 discusses the results beginning with socio-demographic characteristics of the sample followed by prevalence of late presenters for HIV care, clinical status, healthcare practices as well as stigma and discrimination among late presenters for HIV care. Strengths and limitations of the study are presented thereafter. Following a conclusion note, are the implications of this study to nursing, particularly nursing practice, education, administration and research. The recommendations and plans for dissemination and utilisation of results are shared lastly.

5.1 Socio-Demographic Characteristics of Respondents

Socio-demographic data is significant in the interpretation of results of this study in order to segment and differentiate the groups. In line with objective number two which was to identify the socio-demographic characteristics of clients presenting for HIV care, the current study demonstrated that in terms of age groups, there are similarities in results across studies conducted under the area of late presentation for HIV care. In sub-Saharan Africa, the statistics are similar as for other continents, where the prevalence of late presentation for HIV is above 60%. In a study conducted in South Africa in 2017 on prevalence and predictors of late presentation for HIV care, it was highlighted that 79% of the newly diagnosed cases presented late for HIV care in the course of HIV infection (Fomundam et al., 2017). Notably, the high prevalence across countries was among patients of older age. Similarly, the same results were observed in this study where more than 69.9% of the patients were above 40 years old with male patients leading by 55%. It was observed that the high prevalence of late presentation for HIV among this group is due to the fact that early signs and symptoms may

be attributed to diseases of aging and also because neither individuals nor their care providers perceive them to be at risk for HIV infection (Justice et al., 2022 and Chone, Abecasis and Varandas (2022). Females, in general has less barriers to access healthcare because they routinely receive HIV testing services as a package when seeking other healthcare services such as family planning, ante-natal care, post natal care as well as childwelfare services (Kujawski et al., 2017; Coul et al., 2016; Gesesew, Tesfamichael and Adamu, 2013). This is contrary to males who only seek healthcare services when they are sick, thus the late presentation for HIV care (Gay, 2006; Gupta, 2000; Samet, 2001).

Luma et al., (2018), Belay et al., (2019) and Degno et al., (2021) all attest that as much as patients know the dangers of delaying to seek care, they mostly have fear of losing their jobs should they absent themselves from work or should it be known that they are HIV positive. The findings from this study can attest to this fact because employment status ($p = 0.010$) was statistically significant and associated with late presentation for HIV care. This therefore proves that there is a relationship between socio-demographic characteristics and late presentation for HIV care.

Findings from this study highlighted that employment is significantly associated with late presentation for HIV care ($p = 0.01$). In a study conducted in Belgium on factors associated with late presentation to HIV care, it was noted that unemployment is associated with late presentation for HIV care (Darcis et al., 2018). This finding shows that most people who are unemployed are struggling financially and have less resources to visit health facilities. Most of these people do not have money for transportation as well as for paying fees charged by the hospitals which course them to present late to HIV care.

5.2 Late presentation for HIV care

Even though the late presentation for care trends are declining worldwide, CDC (2017) agrees that still, approximately one third of newly diagnosed HIV positive patients records a baseline CD4 count less than 200 cells, meaning the problem of late presentation still persists. Findings from this study highlighted that the prevalence of late presentation for HIV care among HIV positive clients was 76.7%. Globally, the Center for Disease Control and Prevention [CDC], (2017) etimated that about 22 – 25% of people living with HIV will present late for HIV care in healthcare facilities. In the global study conducted by The Late Presentation Working Groups in EuroSIDA and COHERE, 2020; Hu, 2019; Jiang 2004) it was found that 53.8% presented late for HIV care. The finding from this current study (76.7%

late presenters), is in line with studies conducted in other African and Asian countries, where the prevalence rates are above 60% and this includes countries like South Ethiopia (72.6%), Nigeria (85.6%), China (20.8%) (Biresaw, Asfaw, and Zewdu, 2020; Degno et al., (2021); Jiang et al., (2015); Melendez et al., (2019).

5.3 Predictors of late presentation to HIV care

5.3.1 Clinical Status of Respondents

The clinical status of HIV populations presenting late for HIV care is a critical aspect that impacts both individual health outcomes and public health strategies. In line with the Conceptual Framework's Health Belief Model adapted for the current study, the perceived benefits of presenting early for HIV care can be described as the perception of the effectiveness of actions available to reduce the threat of a disease (LaMorte, 2019), in this case being 'late presentation for HIV care.' Consequently, early presentation for HIV care leads to near normal life expectancy provided clients start life-long ART before the CD4 count decreases below 200 cells (Sun et al., 2021). In the Middle East North Africa, Khamis et al., (2018) conducted a study where the results revealed that at first presentation, the CD4 count was less than 200 cells/mm³ in 38% of the patients. In this study, 51.7% presented with a CD4 lower than 200 cells/mm³. More to that in the Khamis et al., (2018) study, over a quarter, (26.1%) of the HIV patients had WHO stage IV infection whereas in this study, about 39.1% presented with WHO stage III infection.

Globally, according to WHO, (2022); Khamis et al., (2018); Tartaglia et al., (2017), the rates of HIV and Hepatitis B with Human Papilloma Virus (HPV) co-infection rises as high 15.8% among HIV patients thus increasing HIV related cancer cases. In this study, similar results were observed whereby 16.7% HIV positive patients also tested Hepatitis B reactive. Tartaglia et al., (2017) attest that the prevalence of HPV in HIV positive populations increases by 48% compared to 28% in HIV negative populations. Late presentation results in poor clinical outcomes. This, therefore, justifies the high mortality rates among patients with HIV who also have comorbidities, particularly WHO stage III infections.

Cohen, (2019) investigated the relationship between HIV and Sexually Transmitted Infections (STIs) and reported that STIs serves as a marker for risky sexual behaviours. Moreover, Cohen, (2019); WHO, (2018) and CDC, (2017) agreed that STIs increase the chance of acquiring infections among HIV populations by increasing the viral concentration

in the dismantled genital tract skin. A study by Galvin, (2014) concurred with this study whereby about 61.7% HIV positive patients had previously been diagnosed and treated for STIs at the time of starting ART.

Majigo et al., (2020) conducted a study and observed that more than half of the late presenters had an AIDS defining illness. These are results that concur with this study, where seventy one percent (n = 43, 71.3%) of the respondents presented with symptoms associated with HIV. To be precise, a percentage of 78.3 (47) of the respondents had AIDS defining illnesses while 39.1% (18) had TB infection.

5.3.2 Healthcare Practices of Study Respondents

A combination of individual, societal, and systemic factors can influence healthcare-seeking behaviors among individuals. The current study's conceptual framework's Health Belief Model provides an understanding that for an individual to take action towards a recommended preventive health measure, they need to perceive first the threat to health (LaMorte, 2019), in this case, the consequences of late presentation for HIV care.

