



**RELATIONSHIP POWER AND HIV SERO-STATUS:
AN ANALYSIS OF THEIR RELATIONSHIP AMONG LOW-INCOME
URBAN ZIMBABWEAN WOMEN, DURING THE PERIOD MAY-
SEPTEMBER 2011**

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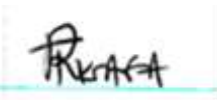
**Research Report submitted to the School of Public Health
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25 May 2015

DECLARATION

I, Rwafa Teurai, declare that this research report is my original work. All citations, references and borrowed ideas have been duly acknowledged. This research report is submitted to the School of Public Health, University of the Witwatersrand, Johannesburg, South Africa in partial fulfillment of the requirements for the degree of Master of Public Health, in the field of Social and Behavior Change Communication. None of the work has been submitted before to this or any other University for any degree or examination.

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Date: 25 May 2015

ABSTRACT

Background: In Zimbabwe, HIV prevalence is higher among women than men of reproductive age- 18% vs. 12%. Gender power imbalances exist in our societies and result in relationship power imbalances; which increase women's vulnerability to HIV. The aim of this study was to determine the correlation between relationship power and HIV sero-status among low-income urban Zimbabwean women attending post-natal care clinics.

Methodology: A secondary data analysis of a cross-sectional survey conducted among 2 042 women aged 15-49 years, attending six low-income urban clinics in Harare in 2011. HIV results were based on rapid HIV diagnostic tests conducted during ANC. Shona interviewer-administered structured-questionnaires were used to collect data. This secondary analysis was limited to women with a known HIV status ($n= 1\ 951$). Multivariable logistic regression analyses were performed.

Results: The study population mean age of the 26 years ($SD=5.8$). HIV prevalence was 14.6% ($n=299$). Having a partner who ever refused use of any family planning method was associated with the women's HIV status (aOR 1.75, 95% CI 1.10-2.78). A non-significant association was found between relationship control by the male partner and women's HIV status after adjusting for other factors.

Conclusion: Although there were patterns of high male partner control in intimate relationships, not all women were without agency. Our study provides further evidence that male dominance in intimate relationships increases women's vulnerability to HIV. HIV prevention programmes, interventions and policies should address gender issues to help curb this disproportionate pandemic among the woman sub-population.

Keywords: Gender, Relationship Power, HIV, Women, Zimbabwe

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DEDICATION

I dedicate this research to my mum, and my two boys Ronald and Bradley Ponela, for being the pillars of my life.

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
aOR	Adjusted Odds Ratio
BCC	Behaviour Change Communication
CI	Confidence interval
FP	Family Planning
GBV	Gender-Based Violence
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HPV	Human papillomavirus
HSV-2	Herpes Simplex Virus-type 2
IPV	Intimate Partner Violence
KAP	Knowledge, Attitudes and Practices
MCSP	Multiple Concurrent Sexual Partners
MTCT	Mother to Child Transmission
MRC	Medical Research Council
PI	Principal Investigator
PLWHIV	People Living with HIV
PNC	Post Natal Care
SES	Socio-Economic Status

SRPS	Sexual Relationship Power Scale
STI	Sexually transmitted infection
TB	Tuberculosis
TGP	Theory of Gender and Power
WHO	World Health Organization
ZDHS	Zimbabwe Demographic and Health Survey

DEFINITION OF TERMS

Relationship power in this study was defined according to the Theory of Gender and Power (a social structural theory based on existing philosophical writings of sexual inequality, gender, and power imbalance) as having power to act, or change, or having power over your sexual partner(1). There are two conceptual dimensions of relationship power in heterosexual relationships: Control in Intimate Relationships and Decision-Making Dominance (2). Gender inequity, gender inequality, gender imbalance, unequal status, women's lack of autonomy and gender-based violence (GBV) terms were used to qualify an imbalance in relationship power in this study (3).

HIV sero-status was defined as the status with regard to being sero-negative or positive for HIV (Human Immunodeficiency Virus) antibodies present in the body. Sero-positive means a person does have the antibodies being tested for, and sero-negative means they do not. If someone is sero-positive for HIV, it means their body has been producing antibodies for HIV, which can be detected with an HIV antibody test (4).

CHAPTER ONE: INTRODUCTION, STUDY OBJECTIVES AND LITERATURE REVIEW

Chapter one provides an overview of the evidence of links between control and decision-making in intimate relationships, and HIV prevalence among the study population.

Literature indicated that women and girls are at a higher risk than their male counterparts of being infected by the human immunodeficiency virus (HIV) across the world. This situation reflects a pattern of an imbalance in power in intimate relationships among women and men. The literature review presented in this chapter describes studies that were done, that investigated relationship power and HIV prevalence among women as well as other variables of interest. Literature review results show that a correlation between relationship power and HIV sero-positivity does exist. This chapter is concluded by a statement of the problem for the study, justification and study aim and objectives.

1.1 Introduction

Globally, 35.3 million people were estimated to be living with the human immunodeficiency virus (HIV) at the end of 2012 (5). Overall, since the beginning of the epidemic approximately 75 million of people have been infected with HIV, and an estimated 36 million have died of acquired immunodeficiency syndrome (AIDS) related illnesses (5). This data reflects a very high burden of disease due to HIV. Southern Africa is the epicentre of the HIV and AIDS epidemic; registering the highest HIV and AIDS prevalence rates in the world (6). Zimbabwe is found as one of those countries' most heavily affected by the pandemic in the region (7). It has an HIV prevalence of 15% among its adult population aged between 15-49 years (7), and an HIV incidence of 0.98% (8).

Over 70% of patient admissions in major hospitals of Zimbabwe are due to HIV and AIDS-related opportunistic infections like tuberculosis (TB) (6). In addition, the number of children orphaned due to HIV/AIDS remains high (20%) (9). Zimbabweans regard HIV as an incurable and devastating disease (10). Overall, among men and women of reproductive age (15-49 years) in Zimbabwe; 18% of women and 12% of men are HIV-positive (7). The higher prevalence of HIV among women and its consequential morbidity and mortality are of major public health concern with major socioeconomic consequences for the country (11).

Two main factors have been identified as contributing to the probability of one acquiring HIV; individual risk and societal vulnerability (12). Individual risk of HIV/AIDS is influenced by psychosocial and cognitive factors such as knowledge, beliefs, attitudes and motivations (12). Individual psychological and cognitive processes ignore the interaction between behaviour and its environmental context (13). The research conducted herein is centred on societal vulnerability. According to the socio-ecological model (14); societal vulnerability to HIV/AIDS originates from socio-cultural, economic, legal and political factors which limit an individual's behaviour and their choices to reduce HIV risk, and these aspects have a powerful influence on everyday life (15). Gender as a social vulnerability factor is considered as one of the most important social determinants, which increase vulnerability to HIV and the impact of HIV and AIDS (15).

The term 'gender' is used to describe a social construct, or set of norms, which dictate the amount of power, responsibilities, and obligations women have in society compared to men (16). These gender-based inequalities are continual societal norms that result in men's unequal power over women and their control over decision-making in a number of areas, including sex (2). Gender related issues have been progressively identified as having strong links with the HIV and AIDS pandemic in Southern Africa (17). Being female has been shown to be associated with higher rates of HIV positivity in Kenya (probability ratio (PR)=1.73, 95% CI 1.33-2.23 in 2003), and Lesotho (PR=1.39, 95% CI 1.20-1.62 in 2004/05), but not in Tanzania (18). Like Kenya and Lesotho, Zimbabwe's HIV sero-prevalence among women is higher than that of men (18% vs. 12%) (7).

HIV differences by sex are a sign of a serious health inequity in society. The high levels of HIV sero-prevalence among women in Southern Africa reflect deep-rooted social and gender inequities (19). Research shows that women and girls are at a higher risk of being infected by the HIV virus across the world, because of gender inequity and intimate partner violence (IPV) (18, 20). At the beginning of the HIV and AIDS pandemic, young men were most at risk; this trend has since shifted, with women currently being the most infected and affected by the pandemic (21). For example; women make up 58% of all people living with HIV (PLWHIV) in the sub-Saharan African region (22). They also bear the greatest burden of care (22). Literature further confirms that; women are now becoming infected by HIV at younger ages than men do (21).

The manifestations of unequal power relations are numerous, they can be broken down to; health care effects and relationship effects (23). Inequalities in gender power are considered key variables in understanding women's risk in the transmission of HIV, through their effects on sexual relationships (3, 15, 24-30). Gender power relations influence whether women's health needs are acknowledged, and women's ability to speak for themselves or have self-efficacy to enact protective behaviours in sexual relationships, and whether they can realize and act on their rights (31). Relationship effects of gender, include men's fertility control and decision-making about family size and child spacing (23). Cultural teachings foster a norm of dependence among women, and this is the reason most African women are dependent on their husbands for support (32). In turn, women are socialized to view their childbearing abilities as their primary role in a marriage (32). Women's economic vulnerability and institutionalised deference (women being expected to allow themselves to be led by their male partners) on men increases their vulnerability to HIV infection by limiting their ability to negotiate for condom use, discuss infidelity with their partners, or leave risky relationships (15, 27, 28). Women's refusal of sex or negotiation for safer sex may result in the male partner being suspicious of the woman's infidelity and carries the risk of violence (26, 27).

Structural gender inequality is the degree to which women are placed at an unequal position relative to men (31). The unequal power balance in gender relations that favours men, translates into an unequal power balance in heterosexual interactions (33). A gendered differential relationship is reinforced by a mixture of unequal power in terms of rewards and attributes, such as roles, functions, decisions, rights, income, wealth, health and opportunities (34). Gender power imbalances may constrain women's negotiation skills in their intimate relationships (3). Power in intimate relationships is defined as having authority to act, or change, or having dominance over your sexual partner (24). The Sexual Relationship Power Scale (SRPS) is a variable that refers to male control in intimate relationships. The research presented in this report is premised on the concept that; gender inequity, gender inequality, gender imbalances, unequal status, women's lack of autonomy and gender-based violence (GBV) are terms used to qualify power differentials between men and women (3).

Violence against women is the most extreme of the manifestations of unequal power between women and men (27). Statistics show that one in every three women worldwide experiences physical and or sexual violence in their lifetime, and perpetrated by a male intimate partner in most cases (25). The use of threat of violence or actual violence by men, to maintain control over women's sexuality and reproductive decision-making is common and is another manifestation of gender power inequities (23). Violence by men is as a way of resolving family disputes as well as, exercising control (23). Therefore, if women question their role of giving birth within marriage they may be vulnerable to violence (23). Knowledge of HIV transmission and prevention is of little use if women feel powerless and fail to initiate safer sexual practices with their partners (7). Gender-based violence (GBV) not only violates women's rights, it is a cause and an effect of HIV transmission (22).

1.2 Literature Review

This literature review draws on relevant literature and studies that examine socio-demographic characteristics, control and decision-making in intimate relationships, and other factors in relation to the prevalence of HIV among women. The focus was narrowed down to Zimbabwe where possible but most of the studies of reference were from sub-Saharan Africa especially South Africa. The Theory of Gender and Power was also reviewed so as to identify its relevance and the applicability of its concepts in the study.

1.2.1 HIV Prevalence in Zimbabwe

HIV has disproportionately affected women in Zimbabwe. Among women and men of reproductive age; 18% of women and 12% of men are infected with HIV (7). A slight decrease of three percent in HIV prevalence has been noted in Zimbabwe since the 2005-06 Zimbabwe Demographic and Health Survey (ZDHS) published an 18% estimate (7). HIV prevalence among pregnant women aged 15-24 years is estimated to be at 9.8% (35). Antenatal care (ANC) primary sentinel surveillance provides estimates for HIV prevalence rates for the Zimbabwe adult population (9, 23). Although, HIV prevalence data based on ANC surveillance is widely used, it is imperfect; with a possibility of underestimating HIV prevalence among women of reproductive age (36). This is because up to 20% of women in Zimbabwe do not use ANC services during pregnancy where women are

tested for HIV (37). However, there are also indications that fertility among HIV sero-positive women is significantly lower than among the HIV sero-negative women (36). This evidence may correct for the potential underestimation of ANC surveys on HIV prevalence.

In Zimbabwe, HIV prevalence rates hugely differ across all ten administrative provinces. The ZDHS 2010-11 shows that HIV prevalence is highest in Matabeleland South (21%) and lowest in Harare (13%). HIV prevalence rates for other provinces are as follows; Bulawayo 19%, Matabeleland North 18%, Mashonaland East 16%, Mashonaland West and Midlands-15%, Masvingo, Mashonaland Central, and Manicaland recording 14% (7). Furthermore, the prevalence of HIV is slightly higher in urban areas compared to rural areas (17% vs. 15%) (7). Given the high prevalence of HIV in Zimbabwe with women being disproportionately affected by the pandemic, research needs to be done to understand under what circumstances women are more vulnerable to HIV in the country.

1.2.2 Socio-Demographic Risk Factors and HIV

1.2.2.1 Age Patterns and HIV Risk

Young women aged between 15-29 years are most at risk to HIV infection (38). Women aged between 15–24 years have significantly greater odds of being infected with HIV than men in the same age group [adjusted Odds Ratio (aOR) 4.62, 95% Confidence Interval (CI) 3.65–5.84] (39). The rate of young women aged between 15-24 years living with HIV was found to be three times higher compared to men (38). Prevalence of HIV among women and men increases with age, reaching its peak at ages 30-39 years for women (29%) and 45-49 years for men (30%) (7). Women are infected with HIV at younger ages than men. HIV infection among women increases at age 16 years and HIV incidence is high during late teenage years and early 20s. While in men, HIV prevalence rise is mainly during mid-to-late 20s and early 30s (39). Therefore; age needs to be controlled for in the analysis, as it is a risk factor for HIV. *Table 1*, below shows HIV prevalence among women in Zimbabwe disaggregated by age.

Table 1: HIV Prevalence among Women in Zimbabwe Disaggregated by Age

AGE (years)	% HIV POSITIVE	NUMBER
15-19	4.2	1,583
20-24	10.6	1,463
25-29	20.1	1,354
30-34	29.0	1,010
35-39	29.1	843
40-44	25.7	588
45-46	22.5	501
Total 15-49	17.7	n=7,313

Source (7)

1.2.2.2 Marital Status and HIV Risk

In marriage, the risk of HIV infection is directly linked to non-use of condoms (40). Factors underlying non-condom use in marital or regular relationships is usually trust and non-condom use as a sign of intimacy, this suggests a low personal risk perception with marital or regular partner, while complaints of decreased sensation of pleasure with condom use was cited with casual partners (41). In Zimbabwe, 30% of sexually active unmarried women use male condoms; while only 3% of currently married women use them (7). An analysis of HIV infection in urban Zambia and Rwanda, found a higher proportion of HIV infection for both women and men among married or cohabiting couples, due to lower rates of condom use reported in these relationships (42). This finding is consistent with a study conducted in Kenya and Zambia which found marriage to be a risk factor for HIV infection (43). When men violate the fidelity of their primary relationships their social power over women is made more apparent, further increasing women's vulnerability to HIV (44). "All men are the same" is a common phrase by older women, used to try to make younger women accept the inevitability of male infidelity (32). Infidelity results in multiple concurrent sexual partnerships (MCSP), and MCSP increase HIV risk for both men and women (45). The role of MCSP has been recognized as important for the transmission of STIs especially among heterosexual HIV transmission in Africa (45). On the contrary, other studies in Zimbabwe have found single women to have lower odds of being HIV infected compared to currently married women who, on the other hand, had lower odds of being HIV infected than divorced and widowed women (46, 47). Another earlier study in Zimbabwe found that at ANC single pregnant women were more likely to test HIV positive (OR = 2.1; 95% CI = 1.2 to 3.7) (48). In a South African study, the risk of HIV infection between married and unmarried people was not significantly different (OR 0.85, 95% CI 0.71 - 1.02) (40). However, it should

be noted that the age of marriage for women is higher in South Africa (29 years) (49), than it is in Zimbabwe (19.7 years) (50). In the light of such contradicting evidence we seek to add to the existing evidence by determining whether or not being married is a risk factor for HIV infection among women in Zimbabwe.

1.2.2.3 Educational Attainment and HIV Risk

In Africa, obtaining higher educational levels is often associated with greater odds of HIV infection (51). A study using DHS data from five Sub-Saharan African counties found a positive education gradient in HIV infection, meaning respondents with higher levels of education are more likely to be HIV-positive (52). This evidence was confirmed by a study carried out in Zambia, which found the probability of acquiring HIV to exponentially increase with increasing educational levels (OR 3.1, CI 2.6–3.8) (53). Education is positively related to certain risk factors for HIV, meaning highly educated men and women are more likely to engage in pre-marital sex, which may increase their susceptibility to HIV infections (52). However, an ANC surveillance survey from 2000–2005 in South Africa, found women aged between 15–24 years who had completed secondary education to have a significantly lower risk of HIV compared to women with primary education only (54). Furthermore, there was an 8% increase per year for HIV risk during 2001–2005 (OR 1.08, 95% CI 1.04–1.12) among these young women with primary education (54). Probably a link with early sexual debut in this age group could explain this vulnerability to HIV. Although, HIV risk did not increase in young women with secondary education in that study (54). Among older women aged between 25–49 years in that same study, risk of HIV increased at all levels of education level (2000–2005) and there was no significant difference between older women with completed secondary education or women with primary education (54). This non-significant difference observed might be explained by the fact that prevalence of HIV among both women and men increases with age, reaching its peak at ages 30–39 years for women (7). In Zimbabwe, no clear relationship was found between education level and HIV prevalence among women (7). However, HIV prevalence was found to decrease with higher education level among men (7). Education attainment is one of the factors that may facilitate the spread of HIV in Zimbabwe and therefore needs to be studied.

1.2.2.4 Socio-economic status and HIV Risk

In a systematic review of 36 studies; 15 studies found no association between a woman's socio-economic status (SES) and HIV infection, while 12 found a positive association, and eight found a negative association and one was mixed (55). The systematic review on correlations of SES and HIV concluded that; increased SES may have differential HIV effects for both married and unmarried women (55). The review also suggested that partner's SES (measured by education or income/ employment) may be a stronger predictor of female's HIV sero-status than measures of female SES (55). A survey in the Kisumu district in Western Kenya, found that men of higher socio-economic status make proportionally larger payments in cash or otherwise to non-steady sexual partners and that this practice may exacerbate the incidence of unsafe sexual activities, such as unprotected sex (56). In Zimbabwe, the latest population survey found a non-clear association between SES and HIV prevalence among either women or men (7). On the other hand, HIV prevalence was higher among individuals who are employed (17%) compared to the not employed (13%) (7). Since, there is non-clear evidence of the association of SES and HIV in Zimbabwe this study will use employment status- a proxy indicator for socio-economic status; to confirm if this variable is associated with the risk of HIV among women in Zimbabwe.

1.2.3 Sexual History Factors, Relationship Characteristics and HIV

Individual-level behavioural factors found to be associated with HIV risk include age of sexual debut, multiple concurrent sexual partnerships, incorrect and inconsistent condom use, transactional sex, and experience with IPV (57). These factors also include; age difference with male partner, as well as forced first sex.

1.2.3.1 Age difference with Male Partner and HIV Risk

In many societies, young women have intimate relationships with men who are considerably older than they are, known as inter-generational sex (7). In Zimbabwe, age difference in intimate relationships is narrower during the late teenage years but, the gap widens with increase in age (39). This common practice for young women to have older male partners within and outside marriage is likely to increase their risk of HIV infection (43). In part, HIV prevalence in younger women is attributed by transmission from older male partners (58). Older intimate partners were found to be associated with greater risk of HIV infection among both men (OR 1.13, 95% CI 1.02–1.25) and women (OR 1.04, 95% CI 1.01–1.07) (39).

This evidence was confirmed by studies carried out in Zimbabwe (39, 59). Previous studies have shown that age difference between intimate partners also contributes to high levels of IPV(59). For example, male partners 5-10 years older than their female counterparts were found to have more controlling behaviours; as well as, making decisions on using condoms, use of contraceptives and use of violence as a form of control at times (58). Findings of an association between age disparity and HIV are consistent to a study conducted in Uganda which found HIV infection among women to increase with older intimate partners (60). Among women aged 15-19 years, risk of HIV infection was twice as likely among women with partners 10 or more years older than women with partners 0 to 4 years older (RR 2.04; 95% CI: 1.29–3.22) (60). Possibly the older age of the male partner, the type of the relationship the couple shared and the male partner's risk behaviours interacted together to increase the woman's HIV risk (43). This further suggests that age difference between younger women and their older male partners is a significant HIV risk factor (60). Considering that age-disparate relationships have been found to be associated with HIV risk behaviours, and also exhibit the presence of considerable power differentials between men and women, they therefore need to be controlled for in this study.

1.2.3.2 Forced First Sex and HIV Risk

Forced sex refers to a wide range of experiences that compel someone to have sex against their will (61). These experiences include the use of "violence, threats, verbal insistence, deception, cultural expectations or economic circumstances"; that leave a person with no choice to escape the situation (62). Gender norms have men socialized to think that they cannot sexually control themselves, for example, gender roles are coupled with sexual connotations for men about what it means to be a real man such as not taking "no" for an answer (63). This cultural context of forced sex is on a basis of inequality and patriarchal constructions of gender, which reinforces male dominance over women and girls, thereby increasing women's vulnerability to HIV (64). Many women, especially younger girls, cannot refuse unwanted sex or negotiate protection from pregnancy and STIs, including HIV, because they fear retaliation – such as resulting from multiple adverse physical, social and emotional outcomes (57). Unequal power relations promote notions of male sexual entitlement and often lead to sexual abuse without fear of its consequences (64). A national survey among young South Africans found that women (28%) were much more likely than

men (1%) to report that their first sexual experience as forced (26). Survivors of sexual violence during childhood have greater odds of being HIV positive and to exhibit high-risk behaviours for HIV (63, 65), such as unprotected sex, non-use of condoms and multiple partners (66). For example, in Rakai- Uganda, among ever-pregnant women who reported forced first sex experiences, these women were more likely to report an unintended current or most recent pregnancy (66). In addition, it is highly likely that non-consensual sex will occur with none use of any kind of protection (63). This increases vulnerability to HIV among women if perpetrator is HIV positive. On the contrary, in a South African study forced first sex was found not associated with HIV, however, persistent sexual and physical violence was associated with HIV instead (57). This study is necessary to understand whether forced first sex is a risk for HIV, as there is a gap in evidence around forced first sex and HIV prevalence in Zimbabwe.

1.2.3.3 Transactional Sex and HIV Risk

Transactional sex is a term used to describe the exchange of financial and/ or material gain as a motivating force underlying a sexual relationship (67-70). In sub-Saharan Africa, transactional sex is a well-recognized HIV risk factor in the plight against the pandemic (67), because it increases the risk of HIV infection in the region (68). This is fuelled by evidence that transactional sex is viewed as a 'normal' practice of life (58, 67-69). Resulting in many women putting themselves at risk of contracting HIV/AIDS by being involved in transactional sexual activities (68, 69). The HIV risk of transactional sex behaviour is commonly associated with age mixing, MCSP and unsafe sex (71), as well as gender-based violence, substance use and socio-economic disadvantage (68). Transactional sex is motivated by a complex range of life situations from economic survival to desire for status and possessions (58). Some scholars associate transactional sex with sex work (68), other say it is about satisfying “wants” than “needs” in our modern societies (69, 70). For example, younger women and older men may enter into relationships, so as to use the relationship to compete for social status among their peers, or show off as being of high-status or as successful people (70). Younger women also assert themselves into such relationships to meet various needs, including; survival needs (69, 71), consumption needs (69, 71, 72), as well as the need for the romantic notion of love (69, 71). However, situations where sex is based on exchange of material goods often involve substantial power differences between partners (65). Power

differentials between couples in transactional sex relationships shape a woman's ability to negotiate condom use (73). Unfortunately, women are less powered in such relationships (73). A study on transactional sex among women in Soweto- South Africa, found transactional sex to be associated with HIV prevalence after adjusting for the number of partners and duration woman had been sexually active (OR=1.54, 95% CI: 1.07-2.21) (68). This means that; the number of sexual partners and the duration of one being sexually active are confounders and could have masked the true relationship between transactional sex and HIV. Seeing how important transactional sex is in determining HIV prevalence, we have chosen to study it here so as to increase the body of knowledge around it.

1.2.3.4 Condom Use and HIV Risk

Use of condoms is known to be a positive prophylactic against the transmission of HIV/AIDS (74). A study in South Africa found disapproval of condom use to be common within marriage (75). Consistent condom use is said to be more common in non-marital relationships in Zimbabwe (39, 74). Though a study on patterns of condom use among urban males found 20% of men to use condoms per year; about 25% or more have unprotected sexual acts with regular extramarital partners (76). It is interesting to note that men are almost twice more likely than women to use condoms more consistently in extramarital relationships (74). In another study conducted in Zimbabwe, it was less common for those married to report condom use for the most recent sexual intercourse (male age-AOR 0.10, 95% CI 0.05–0.18; female age-AOR 0.06, 95% CI 0.03–0.12) (39). Therefore; condom use needs to be controlled for in the analysis, as non-use is a risk factor for HIV infection.

