AFRICA UNIVERSITY

(A United Methodist-Related Institution)

CORRELATES OF RISK INTIMATE PARTNER VIOLENCE IN CONTINUED
HIV CARE AND TREATMENT IN MASVINGO PROVINCE, ZIMBABWE
(2018-2023)

BY

OWEN MPOFU

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN
THE COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

2023

Abstract

Intimate partner violence has been shown to be a detrimental factor to victims' health status. It has been closely linked to acquisition of an HIV positive status. A retrospective cohort study on people who were screened for intimate partner violence at the point of HIV diagnosis was carried out following up their engagements with continued HIV care. The study sought to compare if there is any difference in patient attrition from care and treatment between HIV positive clients at risk of intimate partner violence and clients who are not at did not report risk. IPV exposed clients where matched one to one with none IPV exposed clients, matching was done at the facility level where data is abstracted. Women reporting IPV took longer to be initiated on ART (mean: 12 days, SD:33 days, range: 0 – 212 days) although the national guideline is same day ART initiation. Seventy-three percent of clients exposed to IPV had advanced HIV disease based compared to 17% none exposed (p<0.01). The study findings revealed that clients 15.6% of clients who experienced IPV missed their first clinical appointment compared to 7.8% of none exposed. Among the clients who attended their first clinical appointment, 18% reported poor adherence compared to 8% in none exposed clients. Poor engagement with care was reported in during the first 5 visits for IPV exposed clients however beyond this time similar engagements observed beyond the first year for retention. Clients exposed to IPV had 89% lower odds of being active on treatment at the end of the first year on ART (OR 0.1, 95% CI 0.0 – 0.5). Women exposed to IPV were also less likely to present their child for early infant diagnosis compared to women who were not exposed to IPV(p<0.01). The study could not conclude a statistically significant difference in viral suppression levels among the two groups. Participation in differentiated service delivery groups was comparable between the two groups. The study recommends formulation of differentiate service delivery model to improve retention in care of clients facing IPV. The detrimental effects of IPV in Masvingo province were observed to be a possible deterrent to reach HIV epidemic control.

Keywords: Intimate partner violence; HIV care; Retention on ART

Declaration

I, Owen Mpofu, student number 182591, do hereby declare that this dissertation is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another university for the award of a degree.

Owen Mpofu   24/4/2023

Student's Full Name   Student's Signature (Date)

Elliot Chikaka   24/4/2023

Main Supervisors Full Name   Main Supervisor's Signature (Date)

Copyright

Acknowledgements

I am greatly indebted to those who supported me through this academic milestone. I wish to extend my profound gratitude to my work supervisor Dr Pamela Nyaradzai Magande for her unwavering support, my academic supervisor Mr E Chikaka, for their constructive guidance throughout the course of this study. I am truly grateful to JF Kapnek Zimbabwe, my employer, without whose financial support this would not have been possible.

Dedications

This study is dedicated to the family I earned during this master's to my wife, Modester Chidembo Mpofu and my daughters, Bethel Sisa and Eleanor Awakhiwe. Their presence throughout this journey has been the biggest motivator. I also dedicate this to my late mother-in-law, Mrs Constance Chidembo, whom we lost during the writing of this research.

List of Acronyms and Abbreviations

AHD   Advanced HIV disease

AIDS   Acquired Immune Deficiency Syndrome

ART   Antiretroviral treatment

AUREC   Africa University Research and Ethics Committee

BMI   Body mass index

CATIE   Centro Agronómico Tropical de Investigación Enseñanza

EPMS   Electronic Patient Monitoring System

HIV   Human Immunodeficiency Syndrome

HTS   HIV Testing Services

LTFU   Lost to Follow Up

IPV   Intimate Partner Violence

MoHCC   Ministry of Health and Child Care

OSDM   Operations and Service Delivery Manual

NGO   Non-Governmental Organisation

NCD   Noncommunicable disease

PLHIV   People Living with Human Immunodeficiency Virus

PrEP   Pre-Exposure Prophylaxis

OI   Opportunistic Infection

TASQC   Target, Accelerate, Sustain Quality Care

PLHIV   People Living with HIV

UNAIDS   United Nations Program on HIV/AIDS

ZDHS   Zimbabwe Demographic and Health Survey

ZIMPHIA   Zimbabwe Population-Based HIV Impact Assessment

Definition of Key Terms

Intimate Partner- A person with which one has close personal relationship with, characterised by emotional, regular physical and sexual contact.

Violence- Is threatening or using actual physical force or power on someone or oneself or a group of people resulting in physical, psychological harm or even death.

Intimate Partner Violence- Involves either the physical, sexual, psychological violence and even stalking by one's sexual partner.

Engagements in care-Involves interfacing with the health facility for diagnosis, treatment, and care, it involves adherence to set appointments and medications.

Adherence - is the extent to which a person's behaviour, taking of medication, following of

diet and/or changing lifestyle, corresponds with agreed recommendations from a

health worker

Table of contents

List of tables

List of figures

CHAPTER 1   INTRODUCTION

1.1   Introduction

Intimate Partner Violence (IPV) has over the years been a major public health and human rights concern which has highly detrimental to the victim's health status. IPV against women is a worldwide public health and human rights concern, as it has been shown to be a risk factor for physical and mental health problems (Mukamana J. M., 2020). Routine data has shown a high prevalence in IPV in Southern African countries where 30% of women in the region have been victims of IPV in their lifetimes (Devries J. et al., 2013). IPV involves acts like physical and sexual violence and their respective related threats. IPV can also include stalking and psychological aggressions among others, by one's sexual partner. Cross-sectional studies have shown a significant relationship between IPV and HIV infection (Silverman, 2008).

HIV is a significant global public health issue that affects approximately 38 million people worldwide (UNAIDS, 2019). In 2020 alone, approximately 1.5 million people died from AIDS-related illnesses (UNAIDS, 2019). Although anyone can contract HIV, certain populations are more vulnerable, such as men who have sex with men, people who inject drugs, and sex workers. HIV also has significant economic costs, such as healthcare expenses, lost productivity, and decreased quality of life.

Relating to HIV prevalence, the Southern African region on its own contributes 40% of people living with HIV globally, and due to socio-cultural issues, husbands' risk behaviours and abuse by intimate partners, women continue to hold a higher proportion of the total HIV prevalence (Dellar, 2015). UNAIDS (2014) through its Unite with Women – Unite Against Violence and HIV campaign illustrated the association between HIV infection and IPV.

The report singled out sex workers among other population groups to be on substantial risk of both IPV and HIV. There is also evidence to show that women who are vulnerable to violence experience barriers in accessing HIV care and treatment services particularly in cases where they are accused of bringing HIV into the home (Etudo, 2017).

Zimbabwe is a big contributor to the HIV prevalence in Southern Africa. In 2020, the national HIV prevalence stood at 13.4% with the highest prevalence in Matebeleland South province as shown in the diagram below.
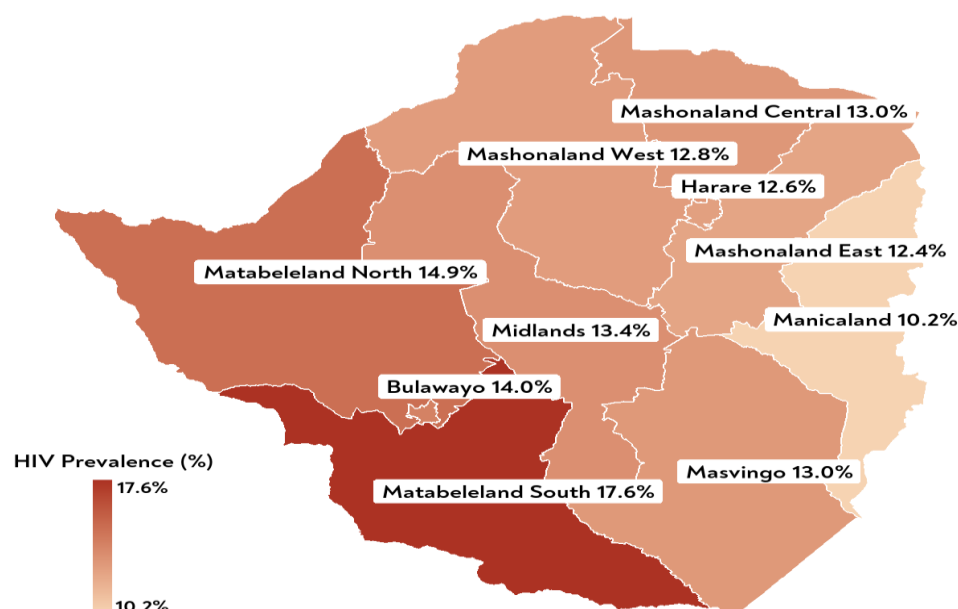
Figure 1: Extract of Zimbabwe's HIV Prevalence Rate by Province as of 2020 from ZIMPHIA (2020) Report

Concurrent to the high HIV burden, intimate partner violence prevalence is quite high in Zimbabwe with the Zimbabwe Demographic and Health Survey estimating an IPV prevalence of 43.1% (Zimbabwe National Statical Agency [ZIMSTAT], 2016). A secondary analysis of the 2011 Zimbabwe Demographic and Health Survey showed that women ever married or women who have cohabited before revealed that women

who have experienced intimate partner violence are more likely to be HIV positive (Loren, 2017) prevalence for people living with HIV remains high in Zimbabwe hence it also affects access to HIV care.

Although progress in HIV care and treatment programs has led to significantly recognizable gains to people living with HIV in Zimbabwe as evidenced by (ZIMPHIA, 2020) survey results that found that 86.8 percent of adults living with HIV were aware of their status and of those aware of their status, 97.0% were on antiretroviral treatment and among those on treatment, 90.3 percent achieved viral load suppression (ZIMPHIA, 2020), some HIV positive patients remain out of care, fail to take up treatment or are non-adherent to treatment.

Shamu (2014) and other studies have established that 32.8% of HIV clients are at high risk of IPV in Zimbabwe. As shown in the given map, Masvingo Province, which is the implementation province for JF Kapnek Zimbabwe is however one of the provinces with the highest HIV prevalence rate, hence the higher the incidence, the higher the risk of IPV.

Routine data from the Ministry of Health and Child Care database has shown that an average of 20% of HIV clients are lost from care quadrennially in Masvingo Province. Around 1% of these client's default from treatment while 19% need additional mechanisms like community cadres. Moreover, several reasons have been pointed out as reasons for poor engagements in HIV Care, but IPV has not been tested as a factor relating to these poor engagements in the Zimbabwean context. While several prospective and cross-sectional studies have proven the relationship between IPV and HIV infection, additional knowledge is required for the Zimbabwean context.

1.2 Background to the study

Intimate Partner Violence (IPV) and Human Immunodeficiency Virus (HIV) are two critical public health issues that have significant global burdens. IPV refers to any behaviour within an intimate relationship that causes physical, psychological, or sexual harm to those involved. On the other hand, HIV is a virus that attacks the immune system and can lead to acquired immunodeficiency syndrome (AIDS). It is clear from several studies that IPV has no respect of societal, economic, religious, or ethnic variations.

IPV and HIV are interconnected issues that often co-occur. Women who experience IPV are at increased risk of contracting HIV due to forced or coerced sex with their partners, lack of negotiating power, and decreased ability to use condoms. Conversely, people living with HIV are more vulnerable to experiencing IPV due to stigma, discrimination, and reduced economic opportunities (Dunkle, et al., 2004). IPV can also hinder HIV prevention efforts by limiting access to healthcare and HIV testing services.

IPV is a widespread problem that affects people of all genders, ages, races, and socioeconomic backgrounds worldwide. According to the World Health Organization (WHO), an estimated one in three women globally experiences physical or sexual violence by an intimate partner at some point in their lifetime (WHO, 2013). Furthermore, women who experience IPV are more likely to suffer from depression, anxiety, and other mental health problems (Jansen, 2008). IPV also has significant economic costs, such as healthcare expenses, lost productivity, and decreased quality of life. Mukamana et al (2020) illustrated the diversity of the prevalence of IPV, Africa and Asia having the highest rates 37% and 38% respectively in comparison to the lower but still significant rates of 25% in Europe and 30% in America.

The CATIE Report (2019) reports that IPV increases the risk of HIV by limiting the victims to the ability to negotiate for safe sex and safe drug use, hence effects may expose victims to high-risk behaviours (Harrigan, 2019). It is reported that, HIV positive people become more susceptible to IPV when they disclose their HIV status to their intimate partners, the risk is greater for the first member of the couple to be diagnosed HIV positive.

Reviewed literature shows that males are seldom victims of IPV (Carmo, 2011). Despite efforts by the governments laws and legislations in protecting women against gender-based violence and abuse, IPV prevalence rate remains remarkably high in developing countries (Morrison, 2007). In African countries, this can be blamed on some cultural and social norms adopted that overpower the strength of a woman in society (Olayanju, 2013). Victims suffer from negative health breakdowns that may be fatal (e.g., suicide, homicide, maternal mortality, AIDS related mortality) or non-fatal (e.g., injuries, substance abuse, chronic pain, and mental disorders). Studies have also shown associations between IPV and unsafe sexual practices, unwanted pregnancies, and unsafe abortion.

This study hypothesizes that IPV affects HIV care engagement and adherence to treatment. Screening of HIV patients for IPV became standard practise in 2018 when index contact tracing became part of the national HIV testing algorithm. While addressing the physical health of women facing these burdens is vital, there is an increasing need to understand the implications of IPV in continued care.

JF Kapnek Zimbabwe is a Zimbabwean organization whose interventions support the country's health and education sectors. They play a leading role in the prevention of new HIV infections and supporting HIV care and treatment services for

PLHIV. With over 16 years of technical experience in HIV Care and Treatment programs in Zimbabwe, supporting the Ministry of Health and Child Care (MOHCC) in delivering HIV care and treatment services. As part of achieving the 95-95-95 UNAIDS target, the organization also has its interests underpinned in preventing patient's loss to care caused by one reason or the other including factors like IPV. It is through this organisation that this study was funded.