In line with the current study's fourth objective which was to determine the healthcare practices that predict late presentation for HIV care, the findings from this study revealed that an HIV client having two or more sexual partners is 0.292 times likely to present late for HIV care. In a study conducted in South Africa in 2017 (Fomundam et al, 2017) on prevalence and predictors of late presentation for HIV care, it was highlighted that those with two or more partners are 2.42 times more likely to present late for HIV care. The result of the study conducted in South Africa has higher odds of presenting late for HIV care than findings from this study. This finding might be due to the fact that the population size of that study in South Africa was 4 times larger than our population which was 60.

This study also highlighted that HIV positive clients who are consuming alcohol at diagnosis were 0.450 more likely to present late for HIV care than those who do not drink alcohol. In a study conducted in Nigeria in 2014 on patients who present late to HIV care and associated risk factors, it was highlighted that HIV clients who consume alcohol at diagnosis were 1.55 more likely to present late for HIV care compared to those who do not drink alcohol (Agaba et al., 2014) because there is lack of readiness for behaviour change to practice healthcare seeking practices. In another study conducted in Ethiopia on predictors of late presentation for HIV/AIDS, it was highlighted that HIV positive clients who are consuming alcohol at

diagnosis were 4.35 times more likely to present late for HIV care than those who do not take alcohol (Degno et al., 2021). This findings are similar, even though the study conducted in Nigeria has higher odds. This finding may indicate that once alcohol is consumed, judgement is impaired and this patient may end up forgetting and denying the fact that they have already tested HIV positive and should take their medication. With an impaired judgement, one is more likely to engage in risky behaviors such as having unprotected sex or using recreational drugs both of which can increase the risk of developing resistant strand of HIV. It can be explained by the fact that individuals who consume alcohol have low health care-seeking behaviors.

Morover, this study highlighted that HIV clients who smoke tobacco are 0.444 times more likely to present late for HIV care than those who do not smoke tobacco. In another study conducted in Ethiopia on predictors of late presentation for HIV/AIDS, it was highlighted that HIV positive clients who smoke tobacco were 2.82 times more likely to present late for HIV care than those who do not smoke tobacco (Degno et al., 2021). In another study conducted in 2015 on the unique chalenges facing HIV positive patients who smoke, it was highlighted that tobacco smoking HIV clients are 3.51 times less likely to present late for HIV care (O'Cleirigh et al., 2015). This findings are similar, even though the study conducted in Nigeria has higher odds. The late presentation of this clients might be due to the fact that smokers, in general attend to few routine medical visits and usually have unsuppressed viral load. It can be explained by the fact that individuals who consume alcohol and smoke tobacco have low health care-seeking behaviors.

Findings from this study highlight that HIV clients who do not regularly use condoms before HIV diagnosis were 0.275 more likely to present late for HIV care than those who do regularly use condoms. In another study conducted in Ethiopia on predictors of late presentation for HIV/AIDS, it was highlighted that HIV positive clients who do not regularly use condoms before HIV diagnosis were 1.26 times more likely to present late for HIV care than those who do regularly use condoms (Degno et al., 2021). These findings are similar to the current study. This may be due to the fact that those who do not regularly use condoms are less watchful than regular condom users and hence more susceptible to Sexually Transmitted Infections (STIs) including HIV. This population, according to Simon, (2014); Kalonde et al., (2014) is prone to cringing away from HIV testing services for the sake of knowing their HIV status, therefore presenting late for HIV care when they eventually do.

5.3.3 Stigma and discrimination

Stigma and discrimination is one of the predictors that continuously take the lead in hindering access to HIV healthcare. In line with the current study's conceptual framework's Health Belief Model, the individual's decision and action depends on the person's discernment about the benefits and barriers related to the health behaviour (LaMorte, 2019). In line with the fifth objective of this study which was to determine whether stigma and discrimination is a predictor of late presentation for HIV care, significant findings from this study highlighted that HIV clients who fear stigma were 0.250 times more likely to present late for HIV care than those who do not fear stigma. In another study conducted in Ethiopia on predictors of late presentation for HIV/AIDS, it was highlighted that HIV positive clients who fear stigma were 2.79 times more likely to present late for HIV care (Degno et al., 2021). Concurrent findings were reported by research conducted in Harare city in Ethiopia and Zimbabwe (Degno et al., 2021; Nyika et al., 2016). The result might be associated with fear of loss of material and emotional benefits if serostatus is known in the community.

Findings from this study highlighted that HIV clients who are afraid of diagnosis were 0.500 times more likely to present late for HIV care than those who were not afraid. In a study conducted in Harare, Zimbabwe in 2016, it was highlighted that HIV clients who are afraid of diagnosis were 3.24 times more likely to present late for HIV care (Nyika et al., 2016). This finding is similar to the finding of this study. It can be explained by the fact that individuals who are afraid of diagnosis have low health care-seeking behaviors, thus presenting late for HIV care. However, the decision to initiate ART early is significantly associated with various social, service-related, and contextual factors. Being unafraid of HIV diagnosis helps to strengthen actions taken to prevent transmission of the infection, particularly from those who are unaware of their serostatus (Diane, 2019).

Findings from this study also highlighted that not having previous information about ART was 0.346 times likely to present late for HIV care than those who had information about HIV care. In a study conducted in Harare, Zimbabwe in 2016, it was highlighted that HIV positive patients who had no previous information about ART were 1.22 times more likely to present late for HIV care (Nyika et al., 2016). The two findings are similar and can be explained by the fact that individuals who do not have previous information about HIV and ART also tend to be oblivious about the importance of status disclosure within the family (Kumar, 2023), as a result, there is inadequate support from family and friends. Inadequate

support from significant others affect late presentation for HIV care because people living with HIV perceive that since ART is a life long therapy, without support, they will default ART resulting in further poor health outcomes, thus the delay to present for HIV care.

5.4 Strengths and Limitations

5.4.1 Strengths

Noted in this research study were the significant strengths. First, this is the first research study that focused specifically on the population based in Matsapha which has been labelled as a location with the highest HIV infection rates in Eswatini. Secondly, the results of this study are based on empirical data collected from a sample that is representative of the population, that is; clients receiving HIV care. This is an important research characteristic because empirical data is considered objective and unbiased evidence. In addition to the strengths, the results of this study can be reproducible, meaning, other researchers can achieve consistent results using the same data and analysis methods used in this study. Moreover, even though local data and literature based on the same research area was limited, the researcher managed to source up-to-date high quality references. This was achieved through adopting literature review strategies early during the research process which was in 2022.

The key findings from the study reveal that 76.7% of the respondents were late presenters for HIV care. Moreover, male patients were leading as late presenters by 55% and 69.9% of the patients were above 40 years old. In addition to that, people who have poor healthcare practices and people who fear stigma and discrimination are at risk for late presentation for HIV care.