1.2.4 Sexually Transmitted Infections and HIV Risk

STIs are considered important predictors of HIV infection because they usually indicate high-risk sex (65). In Zimbabwe, HIV prevalence was found to be higher among women who reported having suffered from a STI or STI symptoms in the past twelve months before the latest national survey, compared to women who did not (7). Another study in Zimbabwe found that women who were herpes simplex virus type 2 (HSV-2) sero-positive had twice the risk of being HIV positive than HSV-2 sero-negative women, (aOR=2.05, 95% CI=1.29-3.23) (48). In another study, the odds of acquiring HIV were more than twice as likely in women with prior cervical human papilloma virus (HPV) infection after adjusting for

behavioural and biologic risk factors (77). Evidently, STIs are a risk factor for HIV and therefore need to be controlled for in the analysis.

1.2.5 Alcohol Use and HIV

Alcohol consumption has been found to be associated with STI and HIV prevalence (78). Among people who consume alcohol, consuming larger quantities results in greater sexual risk behaviours than the frequency of alcohol consumption itself (78). A study in Cape Town-South Africa, found that alcohol consumption in sexual conducive environments was associated with more sexual partners, failure to have protected sex and condom failures (79). In a systematic review and meta-analysis of African studies that related alcohol use to HIV infection, subgroup analyses were performed for males or females and population-based or high-risk, and ones that differentiated between problem and asymptomatic drinkers, alcohol users were more likely to be infected with HIV than non alcohol users (OR 1.70; 95% CI 1.45–1.99) (80). Furthermore, a study among female sex workers in Mombasa, Kenya found HIV prevalence to be higher among women who had ever consumed any alcohol (39.9%) compared to women who never drank alcohol in their lifetime (23.2%; $P < 0.001$), but HIV prevalence was not associated with women's drinking patterns (high and low risk) (81). In light of this evidence, there is a knowledge gap in Zimbabwe in ascertaining association between alcohol use and HIV prevalence among its population.

1.2.6 Gender-Power Relations and HIV

In Zimbabwe, gender based inequalities have been regarded as being rooted in the historically imbalances of power between men and women, further strengthened by the subordination of women by colonial policies (82, 83). The patriarchal nature of the Zimbabwean society has shaped and perpetuated gender inequality (32). Patriarchy is best defined as the control of women by men and how they have the power over women; generating systematic domination of women (83).

1.2.6.1 Power in Intimate Relationships and HIV Risk

While gender dynamics differ across sub-Saharan Africa, women are less likely to have power either in society or within their intimate relationships (84). Traditional norms, in Zimbabwe specify that upon payment of *lobola* (bride-price), a man assumes rights over his partner's sexuality and as well as her fertility (23, 32). The family, as a social institution,

often establishes and maintains patriarchal practices by socializing the young men and women to accept sexually differentiated roles (32). Zimbabwean cultures do not differ very much with other African cultures, they share a lot in common when it comes to their views on gender (32). In Zimbabwe a woman has limited rights to question her husband's control and decision making or her husband's behaviour, especially when he continues to provide for their children (23). Such, corroboration of male control by women leads to many of them failing to discuss their husbands' infidelity even if they are aware of it; as they realize that the costs of confrontation may be too high (23). Furthermore, culture sets up men as the initiators of sex, as well as being the ones' who set the conditions for sexual intercourse (32). It is a common belief within marriage that a wife should please her husband in bed, hence, women have to submit to their partner's sex demands (32, 85). Social norms like these result in women having limited ability to protect themselves from HIV infection (17), as they are unable to negotiate for safer sex even if they are aware that they are being exposed to HIV.

In a nationally representative household survey in South Africa, data collected among people aged between 15–24 years, found that lack of sexual power among women was not directly associated with HIV (26), but, was found to decrease the likelihood of consistently using condoms and this increased the risk for HIV infection among sexually active 15-24 year-old women (26). In that same national survey; inconsistent use of condom was, in turn, associated with HIV positivity (aOR1.58, 95% CI 1.10-2.27) (26). This is consistent with findings of a study of women attending ANC in Soweto- South Africa, which found that women who reported controlling partners measured by the Sexual Relationship Power Scale (SRPS) were more likely to report never using a condom (57). SRPS is a variable that refers to male control in intimate relationships. Results of another South African cross-sectional study found that only close to a third of the women participants had suggested condom use to partner (31.2%, 95% CI 27.8–34.8)(29). Among the women who had suggested condom use, they were found to be; younger, with narrow age difference with partner, most were not married or having had a traditional wedding if married and of higher education level (29). However, there were no biological measurements in this study and there was no data for correlation with HIV per se, but HIV risk behaviour (29).

In rural Eastern Cape Province in South Africa, women who scored their current or most recent relationship high on the SRPS- indicating significant male control and decision making, had greater odds of being infected with HIV (OR1.52, 1.3-2.04) (57). In this particular South African study, the Relationship Control Subscale from the SRPS was adapted to suit the study setting context (57). Conversely, women who had a high level of relationship power had a higher likelihood of reporting using condoms consistently, than women with a medium level power, and lastly women with a low level power (2, 3, 26, 30). In these studies too, the SRPS was also adapted to suit contexts of study settings (2, 3, 26, 30). African-American women aged between 18-29 years in San Francisco in violent intimate relationships were less likely to report using condoms compared to women in non violent relationships (86). They also received threats of physical violence when they attempted to discuss condom use with partner (86). These women were also found to be more fearful of asking their partners for safer sex and worried more about being infected with HIV (86). The strong association between the SRPS and condom use supports the hypothesis that power in intimate relationships plays a key role in the decision making of safer sex (2, 3, 30). We realize how important relationship control and decision making dynamics are in answering why women are more burdened with HIV infection than men. There is a gap in Zimbabwe regarding research on relationship power and HIV prevalence. This current study is positioned to fill this knowledge gap.

Young women who reported a domineering relationship than women who did not, were more likely to report that they had less power in their relationships, and that they were unable to refuse sex in multiple high-risk situations, and reported fear of negotiating for condom use and partner violence (87). Other factors found to be associated with HIV infection included being older, more than one lifetime intimate partner, low levels of education, and being single (88). Among young women, no significant differences were found between; age, level of education, or SES among women who acquired HIV in a 2002-2006 cohort in the Eastern Cape Province in South Africa, compared to women who did not acquire HIV in that cohort (89). The disproportionate HIV burden among women makes it crucial to study the dynamics of relationship power and HIV prevalence in this sub-population.

1.2.6.2 Reproductive Decision-Making in Intimate Relationships and HIV Risk

Gender norms are known to prescribe distinct roles to men and women, for both productive and reproductive facets (15). By so doing, gender norms influence women's individual risk and societal vulnerability to HIV infection (22). This is because women are viewed as objects at home, within families and in society, and this is reflected in the behavioural norms and conduct that puts women at subordinate positions (31). In Zimbabwe, women's lack of economic security and opportunity creates dependencies that make women unable to exercise choice within their intimate relationships (85). Classifications of reproductive control by male partners are numerous, they range through a continuum: (a) before sexual intercourse- pregnancy promotion and contraceptive sabotage, (b) during sexual intercourse- sexual violence, condom manipulation and contraceptive sabotage and, (c) after conception- controlling pregnancy outcome and interfering with health care (90). This power imbalance that exists within intimate relationships often mean that even if couples discuss family planning issues the husband still has the final say, about the number of children they can have and use of contraception or not (23). Such power imbalances are strengthened in relationships where violence or its potential is present, and in turn women also fear to express themselves for fear of how might the partner react (23). In this study we explore decision making for two scenarios: (i) decision on contraceptive use, and (ii) decision about falling pregnant. Since, literature shows us that men are more dominant in making sexual and reproductive decisions we seek to study if these decision making scenarios are a risk factor for HIV among women. There is limited evidence around these two issues; hence this study seeks to fill this knowledge gap.

1.2.6.3 Intimate Partner Violence (IPV) and HIV Risk

Controlling behaviour in intimate relationships can be viewed as a continuum where sexual and physical violence are at one extreme. Physical and/ or sexual violence in a relationship represents an abuse of power. In Zimbabwe, violence against women is common- it is used to gain power in a relationship (85). Violence within marriage is widely tolerated and women are more vulnerable due to their subordinate position and having lack of control and decision making dominance in the intimate relationship (85). The ZDHS 2010-11 states that 30% of women aged 15-49 years have experienced physical violence since the age of 15 years while, 18% experienced physical violence within the past 12 months of the national

survey. Whilst, 27% of women of the same age group reported that they had experienced sexual violence, and in nine of ten cases the act was perpetrated by their current or former husband, partner, or boyfriend (7). Despite numerous interventions, GBV is still widespread and goes unreported (83). A study in Zimbabwe confirmed the widespread of violence against women; nearly six women in every ten both married and unmarried reported experiencing emotional, physical, or sexual violence in their life (59).

Studies in Zimbabwe found IPV to be considered normal in marriage (91). Physical abuse is the most obvious form of IPV (83). IPV is reinforced by gender norms and values that put women at a lower position than that of men (91). These include; the prevalence of traditional legitimacy to using violence against women, and cultural sanctions for husbands to beat their wives in certain circumstances (83). IPV has been associated with increased risk of HIV infection among women (44, 57, 59). In a Zimbabwean study among women who reported physical violence, of these women, significantly nearly one in four had an HIV-positive status than one in five who reported no physical violence (26% vs. 20%) (59).

In that same study; women who reported sexual violence were significantly more likely to be HIV positive than women who reported no sexual violence (27% vs. 21%) (59). However, many men and even women do not believe in marital rape (83). Payment of 'lobola' is associated with perceptions that men are entitled to have sex with their wives whenever they desire (23, 83). As we mentioned earlier on; sex is often imposed for many women by partners (44). Sexual violence against women in intimate relationships is perpetuated by this environment of male dominance over female sexuality, their sexual and reproductive rights (82). The ZDHS data found that married women who experienced any form of IPV had greater odds of being HIV-positive compared to women who did not experience any IPV (59).

In a cohort of young people in the Eastern Cape Province, South Africa (89); women who acquired HIV had reported partner violence and high relationship power imbalances at the start of the survey, compared to women who did not acquire HIV (89). Women in intimate relationships with low power imbalances at the start of the survey had lower odds of HIV incidence, compared to women in the middle or highest relationship power level (89). Furthermore, HIV incidence was higher among women who reported more than one

episode of IPV at the start of the survey, than women who reported one or no episodes of IPV (89). The study found that almost two out of ten incidences of HIV could have been averted during the study if gender balances were improved in intimate relationships such that no women are found with low relationship power (89).

With regards to physical IPV; low scores on the SRPS were associated with a reported experience of partner violence and forced sex (2). IPV was associated with an increased risk of HIV infection (57). Sexual IPV among women was only associated with HIV when co-existing with physical IPV (57). A study found abusive husbands to be associated with a greater risk of acquiring HIV outside marriage (92). Violent husbands were found to have greater odds of transmitting HIV to their wives (92). In Zimbabwe, women who leave such violent relationships face immense economic struggles and social stigma (85), this further increases their HIV infection risk as well.

Increased frequency of IPV among women was significantly associated with an increased likelihood of being HIV positive (57). After further adjusting for an SRPS score the study found severity of IPV in the relationship to be associated with HIV sero-positivity (57). In logistic regression models, married Indian women who experienced both physical and sexual IPV were found more likely to be HIV-positive compared to women who did not experience IPV (0.73% vs. 0.19%) (93). However, physical IPV alone was not associated with an increased likelihood of HIV positivity (93). No significant associations were found between low control in intimate relationships and HIV infection in a bivariate analysis study in South Africa, among women who were HIV positive compared to women who were HIV negative (24.1% vs. 28.3%) (26). There is immense evidence on IPV as a risk factor for HIV infection among women. This study will add to this body of knowledge to further confirm consistencies if any.

1.2.6.4 Women's Attitudes towards Wife Beating and Sex Refusal

A study in Zimbabwe to understand women's attitudes towards wife beating found that over half of all women (53%) under study believed that wife beating was acceptable in some circumstances (91). Nearly one in three women were most likely to find wife beating acceptable if; a wife argued with her partner (36%), neglected their children (33%), or went out without letting her partner know (30%) (91). Among younger women with a lower

education level than secondary, of lower socio-economic status, living in rural areas ($n = 3077$), they were associated with reporting wife beating as acceptable. On the other hand, women who reported making household decisions mutually with their partners were less likely to report wife beating as acceptable (91).

A survey conducted in year 2002 in these countries; Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe found 40% of women to report that they would still continue to have sex even if their partner refused to use a condom (65). Another 40% reported that women do not have the right to refuse their partner sex (65). Information such as this generates a lot of interest, especially around how society moulds women in a way it does about viewing themselves relative to men. Our study will investigate if attitudes of women towards wife beating and sex refusal are correlated with their HIV infection.

1.2.7 Theoretical Framework

The Theory of Gender and Power (TGP) is a social structural theory (24, 44), which postulates that, there are three overlapping major social structures that characterize gender power imbalances in intimate relationships between men and women: (i) the sexual division of labour- looks at the economic inequities which favour men , (ii) the sexual division of power- looks at the inequities and abuses of authority and control in intimate relationships which favour men; and (iii) cathexis- looks at social norms and affective attachments (1, 24, 44). The TGP suggests that gender inequalities arise from these three social structures that are interrelated and they interact creating different exposures and risk factors for HIV and AIDS among women (1, 24, 84). These social structures, are found at the societal and interpersonal levels of the ecological model and are maintained by social systems (24, 44). The social systems produce gender-based inequalities, such as; gender-based roles for women in society (24, 44). This study is based more on the gender inequalities brought about by the social norms and affective attachments aspect of the social structure, as well as the sexual division of power social structure. In public health, these gender- based inequities and inequalities in expectations generate exposures or risk factors that negatively influence women's health (44). They work together with women's biological make-up to increase their vulnerability to diseases, including HIV (44). A proposed theory

conceptualizing how women's health is influenced by the Theory of Gender and Power (44) is shown on *Table 1* below.

1.2.7.1 Sexual Division of Labour

The sexual division of labour is the purposive distribution of employment to women and men at societal level (24, 44). Resulting in men having more access to wealth and economic opportunities (44). Economic discrimination against women limits their opportunities for financial independence (23), causing women to become dependent upon male partners in order to meet their financial and social needs (44). It is this economic vulnerability and dependence by women on men that increases their risk to HIV infection by limiting; condom use negotiation ability, ability to discuss infidelity, or leaving risky relationships (15, 27, 28).

1.2.7.2 Sexual Division of Power

The structure of sexual division of power is grounded in power inequalities between men and women (44). The structure is maintained by social systems that include abuse of authority and control in intimate relationships (44). This includes the patriarchal ideologies among the Zimbabwean society- which favours men to have control and power over women (32, 83). For example, in Zimbabwe a woman has limited rights to question her husband's control and decision making or her husband's behaviour (32). This social norm results in women having limited ability to protect themselves from HIV infection from men (18), as this dictates less power to women in relationships and may limit a woman's skill to negotiate for safe sex, as they have limited leverage to do so (44). Masculinities and femininities are gender-identities rooted in the social context, such that societal members decide what it means to be male or female (e.g., dominant or passive) (94). Socially shared expectations of behaviour given one's gender, form what are known as gender roles, for example, gender roles include the prescription for women's reproductive and men's productive roles (94). Sex is often imposed for many women by partners (44). This suggests male dominance in reproductive decision-making power relations (44). Sexual abuse is a physical exposure to HIV (24). Studies in South Africa found women with lower relationship power to be at an increased risk of HIV infection, as they were less likely to take protective measures against HIV (26, 57).

1.2.7.3 Structure of Social Norms and Affective Attachments

The TGP states that; at the societal level, the structure of social norms and affective attachments dictates appropriate sexual behaviour for women (44). In the cathexis structure women are said to possess emotional and sexual attachments towards men, as well as, sexuality attachments to other social concerns, such as impurity and immorality (44). The structure is sustained by unfairness in the social system such as dictating what are considered as appropriate sexuality expressions of behaviour for both women and men. The social system unfairness results in cultural and societal norms, dictation of gender roles, and stereotypical beliefs towards women (44). Upon payment of 'lobola', there are perceptions that men are entitled to have sex with their wives whenever they desire (23, 83). This gives birth to a common belief that within marriage a wife should please her husband in bed, hence, women have to submit to their partner's sex demands (32, 85). Causing many men and even women not to believe in marital rape (83). Such negative beliefs not supportive of safer sex increase women's personal risk to HIV (24). In addition, since women are socially expected to be obedient and submissive to their spouses hence, they may purposely avoid topics that create conflict in their household and are less willing to bring up controversial issues like questioning their partners about extramarital affairs (32). This is another HIV risk dimension for women, which is added by social norms surrounding gender and sexual behaviour (84). This structure also includes women who have older male partners as a social exposure to HIV (24).

Table 2: Proposed Theory Conceptualizing the Influence of the Theory of Gender and Power on Women's Health

Societal Level	Institutional Level	The Social Mechanisms	Exposures	Risk Factors	Biological Factors	Disease
Sexual division of labour	Work site	Manifested as unequal pay, which produces economic inequities for women	Economic exposures risk factors	Socio-economic		
	School					
	Family				Douching	
*Sexual division of power	Relationship	Manifested as imbalances in control, which produces inequities in power for women	Physical exposures	Behavioural risk factors		
	Medical system				Pregnancy	
	Media					
Structure of cathexis: Social norms and affective attachments	Relationships	Manifested as constraints in expectations, which produce disparities in norms for women	Social exposures	Personal risk factors	Contraception	HIV
	Family					
	Church					

Adapted (44)

1.3 Statement of the Problem

Zimbabwe has experienced a significant decline in HIV prevalence among its adult population over the past decade (7). However, HIV infection among women in Zimbabwe is still of high concern (7). Sexual transmission is regarded as the main mode of HIV infection for women in the country (7, 48, 95). Heterosexual transmission contributes up to 92% of all HIV infections (6, 7). In the public health arena, a high HIV sero-prevalence among women translates to the elevation of the second most significant mode of HIV transmission; which is mother-to-child transmission (MTCT). Perinatal transmission accounts for seven percent of HIV infections in the country (6). MTCT in turn results in neonatal, infant and under-five morbidity and mortality (7, 19, 48).

Culturally, in Zimbabwe a woman has limited rights to question her husband's control and decision making or her husband's behaviour, especially when he continues to provide for the children (23). This social norm results in women having limited ability to protect themselves from HIV infection from men (27), as they have limited leverage to negotiate for safer sex. This lack of perceived or actual power among women weakens most public health related interventions, such as those targeted at HIV reduction. Hence, understanding these gender-based factors that influence HIV prevalence among women will help enhance HIV interventions in Zimbabwe. Failing to address HIV, based on gender power inequities will result in women continuing to be infected by HIV/AIDS, further increasing illness/incapacitation related HIV and AIDS mortality among women. Furthermore, HIV and AIDS related mortality among women contributes to children becoming orphans and, or vulnerable (7).

1.4 Justification for the Study

Imbalances in gender power play a key role in the HIV pandemic through their effects on women's power in heterosexual relationships (15, 23, 26, 27). In Zimbabwe, the socialization process has different expectations for women and men's sexual behaviour. Authoritarian rules are placed to control women's sexuality, while men have the liberty to enjoy sex within marriage and outside (23). Many women who are at risk of HIV infection

through their partners in committed relationships find the negative economic consequences of leaving the relationship worse off compared to staying (22). We cannot ignore the interactions between IPV, gendered intimate relationships, and HIV prevalence among women, and this study is vital in-order to effectively respond to these socio-cultural and political-economic dimensions of HIV (2). We realize that it is mostly within intimate relationships that women's choices against HIV prevention become limited. Patriarchal ideologies, masculinities and femininities gender-identities are bred within families through the socialization process (32). Hence, an amendment of the socialization process is required (32), such as policies and programmes based on social-change, so that we are able to tear down gender roles and identities that put women in subordinate positions to men. This study fills the information gap about the need to shift HIV programme attention to innovative interventions, which seek to protect women against HIV infection in intimate relationships. A call for action to address societal values and societal norms on gender equality in HIV prevention programmes among women is needed (59). Efforts to increase equity in relationships will sustainably reduce the incidence of the epidemic among women and children in the country. To contain the HIV epidemic among the women subpopulation we have to tackle gender inequality, which is the root cause (27).

1.5 Study Aim and Objectives

1.5.1 Aim

The overall aim of this study was to determine the relationship between control and decision-making in intimate relationships and HIV sero-prevalence among post-natal women.

1.5.2 Specific Objectives

1. To describe the socio-demographic characteristics by HIV status of the post-natal women aged 15-49 years attending six low-income urban clinics in Harare, Zimbabwe during the period May to September 2011.
2. To describe control and decision-making in intimate relationships among post-natal women aged 15-49 years attending six low-income urban clinics in Harare, Zimbabwe during the period May to September 2011, including:

- Sexual relations control, and decision making in terms of;
 - Decision about most recent pregnancy; and
 - Partner refusal of a family planning method
- 3. To determine the relationship between control and decision-making in intimate relationships and HIV sero-prevalence among post-natal women aged 15-49 years at six low-income urban clinics in Harare, Zimbabwe during the period May to September 2011.

H0: There was no relationship between control and decision-making in intimate relationships and HIV sero-status among post-natal women aged 15-49 years at the six low-income urban clinics in Harare, Zimbabwe.

H1: There was a relationship between control and decision-making in intimate relationships and HIV sero-status among post-natal women aged 15-49 years at the six low-income urban clinics in Harare, Zimbabwe.

1.6 Summary

It has been noted that gender power relations is the root causes of gender inequality. Moreover, gender inequalities are among the most influential of the social determinants of health. HIV is a global health problem and imbalances in gender issues are perceived to be present in all societies. Understanding these gender-based factors that influence HIV prevalence among women will help to redress HIV interventions (7). This will ease the HIV burden among the women sub-population. Thus, the link between control and decision-making in intimate relationships and HIV transmission needs to be understood.

CHAPTER TWO: METHODOLOGY

Chapter two looks at the research methods used to conduct this study. The study design and population are described. The chapter includes: how data was collected, measured and its sources, data processing methods and data analysis. The chapter is concluded by the ethical considerations of the study.

2.1 Study Design

A secondary data analysis of a cross-sectional survey was conducted of 2 042 women aged 15-49 years, attending six low-income urban clinics in Harare during the period May-September 2011. The aim of the primary study was to describe the occurrence of IPV during pregnancy among women in urban Zimbabwe, and data on HIV was also collected (96). HIV status, control and decision making in intimate relationships questions were included in the primary study questionnaire. These were analysed for this study.

2.2 Study Settings

The setting of the primary study was at six public primary healthcare clinics for ANC, situated in low-income residential communities of Harare, Zimbabwe. The clinics were purposively selected (97). Most clinics included in the primary study had three days ANC services a week and at each clinic up to 35 women were attended per day. Women gave birth in the maternity wards of all the clinics and later brought their babies to the wellness clinic (97).

2.3 Study Population and Sampling

The study population of the primary study were women of reproductive age, between 15-49 years old receiving post-natal care at the six public primary healthcare clinics in low-income urban communities of Harare in Zimbabwe, during the period May- September 2011 (96). The primary study calculated a required sample size at 2024 participants, based on a similar

study from South Africa (96). Convenience sampling was used to recruit the required number of participants from clinic queues into the study (96).

The study population of this secondary analysis was limited to women 15–49 years of age with a known HIV status receiving post natal care at the six public primary healthcare clinics in low-income urban communities of Harare in Zimbabwe, during the period May–September 2011. Post-natal women with an unknown HIV sero-status or those not tested for HIV were excluded from the study ($n=91$). The study sample for this secondary data analysis was then reduced to 1951 participants, after excluding those with an HIV unknown status.