1.3 Statement of the problem

Primary care counsellors have been reporting that clients have reported fear of violence from an intimate partner as a cause to poor adherence to treatment medication. During review meetings, counsellors reported that people who report IPV end up being lost to follow-up. At least 10 percent of clients initiated on ART during rapid scale-up of ART access between 2017 and 2021 were declared lost to follow up at some point. The ART program has also seen poor adherence to appointments and medication and low coverage of routine tests like CD4, TB preventative therapy and viral load. Poor adherence to appointments then results in poor coverage of components of the treatment package including client attrition from care. The figure below shows the number of clients who were declared as lost to follow up during HIV care.
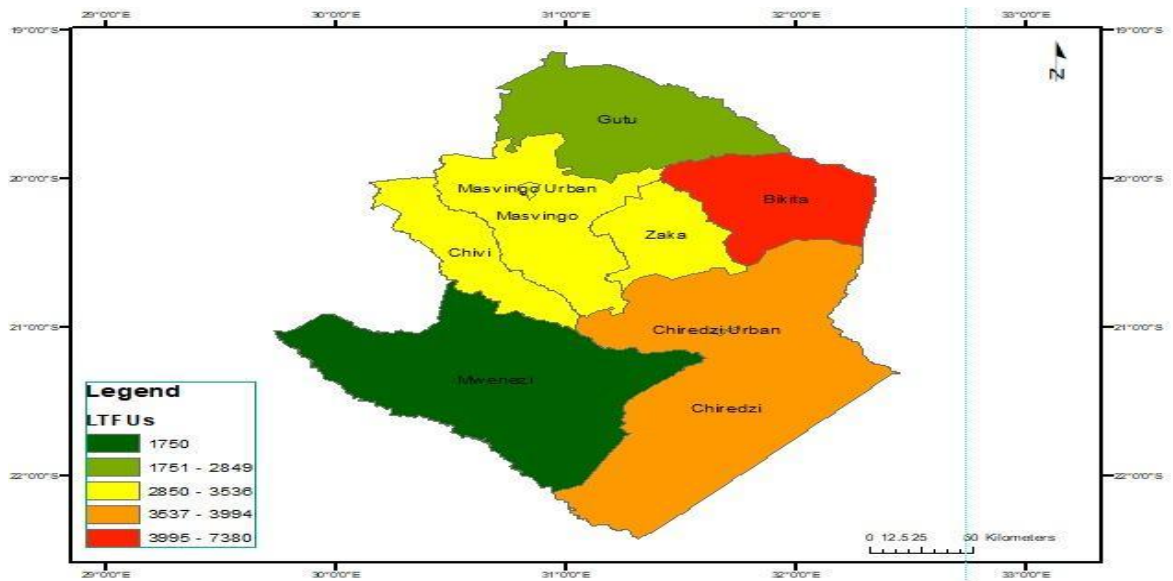
Figure 2: Masvingo Province Map showing the number of HIV clients lost in care between March 2017 and March 2021 per district.

1.4 Research objectives

1.4.1 Broad objective

The study investigated factors that correlate with risk of intimate partner violence in continued HIV care and treatment.

1.4.2 Specific Objectives

i. To investigate baseline clinical measures at HIV diagnosis for IPV and none IPV exposed clients.

ii. To compare ART continuation rates for patients who report risk of IPV and none IPV exposed clients.

iii. To investigate if clients who report risk of IPV have different levels of engagement with the HIV care and treatment package compared to those that are not at risk.

1.5 Research questions

i. Is there a difference in baseline measures at HIV diagnosis for IPV and none IPV cases?

ii. What are the ART continuation rates among IPV and non-IPV victims who fully engage with HIV care and treatment?

iii. What are the engagement patterns with the HIV care and treatment package for clients who report and those who do not report the risk of IPV?

1.6 Significance of the study

As HIV the epidemic comes under control sustaining the gains made through scale up of HIV testing services and ART initiation there is need to understand factors that can affect engagements with care. Violence by intimate partners has been highlighted in counselling sessions as a cause for poor engagements with care. Quantifying the problem and understanding how it influences client engagements with care helps to inform the design of differentiated service delivery based on client specific needs thereby improving care outcomes and prolonging life.

1.7 Study Hypothesis

Hypothesis 1: There is a difference in the number of men and women who report exposure to intimate partner violence at HIV diagnosis.

Hypothesis 2: There is no difference in the baseline clinical measures and clinical presentation of clients who are exposed and not exposed to inmate violence.

Hypothesis 3: There is significant difference in engagement with the HIV care package between clients exposed to intimate partner violence and clients not exposed.

1.8 Delimitation of the study

The results only apply to the 3 selected districts in the whole of Masvingo Province hence cannot be generalized for the entire Zimbabwean population. However, the project mainly focused on the incidence of IPV and its implications in continued care,

and though relatively important, did not focus on the causes of IPV. The study made use of routine data obtained from reported cases at facility level.

1.9 Limitation of the study

Like any observational study, the main limitation if this study is there is absence of data on potential confounding variables. The study depended on facility registers and electronic systems which may not be up to date.

CHAPTER 2   REVIEW OF RELATED LITERATURE

2.1   Introduction

This chapter showed a review of related literature. Reviewing related literature gave a broader understanding of what has been known already in line with the problem under investigation. Reviewing related literature was done in-line with the objectives of the study. Findings from similar studies were reviewed with the aim of noting similarities and differences in these studies to come up with evidence-based conclusions to inform this study. This section also indicated the theoretical framework which shaped this study.

Due to multiple studies around the subject matter, the relationship existing between IPV, and HIV infections has overall proven to be undeniable (Petrulyte, 2020). IPV has been in existence for a long time and its causes and consequences have been scrutinized. Relevant studies conducted will be provided in this chapter. Provision of this literature is to layout related researches that have been done over time on the subject matter, to unveil the knowledge gap that led to the establishment of this study.

2.2   Defining intimate partner violence

As submitted earlier, IPV as a form of gender-based-violence and the WHO defines it as the intentional use of physical force or power, threatened or actual, against a partner that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (Krug EG, 2002). It documented that the way one defines IPV impacts the measurement of violence leading to under or over reporting of violence although overreporting has been found to be uncommon (Taillieu & Brownridge, 2010).

In many studies the definitions and measurement of intimate partner violence is diverse (Breiding, Basile, Black, & Mahendra, 2015), leading to difficulties in comparison of difference of study outputs as some studies may exclude forms of IPV such as emotional and sexual violence (Stewart & Cecutti, 1993).

In this study, the WHO conceptualisation of intimate partner violence was used where an individual, male of female's reported sexual, physical, emotional violence perpetrated by a partner regardless of the legality of the union. In developing a manual a manual for interviewers for a multi country study on women's health and domestic violence, Jansen and colleagues defined current IPV as experiencing at least one form of IPV withing the past 12 month (Jansen, Watts, Ellsberg, & Farcia-Moreno, 2004), this study also adopts this approach in the selection of exposed and none exposed clients.

The MoHCC developed a screening tool to be used for targeted inquiry for IPV at HIV diagnosis and this has been used in facilities since 2018 when HIV programmes started index contact tracing. In the Operations and Service Delivery Manual, seven questions are asked to assess a client's risk or exposure to IPV. The seven questions are:

1. Has [partner's name] ever threatened to hurt you?
2. Has [partner's name] ever hit, kicked, slapped, or otherwise physically hurt you?
3. Has [partner's name] ever forced you to do something sexually that made you feel uncomfortable?
4. Has your partner ever threatened you in other ways, such as divorce, desertion, lack of
support, taking away access to your children, or other threats?
5. Has your partner ever threatened to Kill you?
6. Has your partner ever threatened to "out you" or reveal your sexual orientation, gender
identity or status as a sex worker?

7. Has your partner ever harm you on the basis of your sexual orientation, gender identity

or status as a sex worker.

A yes to any one of the questions considers one to be at risk or exposed of IPV

(Ministry of Health and Child Care, 2022). The secondary information source that is

used for this study does not distinguish between physical, emotional, and sexual

violence since the field used in collecting patient data does not distinguish the forms

of violence.

2.3   Theoretical framework

Theoretical framework is defined as a set of interrelated concepts that can be used to

guide research with the purpose of predicting and explaining the results of the research

(LeCompte & Preissle, 1993). It guides the researcher toward appropriate data

collection methods. Abend (2013) defines a theoretical framework as the structure that

holds a theory of a research study by introducing and describing the theory on why the

research problem understudy exists.

For this study, the Social Ecological Model was used. Glanz (2008) alluded that

ecological models are believed to provide comprehensive frameworks for

understanding the multiple and interacting determinants of health behaviours. The

author asserts that the most successful public health programs have been based on an

understanding of health behaviours and the contexts in which they occur.

The Social Ecological Model is a framework designed to help people comprehend the

many layers of a society and how people and the environment interact within it. At all

levels of health, different causes and determinants exist, therefore prevention, control,

and intervention are most effective when the model is approached from all angles.

Many models are designed in such a way that the multiple layers of the model overlap, demonstrating how one level influences the next.

The interplay between individual, relationship, community, and social issues is considered in this theory. It enables us to comprehend the wide range of circumstances that put people at risk of violence, as well as the elements that protect them from experiencing or perpetrating violence. The model's overlapping rings depict how factors at one level influence factors at another. In addition to assisting in the clarification of these elements, the model implies that to prevent violence, action must be taken at various levels of the model at the same time. This strategy has a better chance of sustaining preventative efforts over time and having a population-level impact. It is summarised into the following stages.
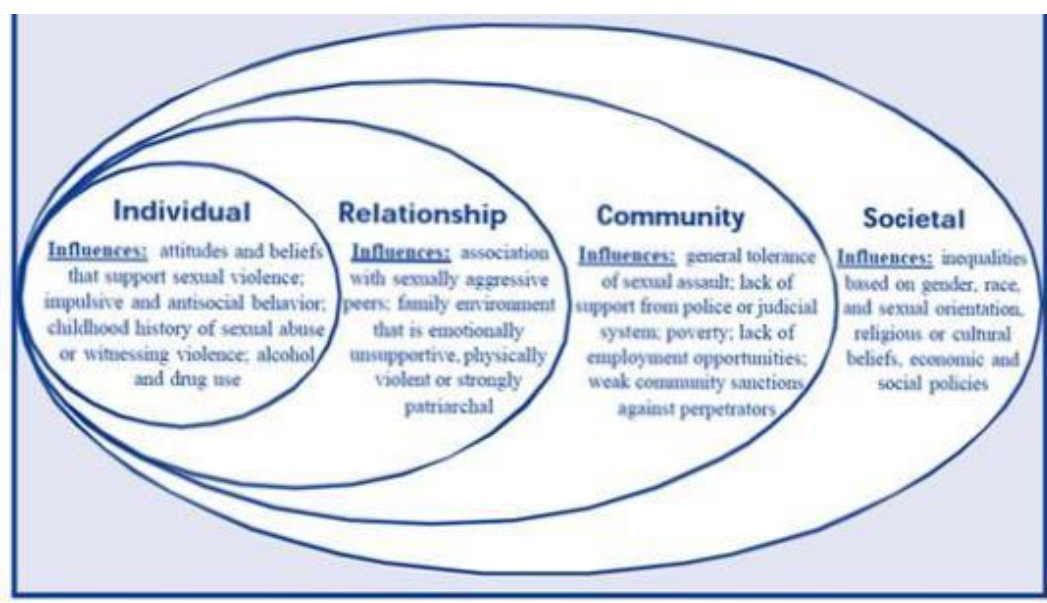
Figure 3: A diagram representation of Social Ecological Model

Age, education, income, substance use, and abuse history are some of these characteristics. At this level, prevention measures foster anti-violence attitudes, beliefs, and behaviours. Conflict resolution and life skills training, social-emotional

learning, and safe dating and healthy relationship skill programs are some examples of specific techniques.

The second level looks at close ties that may raise the chance of being a victim or perpetrator of violence. Peers, lovers, and family members in a person's closest social circle impact their behaviour and add to their experience. Parenting or family-focused preventative programs, as well as mentorship and peer programs, may be used at this level to increase parent-child communication, develop positive peer norms, problem-solving skills, and encourage healthy relationships.

The third level investigates the environments in which social relationships take place, such as schools, workplaces, and neighbourhoods, to uncover the qualities of these environments that are linked to becoming victims or perpetrators of violence. At this level, prevention techniques focus on improving the physical and social environment in these settings (for example, by creating safe spaces for people to live, learn, work, and play) as well as addressing other factors that contribute to community violence (e.g., neighbourhood poverty, residential segregation, and instability, high density of alcohol outlets).

The fourth level examines the broad societal issues that contribute to an atmosphere that encourages or discourages violence. Social and cultural standards that encourage violence as an acceptable means of resolving problems are among these causes. Other major sociocultural variables include health, economic, educational, and social policies that contribute to the perpetuation of economic and social inequality. Attempts to promote cultural values that guard against violence, as well as efforts to increase household financial stability, education and work possibilities, and other policies that

affect the structural determinants of health, are examples of prevention methods at this level.

2.3.1 Relevance of theoretical framework to the study

(World Health Organisation, 2021) asserts that, the ecological framework treats the interaction between factors at the different levels with equal importance to the influence of factors within a single level experience of poor parenting. They supported this view by saying that the ecological framework helps explain the result—violence later in life—as the interaction of an individual risk factor, the consequences of complications during birth, and a relationship risk factor, the experience of poor parenting. This framework is also useful to identify and cluster intervention strategies based on the ecological level in which they act. For example, home visitation interventions act in the relationship level to strengthen the bond between parent and child by supporting positive parenting practices.

Applying the second level of the Social Ecological model, we can relate relationship outcomes like IPV thus IPV can have an impact on HIV care results for those living with the virus as psychological abuse that comes with IPV may lead to non-adherence to treatment, hence when this occurs, the whole society is affected by losses through premature deaths and epidemic control is affected at national level. Practices like patriarchy which greatly influence IPV may also lead to non-adherence to treatment. (Basikoro, 2019) emphasized this point by stating that in many Sub-Saharan Africa nations, HIV-positive women deliberately avoid life-saving medical technologies like antiretroviral medications or follow treatment regimens inconsistently.