5.4.2 Limitations

The study was not without limitations. One of the presumed limitations of the study was the sample size limitation for statistical measurements. This is because the study setting was confined in one healthcare facility yet there are more than 10 health care facilities in the region, excluding outreach clinics who also search and test for HIV among the population in Matsapha, Manzini Region, Eswatini. Pearson-Stuttard et al., (2018) attests that a statistical test require a large sample size to ensure that the sample is considered representative of the population and that the result can be generalized to a larger population. Furthermore, worth

noting is the subject of biasness during the sampling process. In this research study, participant recruitment originated from one out of four regions in Eswatini which is a factor that has a potential to bias the results. Such a limitation in this current study, however, serves as base for a longitudinal cohort study. The other limitation of the study was time constraints as there was a limited number of patients who test HIV positive and limited data collection time against the research project deadline. The researcher overcame this limitation by extending the data collection period by three weeks in order to reach the required sample.

5.5 Conclusion

Numerous studies have concluded that presenting late for HIV care has a major significant impact on patient's healthcare outcomes (WHO, 2022; CDC, 2020; UNAIDS, 2018). Although many factors, such as the patients's demographic characteristics, clinical status, healthcare practices as well as stigma and discrimination all play a role as predictors for late presentation for HIV care (Chone, Abecasis and Varandas, 2022), the benefits of presenting early for HIV care were clearly observed in the current study, as those that presented with a level of CD4 count above 350 cells/mm³ had less odds of presenting with commorbid conditions. A percentage of 78.3 (47) of the respondents had AIDS defining illnesses and 39.1% (18) had TB infection. This study also revealed that patients with poor clinical status were more likely to present late for HIV care than those with good clinical practice by a factor of 0.586 (AOR = 0.586, 95% confidence interval = 0.163 – 2.11, $p = 0.219$). Moralis et al., (2022) concluded that commorbidity is common among adults with HIV, physical and mental health conditions spanning a wide spectrum.

The current study's findings can be utilised in the planning and evaluation of care at AHF Matsapha Clinic. In order to improve care and overall levels of good healthcare outcomes, the public health sector, clinic nurses should focus on understanding the predictors of late presentation for HIV care in order to lessen the burden of late presentation consequences on the healthcare system, the community and the patient.

5.6 Implications of this study to Nursing

5.6.1 Nursing Practice

The results of the study have shown that the nursing profession together with the patient can create a workable solution, one patient at a time to improve early enrolment to care. Training

of nurses about predictors of late presentation for HIV care can come to the aid when caring for the patient who is delaying ART. Therefore, there is need to establish Pre-ART programs for improving aspects of nursing care to hone communication skills, competences and to refresh knowledge of nurses so as to improve the understanding of the patients' conditions and improving betterment of care. Communication skills will assist in convincing the patient about the urgent need to start ART without procrastinating.

5.6.2 Nursing Education

This study emphasized the significance of nurses' professional attitude and behavior towards patients who are less co-operative when it comes to practising good healthcare practices. According to the Healthcare Belief Model, through modification of variable factors, individual perceptions can be changed and therefore influence threats and cues for action. Nursing education can focus on sensitizing the most at risk population about the consequences of late presentation for HIV care. Therefore, nurse educators should continue focusing on teaching methods that will not only promote cognitive domains but also those of the psychomotor and affective domains to sharpen students' skills and attitudes and relate better with patients as they negotiate for ART initiation. The curriculum can also consider incorporating aspects related to health promotion strategies, leading to clients taking action towards enrolling for HIV care early, resulting in improved health care outcomes.

5.6.3 Nursing Administration

The policymakers play a crucial role in bringing about change and the implementation of proposed programs; therefore, the Ministry of Health may consider making assessment of patients' knowledge about HIV and ARVs in their communities. The results of the assessment can be used to inform the need for strong health education especially in this era of digital technology. Taking advantage of the widely used technology can help to shape up and regulate individual behaviours among the target population. Consequently, more patients will interact and engage in care early.

5.6.4 Nursing Research

The nursing research community in Eswatini should consider engaging non-governmental organizations for funding to evaluate the specific needs of the groups at risk for late presentation for HIV care so that the country's morbidity and mortality levels for late

presenters can be used as reference points to gauge progress or regress in the fight against deaths caused by AIDS. Future studies should compare enrollment levels in public and private facilities to identify areas for improvement.

5.7 Recommendations

Predictors of late presentation for HIV care is one of the key areas worth studying since it has been proven that late presentation for care greatly contributes to mortality and therefore strains the country's progress economically and socially. Therefore, there should be proper devised channels of getting feedback from the affected population to guide how the problem of late presentation to HIV care can be mitigated. Based on the current study findings, the researcher recommends the following strategies to enhance in closing the gaps on predictors of late presentation for HIV care in healthcare facilities. The following recommendations are proposed to the Eswatini Ministry of Health (EMoH).

- 1) The current study findings indicate that fear of stigma and discrimination is a predictor for late presentation for HIV care. Therefore, the Eswatini Ministry of Health should make interventions to improve clinic privacy to reduce stigma and discrimination. Patients should feel confident that all measures are enforced to ensure privacy from the clinic reception to the dispensary.
- 2) To empower all healthcare workers through refresher trainings to continue providing competitive care and meeting the patient's expectations. The healthcare facilities should consider taking routine feedback from the patients after visiting the facility and their opinions for improving customer care. This feedback should be taken into serious consideration so that quality of care is improved thus improved levels of seeking chronic care such ART.
- 3) Unemployment has shown to be a predictor for late presentation for HIV care. Additionally, unemployment results in financial constraints, thus becoming a barrier for seeking care in healthcare facilities. In low income settings, the Ministry of Health can consider providing support for clients in need in the form of social grants to meet the client half way in covering transport fees to the clinic and meals.
- 4) Disclosure of one's HIV status have been observed to be the most difficult action when deciding to enroll for chronic care, thus it turns out to be a major predictor of late presentation for HIV care. It is therefore recommended that psychosocial departments in

healthcare facilities should devise a mechanism to assist individuals who are struggling to disclose to their partners.

The following recommendations are proposed to the General Nursing and Midwifery Council of Zambia (GNMZ) and Eswatini Nursing Council of (ENC).

- 1) Encourage active participation of HIV clinic nurses in research seminars and provide opportunities for future research to further examine the predictors of late presentation for HIV care and contribute to deeper understanding of the consequences for late presentation.
- 2) Strengthen in-service trainings for all clinic nurses to ensure and sustain best practices in HIV care, particularly for patients who are not ready to test for HIV and those who are delaying to enrol for HIV care.

5.8 Plans for Dissemination of Results

The results of this study will be disseminated as bound copies and submitted to the University of Zambia library, School of Nursing Sciences and AIDS Healthcare Foundation Clinic, Matsapha. The study results will be published in reputable peer reviewed journals and will be presented at post graduate forum and professional conferences.