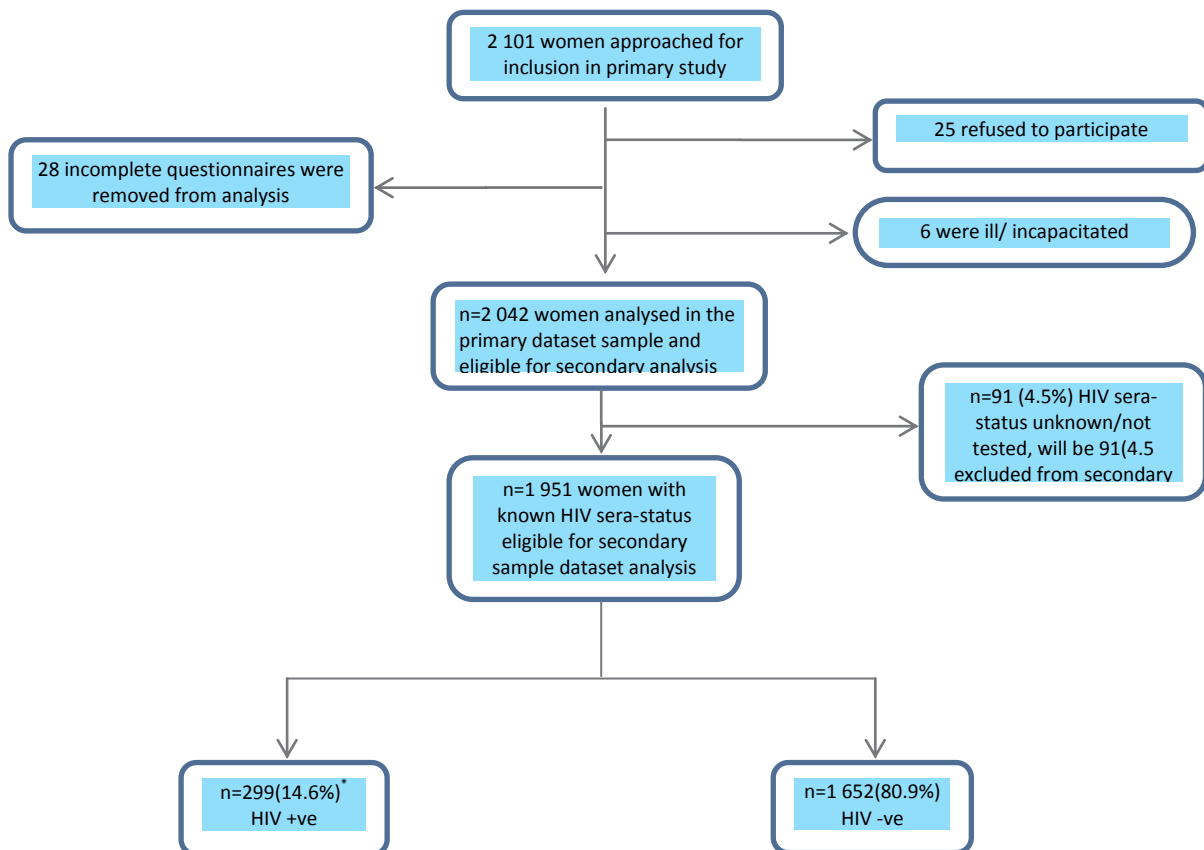


Figure 1: Flow Chart- Inclusion and Exclusion Criteria in the Primary and Secondary Studies

2.4 Data Collection

Following the World Health Organisation (WHO) guidelines, the primary researchers recruited and trained six female interviewers for seven days before conducting actual fieldwork (96). The primary study used a standardised interviewer-administered (face-to-face) questionnaire in the local language- Shona (96). The questionnaire was pre-tested among 60 post-natal women at a clinic similar to the selected six, and necessary changes were made, before fieldwork (96).

The response rate of the primary study was 97.1%. Figure 1 shows that 2101 post-natal women were approached for inclusion in the study. Twenty-five refused to participate, six were not well, and a further 28 of the questionnaires were incomplete and were excluded from the primary analysis (96). The primary dataset was based on the final 2042 women who were interviewed on the day 10th of PNC visit (56.6, $n=1156$) or at the 6 week PNC visit (43.4%, $n=886$) (96). HIV sero-status information was also collected through matching the ANC clinic records of these women, as well as the use of ante-natal cards, which indicated if a woman was dispensed with nevirapine during pregnancy or not.

2.5 Data Measurement and Data Sources

The primary researchers adapted a WHO multi-country study questionnaire which measures violence perpetrated against women (98). They added other variables such encompassing questions on the pregnancy period, IPV, as well as HIV covariates (96). The research tool was divided into nine sections, consisting of 135 structured questions- questions and filters, and coding categories for women, their current or most recent partners and the nature of their relationships; socio-demographic characteristics, behaviours and reproductive health and sexual risk factors (*See Appendix B- primary study questionnaire*). These questions were categorised into:

- The respondents' characteristics;
- Woman's alcohol drinking;
- Reproductive health;

- Most recent pregnancy;
- Other experiences;
- Current or most recent partner characteristics;
- Attitudes towards partner beating;
- Respondent and her partner;
- Injuries;
- Transactional sex/sexual risk behaviours;
- HIV testing;
- Completion of the interview.

The variables used are as follows:

2.5.1 Outcome Measure or Dependent Variable

HIV sero-status (2, 3, 7, 26, 30, 38-40, 42-44, 46-48, 51, 53-55, 57-60, 63, 65-70, 73-81, 86-89, 92, 93, 96, 99-102) was the dependant or outcome variable in this analysis.

2.5.1.1 HIV Sero- Status

HIV results were based on HIV rapid tests done at the six clinics during ANC. The clinics used the rapid test DetermineTM to test for HIV status; positive results were confirmed using the Capillus test. The Western blot test was used to resolve discordant results (96). Though, there were some women with an unknown HIV status, this does not mean that the data was biased due to this missing information, as they were less than 4.5% of the total sample. A sample is considered statistically significant if missing data is less than 20% (103). Overall, the sample size was big enough to detect differences in the associations.

- **HIV Status:** HIV Negative/HIV Positive

This variable was measured using two outcomes. Although, initially they were three possible outcomes for HIV status, but the unknown category was dropped from further analysis. The variable was obtained by looking at women's ANC cards.

2.5.2 Exposure Measures or Focal Independent Variables

Exposure variables were divided into two categories; (a) sexual history factors and relationship characteristics, and (b) measures of Relationship Power, sub-divided into (i) Control, and (ii) Decision-Making in Intimate Relationships.

2.5.2.1 Sexual History Factors and Relationship Characteristics

Sexually history and relationship characteristics were measured using five variables in this study; age difference between sexual partners (39, 58, 60, 101), forced first sex (57, 63, 65, 66), transactional sex (67-70, 73), STIs (7, 48, 65, 77, 99) and condom use (2, 3, 29, 30, 39, 74-76, 86, 104).

- **Age difference between the woman and her current/or most recent partner:** Less than 10 years older/10 or more years older.

Women's age difference with partner was measured using two outcomes. The age difference figure was arrived at by subtracting the woman's age from that of her current/most recent partner.

- **Forced first sex (including rape) before the age of fifteen years:** Yes/No.

To measure the nature of first sexual intercourse, women were asked; 'What age were you when you first had sexual intercourse?' They were further asked; which of the following statements most closely describes your first sexual experience? I was willing; I was persuaded; I was tricked; I was forced; or I was raped. Forced first sex (including rape) before the age of fifteen was aggregated by adding women who reported that they were forced, as well as those who reported rape. The group which reported in the child trauma scale that they were raped but did not answer this question as forced first sex were treated as if they answered that "they did not experience forced first sex".

- **Transactional sex:** Ever/Never

Women were asked; have you ever stayed with a partner longer than you wanted because they were worried they couldn't afford by themselves i.e. shelter, money, gifts, clothes etc.?

- **STIs:** Ever/Never

Women were asked; were you ever treated/ or diagnosed of an STI during their most recent pregnancy?

- **Ever condom use:** Ever/Never

Women were asked; have you ever used a condom with main partner?

2.5.2.2 Measures of Relationship Power: Control and Decision-Making in Intimate Relationships

Relationship power should be measured using the SRPS. This is the only scale that measures power in intimate relationships (84). This scale contains two conceptual dimensions of power in intimate relationships, which can be used individually or together. These are a) control over a partner, and b) ability to make decisions (2). This study used focal independent or exposure variables representing relationship power (2, 3, 26, 30, 57, 87, 89, 104-106) as; control and decision making in intimate relationships. Variables such as IPV (3, 7, 44, 57, 59, 86, 89, 91-93, 102), and scales measuring attitudes towards wife beating (91) and if a woman can refuse her husband sex (65) were also studied to measure power in intimate relationships.

- **Control in intimate relationships:** No Control, Low Control, Medium Control or High Control

Control in intimate relationships was measured by a six item sub-scale in the primary study questionnaire. It should be noted that this is not a validated measure for relationship control. The researcher looked at internal consistency by adding up raw scores of the six items and formed unstandardized scale scores, which were tested for reliability using Cronbach's alpha. The scale reliability coefficient was 0.60.

To develop the scale, women were asked to think about their current or most recent partner and respond true/ false to the following questions regarding whether he: tries to keep them from seeing your friends, restricting contact with family, insists on knowing where you are all times, gets angry if you speak with another man, is often suspicious that you are unfaithful, or expects you to ask his permission before seeking health care yourself.

These observations were added together to create a score for each factor. The variable control in intimate relationships ($\alpha=0.60$) compared women who have no control in their relationships (meaning the partner had high control in the relationship); to women with low, medium and high level control. We measured decision making in intimate relationships using two scenarios; decision to fall pregnant for the most recent pregnancy and partner ever refusing a woman use of a family planning method.

- **Decision about the most recent pregnancy:** Self, Partner, Partner and self, Just happened, or Other people

Women were asked to answer the question; who made the decision about your most recent pregnancy?

- **Partner ever refusal a family planning method:** Ever/ Never

Women were also asked; has your current/ most recent partner ever refused a family planning method?

- **Intimate partner Violence:** Never, Physical Violence Only, Sexual Violence Only, or Both Physical and Sexual Violence

To measure physical violence; the primary study question asked a woman if her current/ most recent partner or any other partner had slapped or thrown something that could hurt them, pushed or shoved or pulled her hair, hit her with a fist or something else that could hurt, kicked, dragged or beaten her, choked or burnt her on purpose, and or threatened to use or actually used a gun, knife, or other weapon against her (98). If the answer was 'yes' to any of these; the secondary data variable was derived and measured as (a) a woman had ever experienced physical violence in this study. Women were also asked to clarify if this violence had happened during the 12 months before their most recent pregnancy; from this the secondary data variable was derived and measured as (b) past physical violence in this analysis, and physical violence experienced during the most recent pregnancy; was derived and measured as a secondary data variable for (c) current physical violence in this analysis.

For sexual violence; women were asked if her husband/ partner had ever physically forced her to have sexual intercourse when she did not want to, or if she ever had sexual intercourse that she did not want because she were afraid of what her husband/ partner might do, and /or did her husband/ partner ever force her to do something she found degrading or humiliating (98). If the answer was 'yes' to any of these; the secondary data variable was derived and measured as; (a) ever sexual violence in this analysis. They were also asked to clarify if the sexual violence had occurred during the 12 months before recent pregnancy; from this the secondary variable was derived and measured as; (b) past sexual violence in the analysis, and if the sexual violence had occurred during the most recent

pregnancy; the secondary data variable was derived and measured as (c) current sexual violence in this study.

Physical and sexual violence experiences were then combined to cater for women who had experienced both physical and sexual violence.

- **Temporality of IPV:** Never, Past Physical-Sexual Violence Only, Current Physical-Sexual Violence Only, or Past And Current Physical-Sexual Violence.

Temporality of IPV was generated using the time the IPV had taken place in the women's life; from past IPV to current IPV.

- **The scale of attitudes towards wife beating:** Never Acceptable, Sometimes Acceptable or Always Acceptable

This study also measured women's attitudes towards wife beating and those towards refusing a husband sex. For responses for wife beatings attitudes, six scenarios during the primary were considered regarding acceptable to beat a woman (*see Appendix B: Section 5a, Question 517 on page 101*). Women who answered no to all of the situations were coded as believing that it was never acceptable for a wife to be beaten, those with a 'yes' on five or less of the scenarios were considered as women who believed that it was sometimes acceptable for a husband to beat his wife, and those with 'yes' to all scenarios were considered as those who believe that it was always acceptable for a husband to beat his wife.

- **The scale of can a married woman refuse to have sex with her husband:** Never Refuse Sex, Rarely Refuse Sex, Sometimes Refuse Sex, Or Can Often Refuse Sex

The variable; 'Can a married woman ever refuse her husband sex' was measured using six scenarios during the primary study (*see Appendix B, Section 5a, question 518 on page 101*). Women who answered 'yes' to all situations were coded as believing that a wife can never refuse her husband sex, those with a single or two 'yeses' to the situations were coded as women who believe that a wife can rarely refuse her husband sex, 'yes' on three-to-four of the situations were considered as women who believe that a wife can sometimes refuse her husband sex, and those with five to six 'yeses' were coded as women who believe that a wife can often refuse her husband sex.

2.5.3 Covariates

The secondary data analysis used and/created the following variables:

2.5.3.1 Socio-demographic Characteristics

The socio–demographic characteristics of this secondary analysis focused only on four items; age (7, 38, 39, 89), education level (51, 53, 54, 89), marital status (40, 42-44, 46-48) and employment status (7, 55, 89). These were coded as follows:

- **Age in years:** 15-19, 20-25, 26-30, 31-35 and 36+

Age was asked as a birth day, and grouped to produce a five-level categorical variable. This primary data variable was maintained as is for the secondary analysis.

- **Level of Education:** Primary, Secondary or Tertiary

Women were asked; what is the highest level of education that you achieved?

In Zimbabwe, education is classified as follows: primary level education is usually completed in seven years, from Grade 1 to 7. Secondary level education is divided into two categories: general certificate of Ordinary level studies that takes four years to complete from Grade 8 known as Form 1 to 4, and Advanced level studies which take two years to complete known as Form 5 to 6. Tertiary education consists of certificates, diplomas and degrees attained at higher learning institutions (107).

- **Work status:** Employed/Not employed

The primary question for employment had professional, semi-skilled, unskilled/ manual, military and don't work categories. In the primary analysis; the first four levels were combined to come up with a two-level outcome. This was the primary data variable and maintained for this secondary analysis.

Employment status was difficult to measure as most people were unemployed in Zimbabwe during the period the primary study was carried out. Even those who reported employed were engaged in self-jobs such as roadside vending. So being employed may not have meant having an income, though may mean that one has exposure outside of the home. Others may have reported unemployment when they were in self-jobs, but thought being employed meant working for someone or a formal organisation only.

- **Marital status:** Married/Not Married

Marital status was measured using five level outcomes; currently married, living with a man, currently having a regular partner living apart, or not currently married or having a regular partner. The last three outcomes were aggregated; this created a two-level primary data variable and this was maintained for this analysis.

2.5.3.2 Alcohol Use

HIV behavioural risk factors for this study were also measured using alcohol use (78-81) among the women. Women were asked about drinking alcohol; how often did you drink alcohol in the past 12 months before your recent pregnancy?, and how many times did you drink alcohol during your most recent pregnancy?, whether it was every day/ nearly every day, once or twice a week, 1-3 times a month, occasionally, less than once a month or never.

- **Alcohol use during past 12 months before most recent pregnancy :** Never, Low Frequency or High Frequency

The initial primary data variable had five level outcomes. Women's alcohol consumption frequency in the past 12 months before the most recent pregnancy was re-coded to create a three level outcome secondary data variable for this analysis: (i) never, (ii) low frequency was obtained by combining; 1-3 times a month, occasionally or less than once a month responses for the occasional category and (iii) high frequency was obtained by combining every day/ nearly every day or once or twice a week responses.

- **Alcohol use during most recent pregnancy:** Never, Low Frequency or High Frequency

The initial primary data variable had five level outcomes. Women's alcohol consumption frequency during the most recent pregnancy was re-coded to create a three level outcome secondary data variable for this analysis: (i) never, (ii) low frequency was obtained by combining; 1-3 times a month, occasionally or less than once a month responses for the occasional category and (iii) high frequency was obtained by combining every day/ nearly every day or once or twice a week responses.

Table 3: Key Variables and Internal Consistency Scales used in the Secondary Data Analysis

Variable	How variable was measured in the primary study	Cronbach's alpha
OUTCOME		
HIV	HIV information was based on HIV diagnostic tests carried out at clinic level. Rapid test DetermineTM was used to test for HIV status; positive results were confirmed using the Capillus test. The Western blot test was used to resolve any conflicts	
EXPOSURE		
Relationship power		0.60
Control in Intimate Relationships	Six item scale with (True/False/ Don't know) response to: "Thinking about their current or most recent husband/ partner', would they say it was generally true or false that he: tries to keep you from seeing your friends, restricting contact with family, insists on knowing where you are all times, gets angry if you speak with another, is often suspicious that you are unfaithful, or expects you to ask his permission before seeking health care yourself".	
Decision-making in intimate Relationships		
Decision about most recent pregnancy	One item with (Myself/ Partner? Partner and I / Just happened/ others) response to: "Who made the decision about their most recent pregnancy".	
Partner ever refused a family planning method	One item with (Yes/ No/ Refused) response to: "Partner ever refused a FP method".	
HIV RISK FACTORS		
IPV		
Physical IPV	Six item scale with (Yes/No) response to: "Has your current/ most recent partner or any other partner ever slapped or thrown something that could hurt, pushed or shoved or pulled their hair, hit you with a fist or something else that could hurt, kicked, dragged or beaten you, choked or burnt you on purpose, and or threatened to use or actually used a gun, knife, or other weapon against you	0.85

	If 'yes' to any of these, then a (Yes/No) response to: has it happened during the 12 months before recent pregnancy, has it happened during most recent pregnancy, has it happened after you disclosed your HIV test result to your partner during most recent pregnancy, and (Once/ Twice/ Thrice or more) response to: "during most recent pregnancy would you say it has happened".	
Sexual IPV	Three item scale with (Yes/No) response to: "Did your husband/ partner had ever physically forced you to have sexual intercourse when you did not want to, or did you ever have sexual intercourse you did not want to because you were afraid of what your husband/ partner might do, and or did your husband/ partner ever force you to do something you found degrading or humiliating".	0.66
	If 'yes' to any of these, then a (Yes/No) response to: has it happened during the 12 months before recent pregnancy, has it happened during most recent pregnancy, has it happened after you disclosed your HIV test result to your partner during most recent pregnancy, and (Once/ Twice/ Thrice or more) response to: "during most recent pregnancy would you say it has happened".	
Women's alcohol use		
12 months before Pregnancy	One item with (Every day or nearly every day/ once or twice a week/ 1-3 times a month/ occasionally/ less than once a month/ never) response to: "How often did you drink alcohol in the past 12 months before your recent pregnancy".	
During pregnancy	One item with (Every day or nearly every day/ once or twice a week/ 1-3 times a month/ occasionally/ less than once a month/ never) response to: "How many times did you drink alcohol during your most recent pregnancy".	
Transactional sex	One item with (True/ False) response to: "Have you ever stayed with a partner longer than the woman wanted because they were worried they couldn't afford by themselves i.e. shelter, money, gifts, clothes etc."	
Ever condom use with main partner	One item with (Agree/ Disagree/Refused) response to: "Have you ever used a condom with current/ most recent partner".	
Treated/ diagnosed of an STI during most recent pregnancy	One item with (True/ False) response to: "Have you ever been treated/ diagnosed of an STI during your most recent pregnancy".	

2.6 Data Processing Methods and Data Analysis

2.6.1 Data Cleaning and Processing

In the primary study, data were cleaned and processed for analysis in STATA version 11 (STATACorp 2009). To validate the data cleaning process a random 10% of the sample data was tested and minor inconsistencies in the complete dataset were fixed (96). In the secondary analysis the principal investigator (PI) firstly had to understand the structure of the primary dataset so as to locate the variables of interest to the current study. The identified variables were then extracted using STATA software (version 12.0, STATA Corp., College, Station Texas, USA) from the primary source and stored on a laptop. The researcher checked the data for completeness (i.e. contrasting values, missing data, and obvious data entry errors) and cleaned it. The use of “0” to denote *No*, and “1” to denote *Yes* for Yes/No questions differed for different questions in the primary data set; hence a recoding was done to make the data consistent. The researcher also consulted with the PI of the primary dataset for explanations on inconsistent data as well as for clarification on some of the skip patterns used. The subset data of interest was then stored using a different name and used for this secondary analysis using STATA version 12.

2.6.2 Descriptive Analysis to answer Objectives One and Two

Univariate descriptive statistical methods were conducted in order to answer objectives one and two. Proportions were used to numerically describe the socio-demographic characteristics and HIV sero-status of the study sample. The exposure variable of interest- Relationship Power was measured using two dimensions; control in intimate relationships as well as, decision-making in intimate relationships; decision to fall pregnant for most recent pregnancy and if current or most recent partner had ever refused the woman use any family planning method. The variable, relationship power was then used to describe control and decision making in intimate relationships.

2.6.3 Inferential Statistics to answer Objective Three

Pearson’s chi-square (X^2) or Fisher’s exact tests where applicable, were conducted to test for differences in HIV sero-status by socio-demographic factors, and HIV risk factors, as well as control and decision making in intimate relationships factors. The tests were also used to

compare the proportion of women with a known HIV status to those women with an unknown HIV status, according to their socio-demographic characteristics. A p-value of less than 0.05 was considered as statistically significant in this study. Bivariate analyses were also performed for all the variables of interest against HIV status, in order to allow for a comparison between unadjusted odds ratios from the univariate logistic regression and adjusted odds ratios from the multivariable logistic regression models. Three stepwise multivariable logistic regression models were built by entering the key independent variables into the regression models. Covariates were then added onto the models one at a time based upon a statistical criterion of the variable having a less than 0.05 p-value from the χ^2 test, as well as variables that are well-known potential confounders for relationship power factors and HIV; age, education, age difference between woman and partner, forced first sex, transactional sex, ever used a condom, STIs and alcohol consumption. To select suitable variables for the regression models, using the stepwise regression; after each step of adding a variable, all candidate variables in the models were checked to see if their significance had been reduced below a tolerance level of 0.01 (108). A non-significant variable if found, was removed from the model. Multivariable logistic regression analyses were tested to determine the variables related to HIV, which suggested confounding between the exposure of interest and the outcome. The final three models had focal independent variables; control in intimate relationships ($n = 1.871, p < 0.01$), decision about most recent pregnancy ($n = 1.901, p < 0.01$) and partner ever refused a family planning method ($n = 1.905, p < 0.01$). Results for the models are shown on *Table 19*.

2.7 Ethical Considerations

Ethical clearance for the primary study was approved by the Medical Research Council (MRC) of Zimbabwe and the University of the Western Cape Ethics Committee. Permission to carry out the primary study was granted by the Harare City Health Services Directorate (96, 97). The primary study was carried out in accordance with the WHO Guidelines on researching violence against women and girls. Field-workers gave all women included in the primary study full information about the research and its purpose. All women under study gave written consent to be part of the survey voluntarily. Field-workers assured respondents that they could leave the research at any time they wished to do so. To

maintain confidentiality and anonymity the primary study used respondent numbers on questionnaires and respondents were asked not to mention their names. Field-workers sought and obtained respondents' informed written consent to access their HIV test results from ANC records (96).

Ethics approval for this secondary data analysis was granted by the University of Witwatersrand's Human Research Ethics Committee (Medical) M130756 (*See Appendix C*). Permission to use the primary dataset was granted by Simukai Shamu, the PI of the primary survey (*See Appendix D- permission to use dataset*). This secondary analysis used a de-identified dataset. The dataset was stored on the principal researcher's personal laptop, which was password protected, for the period of the study, and will still be kept that way for two years after the publication of the study. Access to the secondary study dataset was restricted to the PI, the co-supervisor and the academic supervisor. The dataset was not shared with any other person.

2.8 Summary

This study employed secondary data analysis of a cross-sectional survey conducted among 2 042 women aged 15-49 years, attending six low-income urban clinics in Harare at 10 days or 6 weeks post-natal during the period May-September 2011. Information from women was obtained using interviewer-administered (face-to-face) structured-questionnaire in the local language- Shona, with a 97.1% response rate. The sample size for secondary data analysis was $n = 1\,951$ for women with a known HIV sero-status. The variables of interest were; socio-demographic characteristics, with relationship power as the explanatory variable, and other factors, and HIV sero-status as the dependent variable. HIV results were based on HIV rapid tests done at the six clinics during ANC. The clinics used the rapid tests. Multivariable logistic regression analyses were tested to determine the relationship between relationship power and HIV sero-status.

CHAPTER THREE: RESULTS

This section presents the results from the 2042 women who participated in the primary study. Socio-demographic characteristics of the entire sample are presented. However, there were 91 women with an unknown HIV status. These women were dropped from subsequent univariate and multivariable analyses.

3.1 HIV Sero-Status among all the Women

The HIV sero-status of the 2042 postnatal women studied is shown on *Table 4*. The majority (80.9%, $n=1\ 652$) of women were HIV negative, 14.6% ($n=299$) were HIV positive and 4.5% ($n=91$) had an unknown HIV status.

Table 4: HIV Sero-Status of all the Antenatal Women

CHARACTERISTIC	FREQUENCY (n)	PERCENTAGE (%)
HIV sero-status $n=2,042$		
Negative	1,652	80.9
Positive	299	14.6
Unknown	91	4.5

3.2 Socio-Demographic characteristics of all Women

The demographic characteristics of the respondents are shown on *Table 5*. The mean age of the women was 26 years ($SD=5.8$). Results show that almost all the women studied had attended school with 84.0% ($n=1\ 711$) of the participants having reached a secondary level of education. Most of the women were married (88.2%, $n=1\ 800$). More than two-thirds were unemployed (70.1%, $n=1\ 421$).

Table 5: Socio-Demographic Characteristics of All the Women attending Post-natal Care

CHARACTERISTIC	FREQUENCY (n)	PERCENTAGE (%)
Age (years) $n=2,042$		
15-19	230	11.3
20-25	815	40.0

	26-30	555	27.2
	31-35	287	14.1
	36+	151	7.4
Mean (SD)	26(5.8)		
Marital Status <i>n=2,041</i>			
	Married	1,800	88.2
	Not Married	241	11.8
Education level <i>n=2,037</i>			
	Primary	148	7.3
	Secondary	1,711	84.0
	Tertiary	178	8.7
Work Status <i>n=2,027</i>			
	Employed	606	29.9
	Not Employed	1,421	70.1

3.2.1 Socio-Demographic Characteristics of all Women by HIV Status

Ninety-one women had an unknown HIV status. We show the socio demographic characteristics of all the women by HIV status on *Table 6*. There was a significant association between HIV status and marital status ($p<0.01$). The majority of the women were married (89.4%, $n=1\ 800$); of the married women 13.5% ($n=243$) were HIV positive and 23.2% of the unmarried women were HIV positive. HIV status and educational level were statistically significantly associated ($p=0.01$). The majority of the women had attained a secondary level of education (84.0%, $n=1\ 711$). Among the women with secondary education, 14.4% ($n=247$) were HIV positive. Almost half of the women with an unknown HIV status (5.0%, $n=41$) were aged between 20-25 years, while 4.4% ($n=80$) of these women with an unknown HIV status were married and 4.2% ($n=72$) had attained a secondary level of education. There were no significant differences between HIV status and age ($p=0.29$) or employment status ($p=0.75$).