Despite the free distribution of medications and institutional practices that profess to be inclusive of the needs of HIV positive women, these self-destructive patterns of behaviour persist in many circumstances.

He added that, across all scales, the persistence of patriarchal social relations has shown to be a dominant social influence on health outcomes and as such a primary cause of pathology and premature deaths.

With reference to the Social Ecological Theory, several research have followed that path in implementation. Harrigan (2019), reports that there is a close link between intimate partner violence (IPV) and HIV because IPV can increase risk of HIV by limiting a person's ability to negotiate safer sex and safer drug use and because the short- and long-term effects from IPV may lead people to engage in higher risk behaviours which can include non-adherence to ART.

The social ecological model examines the various levels of influence on an individual's behavior, including individual, relationship, community, and societal factors. This model has been applied to understanding intimate partner violence (IPV) by examining the multiple factors that contribute to its occurrence.

At the individual level, risk factors for IPV include a history of trauma, substance abuse, mental health issues, and a history of violent behavior. At the relationship level, factors such as power imbalances, communication difficulties, and jealousy can contribute to IPV. At the community level, social norms that condone violence or support gender inequality can contribute to IPV. Finally, at the societal level, factors such as poverty, discrimination, and lack of access to resources and services can contribute to IPV.

By understanding the various factors that contribute to IPV, the social ecological model can inform prevention and intervention strategies. Prevention strategies can target individual risk factors, such as providing mental health and substance abuse services, while also addressing community and societal factors, such as promoting gender equality and addressing poverty (World Health Organisation, 2013). Intervention strategies can involve providing support and resources to victims of IPV, as well as holding perpetrators accountable for their actions.

Overall, the social ecological model provides a comprehensive framework for understanding and addressing IPV, recognizing the complex interplay of individual, relationship, community, and societal factors that contribute to this issue (Dutton & Goodman, 2019).

2.4   IPV Prevalence by Sex

Research has consistently shown that women are more likely to experience IPV than men. According to the World Health Organization (WHO), approximately 30% of women worldwide have experienced physical or sexual violence from an intimate partner at some point in their lives (WHO, 2017). In a study conducted in the United States, it was found that 20.7% of women had experienced IPV in their lifetime (Black, et al., 2011).

A national survey in Uganda was conducted in 2016 to assess IPV among HIV positive women in care (Kabwama, et al., 2019). A sample of 5 198 HIV positive in care was used. Secondary data from a facility based cross-sectional study was used from 5 geographical regions. A list of IPV related acts (e.g., kicks, slaps, forced sex etc.) was provided as standard acts of IPV eligibility. IPV cases were obtained by interviewing participants if they had ever experienced any of the listed acts from their

intimate partners. Modified Poisson Regression helped in identifying factors associated with IPV experiences. Results showed that 33.2% were exposed to physical violence, 28.3% sexual violence and 44.2% for other forms of violence. Due to these results, psychosocial support at facility level was recommended.

(Nybergh, 2013)**, did a** cross-sectional postal survey that was aimed at assessing IPV among randomly selected women and men of women and men aged 18–65 years in Sweden. The aim of the study was to explore self-reported exposure, associated factors, social and behavioural consequences of and reasons given for using psychological, physical, and sexual intimate partner violence (IPV). Bivariate and multivariate logistic regression analyses were used to identify factors associated with exposure to IPV. However, the results showed that, past-year IPV exposure rates were similar in both women and men as compared to earlier-in-life where estimates were higher in women.

In Nigeria, a study by Oladepo et al. (2019) found that 44.3% of women had experienced physical or sexual IPV, while a study conducted in Iran reported that 66.4% of women had experienced some form of IPV (Moussavi et al., 2019).

2.4.1   Prevalence of IPV among Men

While women are more likely to experience IPV than men, men are also at risk of experiencing IPV. According to the WHO, approximately 6% of men worldwide have experienced physical or sexual violence from an intimate partner at some point in their lives (WHO, 2017).

A study conducted in the United States found that 23.2% of men had experienced IPV in their lifetime (Black et al., 2011). In Nigeria, a study by Oladepo et al. (2019) found that 23.5% of men had experienced physical or sexual IPV.

Trends in prevalence have also been assessed. Mukamana and colleagues between (2005-2015) assessed the trend in prevalence and correlations of IPV cases among Zimbabwean women. They specified that they made use of secondary data from Zimbabwe Demographic and Health Survey (ZDHS) obtained from the survey years 2005-2006, 2010-2011 and 2015 and a sample of 13 409 females in childbearing ages was gathered (ZDHS, 2015). Analysis for associations between variables was obtained using multiple logistics regression and hierarchical modelling techniques. Trend results showed fluctuations between the first 5 years and an increase in 2015 and hence the risk of IPV for women was deemed high.

2.4.2   Factors contributing to the gender difference in IPV.

The reasons for this disparity are complex and multifaceted, but several factors have been identified as contributing to this phenomenon in available literature. Relationship factors such as jealousy, possessiveness, and communication problems have also been associated with IPV (Capaldi & Kim, 2007). Societal factors such as gender norms and social inequality have been found to contribute to IPV, with patriarchal societies being more likely to have higher rates of IPV (Abramsky, et al., 2011).

Gender-based power imbalances between men and women contribute to IPV. Men are often socialized to be dominant and to exert power over their partners, while women are socialized to be submissive and to prioritize the needs of their partners. This power imbalance can lead to abusive behaviours and violence towards women (Karakurt & Cumbie, 2012).

Societal and cultural norms that support male dominance and aggression towards women can also contribute to IPV. These norms can include beliefs that women should

be submissive, that men have a right to control their partners, and that violence is an acceptable way to resolve conflicts (Mitra & Mouradian, 2019).

Economic disempowerment is another factor that contributes to IPV. Women who are financially dependent on their partners may be less likely to leave abusive relationships because they fear losing financial stability or access to resources. This can create a power dynamic that enables abuse to continue (Davies, Lyon, & Monti-Catania, 1998).

Psychological factors, such as low self-esteem and a history of trauma or abuse, can also contribute to women's vulnerability to IPV (Dutton D. G., 2012). In conclusion, IPV can be influenced by a range of factors, including individual, relationship, and societal factors. Individual factors such as alcohol and drug use, mental health problems, and personality traits have been found to increase the risk of IPV (Capaldi & Kim, 2007).

2.4.3 IPV by sex in Zimbabwe

The Zimbabwe Demographic and Health survey (2015) offered a deep dive in the prevalence of IPV by spouses. The study concluded that 35 percent of women who have been ever-married experienced physical and sexual violence from spouses and 37 percent of these women reported physical injuries. The survey however focused on women 15 – 45 years old. The table below the percentage of man and women ages 15 - 45 who reported spousal physical violence.

Table 1 : Percentage of males and females reporting physical spousal violence from ZDHS 2015

	National	Masvingo Province
Ever experience spousal physical violence		
Men	6.6	2.5
Women	32.5	28
Ever experience spousal physical violence in the past 12 months		
Men	2.7	1.9
Women	21.7	20.8

2.5 Baseline measures at diagnosis for IPV victims

Studies have shown that IPV-exposed individuals living with HIV may present with more severe symptoms, have poorer medication adherence, and be at a higher risk of developing drug resistance than those who are not exposed to IPV (Gielen, McDonnell, Wu, O'Campo, & Faden, 2007) (Sikkema, et al., 2010). IPV can also interfere with access to healthcare and HIV testing, as well as limit the ability to disclose HIV status to partners or access partner testing and care (Hatcher et al., 2012; Singh et al., 2014). IPV can exacerbate other social determinants of health, such as poverty, unemployment, and housing instability, which can further complicate HIV care management.

According to a study published in the Journal of Women's Health, by Rivara and colleagues (2009) women experiencing IPV were more likely to seek healthcare services, including preventive care, cancer screenings, and routine check-ups. The study also found that women who experienced IPV were more likely to have additional healthcare needs and were more likely to receive preventive care.

Researchers used data from the 2002 National Survey of Family Growth to examine the relationship between IPV and healthcare utilization among women. The study found that women who reported IPV were more likely to utilise healthcare services, including preventive care, cancer screenings, and routine check-ups.

The study also found that women who experienced IPV had more unmet healthcare needs and were more likely to receive preventive care than women who did not experience IPV. Overall, the study suggests that IPV can have a significant impact on women's access to healthcare services and their ability to receive preventive care while increasing the costs of curative care. It highlights the importance of healthcare providers being aware of the potential for IPV and providing appropriate screening and referrals to support services.

Relating to clients' CD4 T-cells level, Jewkes, Dunkle, Jama-Shai, & Gray (2015) found a significant association between the decay of CD4 T-cells with exposure to IPV among HIV positive women at baseline, soon after the client's HIV diagnosis (Coeff -132.9, 95% CI -196.4, -69.4 p<0.0001). Their study asserted that IPV is associated with an accelerated rate of markers of cellular immunity)

2.6 ART Continuation Rates for IPV Victims

From March 2009 through January 2012, Siemieniuk and colleagues conducted a study to access the clinical outcomes of high rates of IPV against HIV positive women in Southern Alberta in Canada (Siemieniuk R. A., 2013). 339 HIV Positive women were screened and of these, 40.4% of them reported as victims of IPV. The rate of IPV victims' hospitalizations was approximately 1:4. They also mentioned that when outpatient HIV care was initiated, the relative risk of HIV-related hospitalizations increased.

The study results also pinpointed IPV as one major reasons for poor health outcomes like loss to care, hence as a recommendation, they encouraged health care professionals to become more involved on related issues.

In Kenya, (Biomndo, Bergmann, Lahmann, & & Atwoli, 2021) found that IPV was a barrier to ARV adherence although ARV medication was available for free in government clinic. Their analysis found that each of the following: sexual IPV, physical IPV and controlling behaviours led to reduced odds of optimal adherence to ART as well as stoppage of treatment physical IPV (AOR 0.6, 95% CI: 0.3 –0.9, p = .028), sexual IPV (AOR 0.5, 95% CI: 0.3 – 0.8, p = .005), or controlling behaviour (AOR 0.56, CI95: 0.3 – 0.9, p = 0.03).

Abigail Hatcher conducted a meta-analysis study to estimate the odds of engagement in HIV care and treatment among HIV Positive women who report IPV. A meta-analysis is a quantitative statistical analysis that combines related scientific study results to establish a conclusion on the subject matter. Data from 757 full text papers was extracted by 2 reviewers as a quality control measure. These included 13 cross sectional studies for HIV positive women. Odds ratio was used to measure the association in case control. However, as a limitation, measurement of IPV varied from one study to the other. Moreover, results showed an association between IPV and lower ART use and 50% of the odds of self-reported ART poor adherence. These contributed to unsuppressed viral load associated with IPV (Hatcher AM, 2015).

2.7 Intimate partner violence and body mass index

Intimate partner violence (IPV) can affect body mass index (BMI). Research suggests that individuals who experience IPV may be at increased risk for both underweight and overweight/obesity (Coker, Smith, Bethea, & McKeown, 2000).

23

For example, a study published in the Journal of Interpersonal Violence found that women who experienced physical IPV had significantly lower BMI scores than women who did not experience IPV. Additionally, a review of research published in the journal Trauma, Violence, & Abuse found that women who experienced IPV had higher rates of overweight and obesity compared to women who did not experience IPV.

There are several possible explanations for the relationship between IPV and BMI. For instance, individuals who experience IPV may use food as a coping mechanism or experience food insecurity due to financial abuse or forced isolation. They may also experience stress, depression, and anxiety, which can affect their eating habits and weight (Coker, et al., 2005). It is however important to note that the relationship between IPV and BMI is complex and can vary depending on the individual and the nature and severity of the violence experienced (Stockman, Hayashi, & Campbell, 2015). However, these findings highlight the importance of addressing the physical and mental health consequences of IPV.

In the Zimbabwean setting found (Mukamana, Machakanja, Zeeb, Yaya, & Adjei, 2022) that IPV was significantly associated with a poor nutritional status with 24% of women in their sample being overweight, having a BMI greater than 25 kilograms per metre squared.

2.8   Engagements with care among IPV Risk Populations

Key populations (female sex workers, transgender women and women who use drugs) are one of the most common IPV risk population groups. (Leddy, 2019), did a meta-analysis to clarify how GBV may act as a barrier to accessing HIV services, treatment,

and care - such as anti-retroviral treatment (ART) or pre-exposure prophylaxis (PrEP) among these key populations.

Through comprehensive scoping review, Leddy (2019) synthesized and analyzed existing evidence regarding the influence of GBV on engagement in PrEP and the HIV care continuum among women living with HIV, including members of key populations. PubMed, Scopus, and Web of Science for peer-reviewed studies published in 2003–2017 were explored. Of the 279 sources identified, a subset of 51 sources met the criteria and were included in the scoping review. Findings showed that GBV impedes women's uptake of HIV testing, care, and treatment.

A study in Canada by (Siemieniuk R. A., 2013) also sought to establish the prevalence, clinical association, and impact of intimate partner violence among HIV infected gay and bisexual individuals between May 2009 and Dec 2011. It was found that, from the 687 patients under study, 22.4% of them experienced one or several types of IPV related problems. However, this association possessed a significant interruption in HIV care, with a high incidence of AIDS among patients presenting early loss to care and an increased rate of HIV related hospitalizations after establishment of HIV diagnosis. This high incidence was found to be associated with poor social, psychiatric, and medical outcomes.

The goal of the HIV program at individual level is viral suppression so that an individual can lead a normal life (National AIDS Council, 2019), however, (Fredericksen, et al, 2021) found that intimate partner violence increases the odds of a detectable viral load (OR;1.4 95% CI 1.2 - 1.8, p = 0.001). Hatcher (2015) in a meta-analysis also found lower odds of viral suppression in 7 studies on women facing IPV.

After a thorough assessment of all these IPV related studies and most

importantly guided by the 95-95-95 UNAIDS target in preventing loss to care, the

researcher identified a gap in the assessment implications of IPV to HIV care.