5.9 Plans for utilisation of study findings

The study was beneficial in that it assisted in revealing the predictors for late presentation for HIV care in healthcare facilities by HIV positive populations. The AHF organization and the Ministry of Health may use these findings for policy formulation to improve early presentation for HIV care among HIV positive populations, thereby improving the overall healthcare outcomes for HIV populations. The study results will also inform public health policymakers on what is happening on the ground in terms of focusing on the affected populations by using the demographic profile that has been described in this study.

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APPENDICES

Appendix A: Patient Information Sheet (English language)

Predictors of Late Presentation for HIV Care Among Adults at AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

The purpose of this research is to establish the reasons why people come very late for HIV care at Matsapha AHF clinic.

The aim of the study is to enable formation of extended public health interventions and therefore enhance early presentation for HIV care and ultimately save lives.

Objectives of the study are as follows;

- I. To determine the proportion of HIV populations presenting late for care at AHF Matsapha clinic, Manzini Region, Eswatini
- II. To identify the socio-demographic characteristics of HIV populations presenting late for HIV care at AHF Matsapha clinic, Manzini Region, Eswatini
- III. To determine the behavioural predictors of late presentation at AHF Matsapha clinic
- IV. To determine the psychosocial predictors of late presentation at AHF Matsapha clinic

You and 59 others have been chosen to participate in this study because you meet the following criteria;

- I. Diagnosed with HIV but not yet enrolled into care
- II. CD4 cell count result is less than 350 cells/mm³
- III. You are 18 years or above
- IV. You have been a resident of Matsapha community for three consecutive months prior to the diagnosis of HIV
- V. You have read and understood this information and will provide an informed consent to participate in the study

Taking part in the study is entirely voluntary and that refusal to agree to participate will involve no penalty or loss of benefits to which you are entitled. You may discontinue

participation at any time without penalty or loss. What is requested of you is to fill up a written form that will take less than 15 minutes to complete.

We do not anticipate any reasonable discomforts, disadvantages and risks arising from the proposed research process.

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will inform the healthcare system about measures to reduce late presentation for HIV care.

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

The results are likely to be published on the internet by the year 2024, where you can obtain a copy of the published results.

For further information Contact;

1. Lomanono Ngidie (Principal investigator)
Cell phone number: +268 76030398
Email address: lomanonongidie@gmail.com
2. Prof. Sody Mweetwa Munsaka, BSc., MSc., PhD (The Chairperson, UNZABREC)
Cell phone number: +260977925304
Email address: smunsaka@unza.zm
3. Rudolph T. D. Maziya/ Babazile Shongwe (The Chairperson, EHHRRB)
Cell phone number: +26824047751
Email address: es@ehhrrb.org.sz
4. Prof. Gistered Muleya (PhD) The Dean
Cell phone number: 260211291777
Email address: dean-nursingscience@unza.zm
5. Dr Ruth Wahila (PhD) The Supervisor
Cell phone number: +260968982717
Email address: ruth.wahila@unza.zm

Sichasiselo A: Umlayeto mayelana nalolucwaningo (Siswati language)

Timbangela letibanga kutsi tigulane tiphute kuta esbhedlela kutotfolo lusito loluhambelana neligciwane lembulalave iHIV esbhedlela sase AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini

Uyamenywa kutsi ungenele nangu umsebenti welucwaningo. Ungakatsatsi sincumo, kubalulekile kutsi wati kabanti kutsi yini lokutabe kwentiwa kulolucwaningo. Tsatsa sikhatsi sakho ufundzise kahle nangu umniningwane lolandzelako. Uvumelekile kubuta uma ngabe uma ngabe kukhona lawungeva khona noma kumbe udzinga kuchazelwa kabanti. Ngiyabonga kutsi ucitse sikhatsi sakho kulomsebenti.

Injongo yalolucwaningo kutfolo timbangela tekutsi leni bantfu batsatse sikhatsi lesidze kutsi bete esbhedlela kutfolo lusito mayelana neHIV, ikakhulu kunasi sibhedlela sase Matsapha AIDS Health Care.

Lolucwaningo lucondze kutfolo tinchazelo letitawuletsa sisombululo sekutsi yini lokungentiwa litiko letemphilo kanye nesive sonkhe kuze kuphele inkinga yekutsi tigulane tite esbhedlela setigula kamatima ngenca yeHIV. Loku kutawuphephisa timphilo letinengi.

Injongo yalolucwaningo;

- I. Kutfolo kutsi vele banganani bantfu labeta esbhedlela sase AIDS Healthcare Foundation Clinic ku Matsapha, esigodzini sakaManzini, Eswatini
- II. Kutfolo kutsi yini tintfo letihambisana nehlalo yebantfu letingabanga kutsi batfu bephute kuta esbhedlela kutotfolo lusito mayelana neHIV
- III. Kutfolo kutsi yini tintfo letihambisana nekutiphatsa kwebantfu lokungabanga kutsi batfu bephute kuta esbhedlela kutotfolo lusito mayelana neHIV
- IV. Kutfolo kutsi yini tintfo letihambisana ngekwengcondvo letingabanga kutsi batfu bephute kuta esbhedlela kutotfolo lusito mayelana neHIV

Wena kanye nalabanye labangu 59, nikhetsiwe kutsi ningenele lolucwaningo ngoba;

- I. Kutfolakele kutsi kulengati yenu kuneligciwane leHIV
- II. Emasotja emtimba angaphansi kwa 350 cells/mm^3
- III. Ungetulu kweminyaka lengu 18
- IV. Sekuphele tinyanga letintsatfu noma ngetulu solo uhlala lapha kuMatsapha
- V. Sewufundzile weva nekutsi lolucwaningo ngelwani, futsi ke nawe uyavuma kungenela lolucwaningo.

Kungenela lolucwaningo kuya ngekutsi uyafuna yini wena, awukacindzeteleki, futsi kute lotakujezisa ngenca yekutsi wencabile kungenela lolucwaningo. Nawufuna kuyekela ekhatsi, uvumelekile, nalapho futsi kute lotakujezisa. Uyacelwa kutsi ugcwalise lifomu lelitawutsatsa ngaphansi kwemizuzu lelishumi nesihlanu kuligcwalisa.

Kodvwa ke sibhekile kutsi ungahle utivele unyukubeteka engcondvweni noma enhlityweni ngenca yekuva imibuto lebhekiswe kuwe leletsa imizwangedwa.

Yebo kute imbhadalo letaba khona ngekungenela lolucwaningo, kepha kungenela lolucwaningo kutawusita wena ngoba utawukhona kwati kabanti mayelana nendzaba yaka HIV nemphumela wekuphuta kuta emtfolamphilo. Futsi ke, wena utawuhlala phansi ucoce nemcwaningi, yena lowati kabanti ngalenzaba. Futsi sineletsemba lekutsi timphendvulo takho titawusita litiko letemphilo kwakha imitsetfo nemigomo letawunciphisa kuphuta kufika kwebantfu emtfolamphilo kutofuna lusito ngetindzaba teHIV.