Table 6: Socio-Demographic Characteristics by Women's HIV Status

CHARACTERISTIC		NEGATIVE HIV STATUS		POSITIVE HIV STATUS		UNKOWN HIV STATUS		χ ² TEST
		n	(%)	N	(%)	n	(%)	P-VALUE
Age (years) <i>n=2,038</i>								0.29
	15-19	196	85.2	25	10.9	9	3.9	
	20-25	667	81.8	107	13.1	41	5.0	
	26-30	443	79.8	91	16.4	21	5.8	
	31-35	225	79.4	48	16.7	14	4.9	
	36+	117	77.5	28	18.5	6	4.0	
Marital Status <i>n=2,041</i>								<0.01
	Married	1,477	82.1	243	13.5	80	4.4	

	Not Married	174	72.7	56	23.2	11	4.6	
Education level <i>n=2,037</i>								0.01
	Primary	108	73.0	33	22.3	7	4.7	
	Secondary	1,392	81.4	247	14.4	72	4.2	
	Tertiary	149	83.7	17	9.5	12	6.7	
Work Status <i>n=2,027</i>								0.75
	Employed	490	81.1	92	14.4	24	4.6	
	Not Employed	1,152	80.9	204	15.2	65	4.0	

3.2.2 Socio-Demographic Characteristics by Known HIV Status

Table 7 presents associations between socio-demographic characteristics of the women by HIV status, after dropping women with an unknown HIV status from further analysis. Marital status maintained a significant association with women's HIV status ($p<0.01$). The majority the women with a known HIV status were married. Among the married women with a known HIV status, 14.1% ($n=243$) were HIV positive. Unmarried women were significantly more likely to be HIV positive than married women (24.4% vs. 14.1 %). Education level also maintained a significant association with women's HIV status ($p=0.01$). HIV positivity decreased with increase in educational level. Women who had attained a tertiary level of education were more than twice less likely to be HIV positive compared to women who completed primary education only (10.2% vs. 23.4%). Women with tertiary education were also significantly less likely to be HIV positive than women with secondary education (10.2% vs. 15.1%). Women's age ($p=0.09$) and their employment status ($p=0.67$) maintained a non-significantly associated with women's HIV status after dropping women of unknown status.

Table 7: Association between Women's Socio-Demographic Characteristics and Known HIV Status

CHARACTERISTIC		HIV STATUS		X ² TEST
		NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Age (years) <i>n=1,947</i>				0.09
	15-19	196 (88.7)	25 (11.3)	
	20-25	667 (88.2)	107 (13.8)	
	26-30	443 (83.0)	91 (17.0)	
	31-35	225 (82.4)	48 (17.6)	
	36+	117 (80.7)	28 (19.3)	
Marital Status <i>n=1,946</i>				<0.01
	Married	1,477 (85.9)	243 (14.1)	
	Not Married	174 (75.7)	56 (24.4)	
Education level <i>n=1,946</i>				0.01
	Primary	108 (76.6)	33 (23.4)	
	Secondary	1,392 (84.3)	247 (15.1)	
	Tertiary	149 (89.8)	17 (10.2)	

Work Status n=1,938			0.67
Employed	490 (85.0)	92 (15.0)	
Not Employed	1,152 (84.2)	204 (15.8)	

3.3 Sexual History Factors, Relationship Characteristics and HIV Status

3.3.1 Age Difference with Current/ Most Recent Partner and HIV Status

Results for the difference in age between the women and their current/ most recent partners are shown by HIV status on *Table 8*. Age difference with a partner was significantly associated with the women's HIV status ($p<0.01$). Most of the women had an age difference of less than ten years with their partners (88.2%, $n=1\ 711$), of the women with partners less than ten years older, 13.6% ($n=204$) were HIV positive. Women who had an age difference of ten years or more with their current/ most recent partner were significantly more likely to be HIV positive than women with an age difference of less than ten years (21.0% vs. 13.6%).

Table 8: Association between Women and Partner's Age Difference and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Age difference between woman and partner n=1,939			<0.01
Less than 10 years	1,296(89.6)	204(13.6)	
10 years and more	347(74.0)	92(21.0)	

3.3.2 Forced First Sex (Including Rape) Before Age of Fifteen Years and HIV Status

There was a significant association between women who experienced forced first sex (including rape) before age of fifteen years and being HIV positive ($p<0.01$). Results regarding forced first sex (including rape) before the age of fifteen years show that 15.4% ($n=299$) of the participants reported experiencing forced sex (including rape) before the age of fifteen. Among the women who reported forced first sex (including rape) before the age of fifteen years, 22.4% ($n=67$) were HIV positive. Women who reported experiencing forced sex before the age of fifteen (including rape) were more likely to be HIV positive than those

who did not experience it (22.4% vs. 14.1%). These results categorised by HIV status are presented on *Table 9*.

Table 9: Association between Forced First Sex (Including Rape) Before the Age of 15 Years and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Forced First sex including rape before age of 15 years <i>n=1,945</i>			<0.01
Yes	232(77.6)	67(22.4)	
No	1,414 (85.9)	232 (14.1)	

3.3.3 Treated/ Ever Diagnosed with an STI during Pregnancy, Transactional Sex and HIV Status

Ever being treated/ diagnosed with an STI during most recent pregnancy and ever being involved in any transactional sexual activities with main partner results are shown by HIV status in *Table 10*. Results show that 307 women reported ever being involved in transactional sex, of these women; 26.7% (*n*=82) were HIV positive. A proportion of 6.3% (*n*=123) women reported ever being treated/ diagnosed with a sexually transmitted infection during their most recent pregnancy, 47.2% (*n*=58) of these women were HIV positive.

Results show that ever being involved in transactional sex with main partner was significantly associated with the women's HIV status ($p<0.01$). Women who reported ever being involved in transactional sex activities with main partner were twice as likely to be HIV positive (26.7% vs. 13.2%). Ever being treated or diagnosed with an STI during recent pregnancy was also significantly associated with the women's HIV status ($p<0.01$). Participants who reported ever being treated or diagnosed with an STI during recent pregnancy were significantly less likely to be HIV positive (47.2% vs. 13.2%).

Table 10: Association between Transactional Sex Activities, STIs and HIV Status

FACTOR	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Transactional sex activities with main sexual partner <i>n=1,954</i>			<0.01
Ever	255 (73.3)	82 (26.7)	

	Never	1,427 (86.6)	217 (13.2)	
Treated/ Diagnosed with an STI during recent pregnancy <i>n=1,940</i>				<0.01
	Ever	65 (52.9)	58 (47.2)	
	Never	1,577 (86.8)	240 (13.2)	

3.3.4 Ever Used A Condom with their Current/ or Most Recent Partner and HIV Status

Ever condom uses with main partner results by HIV status are shown on *Table 11*. Ever having used a condom with current/ most recent partner was significantly associated with the women's HIV status ($p<0.01$). Results show that there were 47.0% ($n=910$) women who reported ever using a condom, of these women 19.7% ($n=179$) were HIV positive. Women who had ever used a condom with current or most recent partner were more likely to be HIV positive (19.7% vs. 11.5%) than women who had never used one.

Table 11: Association between Ever Condom Use with main Partner and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Condom use with current/ most recent partner <i>n=1,938</i>			<0.01
Ever	731 (80.3)	179 (19.7)	
Never	910 (88.5)	118 (11.5)	

3.4 Alcohol Use and HIV Status

Results for the association between women's alcohol consumption patterns and HIV status are shown on *Table 12*. Most women reported never consuming any alcohol in the past twelve months before their most recent pregnancy (93.5%, $n=1\ 819$). Alcohol use during the 12 months before the most recent pregnancy was significantly associated with the women's HIV status ($p<0.01$). Among women who reported consuming alcohol in the twelve months before their most recent pregnancy; about one in twenty (5.1%, $n=100$) women reported drinking alcohol on a low frequency of these women who consumed alcohol on a low frequency; of these women 29.0% ($n=29$) were HIV positive. There were 1.4% ($n=27$) women who reported drinking alcohol more frequently in the twelve months before their most recent pregnancy, of these women, 18.5% ($n=5$) were HIV positive. Women who consumed

alcohol less frequently in the twelve months before their most recent pregnancy were more likely to be HIV positive compared to women who consumed alcohol more frequently (29.0% vs.18.5%), or compared to women who never consumed any alcohol (29.0% vs.14.6%).

Alcohol use during most recent pregnancy was significantly associated with the women's HIV status ($p=0.01$). A proportion of 5.9% ($n=144$) women reported consuming alcohol less frequently during the most recent pregnancy. These women who consumed alcohol less often; 26.3% ($n=30$) were HIV positive. There were 0.9% ($n=18$) women who reported drinking alcohol more frequently during the most recent pregnancy were, of which 11.1% ($n=2$) had an HIV positive status. Women who consumed alcohol more frequently during the most recent pregnancy were less likely to be HIV positive than women who consumed alcohol less often (26.3% vs.11.1%) or compared to women who never consumed and alcohol (26.3% vs. 14.7%).

Table 12: Association between Women's alcohol Use and HIV Status

CHARACTERISTIC	HIV STATUS		P-VALUE
	NEGATIVE n (%)	POSITIVE n (%)	FISHER'S EXACT TEST
Alcohol use during past 12 months before most recent pregnancy <i>n=1,946</i>			<0.01
Never	1,554 (85.4)	265 (14.6)	
Low frequency	71 (71.0)	29 (29.0)	
High frequency	22 (81.5)	5 (18.5)	
Alcohol use during pregnancy <i>n=1,947</i>			0.01
Never	1,548 (85.3)	267 (14.7)	
Low frequency	84 (73.7)	30 (26.3)	
High frequency	16 (88.9)	2 (11.1)	

3.5 Control and Decision-Making in Intimate Relationships and HIV

3.5.1 Control during Current/ or Most Recent in Intimate Relationships and HIV Status

Distribution of control in current/ or most recent intimate relationship by HIV status is shown on *Table 13*. Level of control in intimate relationships was statistically significantly associated with the women's HIV status ($p<0.01$). About a third (23.1%, $n= 433$) of women reported no control in their current/ most recent intimate relationships, among these

women who reported very limited control 11.8% ($n=51$) were HIV positive. Those who reported low control were 32.4% ($n=607$). About a quarter of the women reported medium control (23.3%, $n=435$), of these women with medium control in their intimate relationships, 15.6% ($n=68$) were HIV positive. Among the women who reported high level control (21.2%, $n=396$) in their intimate relationships, 20.7% ($n=82$) were HIV positive. The likelihood of a women being HIV positive increased with an increase in the level of intimate relationship control. Women who experienced no control in their intimate relationships were significantly less likely to be HIV positive compared to women with some level on control in their intimate relationships: low control (11.8% vs. 14.2%), medium control (11.8% vs. 15.6%) and high control (11.8% vs. 20.7%).

Table 13: Association between Control in Intimate Relationships and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Level of Control in Intimate Relationships <i>n=1,871</i>			<0.01
No control	382 (88.2)	51 (11.8)	
Low control	382 (85.8)	86 (14.2)	
Medium control	367 (84.4)	68 (15.6)	
High control	367 (79.3)	82 (20.7)	

3.5.2 Decision-making to Become Pregnant For the Most Recent Pregnancy and HIV Status

Results on the decision-making to become pregnant for the most recent pregnancy and HIV status are displayed on *Table 14*. The variable- who made the decision to fall pregnant for the most recent pregnancy was statistically associated with the women's HIV status ($p=0.01$). Results show that a higher proportion of the decisions about the most recent pregnancy were mutual between the woman and her partner (41.1%, $n=802$). Among women who had a mutual decision about the most recent pregnancy 13.3% ($n=107$) were HIV positive. There were 27.6% ($n=588$) women who reported an unplanned most recent pregnancy, of these women who had unplanned pregnancies 16.5% ($n=89$) were HIV positive. Women who reported that their most recent pregnancy decision was made by their partner alone were 23.6% ($n=462$), of these women 19.3% ($n=89$) were HIV positive. Women who reported that they had made the most recent pregnancy decision independently were 7.6% ($n=149$), of these women who had made an independent decision 9.4% ($n=14$) were HIV positive.

Women who had made the decision to become pregnant independently for the most recent pregnancy were less likely to be HIV positive than those who made a mutual decision with their partner (9.4% vs.13.3%), as well as comparing them to those women whose decision was made by the partner alone (9.4% vs. 19.3%) or those who reported an unplanned pregnancy (9.4% vs. 16.5%).

Table 14: Association between Decision to Become Pregnant for the Most Recent Pregnancy and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Decision to become pregnant for the most recent pregnancy n=1,951			0.01
Unplanned	449 (83.5)	89 (16.5)	
Woman	135 (90.6)	14(9.4)	
Partner	373 (80.7)	89 (19.3)	
Both Woman and Partner	695 (86.7)	107 (13.3)	

3.5.3 Partner Ever Refused a Method of Family Planning and HIV Status

Table 15 shows current/ or most recent husband/ partner ever refusing use of a family planning method results by HIV status. Partner ever refusing a family planning method was significantly associated with the women's HIV status ($p<0.01$). The table of results shows that nearly one in every twenty women (6.0%, $n=116$) reported that their current/ or most recent husband/or partner had refused them to use a family planning method. Among the women who had been refused use of a family planning method, 29.3% ($n=34$) were HIV positive. Women with a partner who had ever refused use of a family planning method were significantly more likely to be HIV positive compared to women whose partners had not refused use of a family planning method (29.3% vs.14.5%).

Table 15: Association between Partner Ever Refusing a Family Planning Method and HIV Status

CHARACTERISTIC	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Partner ever refused a family planning method n=1,941			<0.01
Ever	82 (70.7)	34 (29.3)	
Never	1,561 (85.5)	264 (14.5)	

3.5.4 Type and Temporality of IPV and HIV Status

Women were also asked to report on their experiences about physical and/ or sexual IPV. These results by HIV status are displayed on *Table 16*. The results show that over a third (35.2%, $n=686$) of the women had never experienced physical and or sexual violence. Among these women who had never experienced physical and or sexual violence, 13.9% ($n=95$) were HIV positive. Almost a quarter (23.3%, $n=467$) of the women had experienced both physical and sexual violence, of these women who had experienced both physical and sexual violence, 21.4% ($n=100$) were HIV positive. There were 27.7% ($n=541$) women who reported to have experienced sexual violence only, of these women 12.6% ($n=68$) were HIV positive. Participants who had experienced both physical and sexual violence were more likely to be HIV positive than those who experienced physical only (21.4% vs. 14.0%) or sexual only (21.4% vs. 12.6%).

Categorizing physical and or sexual intimate partner violence by whether the women had experienced it in the past (12 months before most recent pregnancy), showed that more than half (54%, $n=1\ 054$) of the women reported not experiencing physical and or sexual violence in the past. Among these women who reported not experiencing physical and or sexual violence in the past, 14.1% ($n=149$) were HIV positive. Almost one-fifth (24.7%, $n=482$) of the participants reported experiencing past sexual violence only, of these women who had sexual violence only 15.8% ($n=76$) were HIV positive. A tenth of the women reported experiences of past physical violence only.

Experiences of current (during most recent pregnancy) physical and or sexual violence results showed that more than half (54.0%, $n=1,053$) of the women had not experienced physical and or sexual violence during their most recent pregnancy. Women who reported having experienced sexual violence only during their most recent pregnancy were 30.2% ($n=590$). Among women who reported having experienced sexual violence only 13.9% ($n=82$) were HIV positive. Women who reported both current physical and sexual violence and those who reported current physical violence were 8.5% ($n=165$), of these women who reported both current physical and sexual violence, 21.2% ($n=35$) were HIV positive.

Results on temporality (past and present) of both physical and sexual intimate partner violence showed that 88.5% ($n=1\ 726$) of women who had never experienced violence at

any particular period. There were 5.7% ($n=112$) women who reported experiencing past physical and sexual violence, of these women who reported past physical and sexual violence, 11.6% ($n=13$) were HIV positive. Current physical and sexual violence was experienced by 3.3% ($n=64$) of the women, among these women 17.2% ($n=11$) were HIV positive. A proportion 2.5% ($n=49$) of women had experienced on-going physical and sexual intimate partner violence, among these women 20.4% ($n=10$) had an HIV positive status. Experiencing physical-sexual violence before pregnancy ($p=0.11$), experiencing physical-sexual violence during pregnancy ($p=0.09$), and the temporality of intimate partner violence ($p=0.51$) were not significantly associated with the women's HIV status.

Table 16: Association between Intimate Partner Violence type and temporality and HIV Status

INTIMATE PARTNER VIOLENCE	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	p-VALUE
Physical-Sexual violence (ever) n=1,951			<0.01
Never	591 (86.2)	95 (13.9)	
Physical only	221 (86.0)	36 (14.0)	
Sexual only	473 (87.4)	68 (12.6)	
Physical & or Sexual	367 (78.6)	100 (21.4)	
Physical-Sexual Violence 12 months before recent pregnancy (past) n=1,951			0.11
Never	905 (86.9)	149 (14.1)	
Physical only	178 (85.2)	31 (14.8)	
Sexual only	406 (84.2)	76 (15.8)	
Both Physical & Sexual	163 (79.1)	43 (20.9)	
Physical-Sexual Violence during most recent pregnancy (current) n=1,951			0.09
Never	897 (85.2)	156 (14.8)	
Physical only	117 (81.2)	26 (18.2)	
Sexual only	508 (86.1)	82 (13.9)	
Both Physical & Sexual	130 (78.8)	35 (21.2)	
Temporality of Intimate Partner Violence n=1,951			0.51
Never	1,461 (88.7)	265 (15.3)	
Past physical & Sexual	99 (88.4)	13 (11.6)	
Current physical & Sexual	53 (82.8)	11 (17.2)	
Past & Current Both Physical & Sexual	39 (79.6)	10 (20.4)	

3.5.5 Scales Measuring Women's Attitudes towards Wife Beating and Sex Refusal and HIV Status

Scales measuring women's attitudes towards wife beating and attitudes towards a married woman being able to refuse her husband sex are presented by HIV status on *Table 17*. The table shows that almost half of the women (48.2%, $n=912$) believed that wife beating was not acceptable at all. Among women who believed that wife beating was not acceptable, 20.9% ($n=42$) had an HIV positive status. Two-fifths of the women (41.2%, $n=780$) believed that it was sometimes acceptable for a wife to be beaten by her husband, of these women who believed that it was sometimes acceptable, 14.9% ($n=116$) were HIV positive. Results also show that 35.0% ($n=651$) of the women believed that a woman can sometimes refuse her husband sex. Among these women believed that a woman can sometimes refuse sex, 16.3% ($n=74$) were HIV positive. Women who believed that a woman can rarely refuse her husband sex were 26.0% ($n=488$), of these women who believed that woman can rarely refuse; 15.1% ($n=91$) were HIV positive. A fifth (20.8%, $n=390$) of the women believed that a woman can never refuse her husband sex, among these women 16.7% ($n=56$) were HIV positive. Beliefs towards wife beating ($p=0.07$) and those towards a married woman ever refusing her husband sex ($p=0.67$) were not significantly associated with the women's HIV status.

Table 17: Association between Women's Beliefs towards Wife Beating and Refusing Husband Sex and HIV Status

BELIEF	HIV STATUS		X ² TEST
	NEGATIVE n (%)	POSITIVE n (%)	P-VALUE
Man beating his wife <i>n=1,893</i>			0.07
Believes that wife beating under some circumstances is:			
Never Acceptable	159 (79.1)	42 (20.9)	
Sometimes Acceptable	664 (85.1)	116 (14.9)	
Often Acceptable	780 (85.5)	132 (14.5)	
Married woman ever refusing her husband sex <i>n=1,877</i>			0.67
Believes that a wife can:			
Never refuse sex	279 (83.3)	56 (16.7)	
Rarely refuse sex	528 (84.9)	91 (15.1)	
Sometimes refuse sex	381 (83.7)	74 (16.3)	
Often refuse sex	327 (86.3)	52 (13.7)	

3.6 Relationship between Socio-demographic, Behavioural and Covariate factors, and HIV Status

Results from the bivariate analyses (unadjusted/ crude odds ratios) of all the variables by HIV sero-status are displayed on *Table 18*. The following were significantly associated with HIV status in the bivariate analyses: socio-demographics: age- 36 years and above ($p=0.04$), education level and marital status ($p<0.01$). Relationship Power factors: high control in intimate relationships ($p<0.01$), women's decision about most recent pregnancy ($p=0.03$), partner ever refused use of any method of family planning ($p<0.01$), and attitudes towards wife beating; sometimes acceptable ($p=0.04$) and often acceptable ($p=0.02$). Behavioural factors: alcohol use; high frequency of alcohol consumption before pregnancy ($p<0.01$), alcohol consumption during pregnancy; low frequency ($p<0.01$) and high frequency ($p=0.01$), ever engaging in transactional sex with main partner ($p<0.01$), ever condom use with current/ most recent partner ($p<0.01$) and the presence of both physical and sexual violence during any time period; past ($p=0.02$) and current ($p=0.04$).

3.6.1 Socio-Demographic Characteristics by HIV Status

Table 18 shows that the odds of being HIV positive increased as the women's age increased. There was a significant association between being older and being HIV positive. Women aged 36 years and above were almost twice as likely to be HIV positive than the younger women aged between 15-19 years (OR 1.89, 95% CI 1.04 -3.37). A higher level of education was protective against HIV positivity; women with a secondary or tertiary level of education were less likely to be HIV positive (OR 0.58, 95% CI 0.38-0.87). Marriage was also protective against HIV infection, married women were twice times less likely to be HIV positive compared to the unmarried women (OR 0.51, 95% CI 0.37-0.71).

3.6.2 Sexual History Factors, Relationship Characteristics and HIV Status

Women who had experienced forced first sex (including rape) before the age of fifteen years had higher odds of being HIV positive, compared to those who did not experience forced first sex (including rape) before the age of fifteen years (OR 1.76, 95% CI 1.29- 2.39). These results are shown on *Table 18*. Women with an age difference of ten years and more with

their partners were twice as likely to be HIV positive, than women with an age difference of less than ten years (OR 2.05, 95% CI 1.48).

Women who reported less alcohol consumption frequency in the past before their most recent pregnancy were more than twice as likely to be HIV positive, than those who did not consume at all (OR 2.40, 95% CI 1.53- 3.76). Drinking alcohol during pregnancy was protective against HIV positivity. Women who reported consuming alcohol more frequently during their most recent pregnancy had 0.41 less odds of being HIV positive than those who did not consume any alcohol at all during their most recent pregnancy (OR 0.59, 95% CI 0.39- 0.90). Those who consumed alcohol occasionally during their most recent pregnancy were 0.38 times less likely to be HIV positive (OR 0.38, 95% CI 0.20-0.72).

Women who reported ever involved in transactional sex were 2.4 times more likely to be HIV positive than those who did not (OR 2.40, 95% CI 1.79- 3.20). With regard to ever using a condom with current/ most recent partner; women who reported ever using a condom were nearly twice as likely to be HIV positive compared to those who reported never using a condom (OR 1.89, 95% CI 1.47- 2.43).

Women who reported that they had ever been treated for/or diagnosed of an STI during their most recent pregnancy were nearly six times more likely to be HIV positive compared to those who had not been treated for/ diagnosed of an STI during their most recent pregnancy.

The odds of HIV positivity were higher for women who reported; 'ever' both physical and sexual violence than those who never experienced any violence at all (OR 1.70, 95% CI 1.25- 2.31), past both physical and sexual violence (OR 1.66, 95% CI 1.10- 2.34) and, current both physical and sexual violence (OR 1.50, 95% CI 0.70- 2.87).

3.6.3 Relationship Power Dimensions and HIV Status

Results show that the odds of being HIV positive increased with an increase in the level of control in the intimate relationships. High control in intimate relationships was significantly associated with being HIV positive. Women experiencing high control in intimate relationships were almost twice more likely to be HIV positive than those who experienced no control (OR 1.96, 95% CI 1.34- 2.86). Women who made their own independent decision

about falling pregnant for the most recent pregnancy were 0.48 times less likely to be HIV positive (OR 0.52, 95% CI 0.29- 0.95) than those women with an unplanned most recent pregnancy. Women with partners who had ever refused use of any family planning method were nearly 2.5 times more likely to be HIV positive compared to those whose partners had never refused use of any family planning method (OR 2.45, 95% CI 1.61- 3.73). Women who felt that it was sometimes acceptable (OR 0.66, 95% CI 0.45- 0.98) or who felt it was often acceptable (OR 0.64, 95% CI 0.44 – 0.94), for a wife to be beaten by her husband had less odds of being HIV positive than those who felt the wife beating was never acceptable at all.