Summary

This chapter reviews the findings of other authors on the subject matter.   The Social

Ecological Theory has been used to justify and support the arguments, variables and

the phenomena that are being studied, which then helped the researcher in developing

his arguments. To challenge and extend existing knowledge within the limits of critical

bounding assumptions, the researcher reviewed several studies by other scholars

around IPV and its implications to HIV care and treatment, that indirectly addressed

on the study's objectives hence establishing the project gap that led to the justification

of the researcher's study

CHAPTER 3   METHODOLOGY

3.1   Introduction

This chapter outlines the methods employed in this study. The chapter highlights the type of research design, rationale for the design, sampling methods and procedures, study population and data collection procedures. The ethical considerations for this study were stated in this chapter.

3.2   Research design

A retrospective cohort study was done on records of patients who were screened for risk of intimate partner violence at HIV diagnosis. This design was chosen because the exposure of interest (IPV) and the outcome of interest would have occurred by at the time of data collection (Kestenbaum, 2019).

Retrospective study designs are often used in studying intimate partner violence (IPV) due to ethical and practical considerations. Ethically, it is not feasible to conduct a randomized controlled trial where participants are deliberately exposed to IPV. In addition, IPV is a sensitive and private issue that requires an approach that protects the confidentiality of the participants. Retrospective study design allows researchers to collect data from past experiences of individuals who have already experienced IPV.

One common type of study design used in studying IPV is the case-control study. In a case-control study, participants who have experienced IPV are compared with a control group who have not experienced IPV. This allows researchers to identify potential risk factors for IPV and understand the characteristics of individuals who are more likely to experience IPV. A meta-analysis of case-control studies found that

factors such as alcohol use, low income, and a history of childhood abuse are associated with an increased risk of IPV. (Devries K. M., et al., 2013).

Another retrospective study design used in studying IPV is the retrospective cohort study. In a retrospective cohort study, researchers collect data from individuals who have already experienced IPV and follow them over time to track the long-term outcomes of IPV. This type of study design allows researchers to understand the long-term effects of IPV on physical and mental health outcomes. A systematic review of retrospective cohort studies found that IPV is associated with a higher risk of depression, anxiety, and PTSD (Devries K. M., et al., 2014).

Overall, retrospective study designs are commonly used in studying IPV due to ethical and practical considerations. These study designs allow researchers to collect data from individuals who have already experienced IPV and provide important insights into the risk factors and long-term effects of IPV.

3.3   Study setting

The study targeted districts with the highest volume of client attrition as shown in figure 1. The chosen districts accounted for 69% of patients' attrition between March 2017 and March 2021.Out of the 6 supported districts by the TASQC program, the top 3 districts with the highest losses of clients on ART were chosen for this study, that is Chiredzi, Chivi and Zaka. In this a approach the selection of study setting was to find the location that accounts for the majority of observed client attrition there the convenience and accessible for the target population.

3.4   Study population

Records of people diagnosed HIV positive and were screened for the risk of intimate partner violence between March 2018 and March 2022.

3.5 Sampling Procedure

There was multistage sampling in 3 tiers as shown in the diagram below.

District Selection
- Purposive Sampling of 3 districts with the highest client loss to follow up

Facility Selection
- Qouta of facilities with an EPMS system from all facilities in the district

IPV case/control selection
- Every IPV case matched with for sex, age and same month of HIV diagnosis.
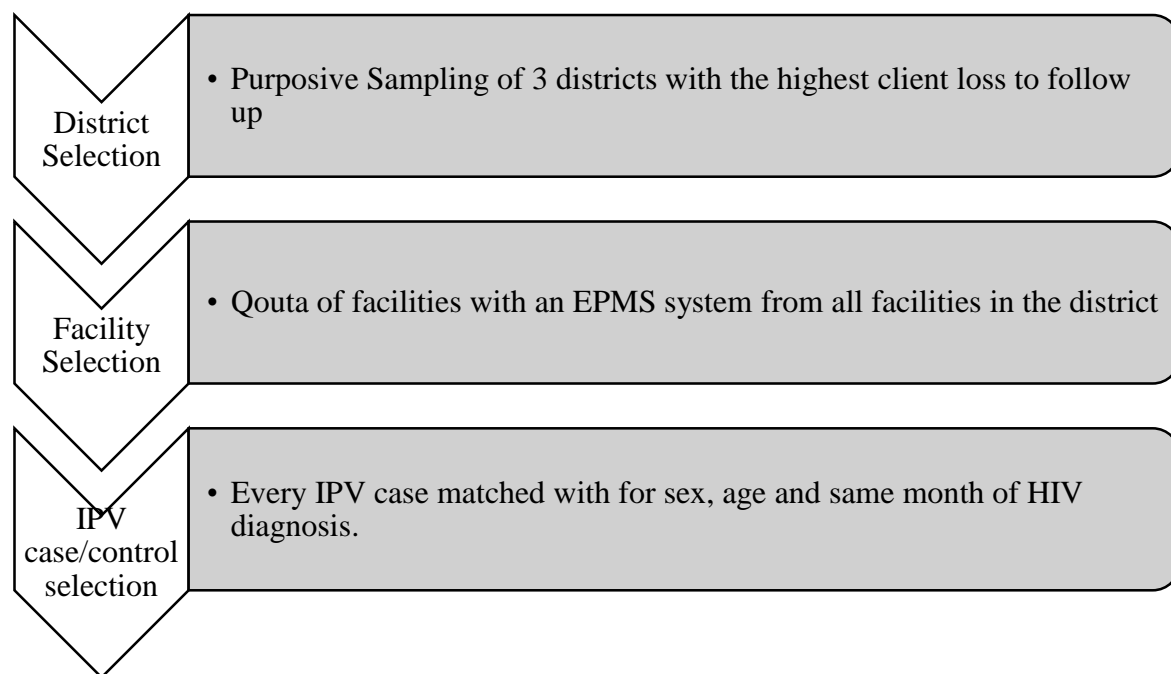
Figure 4: Multi-stage sampling procedure

3.5.1 Calculating the Sample Size

Basing on program data, we know that:

1. The total population that tested positive for the period under study is 15,094.

2. Based on grey literature from implementation research done in March 2021, the average proportion of clients who screen for positive for IPV is 3% of all newly diagnosed HIV clients

Taking:

The desired level of precision as 5%

The desired confidence interval as 95%

Thus:

N= 15,094

p=0.02

Since p (the population proportion) is unknown, we assume maximum heterogeneity

and use p=0.02

Taking p=0.02   q=1-p=1-0.5=0.5

From the normal tables, the 95% confidence interval gives us Z=1.96

e= 0.05

With all the given information above, we establish the Cochran Sample Size Procedure

as the best procedure fit for the data, performed as follows:

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where $n_0 = \frac{Z^2 pq}{e^2}$

Hence:

Given $n_0 = \frac{Z^2 pq}{e^2} = \frac{1.96^2 (0.03 X 0.97)}{0.05^2} = 59$

Then minimum sample size $= n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = \frac{59}{1 + \frac{(59 - 1)}{7999}} = 59$

The 59 records of IPV exposed clients were matched 1 to 1 with none IPV exposed

clients, meaning a total sample size of 118. The none exposed clients were be chosen

from the same facility and the same period as the case to ensure homogeneity. The

researcher did not assume any nonresponse since the data abstraction was done from

patient records not actual patients. Taking the maximum sample size for the exposed, which is 59, since the researcher has chosen 3 districts as study areas, for each district, the study worked with a sample of:

$$\frac{59}{3} = 19 \text{ files}$$

Thus 19 exposed clients and 128 none exposed clients.

3.5.2 Sampling Technique

Since the research data was extracted from the Electronic Patient Monitoring System (EPMS), Index Case Contact Tracing Registers and the Patient OI/ART Care Booklet. The researcher targeted only facilities with EPMS. On average, there are 8 facilities that have EPMS in every district and these are high volume sites. With reference to the previous section, the researcher drew a sample of 19 clients as exposed cases per district compared this against 19 none exposed controls. To select the sampling elements, the researcher selected all the IPV exposed clients at the selected facilities with EPMS. For each IPV exposed client identifies, a none exposed client was selected at the same facility matching age, sex and month of HIV diagnosis.

3.6   Data collection tools and data sources

The study made use of secondary data that is reported from Index Case Contact Tracing Registers and the Patient OI/ART Care Booklet and the Electronic Patient Monitoring System (EPMS). The Index Case Contact Tracing Register was the source of IPV screening information while the Patient OI/ART Care booklet or EPMS was the sources of information on engagements with care. An electronic data abstraction form in KOBO box was used to abstract information from the clinical records. The

client's OI/ART number was used as the client's unique identifier, no names were collected.

3.7 Data collection procedure

Using and electronic data abstraction form in Kobo Box, the data abstractors extracted data from the Index Contact Tracing Register, this register was key in that when a client is diagnosed HIV positive, for the facility to initiate contact tracing, they first of all listed the names of the newly diagnosed clients (index cases) then record the contact. The client is then screened for intimate partner violence against each sexual contact provided. The data point for IPV screening was what this study leveraged on
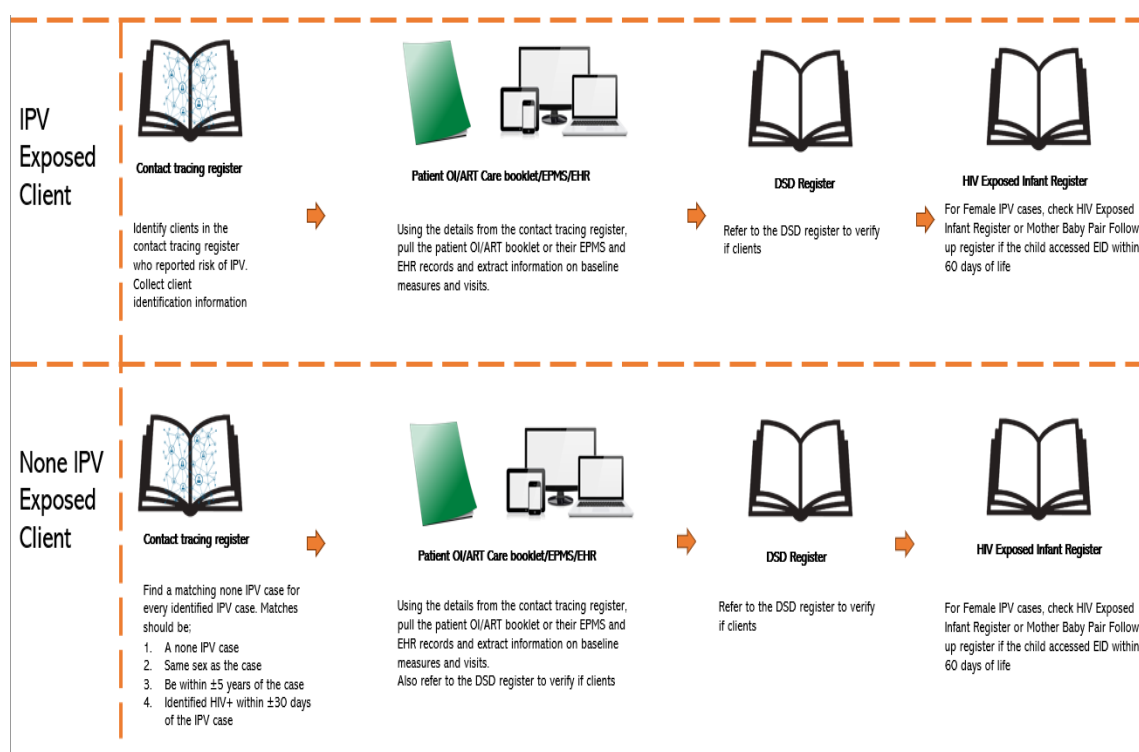
Figure 5: Data collection infographic

to identify clients at risk of IPV. The index contact tracing register provided baseline information including the client's name, OI ART number, age and sex. The abstractors would proceed in the same register to find a suitable nonexposed client who was withing plus or minus 5 year of age with the IPV case, of the same sex and the same

32

month of diagnosis. After abstraction of data from the Index Contact Tracing register, the abstractors would search for the client's unique identifier in the electronic patient monitoring system for data on client baseline measures and engagements with continued care. Considering the lag in updating of electronic systems, variable that may not be up to date in the electronic patient monitoring system were checked in the patient OI/ART care booklets. Data on engagement with differentiated service delivery was then collected for the DSD register. For women who ever delivered during the follow up period, information on early infant diagnosis was collected from the mother baby per register and in some facilities in the HIV exposed infant register, the registers are used interchangeably.

3.8 Variables

3.8.1 Independent Variables
Exposure to IPV prior to HIV diagnosis.

3.8.2 Dependent Variables
The dependant variables in the study are listed below.

Table 2: Study Variables

Variable	Variable Type	Definition	Mode of Collection
Poor ARV adherence	Numeric, Percentage	Having a pill count that is greater or lower than the expected pill count.	Electronic, using Kobo box
Poor adherence to clinical appointments	Numeric, number of days since last expected visit	Attending a clinical appointment after the set appointment date.	Electronic, using Kobo box
High viral load	Numeric, number of viral cells per	Having a viral load >1000 c/ml	Electronic, using Kobo box

	millilitre of blood		
Duration on ART	Numeric, months	Time on ART since initiation to last reported outcome	Electronic, using Kobo box
Interruption in HIV treatment	Numeric, >28 days since last expected visit	Client missing a clinical appointment for at least 28 days after the last expected visit	Electronic, using Kobo box
TB preventative therapy completion	Categorical	Clients started and completed a 6-month long TPT course	Electronic, using Kobo box
Early infant diagnosis for infants of IPV victims	Categorical	An infant accessing DNA PCR HIV testing before two months of age is considered to have accessed early infant diagnosis	Electronic, using Kobo box

3.9   Pilot study

To identify possible problems with the data collection tool and derive possible solutions, a research pretest was conducted at Gutu Rural Hospital and the data from the pretest was not included in main study since the facility was in a district that was not selected for the study. The pilot was done on 6 records of IPV exposed clients and 6 records of none exposed clients, this represented just under 10% of the records expected for the main study. A key thing the pilot was looking for was the possibility of finding matches as per the data collection procedure.