Sikunika siciniseko sekutsi konkhe lokutawukhulunwa noma kubhalwe lokunemininingwane yakho, kutawugcinwa endzaweni lephiphile kuze kungaphumeli ngaphandle. Kute lapho khona sitawuveta libito lakho noma ngabe yini bunguwe bakho.

Umpfumela walolucwaningo utawukhishwa ngemnyaka wa 2024 lapho khona utawutfolakala emakhasini abongcondvomshina.

Nawufuna kuva kabanti, shayela

1. Lomanono Ngidie (loholo lolucwaningo)
Lucingo: +268 76030398
Email: lomanonongidie@gmail.com
2. Sody Mweetwa Munsaka, BSc., MSc., PhD (The Chairperson, UNZABREC)
Cell phone number: +260977925304
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3. Rudolph T. D. Maziya/ Babazile Shongwe (The Chairperson, EHHRRB)
Cell phone number: +26824047751
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4. Prof. Gistered Muleya (PhD) The Dean
Cell phone number: 260211291777
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5. Dr Ruth Wahila (PhD) The Supervisor
Cell phone number: +260968982717
Email address: ruth.wahila@unza.zm

Appendix B: Informed Consent Form (English language)

I am **Lomanono Ngidie** requesting you to participate in a research study titled “Predictors of Late Presentation for HIV Care among the Adults at AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini”. I will describe this study to you and answer any of your questions. This study is being led by myself Lomanono, studying at the University of Zambia. The Faculty Advisor for this study is **Dr R. Wahila, University of Zambia**.

What the study is about

The purpose of this research is to establish the predictors of late presentation for care by HIV populations at AHF Matsapha clinic so as to enable formation of extended public health interventions and therefore enhance early presentation for HIV care and ultimately save lives.

What will be required from you

I will ask you to fill up a form that is written in the language of your choice between English and SiSwati. Filling up the form will take you less than 15 minutes. I will then collect the form after you have finished.

Risks and discomforts

Risks such as physiological, economic and legal risks are not anticipated at all since there will be no physical harm or need for financial transactions while participating in this study. On the other hand, minimal risks may include psychological risks such as production of negative effective states such as guilt or loss of self esteem.

Benefits

Benefits for participating in the study involve enhanced understanding of the condition by the patient which is late presentation for HIV care. Information from this study may benefit the public health sector, other people now or in the future to learn more about what determines late presentation for HIV care.

Incentives for participation

There will be no incentives for participating in this research.

Privacy/Confidentiality/Data Security

I am not planning to collect any identifying information from you. However, a code will be used to distinguish your data collection form from other respondents. Your form will be physically secured in a locked cabinet designated for the research. Only the researcher will have access to the information.

Sharing De-Identified Data Collected in this Research

De-identified data from this study may be shared with the research community at large to advance science and health. We will remove anything that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information we share. Despite these measures, we cannot guarantee anonymity of your personal data.

Taking part is voluntary

Your involvement is voluntary, you may refuse to participate before the study begins, discontinue at any time, or skip any questions that may make you feel uncomfortable, with no penalty, and no effect on your record, or relationship with the clinic.

If you have questions

You can contact the main researcher conducting this study; Lomanono Ngidie. Please ask any questions you have now.

If you have questions later, you may contact Lomanono at +268 7603 0398.

If you have any questions or concerns regarding your rights as a subject in this study, contact the Eswatini Health and Human Research Review Board at +268 2404 7751 or access their website at www.ehhrrb.org.sz.

Respondent's: signature: _____

Date: _____

Sichasiselo B: Lifomu lekuvuma (Siswati language)

Libito lami nginguLomanono Ngidie, ngiyacela kutsi ubambisane nami ngekungenela nalu locwaningo lolucondze kubuka Timbangela tekutsi tigulane tite emtfolamphilo uma setigula kakhulu ngenca yeHIV emtfolamphilo wase Matsapha AIDS Healthcare Foundation kuMatsapha, esigodzini sakaManzini, Eswatini. Ngitawuchaza kabanti ngalolucwaningo, nawe ngitakunika litfoba lekuphendvula imibuto uma ngabe unayo. Lolucwaningo luholwa ngimi Lomanono ngekusekelwa nguDokotela R. Wahila losuka esikolweni i University of Zambia.

Lolucwaningo lumayelana nani

Injongo yalolucwaningo kutfolo timbangela tekutsi leni bantfu batsatse sikhatsi lesidze kutsi bete esbhedlela kutfolo lusito mayelana neHIV, ikakhulu kunasi sibhedlela sase Matsapha AIDS Health Care.

Yini lokutawudzingeka kuwe

Ngitawucela ngemvume yakho kutsi ucwalise nali lifomu, utawukheta lulwimi lolutsandzako emkhatsini weSiswati neSingisi. Kutawutsatsa imizuzu lelishumi nesihlanu kugcwalisa lelifomu. Ungacedza kugcwalisa lelifomu ngitawubese ngiyalitsatsa ngiyoligcina endzaweni lephephile.

Bungoti nenkucindzeteleka

Bungoti, faka ekhatsi kulinyatwa, kucindzeteleka ngakutemnotfo noma ke kungena emacaleni, leto tintfo letingakabhekeki kutsi tingenteka kuwe ngenca yekungenela lolucwaningo. Kodvwa ke sibhekile kutsi ungahle utivele unyukubeteka engcondvweni noma enhlityweni ngenca yekuva imibuto lebhekiswe kuwe leletsa imizwangedwa.

Inzuzo

Utawusita wena longenela lolucwaningo ngoba utawukhona kwati kabanti mayelana nendzaba yaka HIV nemphumela wekuphuta kuta emtfolamphilo. Futsi ke, wena utawuhlala phansi ucoce nemcwaningi, yena lowati kabanti ngalendzaba. Timphendvulo letivela kuwe titawusita litiko letemphilo kanye nesive sonkhe kusasa mayelana nekucedza tinkinga letivimbela bantfu kutsi bangeti ngesikhatsi kutotfolo lusito ngesifo seHIV.

Tikhutsato

Kute tikhutsato letitawuba khona ngekungenela lolucwaningo.

Kugcinwa kwemningwane

Asoze sitsatse libito nesibono sakho. Kepha, sitawusebentisa inombolo letawusita kubutsisa timphendvulo takho ndzawonye, iphindze ikwehlukanise kulabanye. Timphendvulo takho titawugcinwa ekhabetheni lelikhiyiwe. Ngimi umcwaningi kuphela lotawubona leto timphendvulo.