Table 18: Bivariate Analysis showing Unadjusted Odds Ratios for all the Variables of Interest against HIV Status

VARIABLE	UNADJUSTED ODDS RATIO	95% CONFIDENCE INTERVAL	P-VALUE
Age (in years)			
15-19	1 ref		
20-25	1.26	0.79-2.00	0.33
26-30	1.61	1.00-2.59	0.05
31-35	1.67	0.99-2.81	0.05
36+	1.89	1.04-3.37	0.04
Education level			
Primary	1 ref		
Secondary	0.58	0.38-0.87	0.01
Tertiary	0.37	0.20-0.70	<0.01
Marital Status			
Not Married	1 ref		
Married	0.51	0.37-0.71	<0.01
Employment Status			
Not Employed	1 ref		
Employed	1.06	0.81-1.39	0.67
Age difference between woman and partner			
Less than 10 years	1 ref		
10 years and more	2.05	1.48-2.85	<0.01
Forced first sex			
No	1 ref		
Yes	1.76	1.29-2.39	<0.01
Transactional sex			
Never	1 ref		
Ever	2.40	1.79-3.20	<0.01
Condom use			
Never	1 ref		
Ever	1.89	1.47-2.43	<0.01
Treated of an STI during pregnancy			
Never	1 ref		
Ever	5.86	4.04-8.57	<0.01
Past use of alcohol before pregnancy			
Never	1 ref		
Low frequency	1.33	0.50-3.55	0.57
High frequency	2.40	1.53-3.76	<0.01
Alcohol use during most recent pregnancy			
Never	1 ref		
Low frequency	0.38	0.20-0.72	<0.01
High frequency	0.59	0.39-0.90	0.01
Control in Intimate relationships			

No Control	1 ref		
Low Control	1.24	0.85-1.79	0.26
Medium Control	1.39	0.94-2.05	0.10
High Control	1.96	1.34-2.86	<0.01
Recent pregnancy making decision			
Unplanned	1 ref		
Woman	0.52	0.29-0.95	0.03
Partner	1.20	0.87-1.67	0.26
Both Woman and Partner	0.78	0.57-1.05	0.11
Partner ever refused family planning			
Never	1 ref		
Ever	2.45	1.61-3.73	<0.01
Physical sexual violence (ever)			
Never	1 ref		
Physical Only	1.01	0.65-1.53	0.10
Sexual Only	0.89	0.64-1.25	0.51
Both Physical and Sexual	1.70	1.25-2.31	<0.01
Physical sexual violence before pregnancy (past)			
Never	1 ref		
Physical Only	1.06	0.70-1.61	0.80
Sexual Only	1.14	0.84-1.54	0.40
Both Physical and Sexual	1.66	1.10-2.34	0.02
Physical sexual violence during pregnancy (current)			
Never	1 ref		0.30
Physical Only	1.28	0.81-2.02	0.30
Sexual only	0.93	0.70-1.24	0.61
Both physical and sexual	1.50	1.03-2.33	0.04
IPV time			
Never	1 ref		
Past Only	0.72	0.40-1.31	0.30
Current Only	1.14	0.59-2.22	0.69
Ongoing (past-current)	1.40	0.70-2.87	0.34
Attitudes towards wife beating			
Never acceptable	1 ref		
Sometimes acceptable	0.66	0.45-0.98	0.04
Often acceptable	0.64	0.44-0.94	0.02
Attitudes towards women refusing husband sex			
Never refuse sex	1ref		
Rarely refuse sex	0.87	0.62-1.27	0.52
Sometimes refuse sex	0.97	0.67-1.42	0.87
Often refuse sex	0.79	0.53-1.19	0.27

3.7 Relationship between Control and Decision-Making in Intimate Relationships and HIV Status

3.7.1 Model 1: Control in Intimate Relationships and HIV Status

While adjusting for other factors in the model, control in intimate relationships was found not to be significantly associated with HIV sero-prevalence in this study. Women aged from 26 to 30 years had 1.99 greater odds of being HIV positive than the younger woman aged

between 15-19 years (aOR 1.99, 95% CI 1.17- 3.40). Married women had 0.39 less odds of being HIV positive than unmarried women (aOR 0.61, 95% CI 0.41-0.90). Attaining a tertiary level of education was protective against HIV infection (aOR 0.50, 95% CI 0.25-0.99).

Women with an age difference of ten years and more with their current/ most recent partner were 1.70 times more likely to be HIV positive compared to those women who had an age difference of less than ten years with their partners (aOR 1.70, 95% CI 1.25-2.30).

Women who reported ever involved in transactional sex activities with their main partners were 1.78 times more likely to be HIV positive, than those who reported not being involved in any transactional sex (aOR 1.78, 95% CI 1.25- 2.50).

Women who reported ever using condoms with their current/ most recent partner were 1.68 times more likely to be HIV positive than those who reported never using condoms with their current/ most recent partner (aOR 1.68, 95% CI 1.27- 2.21). Women who reported being treated/ diagnosed with a STI during their most recent pregnancy were 4.36 times more likely to be HIV positive compared to those who were not treated/ diagnosed for any STI during their most recent pregnancy (aOR 4.36, 95% CI 2.90-6.57). Women who consumed alcohol less frequently (1-3 times a month, occasionally or less than once a month) before their most recent pregnancy were almost twice as likely to be HIV positive compared to those women who did not consume any alcohol before their most recent pregnancy (aOR 1.95, 95% CI 1.18-3.22).

3.7.2 Model 2: Decision about Most Recent Pregnancy and HIV Status

Decision to fall pregnant for most recent pregnancy was also found not to be significantly associated with HIV prevalence while adjusting for other factors in the regression model.

Women who were aged from 26 to 36 years and above were twice more likely to be HIV positive than the younger women aged 15-19 years. Married women had 0.36 less odds of being HIV positive than unmarried women (aOR 0.64, 95% CI 0.43-0.94). Respondents who had an age difference of ten years and more between them and their partners were 1.72 times more likely to be HIV positive, than those who had an age difference of less than ten years with their partners (aOR 1.72, 95% CI 1.28- 2.30).

Women who reported ever involved in any transactional sex activities with their main sexual partners were 1.78 times more likely to be HIV positive than women who were not involved

in transactional sex (aOR 1.78, 95% CI 1.25- 2.50). Women who reported ever condom use with their current/ most recent partner had 1.68 greater odds of being HIV positive, compared to women who said they never used condoms at all their current/ most recent partner (aOR 1.68, 95% CI 1.28-2.21). And, women who reported ever being treated for/ diagnosed of an STI during their most recent pregnancy were 4.36 times more likely to be HIV positive compared to those who were not treated for any STI during their most recent pregnancy (aOR 4.36, 95% CI 2.90-6.57). Participants who consumed alcohol less frequently before their most recent pregnancy were nearly twice as like to be HIV positive compared to those who did not consume any alcohol before their most recent pregnancy (aOR 1.95, 95% CI 1.18-3.22).

3.7.3 Model 3: Partner Ever Refused any Family Planning Method and HIV Status

While adjusting for factors constant in the model; the variable partner ever refusing use of any family planning method was significantly associated with women's HIV positive status. Women with current or most recent partners who had ever refused a family planning method had 1.75 greater odds of being HIV positive than women whose partners had never refused use of any family planning method (aOR 1.75, 95% CI 0 1.10-2.78). Women aged between from 26 to 36 years and above were twice more likely to be HIV positive than the younger women aged 15-19 years. Married women had 0.38 less odds of being HIV positive than unmarried women (aOR 0.62, 95% CI 0.42-0.91). Women who had an age difference of ten years and more with their partners were 1.72 times more likely to be HIV positive, than those who had an age difference of less than ten years with their partners (aOR 1.72, 95% CI 1.28-2.30).

Participants who reported ever involvement in transactional sex were 1.68 times more likely to be HIV positive than those who never involved in transactional sex (aOR 1.68, 95% CI 1.20-2.35). Women who reported being treated or diagnosed of an STI during their most recent pregnancy were nearly five times more likely to be HIV positive, compared to those who were never treated or diagnosed of any STIs during their most recent pregnancy (aOR 4.90, 95% CI 3.32-7.37). Respondents who reported drinking alcohol less frequently before their most recent pregnancy were almost twice as likely to be HIV positive, than those who did not drink any alcohol before their most recent pregnancy (aOR 1.94, 95% CI 1.20-3.16).

Table 19: Multivariable Logistic Regression Models Showing Independent Variables Adjusted Odds Ratios for HIV Status

Model 1 : Control in Intimate Relationships as the main exposure variable n=1 871, p<0.01				Model 2: Most Recent Pregnancy Decision as the main exposure variable n=1 905, p<0.01				Model 3: Partner Ever Refused any FP* Method as the main exposure variable n=1 901, p<0.01			
HIV	Adjusted Odds Ratio	95% Conf. Interval	p-Value	HIV	Adjusted Odds Ratio	95% Conf. Interval	p-Value	HIV	Adjusted Odds Ratio	95% Conf. Interval	p-Value
Control in Intimate Relationships				Decision about most recent pregnancy				Current/ most recent partner ever refused a FP method			
No Control	1 ref			Unplanned	1 ref			No	1 ref		
Low Control	1.11	0.75-1.65	0.59	Woman	0.54	0.29-1.02	0.06	Yes	1.75	1.10-2.78	0.02
Medium Control	1.21	1.80-1.84	0.37	Both Woman and Partner	1.24	0.87-1.76	0.24				
High Control	1.25	0.82-1.91	0.30	Partner	1.01	0.72-1.42	0.94				
Age (in years)											
15-19	1 ref										
20-24	1.41	0.85-2.36	0.18		1.48	0.90-2.44	0.13		1.48	0.89-2.45	0.13
25-29	1.99	1.17-3.40	0.01		2.30	1.20-3.42	0.01		2.10	1.24-3.53	0.01
30-35	1.78	0.99-3.20	0.05		1.91	1.07-3.40	0.03		1.98	1.12-3.52	0.02
36+	1.78	0.91-3.46	0.09		2.00	1.05-3.84	0.04		2.15	1.13-4.08	0.02
Marital Status											
Not married	1 ref										
Married	0.61	0.41-0.90	0.01		0.64	0.43-0.94	0.02		0.62	0.42-0.91	0.02
Education Level											
Primary	1 ref										
Secondary	0.64	0.41-1.02	0.06		0.65	0.42-1.02	0.06		0.67	0.43-1.06	0.08
Tertiary	0.50	0.25-0.99	0.05		0.51	0.26-1.00	0.05		0.53	0.27-1.05	0.07
Age difference between woman and partner											
Less than 10 years	1 ref										
10 years and more	1.70	1.25-2.30	<0.01		1.86	1.33-2.41	<0.01		1.72	1.28-2.30	<0.01
Forced first sex (including rape) before age of 15yrs											
No	1 ref										
Yes	1.34	0.94-1.90	0.11		1.41	1.00-2.00	0.05		1.30	0.92-1.83	0.13
Transactional sex											
Never	1 ref										
Ever	1.78	1.25-2.50	<0.01		1.78	1.28-2.21	<0.01		1.68	1.20-2.35	<0.01
Ever condom use with current/ most recent partner											
Never	1 ref										
Ever	1.68	1.27-2.21	<0.01		1.68	1.28-2.21	<0.01				
Treated/ diagnosed of an STI during most recent pregnancy											
Never	1 ref										
Ever	4.36	2.90-6.57	<0.01		4.52	3.03-6.75	<0.01		4.90	3.32-7.37	<0.01
Alcohol consumption before most recent pregnancy											
Never	1 ref										
Low frequency	1.95	1.18-3.22	0.01		1.84	1.12-3.03	0.02		1.94	1.20-3.16	0.01
High frequency	0.56	0.16-2.02	0.38		0.56	0.16-2.03	0.38		0.67	0.19-2.41	0.54

3.8 Summary

Findings from this study show that the mean age of the study sample was 26 years (SD=5.8). A proportion of 80.9% ($n=1\ 652$) of the women were HIV negative, 14.6% ($n=299$) were HIV positive and 4.5% ($n=91$) had an unknown HIV status. In the bivariate analysis marital status ($p<0.01$) and education were significantly associated with women's HIV status, while age ($p=0.09$) and employment ($p=0.67$) were not. After adjusting for other factors in the multivariable logistic regression models; no significant association was found between control in intimate relationships and HIV sero-prevalence, as well as for the variable decision about most recent pregnancy. However, having a partner who ever refused use of any family planning method was significantly associated with the women's HIV positive status (aOR 1.75, 95% CI 1.10-2.78).

CHAPTER FOUR: DISCUSSION

This section of the paper discusses the findings of this study: control and decision-making in intimate relationships and HIV sero-prevalence among low income urban Zimbabwean women, as well as, the relevance of these findings to literature in the similar field. Results in this study should be interpreted with caution because they do not represent a causal relationship between relationship power and HIV. To measure causation, we propose a longitudinal study where HIV occurrences can be measured after relationship control and decision-making. However, studies on power in intimate relationships and their linkages to HIV are limited in Zimbabwe; this study seeks to close the gap in evidence. In this analysis we sought to determine the correlation between control and decision-making in intimate relationships and HIV sero-prevalence among post-natal women aged between 15-49 years attending six low-income urban clinics in Harare, Zimbabwe during the period May-September 2011. The chapter is concluded by a presentation of the limitations of the study.

4.1 HIV Sero-Prevalence

The study found HIV prevalence among the women attending ANC to be high. One out of seven of the women were HIV positive (14.6%, $n=299$). An earlier study in 2011- Zimbabwe, found HIV-1 prevalence among women attending ANC to be almost 16% (109). This difference might be explained by a confirmed decrease in HIV prevalence in the country (7). In our sample, HIV prevalence for women of reproductive age (14.6%), was also lower than the national HIV prevalence on women of the same age group (18%) (7). In Harare where the study was carried out, the metropolitan province has the lowest HIV prevalence in the country; hence it is bound to have an even lower HIV prevalence among women of reproductive age than our sample prevalence. However, the sample used in the study is a high risk group, because pregnant women may not be the same as other women in the general population. The discrepancy between the sample HIV prevalence and the national prevalence could also have resulted from the two surveys using different populations and being conducted in different settings. The national prevalence data is from the ZDHS 2010-11, which is a nationally representative survey, including data on all women of reproductive age, while the primary cross-sectional survey was conducted in selected health care facilities in Harare, Zimbabwe among post-natal women during the period May-September 2011.

4.2 Socio-Demographic Characteristics of Women's and HIV Status

A third of the women who were HIV positive were aged between 20-25 years. The HIV prevalence in this age group was higher than the national prevalence where reproductive women of the similar age group (20-24 years) had an HIV prevalence of 10.6% (7). Young women aged between 15-29 years are said to be most vulnerable to HIV infection in Zimbabwe (38). Among women, HIV prevalence is extremely high during the late teenage years and early 20s (39), our data shows a similar trend. Also, odds of being HIV positive increased with increase in age during bivariate analysis. These trends are similar to global patterns of HIV prevalence (17).

Marital status was associated with HIV prevalence in this study. However, it is important to note that married women were disproportionately higher in the study sample. Our finding is consistent with other studies which found marital status to be risk factor for HIV infection (40, 42, 43, 48). This study found that women who were not married were twice as likely to be infected with HIV. Our findings are similar to findings from other studies conducted in Zimbabwe which found single women to have greater odds of being HIV infected compared to currently married women (46, 47). Another Zimbabwean study confirmed this evidence by finding that single women at ANC were more likely to be HIV positive (48). There are consistencies in studies having found marital status as risk factor for HIV. However, discrepancies in evidence also exist on which status between being married or not being married, stands as a risk factor for HIV infection. In this study marriage was found to be associated with a decreased risk of being HIV positive, which is consistent with other Zimbabwe studies (46, 47). This means that marriage was a protective factor from HIV infection in our study. On the contrary other studies have found marriage to be a risk factor for HIV infection (42, 43). A study on couples in urban Zambia and Rwanda, using an expanded model found 60.3% to 94.2% of new heterosexually transmitted HIV infections to occur within steady relationships such as marriage or cohabitation, and attributed the risk to lower condom use reported in these relationships (42). These findings might mean that in Zimbabwe unmarried women are more likely to be HIV positive, unlike in other Sub-Saharan countries like Zambia and Kenya where the opposite is true. The inconsistencies in evidence means that the relationship between marital status and HIV prevalence is complex, as the risk depends on a number of demographic factors and sexual behavioural practices (40).

Using bivariate analysis, our study found that the level of education was significantly associated with women's HIV sero-positive status. In our study, a higher level of schooling was protective against HIV sero-positivity. On the contrary, other studies have found higher levels of education to be associated with a higher HIV sero-prevalence (110, 111). Furthermore, studies in some African counties have found the probability of acquiring HIV to exponentially increase with increasing educational attainment (52, 53). In this study, women who had attained a tertiary level of education were more than twice less likely to be HIV positive compared to women who completed primary education only. This means that HIV positivity decreased with increase in education level attainment. However, this association was not found in the adjusted models. This might be explained by women with a high (secondary) level of education being disproportionately higher in this population. This evidence although non-significant in the regression models, was observed in a study conducted in a rural Tanzania, which found non-educated respondents to have higher risk of HIV-1 infection in the study population between 1991 and 2005 (112). This would mean that education has an empowering effect. Another study also observed the reversing of previous HIV and education patterns in sub-Saharan Africa, such that; HIV infections appear to be shifting towards higher prevalence among the least educated (110).

Furthermore, employment was not associated with HIV infection in this study. Although, national data shows that HIV prevalence is higher among individuals who are employed (17%) than among those who are not employed (13%) (7).

4.3 Sexual History Factors, Relationship Characteristics and HIV Status

In Zimbabwe, like many other societies young women are involved into inter-generational sexual relationships- sex with older male partners (7). Our study found age difference between sexual partners to be associated with women's HIV positivity. Women with sexual partners who were ten years and above older were significantly more likely to be HIV positive than those whose with partners less than ten years older. This finding is similar to other studies from rural Zimbabwe and Uganda, which found out that an older sexual partner was significantly associated with greater risk of HIV infection among women (39, 60). This association is not as clear cut across different settings and among different age groups. A study in South Africa among women aged 15-24 years found no association between partner age difference and HIV infection (26). Another study among youth in

South Africa had a similar finding (100). Age difference in sexual relationships operates as a determinant of HIV infection by introducing an imbalance of power in intimate relationships, by a mere fact that the man is older (101). Older partners have been found to have more controlling behaviours and make decisions on; condoms use, contraceptives, as well as use violence as a form of control at times (58). The younger the woman is, the greater the power imbalance is likely to be (48). Since, the majority of the women in the study population were married, and it is a common belief in Zimbabwe that within marriage a woman should not question her husband's behaviour and the decisions he makes (23). Corroboration for such behaviours by women themselves increases their vulnerability to HIV, especially where age disparities and the dynamics they bring into an intimate relationship are at play.

The choice to delay first sexual debut is not a decision which many young women have control over (88). A national survey among young people in South Africa found that women were much more likely than men to report that their first sexual experience as forced (28% vs. 1%) (26). We found forced first sex (including rape) before the age of fifteen years to be associated with the risk of HIV infection (OR 1.76, 95% CI 1.29- 2.39). These results conflict with those from a South African study among women presenting for ANC in Soweto, forced first intercourse was found not significantly associated with HIV sero-status (OR 1.07, 95% CI 0.71–1.61) (57). Other studies have found that childhood sexual violence survivors have higher odds of being HIV positive and exhibit high HIV risk behaviours (44, 63, 65). Men have been made to assume that they cannot control themselves sexually due to gender norms and cultural socialization (63). Coercion and rape of women by men has continued to occur throughout history and across all cultures (113). These same gendered social norms and expectations make many women unable to refuse unwanted sexual advances (88). For instance, it is highly likely that non-consensual sex will occur without use of any kind of prophylactic like a condom (63). This increases vulnerability to HIV among coerced and/ or raped women if the perpetrator is HIV positive.

Respondents reporting ever involvement in transactional sexual activities with a main sexual partner were 15.7% ($n=307$). A study in Soweto found an almost similar number of women (21.1%, $n=294$) to report that they had been involved in transactional relationships (57). Transactional sex is motivated by a complex range of life situations ranging from economic

survival to a desire for status and possessions (58). It is commonly associated with unsafe sexual behaviours such as; age mixing and MCSP (68, 71). Our study found transactional sex to be associated with HIV infection (OR 2.40, 95% CI 1.79-3.20). Women who reported ever transactional sexual activities with main partner had more than twice greater odds of being HIV positive. These findings are similar to the Soweto study among women in South Africa which found similar results after adjusting for number of sex partners and duration of being sexually active (OR 1.54, 95% CI 1.07-2.21) (68). This means our transactional sex variable was not a sensitive measure to use, as it did not control for the number of sexual partners and duration a woman had been sexually active. These two factors are essential in the context of transactional sex. Our measure may not be the best, but its association with HIV has been observed in other studies (68). In transactional relationships, sizeable power differentials exist between the person giving the material goods- usually a man, versus the one receiving- usually a woman (65). Power differentials between couples in material exchange relationships shape an individual's ability to negotiate for safer sex; like condom use, and women are usually less powered in negotiation skills (73). This increases their risk of contracting HIV.

The prevalence of gender-power imbalances in African cultures like Zimbabwe, mean that when many women have sex they have limited control and sexual decision-making such as, condom use (88). In this study, women who reported never using a condom with their current or most recent partner were less likely to have an HIV positive status. This evidence is similar with another study, which found in a bivariate analysis that never having used a male condom with a current partner was actually associated with a lower risk for HIV infection, although the association disappeared when controlling for other factors (88). This means the association can be attributed to the nature of the relationships being more stable and 'monogamous'. While, ever having used a condom was likely a proxy for more sexual experience, and higher risk sex (88). In contrast, a cohort study found HIV incidence to be 7.2 per 100 person-years for women who never used condoms (114). Another explanation for our results could be women's HIV sero-positivity might have resulted from a previous relationship many years ago, meaning the woman could have entered the current or most recent relationship already HIV positive. In addition, our measure; ever condom use was not

the best to use. It does not capture the frequency or consistency of condom use, which are both essential to condom efficacy in HIV prevention (88).

4.4 Alcohol Use and HIV

Among alcohol consumers, consuming greater quantities of alcohol at a single sitting result in higher sexual risk behaviours than the frequency of drinking alone (78). Men are more likely to consume alcohol and get involved in higher sexual risk behaviours than women (78). Gender differentials in alcohol consumption for men and women demonstrate one of many ways in which women's vulnerability to HIV infection are often associated with their intimate partner's alcohol consumption. However, in Southern Africa alcohol consumption and consuming greater quantities of alcohol are significantly associated with HIV infection (78). In our study; women who consumed alcohol, though on a low frequency before their most recent pregnancy were twice more likely to be HIV positive than those who never consumed alcohol, in all the three multivariable logistic regression models. These findings are similar with those from a study which found alcohol consumers to significantly have greater odds of being HIV-positive (OR 1.70, 95% CI 1.45–1.99) (80). This phenomenon maybe explained by alcohol use being a sexual dis-inhibitor that may place women at greater risk of being infected by HIV through unsafe sexual activities (44).

4.5 Control and Decision-Making in Intimate Relationships and HIV

Lack of power in heterosexual relationships has been hypothesized to increase vulnerability to HIV infection among women (22, 26, 57, 89). Our study results support this hypothesis as we found a significant strong association between one of the relationship power factors; ability to make decisions- a partner ever refusing use of any family planning method and HIV sero-status.

4.5.1 Intimate Partner Violence and HIV

IPV among women has been found to be significantly associated with a greater risk of HIV infection (44, 57, 59). Almost a quarter (24.0%, $n=467$) of the respondents from the current study reported experiencing both physical and sexual IPV. Violence against women is common and widespread in Zimbabwe (59). Women who reported both physical and sexual IPV were more likely to be HIV positive than those who experienced one form of the violence; compared to physical IPV only (34.4% vs. 13.2%) and compared to sexual IPV only

(34.4% vs. 27.7%). IPV is reinforced by gender norms that put women in lesser positions than men (91). Hence, the odds of being HIV positive were higher among women who reported; ever, past and current IPV for physical-sexual violence (both) than those who never experienced any violence at all. Ever physical-sexual violence was significantly associated with women's HIV status ($p < 0.01$). This finding is similar to studies conducted in South Africa, where IPV was found to have a significant increased risk of HIV infection for women (57). Women who experienced IPV were three times more likely to be HIV positive (57). Furthermore, HIV incidence was found to be higher among women who reported more than one episode of IPV at the beginning of another study conducted in South Africa, compared to women who reported one or no episodes IPV (89). Gender based imbalances, such as, the prevalence of traditional legitimacy to using violence against women to gain power in an intimate relationship, as well as cultural sanctions for husbands to beat their wives in certain circumstances (83), increase women's vulnerability to HIV. This is due to evidence that many women especially those in violent relationships, cannot refuse things such as unwanted sex or negotiate protection from pregnancy and STIs, including HIV, as they have less leverage to do so and fear violent reprisals (57).