The positive feedback was since the facilities targeted in this study were generally high-volume facilities, all exposed clients were matched to the rightful control without having to spill over to another month. However, the data collection procedure then

included step to be taken if a match was not found within the same month. Key insights from the pretesting included the need to remove variables like baseline viral load testing as this is not part of the national guidelines.

3.10 Data management

Data collection was conducted in the first and the second week of March 2023. Data abstractors for the data collection exercise were district strategic information assistants in the districts where data was collected, the cadre were well acquainted with clinical records on both paper and electronic platforms. A two-hour long training was done on the study protocol and the data collection instrument on Microsoft Teams prior to data collection. All data was collected using KOBO toolbox and the data were stored in the online database hosted by the developers of KOBO. Device used in the data collection exercise were company issued by JF Kapnek Zimbabwe and protection of data in these devices is in accordance with the organisation's ICT policy which requires all devices to be password protected. Data from the KOBO database was downloaded and cleaned in Microsoft Excel.

3.11 Data analysis and organization

The cleaned data was analysed using RStudio software and Excel. Numerical data was summarized as means and standard deviations and categorical variables were summarized in frequency and percentage and the result was presented using tables. Records of clients at risk of IPV was matched against non-victims to determine the correlation of variables in question between victims and non-victims. Descriptive statistics for categorical variables were presented as frequencies, proportions in the form of tables, graphs, and charts. For continuous variables such as age, the mean and standard deviation (SD) was calculated, and analysis with an outcome.

The Chi-squared test and odds ratios were used to analyse associations between categorical variables with concerned or not concerned. Fishers exact test were used rather than Chi-square, where at least 20% of the observed values were less than 5. Confidence intervals for odds ratios were used to determine statistical significance in differences between the two exposure groups.

The anonymised analysis outputs are stored in a cloud database (Microsoft OneDrive) that is password protected only accessible to the researcher, but these are available to the department upon request.

3.12   Data dissemination

Results from this study will be published in scientific journal, technical working groups for Ministry of Health and Child Care and programme meetings. Posters of the study will also be published in relevant platforms include the upcoming ICASA in December 2023.

3.13   Ethical considerations

Authorisation to collect data was sought and given by the Provincial Medical Directorate in Masvingo Province. Since the study is part of the TASQC program learning agenda, there is blanket approval from Medical Research Council of Zimbabwe on all implementation research done under the TASQC grant. Since the researcher is also a student at Africa University, ethical approval was sought and given from Africa University Research Ethics Committee (AUREC) for approval.

All electronic information collected in this study was anonymised through the use of unique person identifiers, the unique identifier in this study was the facility assign OI/ART number which is a 16-digit code that identifies the province code, district code, facility code, ART program code, and the sequential number of the client that

start from 00001 at the beginning of the year. Data abstractors for this project have signed a nondisclosure agreement with JF Kapnek Zimbabwe and JF Kapnek Zimbabwe has a memorandum with the Ministry of Health and Child Care. Privacy of each facility's information was maintained. Information obtained will not be used for any other reason other than to inform interventions that seek to solve the problem at hand.

Summary

In general, the chapter outlined the research activities of the study. The methodology lays out the specific procedures or techniques that were used to identify, select, process, and analyse the research data. The section sought to critically evaluate the overall validity and reliability of the study as it seeks to answer how the data was generated, and how it was analyzed.

CHAPTER 4   DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

4.1   Introduction

This chapter presented results of factors that correlate to intimate partner violence in HIV care and treatment. This retrospective cohort study, which reviewed 128 records, 64 exposed and 64 none exposed matched 1 to 1 based on facility, gender, age and date of HIV diagnosis. IPV exposed clients whose HIV diagnosis was known for less than a year were excluded for the study. Demographics which include gender, and age were presented as frequencies in table format. Descriptive statistics for categorical variables were presented as frequencies, proportions in the form of tables, graphs, and charts. For continuous variables such as age, the mean and standard deviation (SD) was calculated, and analysis with an outcome.

4.2   Demographic characteristics of study participants

A total of 128 records were retrospectively reviewed, these include records of 64 clients who reported exposure to intimate partner violence and 64 who reported no prior exposure. The records were from 14 facilities in 6 districts. About 83% of the records reviewed were for female clients. Age of clients at HIV diagnosis ranged from 18 to 57 years (SD±8.8). Mean age for males was 40 years (SD±9) while for women the mean was 33 years (SD±8.2). In IPV exposed cases, 31(48%) reported IPV by a sexual partner while 33(52%) had reported experiencing IPV from a spouse.

Variables	Response Category	Exposed		None Exposed	
		n=64		n=64	
Sex	Female	53	83%	53	83%
	Male	11	17%	11	17%
Age	18-20	3	5%	1	2%
	20-29	18	28%	18	28%
	30-39	23	36%	28	44%
	40-49	16	25%	13	20%
	50+	4	6%	4	6%

4.3 Time to ART Initiation

For both exposed and none exposed clients at least 75% started ART on the day of HIV diagnosis as per national standard. In testing the hypothesis that exposure to IPV may delay ART initiation, there was no statistically significant difference in the proportion of clients starting ART on the same day of diagnosis (p=0.837). Further analysis of clients who would not receive same day ART initiation also showed there was no statistically significant difference in the mean number of days to ART initiation for both exposed and none exposed clients (p=0.329). There was however a wider range of days to ART initiation in females exposed to IPV than the rest of the gender and exposure desegregations.

Table 3: Time to ART initiation by IPV exposure

	IPV Exposed			IPV None Exposed			p
Same day ART initiation							
Yes	49			48			0.837
No	15			16			
	Range	Mean	SD	Range	Mean	SD	
Time to ART initiation							
Male	0 - 31	2.8	2.8	0 - 29	2.6	2.6	0.635
Female	0 - 212	12.4	33.7	0 - 56	5.2	11.3	0.323
Both sexes	0 - 212	10.8	31.0	0 - 56	4.8	10.8	0.154

4.4 Progression of HIV infection at diagnosis

This analysis was done twice, in the first case the progression of HIV infection was analysed based on WHO clinical stage while the second analysis only included 2 private facilities that were implementing baseline CD4 testing at HIV diagnosis.

4.4.1 Progression of HIV infection based at diagnosis based on WHO clinical stage.

At HIV diagnosis, all clients are assessed for their baseline WHO stage. This is a measure of progression of the HIV infection, and it is a Likert scale ranging from 1 to 4 where one is early HIV infection and stages 3 and 4 are regarded to be advanced HIV disease. A total of 58 clients had advanced HIV disease (AHD) at point of diagnosis as defined by the WHO, these included 47 clients exposed to IPV and 11 clients who were not exposed. In the cohort retrospectively followed up, 73% of IPV exposed clients reported with advanced HIV disease while 17% of none exposed clients had AHD. A difference in proportion hypothesis test showed that there was a statistically significant difference ($p<0.01$) in the proportion of clients with AHD between exposed and none exposed clients.
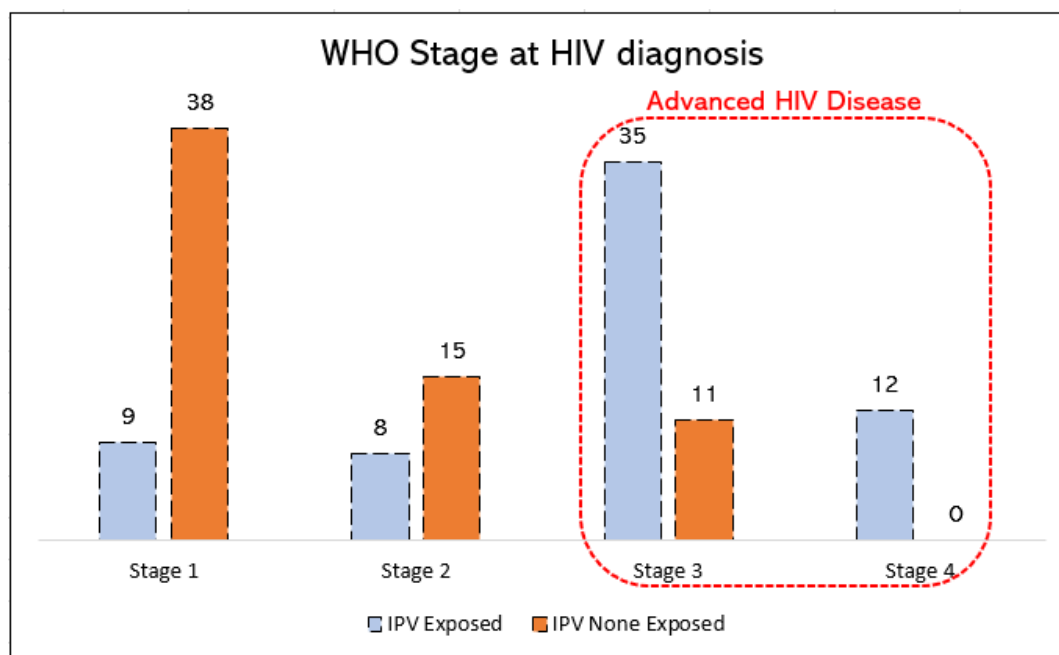
Figure 6: WHO clinical stage at HIV diagnosis for exposed and non-exposed clients

4.4.2 Progression of HIV infection based at diagnosis based on CD4 count.

Only 6 facilities reported baseline CD4 testing at HIV diagnosis, the rest of the facilities in the sample did not have access to this test due to lack of diagnostic equipment. The 6 facilities reported baseline CD4 testing done for 19 clients. Advanced HIV disease as per Operations and Service Delivery Manual was a CD4 count below 200 cells per millimetre cubed. To determine if there is an association between exposure to IPV and the development of AHD by the time of HIV diagnosis a Fisher's exact test of independence was done.

41

Table 4: Cross-tabulation of AHD based on CD4 T-cell count and exposure type.

		Outcome		Total
		AHD at diagnosis	**No AHD at diagnosis**	
IPV Exposure	**Yes**	3	4	7
	No	3	9	12
Total		6	13	19

From the table, it is observed that out of the 7 exposed patients, 3 had AHD while out of the 12 none exposed patients, 3 had AHD. Therefore, the odds ratio for the association between exposure and AHD is 2.25. This means that the odds of AHD are 2.3 times higher in clients exposed to IPV compared to the non-exposed group. However, there is not enough evidence to suggest that there is an association between exposure and the development of AHD based on the p-value of 0.617 obtained from Fisher's exact test and the confidence interval ranged from 0.196 to 24.740.

4.5 Retention on ART outcomes

The study included clients who had an HIV diagnosis for at least a year, with the longest retrospective follow up period being 5 years. Retention outcomes were analysed in 5 cohorts of 1 year each based on time under retrospective follow-up. The table below outlines retention rates for each year under follow up. All 128 exposed and none exposed clients were followed up for at least a year. Clients who had been diagnosed HIV positive in 2018 had the maximum follow up period of 5 years. IPV exposed clients had statistically significant lower odds of retention (p=0.001) within their first year on ART while the difference in the odds of retention between the two groups were not statistically significant beyond the first year on ART.

Overall, at the end of the follow up period, there was a statistically significant difference in the retention rates, with the most significant attrition happening within the first year after diagnosis.

The odds ratio at 95% confidence intervals was calculated to determine if there was a significant difference in interruption in treatment (IIT) between clients reporting IPV from a sexual partner versus clients reporting IPV from a spouse. The odds ratio IIT was 1.48, indicating that individuals in the exposed to IPV from spouses were 1.48 times more likely to experience interruption in treatment than those who experienced IPV from casual sexual partners, however the difference was not statistically significant (p=0.423).

Table 5: Retention outcomes during follow-up

Follow up period	IPV Exposure Group	Return in care	Lost to follow up	Odds Ratio	Confidence Interval
1 year	Exposed	43	13		0.0 - 0.5
	None Exposed	62	2	0.1	
2 years	Exposed	30	2		0.0 - 3.3
	None Exposed	52	1	0.3	
3 years	Exposed	10	1		0.0 - 4.8
	None Exposed	36	1	0.3	
4 years	Exposed	8	1		0.0 - 5.2
	None Exposed	27	1	0.3	
5 years	Exposed	6	1		0.0 - 6.5
	None Exposed	17	1	0.4	
All Cohorts	Exposed	43	18		0.1 - 0.7
	None Exposed	57	6	0.3	

The header above "Lost to follow up" and "Return in care" columns reads **Outcome**.

4.6 Engagement with specific care package components

In sustained antiretroviral therapy there are packages that a client should complete to prevent opportunistic infections like TB and secondary transmission of HIV to

biological partners. Analysis was done on the engagements with these components and the results were as per the table below. Women exposed to IPV who had a child during the follow up period were more likely to not have their infant present for early infant diagnosis than none exposed women who delivered during the follow up period. The difference in the proportion of infants accessing EID was statistically significant (p<0.01).