Kungenela lolucwaningo kuya ngekuvuma kwakho kuphela

Kungenela lolucwaningo kuya ngekutsi uyafuna yini wena, awukacindzeteleki, futsi kute lotakujezisa ngenca yekutsi wencabile kungenela lolucwaningo. Nawufuna kuyekela ekhatsi, uvumelekile, nalapho futsi kute lotakujezisa.

Uma kukhona imibuto, ngiso sikhatsi sekubuta lesi.

Nawufuna kuva kabanti, shayela

Lomanono Ngidie (loholo lolucwaningo)

Lucingo: +268 76030398

Email: lomanonongidie@gmail.com

Noma ke uchumane ne Eswatini Health and Human Research Review Board
+268 2404 7751

Noma ke usebentise nail likhasi www.ehrrb.org.sz.

Respondent's: signature: _____

Date: _____

Appendix C: Gantt Chart

Activities	1 June – 12 June 2022	27 June – 1 July 2022	2 July – 30 Marc 2023	1 April – 30 June 2023	1 July – 30 August 2023	1 Sept – 30 October 2023	1 Nove – 30 Dec 2023	Dec 2023 – February 2024
Preparation of research proposal								
Presentation of research proposal for approval								
Preparation, submission of proposal application to ethics committee								
Data collection								
Data analysis								
Report writing								
Submission of research study								
Presentation of research study								

Appendix D: Budget

Item	Quantity	Unit cost (Emalangen)	Total cost
Desk pad	2	E 11.00	E22.00
Click Folder	2	E 30.00	E60.00
Eraser	2	E 5.00	E10.00
Pencils	2	E 2.00	E4.00
Pens	2	E 8.00	E16.00
Ruler	2	E 5.00	E10.00
Binding	2	E 30.00	E60.00
Envelopes	3	E 2.00	E6.00
Staplers, Staples	1	E57.00	E114.00
Communication – Airtime, internet connection	2	E300.00	E6.00
Statistician	1	E 500.00	E2000.00
National Researcher Registration fee Zambia	1	E 1020.00	E1020.00
Ethics Clearance certificate NHRA	1	E 1000.00	E1000.00
Ethics Clearance certificate Eswatini	1	E500.00	E500.00
Travel Costs	5	E 500.00	E500.00
Photocopying data collection tool	120	E370.00	E740.00
Photocopying copies for examination and spiral binding	3 X 116	E286	E846
Publishing/ hard copies	4	E130	E519.00
Lunch	5	E 40.00	E200.00
Total			E6614.00
5 % Contingency			E330.00
Gross Total			E7000.00

Appendix E: Budget Justification

BUDGET JUSTIFICATION

1. PERSONNEL

Lomanono Ngidie, will serve as the Principal Investigator (PI) on the proposed project for the whole period. Her roles and responsibilities will include leading the technical direction of the project and mentoring those in the peripherals who refer eligible patients for enrolment in the study. In addition to that, delegation of duties and compilation of the study closure/completion report for submission to all requisite IRBs is part of the roles and responsibilities of the researcher.

3. EQUIPMENT

No purchasing of capital equipment is required in this project. Essentially, all necessary major equipment to undertake the project is currently operational, for example, a laptop and clinic furniture.

SUPPLIES

Generally, stationery will be required for the data collection exercise including printing papers, pens and folders for filing.

5. TRAVEL

Travel funds are for traveling while gathering supplies and interacting with Research Review Board.

8. OTHER EXPENSES

Other Direct Costs may include items such as:

- **Publication costs:** funds for the publication of the results and the preparation of presentations and posters.
- **Administration fees:** Ethical clearance for this research study has been elicited from 2 different Ethics Boards, namely in Eswatini and in Zambia.
- **Services:** computer, printing services

Appendix F: Structured Questionnaire

Interview Guide on Predictors of Late HIV Presentation at Matsapha AIDS Healthcare Foundation (AHF) Clinic

Adapted from: Study questionnaire on Determinants of Late HIV Presentation at Ndlavela Health Center in Mozambique (Chone, Abecasis and Varandas, 2022)

Instructions:

- ✓ Circle the best answer
- ✓ Please provide best answer in the space provided.

SECTION 1: SOCIO-DEMOGRAPHIC DATA

1.1 Which year were you diagnosed with HIV? _____

1.2 What is your age (in years)? _____ years

1.3 What is your sex?

- ① Male
- ② Female

1.4 What is your level of education?

- ① No formal education
- ② Primary school
- ③ Secondary and high school
- ④ Tertiary (college or university)

1.5 What is your marital status?

- ① Single
- ② In a relationship
- ③ Married
- ④ Widowed
- ⑤ Divorced

1.6 What is your religion?

- ① Christianity
- ② Swazi Traditional Religion
- ③ Muslim
- ④ Baha'u'llah
- ⑤ Other, please specify_____

1.7 Are you employed?

- ① Yes
- ② No

15.8 What is your current job? _____

1.9 Estimated time to reach the health Center

- ① < 30 minutes
- ② 30min – 1 hour
- ③ >1 hour

SECTION 2: CLINICAL STATUS

2.10 Have you ever been diagnosed and treated for STIs?

- ① Yes
- ② No

2.11 Do you have any symptoms suggestive of HIV?

- ① Yes
- ② No

2.12 *WHO Stage of infection _____

2.13 *CD4+ lymphocyte count at the time of diagnosis_____

2.14 *Do you have any AIDS-defining illness:

- ① Yes
- ② No

2.15 * Comorbidities (select all that applies):

- ☐ ① TB
- ☐ ② Hepatitis
- ☐ ③ Cryptococcal meningitis
- ☐ ④ Diabetes
- ☐ ⑤ High blood Pressure
- ☐ ⑥ Kaposi's Sarcoma (KS)
- ☐ ⑦ Malnutrition

2.16 *VRDL test (syphilis):

- ☐ ① Positive
- ☐ ② Negative

1.17 *Hepatitis B test:

- ☐ ① Positive
- ☐ ② Negative

**Data to be collected in the patient's chronic care file*

SECTION 3: HEALTHCARE PRACTICES

3.1. Number of sexual partners at the time of diagnosis_____

3.2. Probable knowledge of the source via which you acquired the infection:

- ☐ ① Yes
- ☐ ② No

3.2.1. If yes, indicate: _____

3.3. Reason for diagnostic testing:

- ☐ ① Client – initiated
- ☐ ② Provider – initiated
- ☐ ③ Medical Initiative
- ☐ ④ Pregnancy
- ☐ ⑤ Previous risk behaviour

3.4. Before your HIV diagnosis, did you have regular STD/HIV screening tests?	Yes	No
3.5. Are you someone using alcohol at the time of diagnosis or you were using it?	Yes	No