4.5.2 Decision about Most Recent Pregnancy and HIV

This study found that some women made independent decisions about becoming pregnant. This agency to make decisions may be a sign of power in an intimate relationship. Women making an independent decision to become pregnant for the most recent pregnancy were less likely to be HIV sero-positive (OR 0.52, 95% CI 0.29-0.95). However, this association was found not to be significant in a logistic regression model. This means women who made the decision to become pregnant must have been more assertive and better able to make safer sex decisions in their lives or partnerships, hence their negative status in the bivariate analysis. It shows that women, who had an increased autonomy, were likely to make better decisions about their health. HIV transmission to women most commonly occurs through sexual intercourse (97%) (7). These women were able to protect themselves against HIV infection. There were some women who reported that there was a joint decision about having a baby. Joint decision making is an indicator of equality between men and women in an intimate relationship (115).

The risk of HIV was found to be higher among women who reported that their male partner made the decision about their most recent pregnancy. In the Zimbabwean context, it has been noted with concern that even if a couple may discuss family issues, in most relationships the husband still has the final say (32). This includes decisions about the size of the family (23, 32). Traditional family norms which are based on the supremacy of the male members of the household, and the subordination and dependency of women (32, 116). When measuring decision-making in the context of this study we are measuring the outcome of decision making. However, decision making is a dynamic process which may be characterised by compromise (117). The fact that pregnancy decision-making by mutual partners was not found to be protective against HIV in this study could be attributed to one of the partners compromising to please the other. This may be an indication of limited agency if it were the woman who compromised. Women may be more likely to compromise as gender roles and norms may influence their desire to please their partner (31, 85, 91). In this regard women may be knowingly, or unknowingly complicit in perpetuating gender roles and norms.

In addition, the primary study of which this analysis is based on found that a woman making the decision to become pregnant independently had greater odds of experiencing IPV during their pregnancy (96). This suggests that IPV may mediate the relationship between pregnancy decision-making and being HIV positive and that there may be an indirect relationship. The authors further mention that the relationship between pregnancy decision-making and IPV are related to women's sexuality, health and reproduction, through the central role of male domination (96). This also suggests linkages between IPV, HIV and relationship power. Evidence shows that men are usually decide, initiate and control sexual activities, as a result of the social construction of male and female sexuality (3, 29, 89). This has implications towards women's risk to HIV infection (118), as demonstrated also in our study.

4.5.3 Current or Most Recent Partner Ever Refused a Family Planning Method and HIV

Hormonal contraceptives; the pill and injectables are the most widely used contraceptive methods by women in Zimbabwe, as well as male condoms- through their partners (7). However, men and women's fertility desires often differ (105). Male partners are also said to be the ones who also determine if their spouse can use contraception (23, 32). In general,

men want slightly larger families than women do (7). A study in Zimbabwe found that while many men reported that it was their wife's responsibility to obtain information on contraceptives and family planning, the actual decision use contraception or not remained with the men (119). Our study identified a strong association between women whose current or most recent partners had ever refused use of any family planning method and HIV prevalence. Women whose current or most recent partners had ever refused use of any family planning method were more likely to be HIV positive, than women whose partners had never refused a family planning method (aOR 1.75, 95% CI 0 1.10-2.78). This suggests male dominance in reproductive decision-making power relations. Men's social power is also evident in their verbal opposition to family planning (44). The male partner's family planning use refusal may have been done to promote pregnancy. Men's attempts to impregnate a woman include verbal threats about getting her pregnant, unprotected forced sex, and contraceptive sabotage (90). This means women have little or limited control over pregnancy. Clearly if a partner refuses use of any family planning method, it poses a direct health threat to the women in question. These health threats include unwanted pregnancies and an increased vulnerability to HIV infection. Evidence such as this, is a setback to interventions on family planning providers and reproductive rights advocates' efforts (23).

4.5.4 Control in Intimate Relationships and HIV

Using bivariate analysis, the level of control in an intimate relationship was found to be significantly associated with the woman's HIV status; high control in intimate relationships was found to be significantly associated with HIV positivity (OR 1.96, 95% CI 1.34- 2.86). These findings are similar to those from another study which found high control levels of male partners in intimate relationship as measured by the SRPS to be associated with HIV sero-positivity (OR 1.65, 95% CI 1.25–2.18) (57). However, examining the relationship between control in intimate relationships and HIV sero-status in a multivariable logistic model, the adjusted analysis was found to be non-significant in our analysis. This finding is consistent with another study, which found no direct association between relationship control and HIV (26). On the other hand, control in intimate relationships was found to decrease the probability of consistent condom use in that study, and this increased the risk for HIV infection among women aged 15-24 years (26). This significant association between the SRPS and consistent condom use in intimate relationships, highlights relationship power

as important aspect of safer sex decision-making (2). Other studies have also found that, women with a high relationship power levels have a higher likelihood of reporting consistent condom use in their relationships (2, 3, 26, 30). We might want to attribute the same indirect relationship effects between control in intimate relationships and HIV infection with the findings by Pettifor and others, in our own analysis. If this is so, condom use could be a mediator in the relationship between relationship power and HIV prevalence in our study. It was beyond the scope of this study to assess this link further. The relationship between control in intimate relationships and HIV sero-positive status among our study population might be more complex than we assumed.

We might have found our measure of relationship control not to be significant, but several other previous studies that have been conducted in South Africa have observed significant associations. A national survey among men and women aged between 15–24 years found lack of sexual power among women to be directly associated with HIV (26). Another cross-sectional study among ANC women in Soweto found that women's partners who scored high on the SRPS, signifying male dominance in the intimate relationship had greater odds of being infected by HIV (OR 1.65, 95% CI 1.25-2.18) (57). In rural Eastern Cape Province, a study among ANC women found that women, whose current or most recent relationship scored high on the SRPS as well, were more likely to be infected with HIV (102). A 2002-2006 cohort study in the Eastern Cape Province among women who were HIV negative at the beginning of the survey, of these women 51 of 325 with low relationship power became HIV infected (8.5 per 100 person-years) than 73 of 704 women with medium or high relationship power (5.5 per 100 person-years) (89). Gender power imbalances such as, men being set up to be the sex initiators or the ones' who set the conditions for sexual encounters (32), result in relationship power imbalances which leave women having limited ability to protect themselves from HIV infection from their sexual partners (17). This is because they are unable to negotiate for safer sex even if they are aware that they are being exposed to HIV.

Significant findings from this study on one of the relationship power factors about ability to make decisions- a partner ever refusing use of any family planning method and HIV risk, further highlight the public health importance of understanding the consequences of relationship power imbalances in preventing risk of HIV infection among women, as well as other STIs. The significance of relationship power in women's negotiation skills on safer safe

and their ability to protect themselves against HIV and STIs cannot go unnoticed (106). Effective HIV prevention interventions should target gender power differences between men and women, and overall improve women's empowerment (106). Social and behavioural change communication (SBCC) interventions designed to target such gendered health related problems like HIV, are critical in meeting the health public good among the women sub-population.

In summary, lack of power in sexual relationships is related to women's increased vulnerability to HIV infection (57, 89). Our study hypothesised that there was a link between relationship power and HIV sero-prevalence among post-natal women aged 15-49 years at six low-income urban clinics in Harare, Zimbabwe. Our study results partly support this hypothesis, using the two outcome measures of relationship power: 1) control in intimate relationships, and 2) decision-making in intimate relationships. We found a significant correlation for a partner having ever refused used of a family planning method and HIV sero-positivity. Although, non-significant associations were found for control in intimate relationships and decision about most recent pregnancy, and HIV prevalence. Our variable for control in intimate relationships was not a sensitive measure. Previous studies on relationship power have measured it using a validated SRPS scale. Relationship power and HIV studies have reported a significant association between these two variables (57). The 23-item SRPS scale contains conceptual dimensions of relationship power dynamics (2), which we did not measure could explain the lack of association in our analysis. We propose that HIV studies using the SPRS scale be conducted in Zimbabwe instead, to confirm the actual correlation between these two variables.

4.5.5 Conceptualizing the Theory of Gender and Power

Since, gender power imbalances result in relationship power imbalances; which increase women's HIV risk (44). The imbalances vary from economic dependence to institutionalised deference by women on men. These in-turn increases women's risk to HIV infection, through limiting factors such as; limiting condom use negotiation ability, limiting the ability to discuss infidelity, or limiting the ability to leave risky sexual relationships (15, 27, 28). This study used the Theory of Gender and Power to further qualify if indeed such inequalities in power between men and women in intimate relationships are significantly associated with

the risk of HIV infection among women. The study explored two of the three structures of the TGP; the sexual division of power and the social norms and affective attachments.

4.5.5.1 The Structure of Sexual Division of Power

This structure of the TGP is maintained by social mechanisms such as the inequities and abuses of authority and control in intimate relationships which favour men (1, 24, 44). Gender power imbalances such as IPV signify abuse of authority in a relationship. The prevalence of gender-power imbalances in African cultures, like the traditional legitimacy to use violence against women and cultural sanctions for husbands to beat their wives in certain circumstances (83); result in relationship power imbalances. These leave many women especially those in violent relationships, not being able to refuse things such as unwanted sex or negotiate protection from pregnancy and STIs, including HIV, as they fear violent reprisals (57). This increases their vulnerability to HIV. Women who experienced IPV in this study had greater odds of being HIV positive than those who never experienced any IPV. Although, we found a non-significant association between control in intimate relationships and HIV infection, it is important to note that IPV which was found to be significant in this study exists on the same continuum with control in intimate relationships. Reinforcement of IPV by societal gender norms puts women in subordinate positions to that of men (91). This further strengthens women's vulnerability to HIV infection as shown by our study.

Sex is often imposed for many women by partners (44). Gender power imbalances such as, men being socialized to be the sex initiators or the ones' who set the conditions for sexual intercourse (32), result in relationship power imbalances which leave women having limited ability to protect themselves from HIV infection (17). Men tend to think that they cannot control themselves sexually (63). Therefore, they force their women to have sex with them even if women are not in the mood to do so. This is a sign of unequal power. Forced first sex (including rape) was found to be significantly associated with HIV infection in this study. It is highly likely that non-consensual sex will occur without use of any form of protection like condoms (63). This increases HIV vulnerability among women survivors if the perpetrator is HIV positive. Survivors of childhood sexual abuse are known to have high HIV risk behaviours (63, 65), which put them at a further disadvantage to HIV infection.

Gender power imbalances have men controlling reproduction in intimate relationships i.e. contraceptive sabotage (90). This results in a relationship power imbalances which often mean that even if a couple discusses family planning issues, the husband still has the final say about the use of contraception (23). We found that having a partner who ever disapproved use of any family planning method, was associated with HIV sero-prevalence. This suggests male dominance in reproductive decision-making power relations (44). Consistent with the construction of gender, women are expected to submit to their male partners. They have limited rights to question their husband's control or decision making (32). By doing so, gender norms influence women's individual risk and societal vulnerability to HIV infection (22), as shown by this study. This is because social norms dictate less power to women in relationships and may limit a woman's skill to negotiate for safe sex (44). However, not all women are without agency in their intimate relationships. Some women reported making independent pregnant decisions.

4.5.5.2 The Structure of Cathexis

This structure of the TGP looks at the social norms and affective attachments (1, 24, 44), and prescribes what is assumed to be appropriate sexual expressions of behaviour for women (44). Women's emotional and sexual attachments with men make up this structure. It describes how women's sexuality compares emotionally to other societal concerns (44). Gender imbalances, such as women being socially expected to be obedient and submissive to their spouses, result in relationship power imbalances that put women to purposely avoid topics that create conflict in their household and are less willing to bring up controversial issues like questioning their partners about extramarital affairs (32).

The social system sees it common practice for young women to have relationships with older male partners within and outside marriage (43). Inter-generational relationships may be used as an avenue to compete for social status among one's peers (70). However, older partners have been found to have more controlling behaviours and make decisions on; condoms use, contraceptives, as well as use violence as a form of control at times (58). Corroboration for male control in age disparate relationships by women increases their vulnerability to HIV. We found having an older male partner to be associated with an HIV sero-positive status among women. It is said that; the younger the woman is, the greater the power imbalance is likely to be (48).

Transactional sex is also viewed as a 'normal' practice of life (58, 67-69). It is motivated by a complex range of affective attachments, such as; the desire for survival or status and/ possessions (58). Sexual relationships based on material exchange often involve considerable amounts of power imbalances (65). Power differentials between couples in transactional sexual relations (where a woman is the receiver and a man the giver) shape a woman's ability to negotiate for safer sex (73), i.e. it limits their leverage to do so. Failure to which, puts women at a further vulnerability to HIV. We found transactional sex to be associated with HIV infection.

The desire to conceive is part of the social norms and affective attachments structure (44). We found a woman's ability to make an independent decision to fall pregnant for most recent pregnancy to be protective against HIV sero-positivity in the bivariate analysis. This indicates that some women have some level of decision-making power in their relationships. Since, they had the ability to make decisions that affect their own health. However, wanting to fall pregnant reduces the use of condoms, hence increasing a woman's vulnerability to HIV infection. There is no method to protect women from HIV infection if they desire to fall pregnant (44).

We have shown according to the Theory of Gender and Power, how societal vulnerability to HIV/AIDS originates from gendered socio-cultural factors in this study. They limit a woman's behaviour and her choices to reduce HIV risk, as they have a powerful influence over a woman's everyday life (15).

4.6 Limitations of the Study

The primary study was a cross-sectional design, which made it impossible to ascertain causality between imbalance in control and decision-making in intimate relationships and HIV sero-status among the women under study. For instance, a woman could have acquired HIV in a previous relationship that occurred years ago where she might have had no power, but is now in current or her most recent relationship where she has/ had more power. In this study, we regress HIV prevalence in the multivariable models with characteristics of current or most recent relationship. Thus, there is bias in these models, because situations like the

one given above can affect the regression analysis on current or most recent relationship characteristics and HIV status among the respondents.

Convenience sampling was used to select participants into the primary survey. This could have led to selection bias. The participants were interviewed post-pregnancy for occurrences which took place before and during pregnancy; there could have been recall bias- some participants might have remembered the information inaccurately, such as, how often they were beaten during pregnancy. However, it is unlikely that there would be systematic differences for women who were HIV positive. Also, a post-pregnant study population may be systematically different from the general population of women. The sample was disproportionately married; a disproportionately high number of married women in any subgroup may be an indication that this group has above-average difficulty in staying without a male partner.

Ninety-one women (4.5%) had an unknown HIV status. These were unknown HIV statuses because the information was not written on their clinic cards. This could mean that the participants had travelled to the clinic as new patients, or they did not give birth at this clinic and their records were not (yet) known at the clinic of study. The process of following up with clinics where women gave birth was unsuccessful as some had travelled from other healthcare providers and their records were not kept on a live data base but on a paper database, as is the situation in government most clinics. Hence, these women were excluded from the secondary analysis. This analysis focused on those women whose HIV status was known. This unknown category could have changed the results of the study if, for instance; all of them were HIV positive. Taking note that almost half of the women with an unknown HIV status (45.1%, $n=41$) were aged between 20-25 years. The age group most affected by HIV among our study sample. There was also a statistically significant difference between HIV prevalence by marital status, were most women with an unknown status were married (87.9%, $n=80$). This can be attributed to the fact we had a disproportionately married sample of women.

Furthermore, relationship power is ideally measured using the SRPS; which contains Relationship control and Decision Making sub-scales. This scale was not used in the primary study. We used control and decision-making in intimate relationships as measures of

relationship power in the study. Cronbach's alpha for the control in intimate relationship scale was 0.60. Some biostatisticians may regard this value to be low. There were also a few missing data from the primary dataset, resulting from unanswered questions, as well as failure to understand a few skip patterns used during data collection.

Variables such as condom use may be open to social desirability effect; this is the tendency of participants to portray themselves in a generally favourable manner (120). Condom use was measured by a single item that asked 'ever use of a condom with current/ most recent partner'. Correct and consistent use of condoms, frequency and/or recent use are important to consider when measuring condom use. Therefore, the measure of condom use for the study was not the best there is. However, the study population were post-natal women, reflecting that condoms were not used consistently. Finally, we had a limited transactional sex measure and there were cross correlations between some variables. These would have improved our study.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusions drawn from the findings of the study, as well as the recommendations thereof. The study determined the correlation between relationship power and HIV sero-status among low-income post-natal women aged between 15-49 years attending six low-income urban clinics in Harare, Zimbabwe during the period May-September 2011.

5.1 Conclusion

One in seven women attending ANC was HIV positive 14.6% ($n=299$) and a third of the women who were positive were aged between 21-25 years. This indicates a high HIV prevalence among younger women of child bearing age. This study found that; marital status, educational level, age difference between sexual partners, forced first sex, transactional sex, alcohol use and IPV to be risk factors for HIV infection. These have also been shown to be HIV risk factors by previous studies.

Using a multivariable logistic regression analyses, one key independent decision-making variable of relationship power; partner ever refusing use of any family planning method was found to be associated with HIV sero-prevalence. Making independent pregnant decisions for women had a protective effect against HIV infection. Although, decision about most recent pregnancy was found not significantly associated with HIV when controlling for other factors. A woman being able to make pregnancy decisions independently is a sign of power in an intimate relationship and is encouraged. It indicates that some women do have agency in their intimate relationships. Women should be able to make decisions about matters that affect them, especially their health. In contrast, women whose current or most recent partners had ever refused use of any family planning method were more likely to be HIV positive. This result further proves the effect of male dominance in intimate relationships on increasing women's HIV vulnerability.

In adjusted models there was no significant relationship between control in intimate relationships and HIV sero-positivity in this study. This null finding is attributed to the way

we measured control in intimate relationships in the study. However, control in intimate relationship exists on a continuum with IPV at the extreme end. In this analysis, IPV was associated with HIV prevalence among women.

Gender power imbalances result in relationship power imbalances; which increase women's vulnerability to HIV. Overall, this study contributes expanded evidence that a partner's refusal to use any family planning methods; which is a decision-making dimension of relationship power was significantly associated with an increased risk of HIV infection among the women. Therefore, policies and programmes that target HIV prevention need to target the implementation of gender related issues.

5.2 Recommendations

Future studies; especially longitudinal studies should assess the decisions on falling pregnant and its interactions with HIV among women. Keeping in mind that; falling pregnant means there was unprotected sexual intercourse between couples? If we want to readdress HIV prevention strategies among the women sub-population, we have to address gender equity and shifting decision making norms around falling pregnant and fertility. There is need to address gender in policy, interventions, and programmes for HIV prevention among women (89). Using the social ecological model, it is recommended that:

5.2.1 Individual level

At the individual level we need to address knowledge about the dangers of gender inequity and HIV to men and women, as well as attitudes towards these gender differentials. We also need to do skill development to resolve intimate relationship issues, as well as deal with childhood history of forced sex. Interactive health education sessions in smaller groups were found to be effective among young Brazilian men aged between 14-25 years (121). Men in both intervention arms reported significant positive change in gender based attitudes and an increase in using condoms at last sex, as well as reduced symptoms of STIs (121). Becoming more gender balanced was associated with reduced STI symptoms in that intervention study (121).

Another program targeted at preventing HIV among low income African-American women residing in Mississippi was successfully conducted (122). The study evaluated interventions

from two theories; the Social Cognitive Theory and the Theory of Gender and Power. The gender and power program used HIV prevention discussions(122). The social cognitive theory program modelled use of condoms and safer sex negotiation skills. After 6 months both programs had increased women's self-efficacy safer sex negotiation skills, increased self-esteem for condom use, and increased HIV knowledge and communication skills (122). BCC programmes such as these mentioned above can also be adapted in Zimbabwe so as to reduce women's gendered vulnerability to HIV infection.

5.2.2 Interpersonal Level

At the interpersonal level, we need to address issues of partner communication and the family environment which support gender inequity. One strategy is recognizing men's power to reduce HIV risk among women (44), and the ability of women to have agency in intimate relationships. This will allow us to move beyond gender-segregation towards prevention efforts and that focuses on couples (44). A family-based HIV intervention in Kigali, Rwanda for heterosexual couples, achieved substantial risk reduction using HCT programs involving sero-discordant couples (couples in which one partner is HIV positive and the other is HIV negative) as a couple and in groups (123). Condom use increased from 3% at baseline to 57% at one-year follow-up (123). On the other hand, a mass media intervention on social change among youths (13-24 years) in Nicaragua found higher levels of program exposure to be associated with significant increases in gender-equity attitudes and HIV prevention interpersonal communication (124). Seeing that both these interventions were successful in increasing gender equity attitudes, these concepts can be tailor made and adapted to suit the Zimbabwean context.

5.2.3 Community level

At the community level, issues such as general tolerance to control in intimate relationships and decision making, as well as weak community sanctions against GBV should be targeted. It may be necessary at ANC to screen women by asking questions about relationship power factors. However, evidence shows that such interventions do not improve the health status of those screened, hence psycho-behavioural interventions are recommended by taking into account men's role in gender inequities (125). Success from a community based outreach, educational materials and counselling sessions in promoting male involvement in ANC services targeting pregnant women and their male partners in Zimbabwe, showed that

outreach activities had a high likelihood to successfully promote community dialogues, male involvement and sexual health issues. Although, the program experienced counsellor attrition and low male partners turnout, as one of its challenges (126). A similar outreach programme addressing gender inequities can be adapted in the country to strengthen community sanctions against gender norms such as IPV.

5.2.4 Society level

At the societal level, we need to address cultural and societal beliefs that promote gender equity. It is said that putting in place policies that elicit social change for gender equity (127), is one of the weapons to tackle gender related inequities in society. In Zimbabwe, many policies exist that promote gender equality. In 2006 the Government of Zimbabwe approved the Domestic Violence Bill into a law (82). This law is still being used today. There are also laws such as the criminal codification on the criminalisation of knowingly infecting a partner with HIV (82). However, implementation of these policies is less than optimal (82), for example there are challenges on whether to test a partner who is thought to have infected the other one, as the law does not permit HIV testing without consent. Action is necessary from both international and national political makers (127) to make sure that such gender encompassing policies are fully implemented. Politicians also need to make sure that resources for policy implementations are allocated towards achieving gender equality and women's empowerment (127).

5.3 Further Research

It is difficult to ascertain if control and decision-making preceded HIV or HIV preceded control and decision-making in intimate relationships in this study. Data was from a cross sectional survey. It is less likely for HIV to have led to control and decision-making in the relationships. But, understanding the link between these two facets is critical in addressing gender inequity relative to HIV and AIDS among women in the Zimbabwean context. Further research is needed in Zimbabwe, especially with use of the SRPS to understand if, and the circumstances in which relationship power and HIV are related to each other among the women sub-population, so as to intervene accordingly.

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APPENDICES

Appendix A: Plagiarism Declaration

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PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX A

I RWAFU TEURAI (Student number: 740701) am a student registered for the degree of MASTER OF PUBLIC HEALTH in the academic year 2015.

I hereby declare the following:

I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.

I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.

I have followed the required conventions in referencing the thoughts and ideas of others.

I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

- I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.

Signature:  Date: 25 March 2015

Appendix B: Primary Study Questionnaire

Appendix K: Women's Health Study Questionnaire

**WOMEN'S HEALTH STUDY
(ZIMBABWE)**

QUESTIONNAIRE

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ADMINISTRATION FORM

IDENTIFICATION			
Health Facility Name			
Facility code: Glen View.....1 Kambuzuma.....2 Mbare.....3 Mufakose.....4 Rutsanana.....5 Warren Park.....6			
Respondent No[][][][] Ten Days.....1 Six Weeks.....2			
Interviewers codes: 1=Ashley; 2=Noma; 3=Linda; 4=Nobuhle; 5= Precious; 6 = Rumbidzai			
Date of Interview/...../..... (ddmmyyyy) Time:h.....			
FIELD SUPERVISOR NAME [][] DAY [][] MONTH [][] YEAR [][][][]	QUESTIONNAIRE CHECKED BY PI DAY [][] MONTH [][] YEAR [][][][]	ENTERED BY ENTRY 1: _____ ENTRY 2: _____	RESULT CODES: 1. Completed 2. Refused 3. Partly completed 4. Postponed 5. Incapacitated 6. Specify.....