Camparison of engagement with packages of care
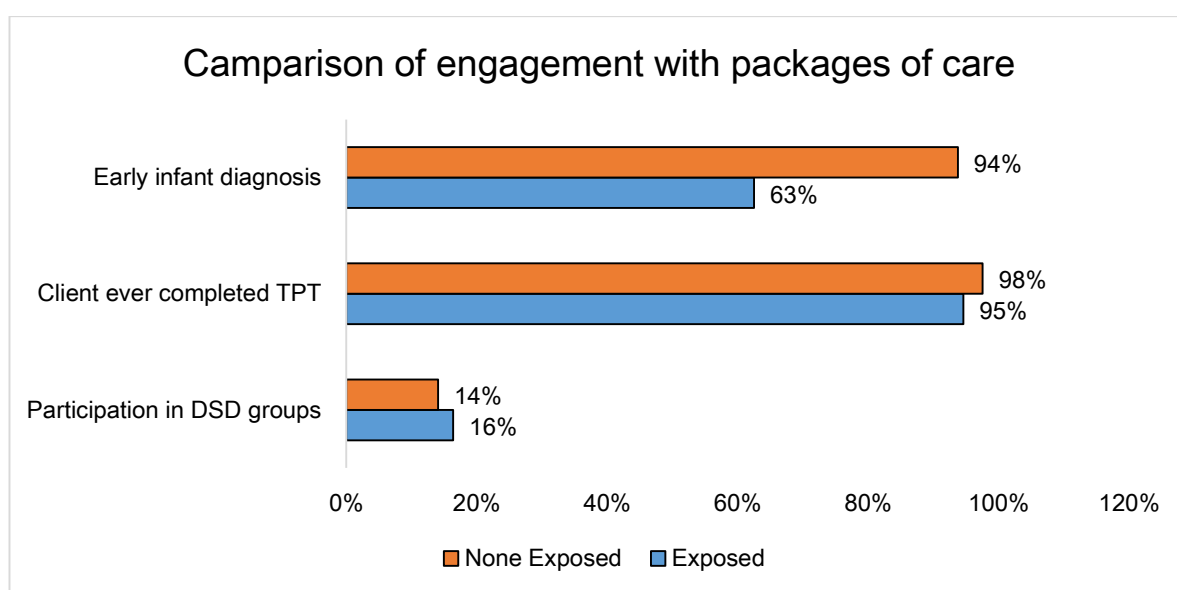
Figure 7: Comparison of engagement with specific packages of HIV care and treatment

TB preventive therapy (TPT) completion rates were 95% for exposed clients and 98% for none exposed clients, this difference was not statistically significant (p=0.498). Participation in differentiated service delivery (DSD) groups which facilitate retention was higher in exposed clients at 16% while clients with no exposure reported 14%, the difference in the proportions was however not statistically significant (p=0.804).

4.7 Adherence to medicine

Data on adherence to medicine was collected based on pill counts during routine visits. Adherence calculations were done through a formula that considered pills taken divided by expected to be taken multiplied by 100.

The resultant percentage was compared between exposed clients and non-exposed clients for each clinical visit. For a fair assessment, the analysis for adherence to medicine was only done for clients who present at the facility in time for their clinical visit. As per national guidelines good adherence was defined as missing at most one pill per month.

Table 6: Comparison of number of clients with good and poor adherence to medication by visit

Visit	IPV Exposed			IPV Non-Exposed		
	Number of clients reporting good medicine adherence	Number of clients reporting poor medicine adherence	Percentage with poor adherence	Number of clients reporting good medicine adherence	Number of clients reporting poor medicine adherence	Percentage with Poor Adherence
Visit 1	45	10	18	57	5	8
Visit 2	43	3	7	59	0	0
Visit 3	35	1	3	56	0	0
Visit 4	28	1	3	43	1	2
Visit 5	21	1	5	32	4	11
Visit 6	16	0	0	28	0	0
Visit 7	15	0	0	20	0	0
Visit 8	11	0	0	17	0	0
Visit 9	9	0	0	17	0	0
Visit 10	8	0	0	16	0	0

From the table above it is noted that generally more non exposed clients presented on time to the facility for clinical appointments than exposed clients. It is also observed that 18% of IPV exposed clients reported poor adherence at the first visit while only 8% for non IPV exposed clients. A difference in proportion test to assess whether there was a statistically significant difference between the proportion between exposed and non-exposed clients showed a none statistically significant difference (p=0.105).

For the first 4 visits, there was generally a higher number and proportion of exposed clients reporting poor adherence to medication. There was however an exception on visit number 5 where the proportion of non-exposed clients reporting poor medicine adherence was higher than exposed clients. No clients in either exposure groups reported poor adherence beyond visit 5.

4.8 Adherence to appointments

The analysis in the previous sub-section focused on medicine adherence levels for clients who had reported for a clinical appointment on time, in this section the analysis

was done for people who would have missed their appointments on the prescribed visit date. From the figure below, it is observed that there was a steady decline in the mean days after missing an appointment before returning to care for both exposed and non-exposed clients. It is also noted that clients exposed to IPV generally had a higher mean number of days from missed appointment compared to clients not exposed to IPV for every visit with the exception of visit number 5. The difference between the mean delay for the 2 groups was statistically significant for the first visit ($p<0.01$) and the second visit ($p<0.01$).
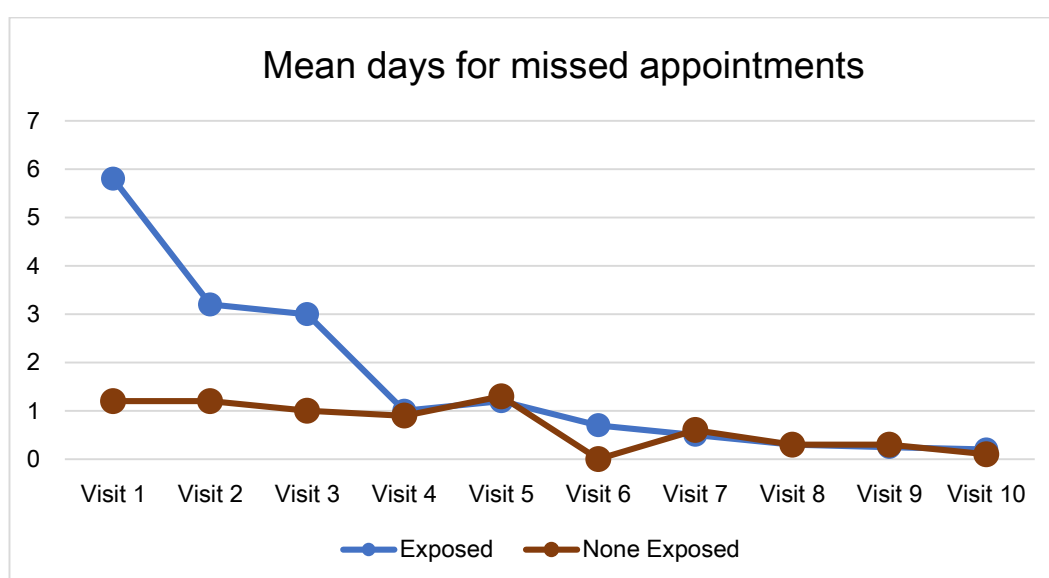
Figure 8: Mean number of days since last missed appointment.

In addition to the analysis on mean number of days off treatment, analysis was done on the absolute number of clients who missed clinical appointments at each visit date. As per the graph below, there were double the number of exposed clients missing their first visit compared to non-exposed clients. There was a steady decrease in IPV exposed clients who missed appointments between the first visit and the fourth visit, a similar pattern was observed for non-exposed clients. Overall, there were 74 occasions where clients did not present to the facility at the prescribed visit date during the follow up period of the first 10 visits, majority of these missed appointment (40) where in IPV

exposed clients while 34 were in non-exposed clients. The difference between the two groups was mainly due to the first visit.
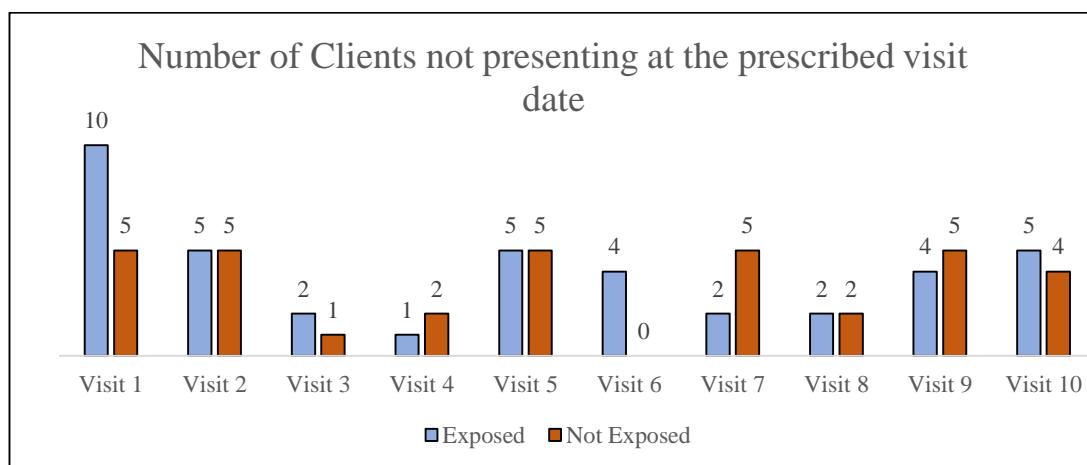
Figure 9: Comparison of number of clients not presenting at prescribed visit date

4.9   HIV viral load

During the follow 90 out of the 128 clients under follow up had a viral load test done, however 19 clients did not receive results. Some clients had more than 1 viral load result during the follow up period. In this analysis, 71 viral load results were analysed, as per the table below, 17% of IPV exposed clients had a high viral load at once during the follow up period while 11% of none exposed clients had a high viral load at least once.

Table 7: Cross tabulation of viral suppression levels by IPV exposure

		Outcome		Total
		Viral Suppression	**High Viral Load**	
IPV Exposure	**Yes**	20	4	24
	No	42	5	47
Total		62	9	71

From the data, above, IPV exposed clients have 0.5 times lower odds of viral suppression than none IPV exposed clients (OR: 0.6, CI: 0.1 – 2.5). However, since the confidence interval of the odds ratio included a 1, there is not sufficient evidence to conclude that the difference between the two groups is statistically significant.

Additional analysis was done on viral suppression levels for women in both exposure groups, and it was noted that women exposed to IPV had 0.78 lower odds of having viral suppression than women who are not exposed to IPV, however, the difference between the two groups was not statistically significant (OR: 0.8, CI: 0.2 – 3.7).

4.10   Body Mass Index

The study also assessed client's lowest body mass index (BMI) as an indicator of nutritional status and predictor of NCDs. The variables considered the patients' maximum height and lowest weight recorded during follow up. The table below summaries the BMI ranges for the two exposure groups.

Table 8: Body mass index categories by IPV exposure group

Exposure to IPV	**Underweight**	**Healthy**	**Overweight**	**Obese**	**Total**
Yes	8	45	7	4	64
No	9	33	17	5	64
Total	**17**	**78**	**24**	**9**	**128**

For both groups, greater than 50% clients reported a healthy BMI, with the exposed group reporting more healthy clients than the non-exposed group. Clients not exposed to IPV reported higher rated of being overweight and obese while there was a

comparable number of underweight clients among the two groups. A chi squared test was performed to ascertain if there is an association between exposure to IPV and body mass index. The test concluded that there was no sufficient evidence to prove an association (p=0.103, Chi-square = 6.2).

Summary

The chapter highlighted the demographic composition of the respondents, inclusive of their gender social status and age groups and exposure status. Presentation of data collected from the research interviews was also made as well as linking the same to secondary sources of data with similar results. The next chapter discusses the research findings and the summary also draw conclusions and recommendations thereof.

CHAPTER 5 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1.   Introduction

The main purpose of this retrospective cohort study was to explore factors that relate to intimate partner violence among clients who have been diagnosed HIV positive. This chapter provided a discussion of findings in relation to existing literature on IPV interaction with HIV care on men and women or other researched population groups. Study limitations, conclusions and recommendations were also be presented in this chapter.

5.2   Discussions of Findings

5.2.1   Prevalence effects of IPV by sex

In existing literature, the majority of studies on intimate partner violence are focus on women. This study is one of the few studies that also include men in the sample of IPV clients. Although this study was a census in the quota of facilities with the electronic patient monitoring system, we still observe that women are disproportionately affected by IPV. According to the Zimbabwe Demographic and Health Survey (2015), 28 women ages 15 to 49 had experienced IPV within the past 12 months in Masvingo province, whereas only 1.9% of men had experienced IPV in the past 12 months, this is consistent with this study where 83% of exposed cases were female and only 17% were male, a significantly disproportionate proportion.

Within the IPV exposed group, it was observed that women had a longer period to ART, range 0 to 212 days while males with had a range 0 – 31 days. According to Dutton (2012) men are more likely to experience a less severe form of IPV that may not impair their engagements with other activities. Women, however, face more severe forms of violence that have been shown to be detrimental to their interaction with care,

qualitative studies have explored how fear and experience of IPV influence women's decisions to take up and stay retained in HIV services, it is possible that poor mental health is a key explanation for how IPV impacts on ART adherence (Hatcher, 2015). In a Zambian study (Oldenburg, et al., 2018), female sex worker who were exposed to IPV had lower odds of being initiated on ART (adjusted odds ratio = 0.4, 95% confidence interval: 0.2 to 0.7). In this study delayed initiation was observed although the mean delay was not statistically significant.

5.2.2 Baseline clinical measures at diagnosis comparison among the two exposure groups

In this study there was sufficient evidence to suggest a difference in baseline measures between IPV exposed clients and none exposed clients. The study used to matrices to compare baseline measures, WHO clinical staging and CD4 count. All the clients in the study had a baseline WHO clinical stage but due to limitation in diagnostic equipment only 6 facilities had done baseline CD4. In this study, it was observed that clients exposed to IPV get enrolled to HIV care when the HIV infection has progressed significantly compared to none exposed clients. Seventy-three percent of IPV exposed clients reported with advanced HIV disease while 17% of none exposed clients had AHD, a different in proportion test showed a statistically significant different in the proportion with advanced HIV disease (p<0.001). These findings were consistent with Rivara and colleagues (2007) which suggest that women exposed to IPV had higher healthcare cost due to late presentation and late diagnosis. In their study, Rivara and colleagues found that the additional costs for advanced disease in IPV exposed clients was 19% (OR: 1.2, 95% CI; 1.1 - 1.3).

In comparing baseline CD4 T-cell level, although IPV exposed clients had 2.25 greater odds of having advanced HIV disease than none exposed clients there was no sufficient evidence to conclude that there was a difference in CD4 T-cell levels among the two groups (p=0.617, 95% CI 0.2 - 24.7). Jewkes, Dunkle, Jama-Shai, & Gray (2015) found a significant association between the decay of CD4 T-cells with exposure to IPV among HIV positive women at baseline, soon after the client's HIV diagnosis (Coeff -132.9 95% CI -196.4, -69.4 p<0.01). Their study asserted that IPV is associated with an accelerated rate of markers of cellular immunity however in this study we found that the CD4 T-cell levels were not signifcantly different.