3.6. Were you using any type of illicit drug at the time of diagnosis?

① Yes

② No

3.6.1. If yes, what type of drug and how often? _____

3.7. Did you use any type of injection drug at the time of diagnosis?

① Yes

② No

3.8. Did you smoke tobacco?

① Yes

② No

3.8.1. If yes, how often? _____

3.9. Did you regularly use condoms before the positive diagnosis?

① Yes

② No

3.10. How long did it take between being diagnosed with HIV and starting treatment?

SECTION 4: STIGMA AND DISCRIMINATION

✓ Circle the best response below. (Yes = 1, no = 0)

Item	Yes	No
1. Does anyone know your HIV status (besides partner and/or confidant)	1	0
2. Do you fear any stigma?	1	0
3. Have you ever been stigmatized??	1	0
4. Are you afraid of third parties knowing your HIV status?	1	0
5. At the time of diagnosis, was this the first test done?	1	0
6. Do you talk openly about HIV with neighbors or friends?	1	0
7. Does your current sexual partner know your HIV status?	1	0
8. Before diagnosis, did you have any prior information about HIV?	1	0
9. Before diagnosis, did you have any previous information about antiretroviral treatment?	1	0
10. Were you afraid of the diagnosis?	1	0
11. Were you afraid of being rejected by society because of having HIV?	1	0
12. Before diagnosis, were you in the habit of having regular health check-ups for your general medical exams?	1	0
13. After the positive result, did you experience depression (feeling isolated, helpless, thinking about suicide)?	1	0
14. When you had the positive result, did you look for someone from traditional medicine (healer)?	1	0
15. When you tested positive, did you look for someone to talk to about your HIV status (in addition to your family and confidant)?	1	0

The end of the interview guide

Thank you!!!!

Appendix G: Letter of Permission for Questionnaire Use

To

Lomanono Ngidie

Subject: Letter of Permission for Questionnaire Use

Respected madam,

This letter is in regards to Requesting for use the Questionnaire Form for data collection for your research.

My name is Jeremias Chone, currently work at Ministry of Health of Mozambique. I am the Principal Investigator of the research named Determinants of Late HIV Presentation at Ndlavela Health Center in Mozambique, published in *International Journal of Environmental Research and Public Health*.

On behalf of my whole research team, I am happy to grant the permission for you to use the questionnaire tool that our team developed in our research (Chone JS, Abecasis AB, Varandas L. Determinants of Late HIV Presentation at Ndlavela Health Center in Mozambique. *Int J Environ Res Public Health*. 2022;19(8). Available at: <https://doi.org/10.3390/ijerph19084568>). The permission is grant only for research propose at University of Zambia under the program: Master of Science in Clinical Nursing.

If you have any further queries, you can reach us or through an email jeremias.chone96@gmail.com

Sincerely,





THE UNIVERSITY OF ZAMBIA
INSTITUTE OF DISTANCE EDUCATION

Telephone: 26021-1-291777-78 Ext. 3500 0978772249
Telegrams: UNZA LUSAKA
Telex: UNZALU ZA 44370
Fax: 26021-1-290719
Your Ref:
Our Ref:

P.O. Box 32379
LUSAKA, ZAMBIA

21st April, 2023

The Chairperson,
UNZABREC,
The University of Zambia,
Ridgeway Campus,
Lusaka.

Dear Sir/Madam,

RE: SUBMISSION OF RESEARCH PROPOSAL TO UNZABREC

Following the presentation of Lomanono Ngidie's research proposal,
**"Predictors of Late Presentation for HIV Care among the clients at AIDS
Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini"**
the supervisor has confirmed that the necessary corrections to the research
proposal have been done.

The student can now proceed and present to the UNZABREC

Yours faithfully

Prof. Gistered Muleya (PhD)
Director
Institute of Distance Education

CC:

Assistant Director PG, IDE
Overall Programme Coordinator,
Lomanono Ngidie (Student)

Appendix I

Lomanono Ngidie
P.O Box 9303
MBABANE
H100
Cell phone: 76030398
Email: lomanonongidie@gmail.com

22 May 2023

Medical Manager
AIDS Healthcare Foundation
Email: sukoluhlekhumalo@aidshhealth.org

RE: Permission Request for Research Data Collection Exercise at AHF Matsapha Clinic

Dear Dr S. Khumalo

This letter is in regards to seeking permission to collect data at AHF Matsapha clinic for healthcare research purposes. I am Lomanono Ngidie, the principal investigator and currently pursuing a Master's Degree programme in Clinical Nursing Science with the School of Nursing, University of Zambia. I am under the supervision of Dr Ruth Wahila who is the Faculty Advisor.

I am therefore formally requesting permission to collect data from patients who will attend in the clinic and test HIV Positive during the 3 months duration of the data collection exercise.

I intend to use the data collected, to assist in answering the following research questions;

General Objective

To establish the predictors of late presentation for HIV care among the clients at AHF Matsapha clinic, Manzini Region, Eswatini

Specific Objectives

- I. To determine the proportion of HIV populations presenting late for care at AHF Matsapha clinic, Manzini Region, Eswatini
- I. To describe the socio-demographic characteristics of HIV populations presenting late for HIV care at AHF Matsapha clinic, Manzini Region, Eswatini
- II. To assess the clinical status of HIV populations presenting late for HIV care at AHF Matsapha clinic, Manzini Region, Eswatini
- III. To determine the healthcare practices that predicts late presentation for HIV care at AHF Matsapha clinic
- IV. To determine whether stigma and discrimination is a predictor of late presentation for HIV care at AHF Matsapha clinic

Upon completion of the research project, results will be shared with the AHF organization, the Eswatini Ministry of Health and the School of Nursing Faculty, University of Zambia in accordance with your organization's protocols.

I am also attaching a letter from the faculty allowing me to submit to the Ethics Review Board (who will require a written permission from you).

On behalf of myself and my research supervisor, we heartily express our gratitude in examining our request for your permission. We assure you that all protocols will be followed, and privacy regulations adhered to. If you have any questions or concerns, please contact us.

Best regards;

Lomanono Ngidie (Principal investigator)

Cell phone number: 76030398

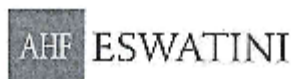
Email: lomanonongidie@gmail.com

Dr Ruth Wahila (Faculty Advisor)

Cell phone: +260097591620

Email: ruth.wahila@unza.zm

Appendix J



AIDS Healthcare Foundation (AHF)
AHF ESWATINI COUNTRY OFFICE
9 Lamvelase Centre of Excellence, 2nd Flr
Cnr Sandlane & Mandishane Strts, Manzini
Tel: +268 2505 5840/36

Sukoluhle Khumalo
Lamvelase centre of excellence
AIDS Healthcare Foundation Country Office
Corner Sandlane and Mandishane Street
Manzini.
Eswatini.

18/10/2023

RE: PERMISSION TO CONDUCT RESEARCH ACTIVITIES

This letter confirms that Lomanono Ngindi has been granted to conduct a data collection questionnaire for research titled: **"Predictors of Late Presentation for HIV Care among the clients at AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini"** at AHF Matsapha.