SECTION 1: RESPONDENT CHARACTERISTICS				
Qu e no.	QUESTIONS & FILTERS		CODING CATEGORIES	SKI P TO
	Firstly I would like to ask you some general questions about yourself			
101.	What is your religion?	Traditional1 Roman catholic2 Protestant3 Pentecostal4 Apostolic sect5 Other Christian6 Muslim7 None8 Other, specify.....96		
102.	What is your birth day?	 DD MM YYYY		
103.	What is the highest level of education that you achieved? MARK HIGHEST LEVEL.	PRIMARY1 SECONDARY.....2 HIGHER.....3 NEVER.....4		
104.	What kind of work do you normally do?	PROFESSIONAL:..... SEMI-SKILLED: UNSKILLED/MANUAL: MILITARY/POLICE: DON'T WORK.....5		
105.	Are you <u>currently</u> married or do you have a male partner? IF RESPONDENT HAS A MALE PARTNER ASK Do you and your partner live together?	CURRENTLY MARRIED.....1 LIVING WITH MAN, NOT MARRIED.....2 CURRENTLY HAVING A REGULAR PARTNER LIVING APART.....3 NOT CURRENTLY MARRIED OR LIVING WITH A MAN.....4		⇒1 09 ⇒1 09

106	Have you <u>ever</u> been married or lived with a male partner?	YES, MARRIED.....1 YES, LIVED WITH A MAN, BUT NEVER MARRIED.....2 NO.....3	⇒S .1a ⇒S .1a
107	Did the <u>last partnership with a man</u> end in divorce or separation, or did your husband/partner die?	DIVORCED1 SEPARATED/BROKEN UP2 WIDOWED/PARTNER DIED3 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	⇒1 09
108	Was the divorce/separation initiated by you, by your husband/partner, or did you both decide that you should separate?	RESPONDENT1 HUSBAND/PARTNER2 BOTH (RESPONDENT AND PARTNER).....3 OTHER:4 REFUSED/NO ANSWER.....9	
109	How many times in your life have you been married and/or lived together with a man? (INCLUDE CURRENT PARTNER IF LIVING TOGETHER)	NUMBER OF TIMES MARRIED/ LIVED TOGETHER [][] IF "00" REFUSED/NO ANSWER.....99	⇒S .1a
The next few questions are about your <u>current or most recent</u> partnership			
110	. Do/did you live with your husband/partner's parents or any of his relatives?	YES.....1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	
111	IF CURRENTLY WITH PARTNER: Do you <u>currently</u> live with your parents or any of your relatives? IF NOT CURRENTLY WITH PARTNER: Were you living with your parents or relatives <u>during your last relationship</u> ?	YES.....1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	
112	Does/did your husband/partner have any other wives while being married (having a relationship) with you?	YES.....1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	⇒1 15 ⇒1 15
113	How many wives/partners does/did he have (including yourself)?	NUMBER OF WIVES [][] REFUSED/NO ANSWER.....9	⇒1 15
114	Are/were you the first, second..... wife/partner? <i>ADAPT WORDING LOCALLY, CHECK THAT THIS REFERS TO THE OTHER WIVES HE HAD AT SAME TIME WHILE BEING WITH RESPONDENT</i>	NUMBER /POSITION [][] REFUSED/NO ANSWER.....99	
115	Did you have any kind of marriage ceremony to formalize the union? What type of ceremony did you have? MARK ALL THAT APPLY	NONE..... A CIVIL MARRIAGE.....B RELIGIOUS MARRIAGEC CUSTOMARY MARRIAGE..... D APOSTOLIC SECT MARRIAGE.....E OTHER:F	
116			

117	Did you yourself choose your <u>current/most recent</u> husband, did someone else choose him for you, or did he choose you? IF SHE DID NOT CHOOSE HERSELF, PROBE: Who chose your <u>current/most recent</u> husband/partner for you?	BOTH CHOSE1 RESPONDENT CHOSE2 RESPONDENT'S FAMILY CHOSE3 PARTNER CHOSE4 PARTNER'S FAMILY CHOSE5 CHURCH.....6 OTHER:7 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	⇒1 19 ⇒1 19
118	Before the marriage with your <u>current /most recent</u> husband, were you asked whether you wanted to marry him or not?	YES 1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	
119	Did your marriage involve bride price payment?	YES/DOWRY1 YES/BRIDE PRICE2 NO3 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	⇒S .1a ⇒S .1a
120	Has all of the bride price been paid for, or does some part still remain to be paid?	ALL PAID1 PARTIALLY PAID2 NONE PAID3 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	
121	Overall, do you think that the amount of dowry/bride price payment has had a positive impact on how you are treated by your husband and his family, a negative impact, or no particular impact?	POSITIVE IMPACT1 NEGATIVE IMPACT2 NO IMPACT3 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.....9	
	1a WOMAN'S ALCOHOL DRINKING		
122	Now I would like to ask you about drinking alcohol. How often did you drink alcohol in the 12 months before your most recent pregnancy? Would you say: 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month 5. Never	EVERY DAY OR NEARLY EVERY DAY1 ONCE OR TWICE A WEEK.....2 1 – 3 TIMES IN A MONTH3 RARELY4 NEVER5 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	
123	How many times did you drink alcohol during your most recent pregnancy? Would you say: 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month Never	EVERY DAY OR NEARLY EVERY DAY1 ONCE OR TWICE A WEEK.....2 1 – 3 TIMES IN A MONTH3 RARELY4 NEVER5 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	⇒ 12 5

124	In the <u>past 12 months</u> , have you ever experienced any of the following problems, related to your drinking? a) money problems b) health problems c) conflict with family or friends d) problems with authorities (bar owner/police, etc) x) other, specify.	a) MONEY PROBLEMS b) HEALTH PROBLEMS c) CONFLICT WITH FAMILY OR FRIENDS d) PROBLEMS WITH AUTHORITIES x) OTHER: _____	YES 1 1 1 1 1 1	NO 2 2 2 2 2 2	
125	CESD-Depression scale The next questions are related to other common problems that may have bothered you in the <u>past 4 weeks</u> . If you had the problem in the past 4 weeks, answer yes. If you have not had the problem in the past 4 weeks, answer no.		YES	NO	
	a) Do you often have headaches? b) Is your appetite poor? c) Do you sleep badly? d) Are you easily frightened? e) Do your hands shake? f) Do you feel nervous, tense or worried? g) Is your digestion poor? h) Do you have trouble thinking clearly? i) Do you feel unhappy? j) Do you cry more than usual? k) Do you find it difficult to enjoy your daily activities? l) Do you find it difficult to make decisions? m) Is your daily work suffering? n) Are you unable to play a useful part in life? o) Have you lost interest in things that you used to enjoy? p) Do you feel that you are a worthless person? q) Has the thought of ending your life been on your mind? r) Do you feel tired all the time? s) Do you have uncomfortable feelings in your stomach? t) Are you easily tired?	a) HEADACHES b) APPETITE c) SLEEP BADLY d) FRIGHTENED e) HANDS SHAKE f) NERVOUS g) DIGESTION h) THINKING i) UNHAPPY j) CRY MORE k) NOT ENJOY l) DECISIONS m) WORK SUFFERS n) USEFUL PART o) LOST INTEREST p) WORTHLESS q) ENDING LIFE r) FEEL TIRED s) STOMACH t) EASILY TIRED	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
126	Just now we talked about problems that may have bothered you in the past 4 weeks. I would like to ask you now: In your life, have you <u>ever</u> thought about ending your life?	Yes 1 No Don't know/don't remember Refused/no answer			⇒ S.2
127	Have you <u>ever</u> tried to take your life?	YES1 NO2 DON'T KNOW/DON'T REMEMBER.....8 REFUSED/NO ANSWER9			If yes ref er for co un sell ing

SECTION 2 REPRODUCTIVE HEALTH

Now I would like to ask about your past and current pregnancies			
201	How many times have you been pregnant? Include pregnancies that did not end up in a live birth, and current pregnancy?	TOTAL NO. OF PREGNANCIES [][]	
202	Have you ever given birth to a live baby, but later died? This could be at any age. IF NO, PROBE: Any baby who cried or showed signs of life but survived for only a few hours or days?	YES 1 NO 2 KNOW/DON'T REMEMBER.....8 REFUSED/NO ANSWER9	
203	Have you ever had a pregnancy that miscarried, or ended in a stillbirth? PROBE: How many times did you miscarry, how many times did you have a stillbirth, and how many times did you give birth to a premature?	a) MISCARRIAGES [][] b) STILLBIRTHS [][] c) PREMATURE [][] IF NONE ENTER '00'	
204	Has/did your <u>current/most recent</u> husband/partner ever refused to use a method or tried to stop you from using a method to avoid getting pregnant?	YES 1 NO 2 REFUSED.....9	⇒206
205	In what ways did he let you know that he disapproved of using methods to avoid getting pregnant? MARK ALL THAT APPLY	TOLD ME HE DID NOT APPROVE..... A SHOUTED/GOT ANGRY B THREATENED TO BEAT ME C THREATENED TO LEAVE/THROW ME OUT OF HOME D BEAT ME/PHYSICALLY ASSAULTED E TOOK OR DESTROYED METHOD F SEXUALLY ASSAULTED ME..... G OTHER X	
206	Have you ever used a condom with your <u>current/most recent</u> partner?	YES 1 NO..... 2 REFUSED.....9	⇒210
207	Have you ever asked your <u>current/most recent</u> partner to use a condom?	YES 1 NO..... 2 Don't know/Don't remember.....8 REFUSED.....9	⇒210
208	Has your <u>current/most recent</u> husband/partner ever refused to use a condom?	YES 1 NO 2 Don't know/Don't remember.....8 REFUSED.....9	⇒210
209	In what ways did he let you know that he disapproved of using a condom? MARK ALL THAT APPLY	TOLD ME HE DID NOT APPROVE..... A SHOUTED/GOT ANGRY B THREATENED TO BEAT ME C THREATENED TO LEAVE/THROW ME OUT OF HOME D BEAT ME/PHYSICALLY ASSAULTED E TOOK OR DESTROYED METHOD F ACCUSED ME OF BEING UNFAITHFUL/NOT A GOOD WOMAN..... G LAUGHED AT/NOT TAKE ME SERIOUS H SAID IT IS NOT NECESSARY I OTHER X	

210	Have you <u>ever</u> used anything, or tried in any way, to delay or avoid getting pregnant?	YES 1 NO 2 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 99	
211	Are you <u>currently</u> doing something, or using any method, to delay or avoid getting pregnant?	YES 1 NO..... 2 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 9	⇒213
212	What (main) method are you <u>currently</u> using? IF MORE THAN ONE, ONLY MARK MAIN METHOD	PILL/TABLETS 01 INJECTABLES 02 IMPLANTS (NORPLANT) 03 IUD 04 DIAPHRAGM/FOAM/JELLY..... 05 CALENDAR/MUCUS METHOD 06 FEMALE STERILIZATION 07 CONDOMS 08 MALE STERILIZATION 09 WITHDRAWAL..... 10 HERBS 11 OTHER: 96 DON'T KNOW/DON'T REMEMBER..... 98 REFUSED/NO ANSWER 99	
213	Has husband/ partner ever refused responsibility for your most recent pregnancy or to father the child?	YES 1 NO..... 2 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 9	⇒S.3
214	How did he communicate this to you?	Shouted at me, insulted me.....A Beat or kicked meB Threw something at me.....C Refused to have sex with me.....D Threatened to end love/partnership.....E Ended love/partnership.....F Left home.....G Refused to live with me.....H talked to meI Others.....I	

SECTION 3: MOST RECENT PREGNANCY

301	I would like to ask you about your <u>most recent pregnancy</u> At the time you became pregnant, did you want to become pregnant then, did you want to wait until later, did you want no (more) children, or did you not mind either way?	BECOME PREGNANT THEN 1 WAIT UNTIL LATER..... 2 NOT WANT CHILDREN 3 NOT MIND EITHER WAY 4 REFUSED/NO ANSWER 9	
302	I would like to ask you about your <u>most recent pregnancy</u> At the time you became pregnant, did your husband/partner want you to become pregnant then, did he want to wait until later, did he want no (more) children at all, or did he not mind either way?	BECOME PREGNANT THEN 1 WAIT UNTIL LATER..... 2 NOT WANT CHILDREN 3 NOT MIND EITHER WAY 4 REFUSED/NO ANSWER 9	

303	I would like to ask you about your <u>past pregnancies</u> . At ANY time you became pregnant before this pregnancy, did you want to become pregnant then, did you want to wait until later, did you want no (more) children, or did you not mind either way?	BECOME PREGNANT THEN 1 WAIT UNTIL LATER..... 2 NOT WANT CHILDREN 3 NOT MIND EITHER WAY 4 N/A.....5 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 9	
304	How old were you when you first became pregnant even if it did not lead into a live birth?	AGE [] [] YEARS	
305	Who made the decision about having your most recent pregnancy?	MYSELF.....1 PARTNER.....2 PARTNER AND MYSELF.....3 JUST HAPPENED.....4 OTHERS5	
306			
307	Do you have an intention to have another pregnancy?	YES 1 NO 2 REFUSED/NO ANSWER 9	
308	Does your partner have an intention of having another pregnancy with you?	YES 1 NO 2 DON'T KNOW/DON'T REMEMBER..... .8 REFUSED/NO ANSWER 9	
309	How many months pregnant were you at the time you register at the maternity (ANC) clinic?	[.....] NEVER.....2 NO ANSWER.....3 DONT KNOW.....4	
310	How many times did you visit the maternity clinic during your most recent pregnant	[.....]	
311	Did/ your husband/partner ever try to stop you or encourage you or have no interest in whether you received antenatal care for your pregnancy?	STOP.....1 ENCOURAGE.....2 NO INTEREST.....3	
312	Did the father of this child buy 'preparation' for your baby? If so was it adequate and in time?	Yes.....1 No.....2 No answer.....9	
313	Would you say he bought or gave you some money to buy 'preparation' late or in time?	Early1 Late.....2 Good time.....3 No answer.....9	
314	Would you say the clothing/preparation adequate or inadequate?	Adequate.....1 Inadequate.....2 No answer.....9	
315	Did your husband/partner have preference for a son, daughter or did it not matter whether it is a boy or a girl?	SON.....1 DAUGHTER.....2 DOES NOT MATTER.....3	
316	During your recent pregnancy, did you smoke any cigarettes or use tobacco?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER.....8 REFUSED/NO ANSWER.....9	

317	How much did your baby weigh at birth? RECORD FROM HEALTH CARD WHERE POSSIBLE	KG FROM CARD [] 1 KG FROM RECALL [] 2 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 9	
318	May I please have a look at your clinic card? Remember, as I said before kept confidentially. Apgar scale: Read the apgar scale, head circumference, mother's and child's HIV test from the card	Apgar scale Head circumference Mother's HIV test Positive = 1 Negative =1 Baby's HIV test Positive = 1 Negative =1	
319	Did your most recent pregnancy ended in you having the following?	Yes No Premature baby.....1 2 Still birth.....1 2 c-section.....1 2	
320	How many days did you stay in the hospital/clinic when you delivered this baby?	[] days Did not give birth in clinic/hospital.....1	

SECTION 4 OTHER EXPERIENCES

	In their lives, many women experience different forms of violence from relatives, other people that they know, and/or from strangers. If you don't mind, I would like to briefly ask you about some of these situations. Everything that you say will be kept private. May I continue?				
401 a	<u>Before the age of 15 years</u>, has anyone ever excessively beaten or physically mistreated you in any way? IF YES: Who did this to you? PROBE: How about a relative? How about someone at school or work? How about a friend or neighbour? A stranger or anyone else?	NO ONE A	⇒ 402		
			b) ASK ONLY FOR THOSE MARKED. How many times did this happen? Once or twice, a few times, or many times		
			Once or twice	A few times	Many times
		FATHER.....B	1	2	3
		STEPFATHER.....C	1	2	3
		OTHER MALE FAMILY MEMBER D	1	2	3
		FEMALE FAMILY MEMBER: E	1	2	3
		TEACHER F	1	2	3
		POLICE/ SOLDIER..... G	1	2	3
		MALE FRIEND OF FAMILY H	1	2	3
		FEMALE FRIEND OF FAMILY I	1	2	3
		BOYFRIEND..... J	1	2	3
		STRANGER.....K	1	2	3
		SOMEONE AT WORK L	1	2	3
		PRIEST/RELIGIOUS LEADER M	1	2	3
		OTHER (specify):X	1	2	3
402	<u>Before the age of 15 years</u>, has anyone ever forced you to have sex or	NO ONE A	⇒ 403		
			b) ASK ONLY FOR THOSE MARKED. How many times did this happen? Once or twice, a few times, or many times		

	to perform a sexual act or ever touched you sexually when you did not want to? IF YES: Who did this to you?		Once or twice	A few times	Many times
		FATHER.....B	1	2	3
		STEPFATHER.....C	1	2	3
		OTHER MALE FAMILY MEMBER D	1	2	3
		FEMALE FAMILY MEMBER:E	1		3
				2	
	PROBE:	TEACHER F	1	2	3
	How about a relative?	POLICE/ SOLDIER..... G	1	2	3
	How about someone at school or work?	MALE FRIEND OF FAMILY H	1	2	3
	How about a friend or neighbour?	FEMALE FRIEND OF FAMILYI	1		3
	A stranger or anyone else?			2	
		BOYFRIEND..... J	1	2	3
		STRANGER.....K	1	2	3
		SOMEONE AT WORK..... L	1	2	3
		PRIEST/RELIGIOUS LEADER M	1		3
				2	
		OTHER (specify):X	1		3

403	Now I would like to ask you about your first sexual intercourse. When (in what year) did you first have sexual intercourse?	[][][] (yyyy)
404	At what age were you when you first had sexual intercourse	[][] years
405	Which of the following statements most closely describes your experiences the first time you had sexual intercourse? I was willing; I was persuaded; I was tricked; I was forced; I was raped	I was willing.....1 I was persuaded.....2 I was tricked.....3 I was forced4 I was raped.....5
406	Who was this with?	Husband/partner.....1 Boyfriend.....2 Teacher.....3 Father/family member.....4 Man from school/area.....5 Friend of the family.....6 Relative.....7 stranger/unknown person.....8 Others..... 9
407	How old was he when you had sexual intercourse with him? Would you say he was.....	[][] Younger than me.....1 Same age with me.....2 1-2 years older than me.....3 3-5 years older than me.....4 5-10 years older than me.....5 More than 10 years older than me.....6 REFUSED/NO ANSWER9
408	The number of sexual partners women have had differs a lot from person to person. Some women report having had one sex partner, some 2 or more, and still others report many, even 50 or more. <u>In your life</u> how many different men have you had sex with? IF NEEDED PROBE: More or less; I do not need to know	PARTNERS [][][] DON'T KNOW/DON'T REMEMBER.....98 REFUSED/NO ANSWER.....99

	the exact number. /		
409	When you were a child, was your mother hit by your father (or her husband or boyfriend)?	YES 1 NO 2 ⇒ 411 PARENTS DID NOT LIVE TOGETHER 3 ⇒ 411 DON'T KNOW 8 REFUSED/NO ANSWER 9	
410	As a child, did you see or hear this violence?	YES 1 NO 2 DON'T KNOW 8 ⇒ S.5 REFUSED/NO ANSWER 9	
411	As far as you know, was your (most recent) partner's mother hit or beaten by her husband?	YES 1 NO 2 PARENTS DID NOT LIVE TOGETHER 3 DON'T KNOW 8 REFUSED/NO ANSWER 9	⇒ S. 5 ⇒ S. 5 ⇒ S. 5
412	Did your (most recent) husband/partner see or hear this violence?	YES 1 NO 2 DON'T KNOW 8 REFUSED/NO ANSWER 9 REFUSED/NO ANSWER 9	

SECTION 5 CURRENT OR MOST RECENT PARTNER CHARACTERISTICSI would now like you to tell me a little about your current/most recent husband/partner.

501	How old was your husband/partner on his last birthday? PROBE: MORE OR LESS IF MOST RECENT PARTNER DIED: How old would he be now if he were alive?	AGE (YEARS) [][]	
502	In what year was he born?	YEAR..... [][][][] DON'T KNOW/DON'T REMEMBER 98 REFUSED/NO ANSWER..... 99	
503	Did he ever attend formal school?	YES 1 NO 2 DON'T KNOW/DON'T REMEMBER 8 REFUSED/NO ANSWER..... 9	⇒505
504	What is the highest level of education that he achieved? MARK HIGHEST LEVEL.	PRIMARY 1 SECONDARY 2 HIGHER 3 DON'T KNOW 8 REFUSED/NO ANSWER..... 9	
505	IF CURRENTLY WITH PARTNER: Is he currently working, looking for work or unemployed, retired or studying? IF NOT CURRENTLY WITH PARTNER: Towards the end of your relationship was he working, looking for work or unemployed, retired or studying?	WORKING 1 LOOKING FOR WORK/UNEMPLOYED 2 RETIRED 3 STUDENT 4 DISABLED/LONG TERM SICK 5 DON'T KNOW/DON'T REMEMBER 98	⇒508 ⇒508
506	What kind of work does/did he normally do? SPECIFY KIND OF WORK	PROFESSIONAL:..... 1 SEMI-SKILLED: 2 UNSKILLED/MANUAL: 3 MILITARY/POLICE: 4 OTHER:96 DON'T KNOW/DON'T REMEMBER 8 REFUSED/NO ANSWER..... 9	
507			
508	As far as you know was your current/most recent husband/partner beaten regularly by someone in his family	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.... 9	
509	Does/did your husband/partner drink alcohol?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER.... 9	⇒515
510	How often does/did your husband/partner drink alcohol? 1. Every day or nearly every day 2. Once or twice a week 3. 1–3 times a month 4. Occasionally, less than once a month 5. Never	EVERY DAY OR NEARLY EVERY DAY 1 ONCE OR TWICE A WEEK 2 1–3 TIMES IN A MONTH..... 3 LESS THAN ONCE A MONTH..... 4 NEVER 5 DON'T KNOW/DON'T REMEMBER 8 REFUSED/NO ANSWER..... 9	⇒514 ⇒514 ⇒514

511	In the <u>past 12 months</u> (In the last 12 months of your last relationship), how often have you seen (did you see) your husband/partner drunk? Would you say most days, weekly, once a month, less than once a month, or never?	MOST DAYS 1 WEEKLY 2 ONCE A MONTH 3 LESS THAN ONCE A MONTH 4 NEVER 5 DON'T KNOW/DON'T REMEMBER 98 REFUSED/NO ANSWER 99																			
512	Since the time you became pregnant how often have you seen (did you see) your husband/partner drunk? Would you say most days, weekly, once a month, less than once a month, or never?	MOST DAYS 1 WEEKLY 2 ONCE A MONTH 3 LESS THAN ONCE A MONTH 4 NEVER 5 DON'T KNOW/DON'T REMEMBER 98 REFUSED/NO ANSWER 99	⇒514																		
513	In the <u>past 12 months</u> (In the last 12 months of your relationship), have you experienced any of the following problems, related to your husband/partner's drinking? a) money problems b) domestic problems c) health problems d) conflict with family or friends x) Any other problems, specify.	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>a) MONEY PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>b) DOMESTIC PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>c) HEALTH PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>c) CONFLICT WITH FAMILY OR FRIENDS</td> <td>1</td> <td>2</td> </tr> <tr> <td>x) OTHER: _____</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	a) MONEY PROBLEMS	1	2	b) DOMESTIC PROBLEMS	1	2	c) HEALTH PROBLEMS	1	2	c) CONFLICT WITH FAMILY OR FRIENDS	1	2	x) OTHER: _____	1	2	
	YES	NO																			
a) MONEY PROBLEMS	1	2																			
b) DOMESTIC PROBLEMS	1	2																			
c) HEALTH PROBLEMS	1	2																			
c) CONFLICT WITH FAMILY OR FRIENDS	1	2																			
x) OTHER: _____	1	2																			
514	Since the time you became pregnant have you experienced any of the following problems, related to your husband/partner's drinking? a) money problems b) domestic problems c) health problems d) conflict with family or friends x) Any other problems, specify.	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>a) MONEY PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>b) DOMESTIC PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>c) HEALTH PROBLEMS</td> <td>1</td> <td>2</td> </tr> <tr> <td>d) CONFLICT WITH FAMILY OR FRIENDS</td> <td>1</td> <td>2</td> </tr> <tr> <td>x) OTHER: _____</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	a) MONEY PROBLEMS	1	2	b) DOMESTIC PROBLEMS	1	2	c) HEALTH PROBLEMS	1	2	d) CONFLICT WITH FAMILY OR FRIENDS	1	2	x) OTHER: _____	1	2	
	YES	NO																			
a) MONEY PROBLEMS	1	2																			
b) DOMESTIC PROBLEMS	1	2																			
c) HEALTH PROBLEMS	1	2																			
d) CONFLICT WITH FAMILY OR FRIENDS	1	2																			
x) OTHER: _____	1	2																			
515	Does/did your husband/partner ever use drugs? 1. Would you say: 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month 5. Never	EVERY DAY OR NEARLY EVERY DAY 1 ONCE OR TWICE A WEEK 2 1 – 3 TIMES IN A MONTH 3 LESS THAN ONCE A MONTH 4 NEVER 5 IN THE PAST, NOT NOW 6 DON'T KNOW /DON'T REMEMBER 8 REFUSED/NO ANSWER 9																			
516	<u>Since you have known him</u> , has he ever been involved in a physical fight with another man?	YES 1 NO 2 DON'T KNOW /DON'T REMEMBER 8 REFUSED/NO ANSWER 9																			

SECTION 5a ATTITUDES TOWARDS PARTNER BEATING

In this community and elsewhere, people have different ideas about families and what is acceptable behaviour for men and women in the home. I am going to read to you a list of statements, and I would like you to tell me whether you generally agree or disagree with the statement. There are no right or wrong answers.