5.2.3   Retention and adherence to ART

Since ART is a lifelong treatment, retention and adherence to medication are critical components to achieve the highest quality of life. The study analysed retention outcomes for each follow up year. For the 124 clients followed up in this study, IPV exposed clients had statistically significant lower odds of retention (OR: 0.3 95% CI; 0.1 – 0.7). Most of the attrition happened in the first year on ART while in the other follow up periods there was no sufficient evidence to support a difference in retention rates for the two groups.

The odds ratio interruption in treatment was 1.5, indicating that individuals in the exposed to IPV from spouses were 1.5 times more likely to experience interruption in treatment than those who experienced IPV from casual sexual partners, however the difference was not statistically significant (p=0.423). The findings in this study for retention outcomes are consistent with Siemieniuk and colleagues reported in 2013, a significant association between exposure to IPV and no retention on treatment (APR = 1.9, CI: 1.1 to 3.4).

It is also important to note that Siemieniuk defined interruption in treatment as being off treatment for over a year, but the Zimbabwean definition is just 28 days.

This study also looked at duration in days without treatment, based on the set appointment date for the client. Only the first and second medicine refill visits had statistically significant differences in the mean number of without medication. Other studies may have not investigated how IPV affects each visit but as per social ecological model (Glanz, 2008) a social support system facilitates engagements with care, clients with IPV may face disclosure that led to lack of support.

Although it was observed in this study the 18% of IPV exposed clients reported poor adherence to medicine at the first visit while only 8% for non IPV exposed clients a difference in proportion test to assess whether there was a statistically significant difference showed a none statistically significant difference (p=0.105). In this study there was no difference in adherence percentages among the two exposure groups which was contrary to multiple studies like the one in Kenya were there was evidence to support that IPV leads to poor adherence (Biomndo, Bergmann, Lahmann, & & Atwoli, 2021) (AOR 0.57, CI95: 0.34–0.94, p = .028), sexual IPV (AOR 0.50, CI95: 0.31–0.82, p = .005), or controlling behaviour (AOR 0.56, CI95: 0.34–0.94, p = 0.027).

The difference however in the study's findings could be attributed to the fact that adherence calculations in this study were analysed separately for clients who made it to the facility on time and those who delayed in attending their clinical appointments.

5.2.4 Engagements with care components

In this study, components of care analysed included completion of TB preventative therapy, early infant diagnosis among women who had a child during follow up and participation in differentiated service delivery. A statistically significant difference in

proportion was only observed in early infant diagnosis (p=0.002) while there was no sufficient evidence to conclude differences in the other 2 packages. Hypothesis 3 for this study stated that there is significant difference in engagement with the HIV care package between clients exposed to intimate partner violence and clients not exposed and this was true for 1 out of the 3 packages assessed.

Other studies with bigger samples and exploratory methods but engagements with care have been described in terms of adherence not specifically components of care. It is also important to note that, enrolment into differentiated service delivery model is contingent to having a suppressed viral load and client who attain a suppressed viral load have good adherence. The guidance on TB preventative therapy during the follow up period required one to only be initiated on TPT if they have been on HIV treatment for at least 6 months and it is noted that in this study, IPV exposed, and none exposed clients had similar retention rates around that time in care.

5.2.5 Body mass index and IPV

As the HIV epidemic is evolving, there are new programs that focus on integration of HIV programs and noncommunicable disease programming. In this study, body mass index was analysed as a variable that may predict NCDs like diabetes and hypertension (Patel, et al., 2016). The Chi-squared test performed show that there was no association between IPV exposure and BMI, with 70.3% of IPV exposed clients having a health BMI compared to 51.5% in the none exposed group. This finding contrasted with observations by Makumana and colleagues (2022) who found that IPV was significantly associated with being overweight (AOR = 2.6; 95% CI 1.1 - 6.4). In this study 17% of the sample was either overweight or obese.

5.2.6   HIV viral suppression

In this study it was observed that IPV exposed clients have 0.6 times lower odds of viral suppression than none IPV exposed clients (OR: 0.6, CI: 0.1 – 2.4). However, since the confidence interval of the odds ratio included a 1, there is not sufficient evidence to conclude that the difference between the two groups is statistically significant. In all the reviewed literature IPV was significantly associated with statistically significant lower odds of viral suppression.

(Fredericksen, et al, 2021) found that intimate partner violence increases the odds of a detectable viral load (OR;1.4 95% CI 1.2 - 1.8, p = 0.001). Hatcher (2015) in a meta-analysis also found lower odds of viral suppression in 7 studies on women facing IPV. In this study women exposed to IPV had 0.8 lower odds of having viral suppression than women who are not exposed to IPV, however, the difference between the two groups was not statistically significant (OR: 0.8, CI: 0.2 – 3.7).

5.3   Limitations of the study

- The study was conducted in Masvingo in the early days of intimate partner violence screening at HIV diagnosis, this may have affected the quality of IPV screening, and the numbers of clients screened.
- Due to high staff turnover in facilities, there has been inconsistent quality of documentation in paper and electronic systems.
- The study only included clients who were being treated at facilities with EPMS, these tend to be high volume facilities in urban and peri-urban facilities thus the results cannot be generalised to the entire province.

5.4   Study conclusions

Intimate partner violence (IPV) is strongly associated with poor engagement with HIV care and treatment particularly in the first year of HIV diagnosis. The study findings revealed that clients individuals who experienced IPV were more likely going to miss their first clinical appointment and for those who attended the first clinical appointment, 18% reported poor adherence compare to 8% in none exposed clients.

Clients who report exposure to IPV are likely to report lower adherence to medication, missed appointments in the first months on ART however with time there were similar engagements observed beyond the first year for retention. Improvements in adherence to medication and clinical appointments were observed beyond the 4 visits in care which approximates to around seven to nine months depending on the length of ARV prescriptions the clients received.

The study highlights the need for healthcare providers to routinely screen for IPV among their HIV-positive patients and provide appropriate support and resources to help those affected by IPV improve their engagement with HIV care and treatment. Furthermore, it emphasizes the critical role of addressing IPV in promoting overall health and well-being among individuals living with HIV.

5.5   Implications of the study

With a significant number of datapoints suggesting IPV is detrimental to HIV care the implications are huge since the country is targeting 95% sustained treatment and 95% viral suppression. Healthcare providers should routinely screen patients for intimate partner violence, particularly those who are HIV-positive. They should be trained to recognize the signs of intimate partner violence and provide appropriate referrals and support to patients who are experiencing abuse.

HIV care providers should recognize that intimate partner violence can have a significant impact on a patient's ability to engage in care and treatment. They should be prepared to provide support, referrals, and resources to help patients address the impact of violence on their health and well-being.

Table 9: Recommendations from the study

Finding	Recommendation	Timeline	Responsible Authority
Low rates of IPV screening in the eligible population	Healthcare professionals need to be trained on how to identify and respond to IPV. They should also be made aware of the physical and mental health consequences of IPV and the resources available to victims. Healthcare professionals should routinely screen patients for IPV as part of their regular health check-ups. This can help identify victims who may not feel comfortable disclosing their experiences voluntarily.	Immediate	HIV Care and treatment technical partners, MoHCC
Poor engagement with care in IPV exposed mothers	Healthcare facilities should develop protocols and guidelines for responding to IPV, which can help ensure that all victims receive appropriate care and support. Community based follow up for mothers with infants who miss early infant diagnosis	Immediately	MoHCC, community-based NGOs

Public health interventions aimed at reducing HIV transmission and improving engagement in care and treatment should also address the link between intimate partner

Poor retention of IPV exposed clients in care	Provide a safe and supportive environment: Healthcare settings should be designed to make IPV victims feel safe and supported. This can include having a private room for consultations and ensuring that staff are trained to handle sensitive issues. Having community-based support group may also assist in returning clients	Immediately	MoHCC, community-based NGOs
Poor engagement with care withing the first year on ART	Healthcare professionals should offer ongoing support to IPV victims, including follow-up appointments and referrals to appropriate services. Healthcare providers should work with other service providers, such as social workers, legal professionals, and law enforcement, to ensure that IPV victims receive comprehensive support.	Immediately	MoHCC, Social services
Presence of IPV in communities that affects care	Mass and social media campaigns on gender-based violence prevention	Mid 2023	MoHCC

violence and HIV. This could include programs that promote healthy relationships, provide education on the link between violence and HIV, and support survivors of intimate partner violence.

More research is needed to better understand the link between intimate partner violence and HIV: While the link between intimate partner violence and poor engagement with HIV care and treatment is clear, more research is needed to better

understand the mechanisms underlying this relationship. This could include studies that explore the role of stigma, trauma, and other psychosocial factors in mediating the link between violence and HIV.

5.6   Recommendations

Based on the findings of this study the following recommendation were extracted for the Ministry of Health and Child Care, nongovernmental organizations and other key stakeholders who have the potential to change the IPV and HIV interface in Masvingo Province.

5.7   Suggestions for further research

- A qualitative methods study to understand the key themes that cause poor engagement with care for IPV victims.

- A quantitative study to follow up outcomes of babies born to mothers exposed to IPV.

- Digital ethnography on how social media messaging prevents IPV.

- Effective differentiated service delivery models for clients facing IPV to achieve optimum retention.

References

Abend, G. (2019). Thick concepts and sociological research. *Sociological Theory, 37*(3), 209-233. Retrieved from https://doi.org/10.1177/0735275119869979

Abramsky, T., Watts, C. H., Garcia-Moreno, C., Devries, K. K., Ellsberg, M., & ... & Heise, L. (2011). What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC public health, 11*(1), 1-17.

Basikoro, E. E. (2019). *Pathologies of Patriarchy: Death, Suffering, Care and Coping in the Gendered Gaps of HIV/AIDS Interventions in Nigeria.* Rowman & Littlefield Publishers.

Beksinska, A., Prakash, R., Isac, S., Mohan, H. L., Platt, L., Blanchard, J., . . . Beattie, T. S. (2018). Violence experience by perpetrator and associations with HIV/STI risk and infection: a cross-sectional study among female sex workers in Karnataka, south India. *BMJ Open, 8*(9), e021389.

Biomndo, B. C., Bergmann, A., Lahmann, N., & & Atwoli, L. (2021). Intimate partner violence is a barrier to antiretroviral therapy adherence among HIV-positive women. *Public Library of Science One, 16*(4), e0249813.

Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., & Stevens, M. R. (2011). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (NISVS).

Breiding, J. M., Basile, K. C., Black, M. C., & Mahendra, R. (2015). *INTIMATE PARTNER VIOLENCE SURVEILLANCE Uniform definitions and recommeds data elements* (Vol. Version 2.0). Atlanta, Georgia: National Center for Injury Prevention and Control, Centres for Disease Prevention and Control.

Capaldi, D. M., & Kim, H. K. (2007). Typological approaches to violence in couples: A critique and alternative conceptual approach. *Clinical Psychology Review, 27*(3), 253-265.

Carmo, R. G. (2011). Men as victims of intimate partner violence. *Journal of forensic and legal medicine, 18*(8), 355-359.

Coker, A. L., Smith, P. H., Bethea, L. K., & McKeown, R. E. (2000). Physical health consequences of physical and psychological intimate partner violence. *Archives of Family Medicine, 9*(5), 451-457.

Coker, A. L., Weston, R., Creson, D. L., Justice, B., Blakeney, P., & & Rowe, T. (2005). ffects of intimate partner violence on obese women's health care utilization. *Obese Research, 13*(6), 1077-1085.

Davies, J., Lyon, E., & Monti-Catania, D. (1998). *Safety planning with battered women: Complex lives/difficult choices* (Vol. 7). Sage.

Decker, M. R., Pearson, E., Illangasekare, S. L., Clark, E., & Sherman, S. G. (2013). Violence against women in sex work and HIV risk implications differ qualitatively by perpetrator. *BMC Public Health, 13*(1), 1-10.

Dellar, S. D. (2015). Adolescent girls and young women:Key Populations for HIV epidemic control. *Journal of the International AIDS Society, 18*, 19408.

Devries, J., Mak, C., García-Moreno, M., Petzold, J., Child, G., & Falder. (2013). The global prevalence of intimate partner violence against women. *Science, 6140*(2013), 1527-1528.

Devries, K. M., Mak, J. Y., Bacchus, L. J., Child, J. C., Falder, G., Petzold, M., & Watts, C. H. (2013). Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. *Public Libriary of Science Online, 10*(5), e10001439.

Devries, K. M., Mak, J. Y., García-Moreno, C., Petzold, M. C., Falder, G., & Watts, C. H. (2014). The global prevalence of intimate partner violence against women. *Science, 640*(6140), 1527-1528.

Dunkle, K. L., Jewkes, R. K., Brown, H. C., Gray, G. E., McIntryre, J. A., & Harlow, S. D. (2004). Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *The Lancet, 363*(9419), 1415 - 1421.

Dutton, D. G. (2012). Theoretical and empirical work on male perpetrators of intimate partner violence. *Journal of interpersonal violence, 27*(14), 2877-2888.

Dutton, M. A., & Goodman, L. A. (2019). Coercion in intimate partner violence: Towards a new conceptualisation. *Sex Roles, 80*(5), 287-300.

Etudo, O. M. (2017). Intimate partner violence is linked to less HIV testing uptake among high-risk, HIV-negative women in Atlanta. *AIDS care, 29(8)*, 953-956.

Fredericksen, R. J., Whitney, B. M., Harding, B. N., Fitzsimmons, E. D., & Crane, H. M. (2021). Correlates of psychological intimate partner violence with HIV care outcomes on patients in HIV care. *Biomed Central Public Health Health, 21*(1), 1-10.

Gielen, A. C., McDonnell, K. A., Wu, A. W., O'Campo, P., & Faden, R. (2007). Quality of life among women living with HIV: the importance violence, social support, and self care behaviors. *Social Science and Medicine, 64*(2), 242-255.

Glanz, K. R. (2008). *Health behavior and health education: theory, research, and practice JG A*. John Wiley & Sons.