She has obtained all the necessary ethical approval, and she has committed to conducting her research activities in an ethical and confidential manner. Please assist her as required.

Yours Faithfully

A handwritten signature in blue ink, appearing to be 'S. Khumalo', written over a blue circular stamp.

Dr Sukoluhle Khumalo



ahfeswatini.com

Cutting edge medicine and advocacy regardless of ability to pay



**ESWATINI
HEALTH AND HUMAN
RESEARCH REVIEW BOARD**
MBANDZENTI HOUSE, 3RD FLOOR, CHURCH STREET
P.O. BOX 5, MBABANE, ESWATINI

ONE YEAR RESEARCH PROTOCOL APPROVAL CERTIFICATE

BOARD REGISTRATION NUMBER	FWA 00026661/IRB 00011253				
PROTOCOL REFERENCE NUMBER	EHHRRB130/2023				
Type of review	Expedited	☒		Full Board	
Name of Organization	Master's Student				
Title of study	Predictors of Late Presentation for HIV Care among the clients at AIDS Healthcare Foundation Clinic in Matsapha, Manzini Region, Eswatini				
Protocol version	1.0				
Nature of application	New	☒	Amendment	Renewal	Extension
					CT updates
List of study sites	AIDS Healthcare Foundation Clinic Matsapha				
Name of Principal Investigator	Ms. Ngidie Lomanono Nester				
Names of Co- Investigators	Dr. Rash Wabale				
Names of steering committee members in the case of clinical trials	N/A				
Names of Data and Safety Committee members in the case of clinical trials	N/A				
Level of risk (Tick appropriate box)	Minimal	☒	More than minimal	High	
Initial study Approval information	Approved	☒	Study completion date	31/12/2023	Certificate expiry date
	Approval date	17/10/2023			15/10/2024
Study renewal approval information	Renewal date				End date
Study amendment approval information	Amendment date				
Study extension approval information	Extension date				
Signature of Chairperson					
Signing date	17/10/2023				
Secretariat Contact Details	Name of contact officer	Babazile Shungu			
	Email address	csigiel@ethrbb.org			
	Telephonic no	+268 2404 7751			



APPROVAL CONDITIONS

Ref.	Conditions	Indication of conditions (tick appropriate box)				
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
1.	Submission of progress reporting for multi-year studies					
2.	Submission of end of project report (Hard copy)	✓				
3.	Submission of end of project report (Soft copy)	✓				
4.	Submission of data sets	✓				

List of reviewed documents

Ref.	Documents	Reviewed documents (tick appropriate box)
1.	Completed application form	✓
2.	Cover letters	✓
3.	Evidence of administrative permission to conduct the research by involved institutions/sites (where applicable)	
4.	Detailed current resume or curriculum vitae of Principal Investigator/s including Principal investigators declaration	✓
5.	Summary resume or biography for other investigator(s)	✓
6.	Evidence of approval/rejection by other Ethics Committees, including comments and requested alterations to the protocol, where appropriate.	✓
7.	Research protocol (see outline in Annex 1)	✓
8.	Questionnaires and interview guides (with back-translated versions where applicable)	✓
9.	Case report forms (CRFs), abstraction forms and other data collection tools	
10.	Participant/subjects Information Statement(s) (where applicable)	✓
11.	Informed consent form(s) including photographic and electronic media consent statements.	✓
12.	Advertisements relevant to the study (where applicable)	
13.	Source of funding and detailed budget breakdown including material and incentives to participants if applicable	✓
14.	Notification form for adverse effects/events.	
15.	Proof of payment	✓
16.	Proof of insurance cover for research subjects in clinical trials or where applicable	
17.	Any other special requirements should be stated, if applicable	N/A

RC



NATIONAL HEALTH RESEARCH AUTHORITY
The Health Research Act
(Act No. 2 of 2013)



CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT

Ngidie Lomanono

has been registered as a Health Researcher

Dated this 10th May 2023

Registration NHRAR-R-365/12/05/2023



DIRECTOR

PROF. GODFREY BIEMBA



**UNIVERSITY OF ZAMBIA
BIOMEDICAL RESEARCH ETHICS COMMITTEE**

Telephone: +260 977925304

Telegrams: UNZA, LUSAKA

Telex: UNZALU ZA 44370

Fax: + 260-1-250753

Ridgeway Campus

P.O. Box 50110

Lusaka, Zambia

E-mail: unzarec@unza.zm

Federal Assurance No. FWA00000338

IRB00001131 of IORG0000774

NHRAR-REC No 2021-05-0002

7th August 2023

Your REF. No. 4133-2023

Ms. Lomanono Nester Ngidie,
University of Zambia,
School of Nursing,
P.O Box 50110,
Lusaka.

Dear Ms. Ngidie,

**RE: PREDICTORS OF LATE PRESENTATION FOR HIV CARE AMONG THE
CLIENTS AT AIDS HEALTHCARE FOUNDATION CLINIC IN MATSAPHA,
MANZINI REGION, ESWATINI (REF. NO. 4133-2023)**

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 3rd August, 2023. The proposal is approved. The approval is based on the following documents that were submitted for review:

- a) Study proposal
- b) Questionnaires
- c) Participant Consent Form

APPROVAL NUMBER

: REF. No. 4133-2023

This number should be used on all correspondence, consent forms and documents as appropriate.

- **APPROVAL DATE** : 4th August 2023

- **TYPE OF APPROVAL** : Standard

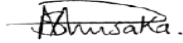
- **EXPIRATION DATE OF APPROVAL** : 3rd August 2024

After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the UNZABREC Offices should be submitted one month before the expiration date for continuing review.

- **SERIOUS ADVERSE EVENT REPORTING:** All SAEs and any other serious challenges/problems having to do with participant welfare, participant safety and study integrity must be reported to UNZABREC within 3 working days using standard forms obtainable from UNZABREC.
- **MODIFICATIONS:** Prior UNZABREC approval using standard forms obtainable from the UNZABREC Offices is required before implementing any changes in the Protocol (including changes in the consent documents).

- **TERMINATION OF STUDY:** On termination of a study, a report has to be submitted to the UNZABREC using standard forms obtainable from the UNZABREC Offices.
- **NHRA:** You are advised to obtain final study clearance and approval to conduct research in Zambia from the National Health Research Authority (NHRA) before commencing the research project.
- **QUESTIONS:** Please contact the UNZABREC on Telephone No. +260977925304 or by e-mail on unzarec@unza.zm.
- **OTHER:** Please be reminded to send in copies of your research findings/results for our records. You are also required to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study. Use the online portal: unza.rhinno.net for further submissions.

Yours sincerely,



Sody Mweetwa Munsaka, BSc., MSc., PhD

CHAIRPERSON

Tel: +260977925304

E-mail: s.munsaka@unza.zm