517	In your opinion, does a man have a good reason to hit/beat his wife if: a) She does not complete her household work to his satisfaction b) She disobeys him c) She refuses to have sexual relations with him d) She asks him whether he has other girlfriends e) He suspects that she is unfaithful f) He finds out that she has been unfaithful	a) HOUSEHOLD b) DISOBEYS c) NO SEX d) GIRLFRIENDS e) SUSPECTS f) UNFAITHFUL	YES 1 1 1 1 1 1	NO 2 2 2 2 2 2	DK 8 8 8 8 8 8
518	In your opinion, can a married woman refuse to have sex with her husband if: a) She doesn't want to b) He is drunk c) She is sick d) He mistreats her e) She suspects he has extra-marital sexual relations with another woman f) She suspects her husband has an STI/HIV	a) NOT WANT b) DRUNK c) SICK d) MISTREAT e) SUSPECTS EXTRA MARITAL SEX f) SUSPECTS/KNOW STI	YES 1 1 1 1 1 1	NO 2 2 2 2 2 2	DK 8 8 8 8 8 8

SECTION 6 RESPONDENT AND HER PARTNER

	When two people marry or live together, they usually share both good and bad moments. I would now like to ask you some questions about your current and past relationships and how your husband/partner treats (treated) you. I would again like to assure you that your answers will be kept secret, and that you do not have to answer any questions that you do not want to.				
601	In general, do (did) you and your (current or most recent) husband/partner discuss the following topics together: a) Things that have happened to him in the day b) Things that happen to you during the day c) Your worries or feelings d) His worries or feelings	a) HIS DAY b) YOUR DAY c) YOUR WORRIES d) HIS WORRIES	Y E S 1 1 1 1	N O 2 2 2 2	DK 8 8 8 8
602	In general, do (did) you and your (current or most recent) husband/partner discuss together how you should have sex, when, how often?	RARELY 1 SOMETIMES..... 2 OFTEN..... 3 DON'T DISCUSS.....89 REFUSED/NO ANSWER.....99			
603	In your relationship with your (current or most recent) husband/partner, how often would you say that you quarrelled? Would you say rarely, sometimes or often?	RARELY 1 SOMETIMES 2 OFTEN 3 DON'T KNOW/DON'T REMEMBER..... 8 REFUSED/NO ANSWER 9			
604	In your opinion do you think it is a woman's responsibility, man's responsibility or both's responsibility to avoid getting pregnant?	Woman.....1 Man.....2 Both3			

605	DECISION MAKING SUBSCALE I am now going to ask you about some situations that are true for many women. Thinking about your (<u>current or most recent</u>) husband/partner, would you say it is generally true that he:					
	a) Tries to keep you from seeing your friends b) Tries to restrict contact with your family of birth c) Insists on knowing where you are at all times. d) Gets angry if you speak with another man e) Is often suspicious that you are unfaithful f) Expects you to ask his permission before seeking health care for yourself	a) SEEING FRIENDS b) CONTACT FAMILY c) WANTS TO KNOW d) GETS ANGRY e) SUSPICIOUS f) HEALTH CENTRE	YES 1 1 1 1 1	NO 2 2 2 2 2	DK 8 8 8 8 8	
606	The next questions are about things that happen to many women, and that your current (or most recent) partner, or any other partner may have done to you EMOTIONAL VIOLENCE . Has your <u>current</u> (or most recent) husband/partner or <u>any</u> other <u>partner</u> ever....	A) (If YES continue with B. If NO skip to next item) YES NO	B) Has this happened <u>during the 12 months before recent pregnancy?</u> YES NO	C) Has this happened during the most recent pregnancy? YES NO	D) Has this happened after you disclosed your HIV test result to your partner during most recent pregnancy? YES NO	E) <u>During most recent pregnancy</u> would you say that this has happened once, twice or thrice/more? 1 2 3+
	a) Insulted you or made you feel bad about yourself?	1 2	1 2	1 2	1 2	1 2 3
	b) Belittled or humiliated you in front of other people?	1 2	1 2	1 2	1 2	1 2 3
	c) Done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)?	1 2	1 2	1 2	1 2	1 2 3
	d) Threatened to hurt you or someone you care about?	1 2	1 2	1 2	1 2	1 2 3

607	PHYSICAL VIOLENCE Has your <u>current</u> (or most recent) husband/partner, or <u>any</u> other partner ever.... a) Slapped you or thrown something at you that could hurt you? b) Pushed you or shoved you or pulled your hair? c) Hit you with his fist or with something else that could hurt you? d) Kicked you, dragged you or beaten you up? e) Choked or burnt you on purpose? f) Threatened to use or actually used a gun, knife or other weapon against you?	A) (If YES continue with B. If NO skip to next item) YES NO	B) Has this happened during the <u>12 months before recent pregnancy</u>? YES NO	C) Has this happened during the most recent pregnancy? YES NO	D) Has this happened after you disclosed your HIV test result to your partner during most recent pregnancy? YES NO	E) <u>During most recent pregnancy</u> would you say that this has happened once, twice or thrice/more? 1 2 3+
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3
		1 2	1 2	1 2	1 2	1 2 3

608	SEXUAL VIOLENCE	A) (If YES continue with B. If NO skip to next item) YES NO	B) Has this happened during the <u>12 months before recent pregnancy</u>? YES NO	C) Has this happened during the most recent pregnancy? YES NO	D) Has this happened after you disclosed your HIV test result to your partner during most recent pregnancy? YES NO	E) <u>During most recent pregnancy</u> would you say that this has happened once, twice or thrice/more? 1 2 3+
-----	-------------------------------	---	--	---	--	--

	a) Did your husband/partner ever physically force you to have sexual intercourse when you did not want to?	1 2	1 2	1 2	1 2	1 2 3
	b) Did you ever have sexual intercourse you did not want to because you were afraid of what your husband/partner might do?	1 2	1 2	1 2	1 2	1 2 3
	c) Did your husband/partner ever force you to do something sexual that you found degrading or humiliating?	1 2	1 2	1 2	1 2	1 2 3
609	ECONOMIC VIOLENCE Has your husband or partner (current or previous) ever...	A) (If YES continue with B. If NO skip to next item) YES NO	B) Has this happened during the <u>12 months before recent pregnancy</u> ? YES NO	C) Has this happened during the most recent pregnancy? YES NO	D) Has this happened after you disclosed your HIV test result to your partner during most recent pregnancy? YES NO	E) <u>During most recent pregnancy</u> would you say that this has happened once, twice or thrice/more? 1 2 3+
	a) prohibited you from getting a job, going to work, trading, earning money or participating in income generating projects? b) taken your earnings from you if you have had any income? c) forced you or your children to leave the house where you were living? d) not provided money to run the house or look after the children, but has money for other things?	1 2 1 2 1 2 1 2	1 2 1 2 1 2 1 2	1 2 1 2 1 2 1 2	2 2 1 2 1 2 1 2	1 2 3 1 2 3 1 2 3 1 2 3

VIOLENCE IN PREVIOUS PREGNANCIES

610	You said that you have been pregnant ... times. Was there ever a time when you were slapped, hit or beaten by (<u>any</u> of) your partner(s) while you were pregnant?	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	⇒6 14
-----	---	---	----------

611	Were you ever punched or kicked in the abdomen while you were pregnant? Did this happen in the <u>last</u> pregnancy? IF RESPONDENT WAS PREGNANT ONLY ONCE, CIRCLE CODE '1'.	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	
612	During the <u>most recent pregnancy in which you were beaten</u> , was the person who has slapped, hit or beaten you the father of the child?	YES1 NO2 DON'T KNOW /DON'T REMEMBER8 REFUSED/NO ANSWER9	
613	Compared to before you were pregnant, did the slapping/beating (REFER TO RESPONDENT'S PREVIOUS ANSWERS) get less, stay about the same, or get worse while you were pregnant? By worse I mean, more frequent or more severe.	GOT LESS1 STAYED ABOUT THE SAME2 GOT WORSE3 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	
614	Has anyone ever forced you to have sex or to perform a sexual act or ever touched you sexually when you did not want to at the time you were pregnant but not during the most recent pregnancy?	YES1 NO2 DON'T KNOW /DON'T REMEMBER8 REFUSED/NO ANSWER9	

SECTION 7 INJURIES

	I would now like to learn more about the injuries that you experienced from (<u>any</u> of) your partner's acts that we have talked about (MAY NEED TO REFER TO SPECIFIC ACTS RESPONDENT MENTIONED IN SECTION 6). By injury, I mean any form of physical harm, including cuts, sprains, burns, broken bones or broken teeth, or other things like this.		
701	Have you <u>ever</u> been injured as a result of these acts by (any of) your husband/partner(s). Please think of the acts that we talked about before.	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	⇒703 ⇒703
702	Has this happened during the most recent pregnancy?	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	
703	<u>In your life</u> did you <u>ever</u> lose consciousness because of what (any of your) your husband/partner(s) did to you?	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	⇒705 ⇒705
704	Has this happened during your most recent pregnancy?	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	
705	In your life, were you <u>ever</u> hurt badly enough by (any of) your husband/partner(s) that you needed health care (even if you did not receive it)? IF YES: How many times? IF NOT SURE: More or less?	TIMES NEEDED HEALTH CARE..... [][] DON'T KNOW/DON'T REMEMBER.....99	If 00 go to S.8
706	Has this happened during the last 12 months?	YES1 NO2 DON'T KNOW/DON'T REMEMBER8 REFUSED/NO ANSWER9	

707	Who did you tell about this behaviour of your partner? MARK ALL MENTIONED PROBE: Who else?	NO ONE A FRIENDS B PARENTS C BROTHER OR SISTER D UNCLE OR AUNT E HUSBAND/PARTNER'S FAMILY F CHILDREN G NEIGHBOURS H POLICE I DOCTOR/HEALTH WORKER J PRIEST K COUNSELLOR L NGO/WOMEN'S ORGANIZATION M LOCAL LEADER N LAW ORGANISATION O OTHER (specify): X	
708	Did anyone try to help you? Who tried to help you? MARK ALL MENTIONED PROBE: Who else?	NO ONE A FRIENDS B PARENTS C BROTHER OR SISTER D UNCLE OR AUNT E HUSBAND/PARTNER'S FAMILY F CHILDREN G NEIGHBOURS H POLICE I DOCTOR/HEALTH WORKER J PRIEST K COUNSELLOR L NGO/WOMEN'S ORGANIZATION M LOCAL LEADER N LAW ORGANISATION O OTHER (specify): X	

SECTION 8: TRANSACTIONAL SEX/SEXUAL RISK BEHAVIOURS

	A lot of people have found that they needed to start or continue having sex with someone whilst they receive certain items such as food, a place to stay (shelter), money, gifts, clothes, etc. I will say out some statements so that you confirm if you once did that or not.	True	False
801	I have stayed with a main partner longer than I wanted to because I was worried about how to pay for things I couldn't afford by myself, having a place to live or paying for food, or other bills, my ability to support my children or someone else who depends on me for financial support, OR maintaining the social status or lifestyle that my partner provided for me	1	2
802	I have had a relationship with a casual partner in part because I hoped he would help me pay for things I couldn't afford by myself, having a place to live or paying for food, or other bills, my ability to support my children or someone else who depends on me for financial support, OR maintaining the social status or lifestyle that my partner provided for me	1	2

803	I have had sex with a once-off partner because I needed help paying for things I couldn't afford by myself, having a place to live or paying for food, or other bills, my ability to support my children or someone else who depends on me for financial support, OR maintaining the social status or lifestyle that my partner provided for me	1	2
804	Has any partner performed anal sex on you?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER....8 REFUSED/NO ANSWER.....9	
805	Have you ever been treated/diagnosed of an STI during your most recent pregnancy?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER....8 REFUSED/NO ANSWER.....9	
806	Have you ever had sex with a person who injects drugs (injection drug user)?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER....8 REFUSED/NO ANSWER.....9	
807	Have you ever had sex with a partner who was once diagnosed of an STD/STI?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER....8 REFUSED/NO ANSWER.....9	

SECTION 8a: HIV TESTING

I would like to ask you about your relations with your partner after you tested for HIV during the current pregnancy. Remember I said I will not ask you about your HIV status in this interview and I do not need to know your status at all.

	Health care workers encourage people who test for HIV to disclose their test results to their partners and other people close to them. I would like to ask you about HIV test disclosure. Instruction: You are not required to disclose your HIV test results in this interview and I will not ask you to tell me		
808	Did you test for HIV during pregnancy?	Yes.....1 No.....2 REFUSED/NO ANSWER.....9	Skip 810
809	Did you know your results before testing during pregnancy?	YES.....1 NO.....2 REFUSED/NO ANSWER.....9	
810	Did you tell your husband or partner about your HIV test result?	YES.....1 NO.....2	⇒8 13
811	Are you planning to tell your husband/partner about your HIV test result?	YES.....1 NO.....2 REFUSED/NO ANSWER.....9	⇒8 15
812	When do you think you will tell him?	Within 3 days.....1 Within a week.....2 Within a month.....3 Within three months.....4 Within six months.....5 No, I will not tell him.....6 I do not know.....7	⇒8 15 ⇒8 15 ⇒8 15 ⇒

813	How long did it take you to disclose your HIV test results to your husband/partner?	Within three days.....1 Within a week2 Within a month3 Within three months4 Within six months5 Over six months.....6	
814	What was his reaction after telling him or after he knew your HIV status?	Helped me.....A Shouted at me.....B Supported me.....C Violence.....D Emotional violence.....E Thought about his HIV statusF Asked about my sexual history.....G consulted the doctor/nurse.....H Threatened to beat me.....I Threatened rejecting me.....J Rejected me.....K Withdrew sexual intercourse.....L Took other sexual partners.....M I don't know.....n Was happy.....O Others.....X	⇒9 22
815	Why did you not tell him your HIV test result?	I do not know much about HIV.....A He might leave me.....B He might be afraid of catching HIV from me.....C He might get angry with me.....D He might think I am a bad person.....E He might tell others.....F He has many problems to deal with at the moment...G There is no need to tell him until I am sick.....H I do not worry about that.....I I might be forced to leave his house/him.....J He might hurt me physically.....K Other.....L	⇒8 20 ⇒8 20 ⇒8 20 ⇒8 20 ⇒8 20 ⇒8 20 ⇒8 20
816	Do you think your relationship with your partner changed for the better or for the worse or did not change after telling him your HIV status?	Better.....1 Worse.....2 Nothing changed.....3	
817	Did you tell any other person about your HIV status?	YES.....1 NO.....2 Refused/No answer.....9	⇒8 20
818	Who did you tell? Probe: Who else? TICK ALL THAT APPLY	Friend.....A Relative.....B Neighbour.....C Parent(s).....D Organisation.....E Counsellor.....F Pastor.....G Health worker.....H Others....specify.....I	
819	What type of support did you receive from him/her?	Counselling.....1 Money.....2 Information.....3 Medicines/drugs.....4 Others.....5 Nothing.....6	

SECTION 9 COMPLETION OF INTERVIEW

901	We have now finished the interview. Do you have any comments, or is there anything else you would like to add? 740701: Rwafa Teurai: COMH 7175 Research Report		
902	I have asked you about many difficult things. How has talking about these things made you feel.....? WRITE DOWN ANY SPECIFIC RESPONSE GIVEN BY RESPONDENT	GOOD/BETTER 1 BAD/WORSE 2 SAME/ NO DIFFERENCE 3	
903	Would you like to be interviewed again on these women's health issues next month?	Yes 1 No 2	
820	Does your partner know his HIV status?	YES 1 NO 2 DON'T KNOW 3 REFUSED/NO ANSWER 9	⇒8 22
821	In your opinion is he willing to get tested?	YES 1 NO 2 Don't know 3 REFUSED/NO ANSWER 9	
822	Have you asked him to get tested?	YES 1 NO 2 REFUSED/NO ANSWER 9	

	FINISH I would like to thank you very much for helping us. I appreciate the time that you have taken. I realize that these questions may have been difficult for you to answer, but it is only by hearing from women themselves that we can really understand about their health and experiences of violence. IF RESPONDENT HAS DISCLOSED PROBLEMS/VIOLENCE: From what you have told us, I can tell that you have had some very difficult times in your life. No one has the right to treat someone else in that way. However, from what you have told me I can see also that you are strong, and have survived through some difficult circumstances. Here is a list of organizations that provide support, legal advice and counselling services to women in HARARE. Please do contact them if you would like to talk over your situation with anyone. Their services are free, and they will keep anything that you say private. You can go whenever you feel ready to, either soon or later on.	
904	RECORD TIME OF END OF INTERVIEW: Hour [][] mm [][] (24 h)	

Interviewer Comments (after interview)

Appendix C: Ethics Approval HREC (Medical) R 14/49

R14/49 Ms Rwafa Teurai

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)**CLEARANCE CERTIFICATE NO. M130756**

NAME: Ms Rwafa Teurai
(Principal Investigator)

DEPARTMENT: School of Public Health
 University of Witwatersrand

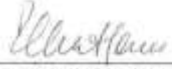
PROJECT TITLE: Relationship Power and HIV Sero-Status: An
 Analysis of their Relationship among Low-
 Income Urban Zimbabwean Women, during the
 Period May-September 2011

DATE CONSIDERED: 26/07/2013

DECISION: Approved unconditionally

CONDITIONS:

SUPERVISOR: Nicola Christofides

APPROVED BY: 
 Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 07/08/2013

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. I agree to submit a yearly progress report


 Principal Investigator Signature

07/08/2013
 Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix D: Letter of Permission



GENDER & HEALTH RESEARCH UNIT

Private Bag 2385, Pretoria, South Africa,
No. 1 Soutpansberg Road, Pretoria
Tel: 012 339 8525, Fax: 012 339 8582
URL: www.tmr.ac.za/

30 May 2013

Dear Teurai Rwafa, MPH student Wits School of Public Health

Re: Permission to use part of the IPV HIV in pregnancy in Zimbabwe Data set to write MPH thesis

I write to grant Ms Teurai Rwafa permission to use part of the IPV HIV in pregnancy in Zimbabwe dataset for writing an MPH thesis at Wits School of Public Health. I also agree to supervise the said student's MPH thesis. The student may not publish any material from this dataset without the knowledge and permission from Simukai Shamu. The data set remains intellectual property of Simukai Shamu and any publication resulting from the data set must first obtain the owner's permission and must also acknowledge the institutions that funded the research.

Thank you

Sincerely

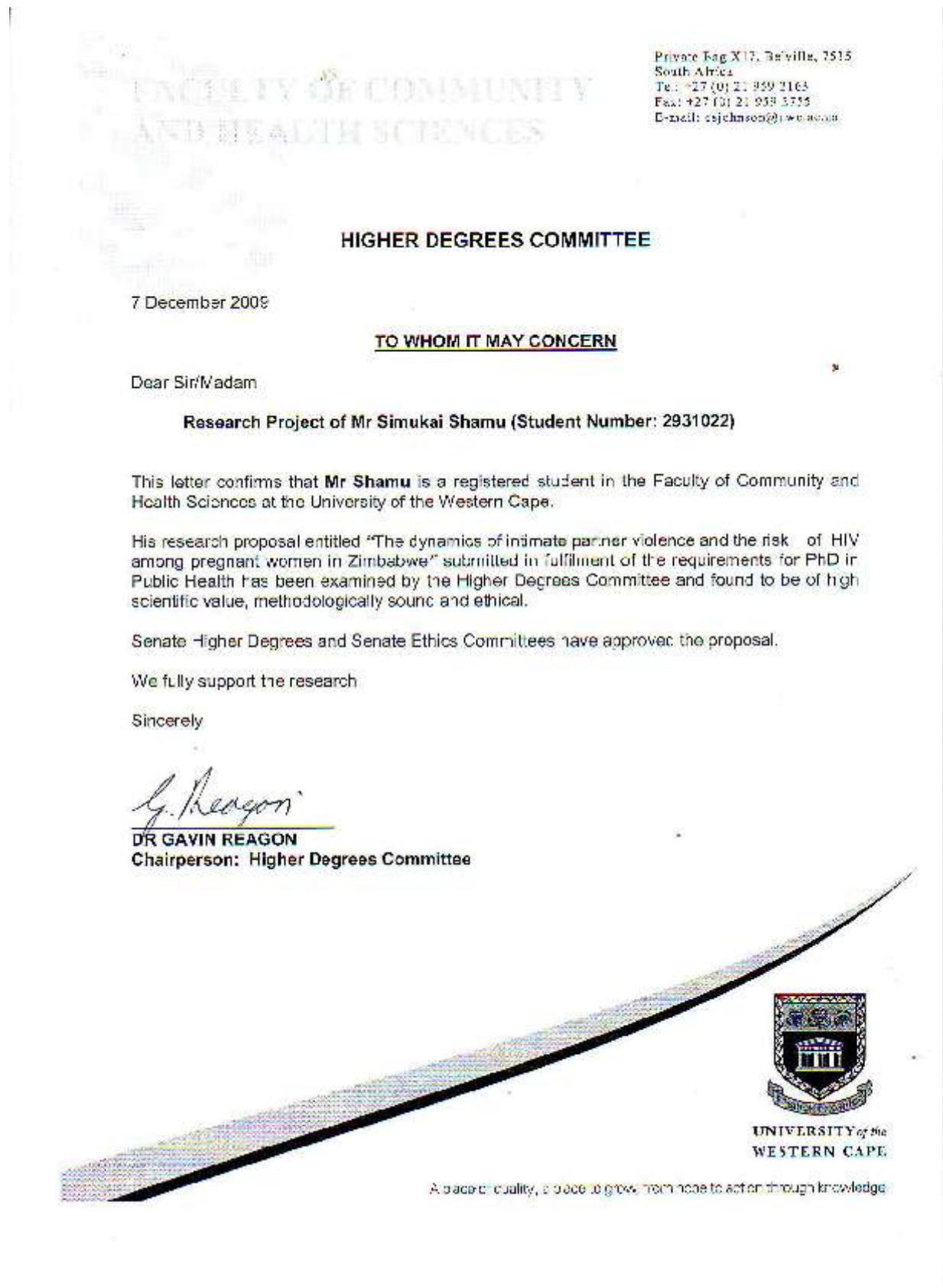
A handwritten signature in dark ink, which appears to read 'Simukai Shamu', is placed below the word 'Sincerely'.

Simukai Shamu, PhD

Researcher: Gender & Health Research Unit

Cc: Dr Nicola Christofides, coordinator Wits MPH Programme

Appendix E: UWC Ethics Approval



Appendix F: MRCZ Approval Letter

Telephone: 791792/791193/792747
 Telefax: 1283 - 4 - 790715
 E-mail: mrcz@mrz.zimshare.co.zw
 Website: www.mrcz.org.zw



Medical Research Council of Zimbabwe
 Josiah Tongogara / Mazoe Street
 P. O. Box CY 573
 Causeway
 Harare

MRCZ APPROVAL LETTER

Ref: MRCZ/B/114 Date: 27 October, 2010

Simukai Shamu
 UZ-CHS
 Dept Of Community Medicine
 Box A178 Avondale
 Harare

RE: The Dynamics OF Intimate Partner Violence (IPV) and the risk of HI among pregnant women in Zimbabwe

Thank you for the above titled proposal that you submitted to the Medical Research Council of Zimbabwe (MRCZ) for review. Please be advised that the Medical Research Council of Zimbabwe has **reviewed** and **approved** your application to conduct the above titled study. This is based on the following: -

- (a) Study Protocol
- (b) Consent Forms (English And Shona)
- (c) Survey Questionnaire (English And Shona)

• APPROVAL NUMBER	:MRCZ/B/114
The above details should be used on all correspondences, consent forms and documents as appropriate.	
• MRCZ MEETING DATE	: N/A
• APPROVAL DATE	: 27 October, 2010
• EXPIRATION DATE	: 26 October, 2011
• TYPE OF MEETING	: Expedited review

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

SERIOUS ADVERSE EVENT REPORTING: All serious problems having to do with subject safety must be reported to the Institutional Ethical Review Committee (IERC) as well as the MRCZ within 3 working days using standard forms obtainable from the MRCZ Offices.

MODIFICATIONS: Prior MRCZ and IERC approval using standard forms obtainable from the MRCZ Offices is required before implementing any changes in the Protocol (including changes in the consent documents).

TERMINATION OF STUDY: On termination of a study, a report has to be submitted to the MRCZ using standard forms obtainable from the MRCZ Offices.

QUESTIONS: Please contact the MRCZ on Telephone No. (04) 791792, 791193 or by e-mail on mrcz@mrz.zimshare.co.zw.

Yours Faithfully


**MRCZ SECRETARIAT
 FOR CHAIRPERSON
 MEDICAL RESEARCH COUNCIL OF ZIMBABWE**

**MEDICAL RESEARCH
 COUNCIL OF ZIMBABWE**

27 OCT 2010

APPROVED
 P. O. BOX CY 573
 CAUSEWAY, HARARE

Appendix G: Harare City Permission to Carry out Study

		CITY OF HARARE	
Director of Health Services DR STANLEY MUNGOFA MD (Data), MPH, MSc		All correspondence to be addressed to the DIRECTOR OF HEALTH SERVICES	
		Ref: _____ Your Ref: _____	
22 March 2010		DIRECTOR OF HEALTH SERVICES Rowan Martin Building Civic Centre, Pennycuik Avenue, off Rufaro Road, Harare, Zimbabwe. P. O. Box 296 Telephone: 753326 753326/1/2 Fax: (263-4) 752094	
Mr S Shamu University of Zimbabwe Department of Community Medicine <u>HARARE</u>			
Dear Sir/Madam:			
RE: <u>DATA COLLECTION – DYNAMICS OF INTIMATE PARTNER VIOLENCE (IPV)</u>			
I refer to your letter concerning the above.			
Permission has been granted for you to carry out the Dynamics of Intimate Partner Violence (IPV) and the risk of HIV among pregnant women in City Health Clinics.			
For further assistance liaise with the Sisters In Charge of the clinics.			
Yours faithfully 			
<u>DIRECTOR OF HEALTH SERVICES</u> PC/rm			
c.c.	ADHS(N)	-	Clinics
	Sisters In Charge		