Global information and education on HIV and AIDS: HIV AND AIDS IN ZIMBABWE. (2020, February 20). Retrieved from Avert.org: https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/zimbabwe

Gulina, T. O. (2018). *Intimate Partner Violence: An Overview of the Existing Theories, Conceptual Frameworks, and Definitions.* Retrieved from http://psychologyinrussia.com/volumes/pdf/2018_3/psych_3_2018_9_Burelo mova.pdf

Harrigan, M. (2019). The link between intimate partner violence and HIV. Retrieved from https://www.catie.ca/en/pif/fall-2019/link-between-intimate-partner-violence-and-hiv

Hatcher AM, S. E. (2015). Intimate partner violence and engagement in HIV care and treatment among women: a systematic review and meta-analysis. AIDS. *Aids, 29(16)*, 2183-2194.

Jansen, H., Watts, C., Ellsberg, M. H., & Farcia-Moreno, C. (2004). Interviewer training in the WHO Multi-country Study on Women's Health and Domestic Violence. *Violence against women, 10*(7), 831-849.

Javalkar P, Isac S, Prakash R, Raghavendra T, Sudhakar G, Kundannavar C, Das M, Bhattacharjee . (2015). *Stigma and Discrimination among Female Sex Workers: Learnings from a pilot study in north Karnataka, India.* Karnataka: Karnataka Health Promotion Trust.

Jewkes, R., Dunkle, K., Jama-Shai, N., & Gray, G. (2015). Impact of exposure to intimate partner violence on CD4+ and CD8+ T cell decay in HIV infected women. *Public Library of Scienc One, 10*(3), e0122001.

Kabwama, S. N., Matovu, J. K., Gwokyalya, V., Makumbi, F., Beyeza-Kashesya, J., & Wanyenze, R. K. (2019). Intimate partner violence among HIV positive women in care-results from a national survey, Uganda 2016. *Biomed Central women's health, 19*(1), 1-10.

Karakurt, G., & Cumbie, T. (2012). Intimate partner violence: A gender-based perspective. *Journal of forensic psychology practice, 12*(1), 1-22.

Kestenbaum, B. (2019). *Epidemiology and Biostatistics: An Introduction to Clinical Research* (Vol. Second Edition). (N. S. Weiss, & A. Shoben, Eds.) Seattle, WA: Springer.

Krug EG, M. (2002). The world report on violence and health. *The Lancet*, 1083-1088.

Le Compte, M. D., Preissle, J., & Tesch, R. (1993). *Ethnography and Qualitative Design in Educational Research.* Cambridge, Massachusetts: Academic Press.

Leddy, A. M. (2019). Gender-based violence and engagement in biomedical HIV prevention, care and treatment. *BMC Public Health, 19*(1), 1-14.

Loren, O. (2017). Intimate Partner Violence and Human Immunodeficiency Virus Status among Ever-Married and Cohabiting Zimbabwean Women: An Examination of Partners' Traits. *African Journal of Reproductive Health, 21(4)*, 45-54.

Ministry of Health and Child Care. (2022). Appendix1: Screening Tool for Intimate Partner Violence. In M. o. Care, *Operations and Service Delivery Manual for HIV Care and Treatment in Zimbabwe* (p. 139). Harare: Printworks.

Mitra, M., & Mouradian, V. E. (2019). Intimate partner violence: A review of online content and its impact on gendered social norms. *Aggression and violent behavior, 44*, 119-129.

Morrison, A. E. (2007). Addressing gender-based violence: a critical review of interventions. *The World Bank Research Observer, 22(1)*, 22-51.

Mukamana, J. I., Machakanja, P., Zeeb, H., Yaya, S., & Adjei, N. K. (2022). Investigating the associations between intimate partner violence and nutritional status of women in Zimbabwe. *Public Libary of Science one, 17*(7), e0272038.

Mukamana, J. M. (2020). Trends in prevalence and correlates of intimate partner violence against women in Zimbabwe, 2005–2015. *BMC Int Health Hum Rights, 20(1)*, 1-11.

Muluneh, Muluken Dessalegn; Stalz, Virginia; Francis, Lyn; Agho, Kingsley;. (2020). Gender Based Violence against Women in Sub-Saharan Africa: A Systematic Review and Meta-Analysis of Cross-Sectional Studies. *International Journal of Research and Public Health, 17*(3), 903.

National Aids Council. (2019). *Zimbabwe's National Key Populations HIV and AIDS Implementation Plan 2019-2020.* Harare: National AIDS Council.

Nybergh, L. T. (2013). Self-reported exposure to intimate partner violence among women and men in Sweden: results from a population-based survey. *BMC Public Health, 13(1)*, 1-13.

Olayanju, L. N. (2013). Combating intimate partner violence in Africa: Opportunities and challenges in five African countries. *Aggression and violent behavior, 18(1)*, 101-112.

Oldenburg, C., Ortblad, K. F., Chanda, M. M., Mwale, M., Chongo, S., Kanchele, C., . . . Bärnighausen, T. (2018). Brief Report: Intimate Partner Violence and Antiretroviral Therapy Initiation Among Female Sex Workers Newly Diagnosed With HIV in Zambia: A Prospective Study. *Journal of Acquired Deficiency Syndrome, 79*(4), 435-439.

Patel, S. A., K, A. M., Alam, D., Yan, L. L., Levitt, N. S., Bernabe-Ortiz, . . . Irazola V, G. L. (2016). Obesity and its relation with diabetes and hypertension: a cross-sectional study across four low- and middle-income country regions. *Global Heart, 11*(1), 71-79.

Petrulyte, L. (2020). Intimate partner violence and HIV: women experiences in Republic of Georgia. Retrieved from hdl.handle.net/11250/2782769

Rivara, F. P., Anderson, M. L., Fishman, P., Bomomi, A. E., & R. R. (2009). Health care utilization by women with histories of intimate partner violence. *Womens Health Issues, 19*(2), 94-101.

Semple, Shirley J.; Stockman, Jamila K.; Pitpitan, Eileen V.; Strathdee, Steffanie A.; Chavarin, Claudia V.; Mendoza, Doroteo V.; Aarons, Gregory A.; Patterson, Thomas L. (2015). Prevalence And Correlates of Client-Perpetrated Violence Against Female Sex Workers In 13 Mexican Cities. *PLoS ONE, 10*(11), e0143317.

Shamu, S. C. (2014). Intimate Partner Violence after Disclosure of HIV Test Results among Pregnant Women in Harare, Zimbabwe. *PloS one, 9*(10), e109447.

Sherwood, J. A., Grosso, A., Decker, M. R., Peitzmeier, S., Papworth, E., Diouf, D., . . . Baral, S. (2015). Sexual violence against female sex workers in The Gambia: A Cross-sectional examination of the associations between victimization, reproductive, sexual and mental health. *BMC Public Health, 15*(1), 270-279.

Siemieniuk, R. A. (2013). Prevalence, clinical associations, and impact of intimate partner violence among HIV-infected gay and bisexual men: A population-based study. HIV medicine. *14*(5), 293-302.

Siemieniuk, R. A. (2013). The Clinical Implications of High Rates of Intimate Partner Violence Against HIV-Positive Women. *JAIDS Journal of Acquired Immune Deficiency Syndromes, 64*(1), 32-38.

Sikkema, K. J., Wilson, P. A., Hansen, N. B., Kochman, A., Neufeld, S., Ghebremichael, M. S., & & Kershaw, T. (2010). Effects of a coping intervention on transmission risk behavior among people living with HIV/AIDS and a history of childhood sexual abuse. *Journal of Acquired Immune Deficiency Syndromes, 55*(4), 500-507.

Silverman, J. G. (2008). Intimate partner violence and HIV infection among married Indian women. *Jama, 300(6)*, 703-710.

Stewart, D., & Cecutti, A. (1993). Physical abuse in pregnancy. *Canadiam Medical Association Journal, 149*(9), 1257.

Stockman, J. K., Hayashi, H., & Campbell, J. C. (2015). Intimate partner violence and its health impact on ethnic minority women. *Journal of Women's Health, 24*(1), 62-79.

Taillieu, T. L., & Brownridge, D. A. (2010). Violence against pregnant women: Prevalence, patterns, risk factors, theories, and directions for future research. *Aggression and Violent Behavior,, 15*(1), 14-35. Retrieved from https://doi.org/10.1016/j.avb.2009.07.013

UNAIDS. (2014). *Unite with women - Unite against violence and HIV*. Retrieved from UNAIDS:

https://www.unaids.org/sites/default/files/media_asset/JC2602_UniteWithWomen_en_0.pdf

UNAIDS. (2019, December 1). *Global HIV & AIDS statistics — 2019 fact sheet.* Retrieved from UNAIDS: https://www.unaids.org/en/resources/fact-sheet?gclid=EAIaIQobChMIwamujLup6AIVTsjeCh26jwTrEAAYASABEgL0vfD_BwE

World Health Organisation. (2013). *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence.* Geneva.

World Health Organisation. (2021). *The Violence Prevention Alliance (VPA) Approach*. Retrieved from Who Health Organisation Website: https://www.who.int/groups/violence-prevention-alliance/approach

Zhang, C., Li, X., Standon, B., Hong, Y., Chen, Y., Shan, Q., . . . Zhou, Y. (2013). Alcohol use and client-perpetrated sexual violence against female sex workers in China. *Psychol Health Med, 18*(3), 330-342.

Zimbabwe National Statical Agency [ZIMSTAT]. (2016). *Zimbabwe Demographic and Health Survey 2015: Final Report.* Rockville: The DHS Program. Retrieved from https://dhsprogram.com/pubs/pdf/FR322/FR322.pdf

ZIMPHIA. (2020). *Zimbabwe Population-based HIV Impact Assesment-Summary Sheet.* Retrieved from https://phia.icap.columbia.edu/wp-content/uploads/2020/11/ZIMPHIA-2020-Summary-Sheet_Web.pdf

APPENDICIES

Appendix 1: Data Collection Tool English

Correlated of IPV in HIV care data abstraction sheet

Section A: Client demographics and baseline assessment

District	Facility Name	Client OI/ART number	Age and Sex at HIV diagnosis	Date of HIV diagnosis	Exposure to IPV	IPV Report against	Date of ART Initiation	WHO Clinical Stage at diagnosis	Baseline Viral Load	Baseline CD4 cell count
……………	……………	PP DD FF 20YY A XXXX	Age…….. Sex……..	dd/mm/yyyy	☐ Yes ☐ No	☐ Sexual Partner ☐ Spouse ☐ Both	dd/mm/yyyy	☐ 1 ☐ 2 ☐ 3 ☐ 4	………. Copies per ml	… …… Cells/mm3

Section B: Engagements with care

First clinical appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted	dd/mm/yyyy	… … .. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3

	☐ Client transferred out				☐ 4
	☐ Client reported deceased				

Second Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out ☐ Client reported deceased	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

Third Clinical Apointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

	☐ Client reported deceased				

Fourth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out ☐ Client reported deceased	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

Fifth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out ☐ Client reported deceased	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

Sixth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out ☐ Client reported deceased	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

Seventh Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self ☐ Client sent a caregiver ☐ Client defaulted ☐ Client transferred out ☐ Client reported deceased	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1 ☐ 2 ☐ 3 ☐ 4

Eighth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1
	☐ Client sent a caregiver				☐ 2
	☐ Client defaulted				☐ 3
	☐ Client transferred out				☐ 4
	☐ Client reported deceased				

Nineth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1
	☐ Client sent a caregiver				☐ 2
	☐ Client defaulted				☐ 3
	☐ Client transferred out				☐ 4
	☐ Client reported deceased				

Tenth Clinical Appointment

Date of appointment	Outcome of first appointment	Outcome date	ARVs adherence calculation	Client viral load	Client's WHO clinical stage
dd/mm/yyyy	☐ Client attended as self	dd/mm/yyyy	…….. …….%	….. ….. ….. copies per ml	☐ 1
	☐ Client sent a caregiver				☐ 2
	☐ Client defaulted				☐ 3
	☐ Client transferred out				☐ 4
	☐ Client reported deceased				

Section C: Specific Engagements

1. Did the client complete a 3- or 6-month TB preventative therapy course while in care?
   Yes ☐
   No ☐
   Client never started TPT

2. If the client ever had a high viral load, how many enhanced adherence counselling sessions did the client attend?
   …………. Sessions

3. Has the client ever enrolled in a differentiated service delivery group?
   Yes ☐
   No ☐

4. What was the client's maximum height ever recorded during care?
   ....cm

5. What's the client's lowest weight recorded during care?
   ....kg

6. If the client is female: Has the client ever delivered a baby while in care?

Yes ☐
No ☐

7. If yes: Did the infant access early infant diagnosis, that is a DNA PCR HIV test before two months of age?
Yes ☐
No ☐

Appendix 2: AUREC Approval

Investing in Africa's future

AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 website: www.africau.edu

Ref: AU2335/22   25 October, 2022

Owen Mpofu

C/O CHANS

Africa University

Box 1320

MUTARE

RE: CORRELATES OF RISK INTIMATE PARTNER VIOLENCE IN CONTINUED

HIV CARE AND TREATMENT IN MASVINGO PROVINCE, ZIMBABWE

Thank you for the above titled proposal that you submitted to the Africa University Research

Ethics Committee for review. Please be advised that AUREC has reviewed and approved

your application to conduct the above research.

The approval is based on the following.
a) Research proposal
- **APPROVAL NUMBER**   AUREC 2335/22
  This number should be used on all correspondences, consent forms, and appropriate documents.

- **AUREC MEETING DATE**   NA
- **APPROVAL DATE**   October 25, 2022
- **EXPIRATION DATE**   October 25, 2023
- **TYPE OF MEETING**   Expedited
  After the expiration date this research may only continue upon renewal. For purposes of renewal, a progress report on a standard AUREC form should be submitted a month before expiration date.

- **SERIOUS ADVERSE EVENTS** All serious problems having to do with subject safety must be reported to AUREC within 3 working days on standard AUREC form.

- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to

AUREC. **Yours Faithfully**

Mhinzou

MARY CHINZOU
ASSISTANT RESEARCH OFFICER: FOR CHAIRPERSON
AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE