

**UNIVERSITY OF THE WESTERN CAPE**  
**Faculty of Community and Health Sciences**

**Barriers to condom use in serodiscordant couples where one partner was on ART at the UZ Clinical Research Centre, Harare, Zimbabwe**

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*A mini thesis submitted in partial fulfilment of the requirements for the Degree of Master in Public Health, School of Public Health, University of the Western Cape.*

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Barriers to condom use in serodiscordant couples where one partner was on ART at the UZ  
Clinical Research Centre, Harare, Zimbabwe

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**KEYWORDS**

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Prevention

Serodiscordant couples

HIV risk

Sexual behavior

Unprotected sex

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Barriers

Thematic analysis



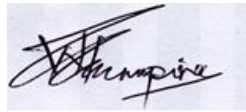
## DECLARATION

I declare that '*Barriers to condom use in serodiscordant couples where one partner was on ART at the UZ Clinical Research Centre, Harare, Zimbabwe*' is my own work, that it has not been submitted for any degree or examination in any other University, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Wilfred T. Gurupira

November 2015

Signed:



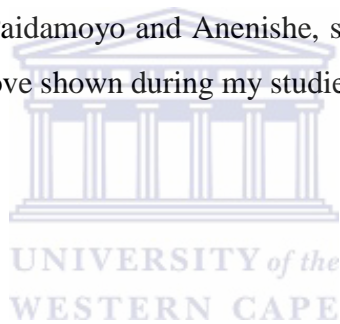
## LIST OF ABBREVIATIONS

<b>AIDS</b>	-	Acquired Immuno-Deficiency Syndrome
<b>ART</b>	-	Antiretroviral therapy
<b>DAIDS</b>	-	Division of AIDS
<b>HIV</b>	-	Human Immunodeficiency Virus
<b>HPTN</b>	-	HIV Prevention Trials Network
<b>IRB</b>	-	Institutional Review Board
<b>MoHCC</b>	-	Ministry of Health and Child Care
<b>MRCZ</b>	-	Medical Research Council of Zimbabwe
<b>NIH</b>	-	National Institutes of Health
<b>PSI</b>	-	Population Services International
<b>SSA</b>	-	Sub-Saharan Africa
<b>STI</b>	-	Sexually transmitted infection
<b>UCSF</b>	-	University of California, San Francisco
<b>UNAIDS</b>	-	United Nations Joint Programme on HIV/AIDS
<b>UWC</b>	-	University of the Western Cape
<b>UZ</b>	-	University of Zimbabwe
<b>UZ CRC</b>	-	University of Zimbabwe Clinical Research Centre
<b>WHO</b>	-	World Health Organization
<b>ZDHS</b>	-	Zimbabwe Demographic and Health Survey

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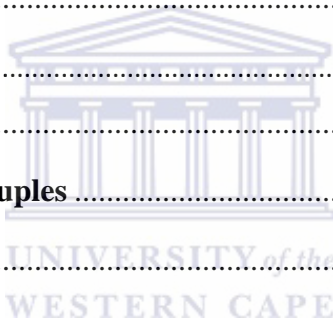


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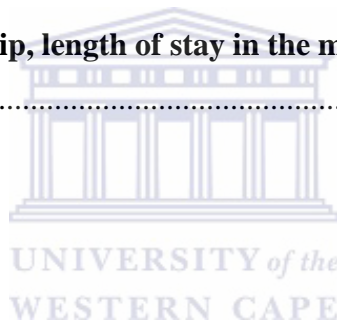


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## ABSTRACT

The HIV prevalence rate in Zimbabwe has been estimated at 15% (15 years old and above), which is one of the highest in the world, and HIV/AIDS remains a significant public health problem. The focus of HIV prevention strategies has been on heterosexual transmission since this is the primary driver of the HIV epidemic in Zimbabwe. Heterosexual serodiscordant couples represent an important subpopulation for HIV prevention but are not well studied in Zimbabwe. In Harare almost all serodiscordant couples participating in the HPTN 052 study reported correct and consistent condom use. However, rates of STIs and pregnancies showed that couples in the study continued to have unprotected sex, in spite of intensive couples' counselling, quarterly follow up visits and provision of condoms.

The aim of this qualitative study was to explore barriers to condom use by these serodiscordant couples in which one partner was on ART in Harare, Zimbabwe. It used a two stage qualitative approach with semi-structured interviews being the primary method of data collection. These interviews were conducted on a sample of five study staff, 15 serodiscordant couples and individuals enrolled in the HPTN 052 study in Harare, Zimbabwe after consent was obtained. Thematic analysis was used to analyse data collected.

The study findings showed that partners were in a fairly large age range (30 to 50+ years) with males being slightly older than females. Seven males and five females were HIV positive. Couples had a wide variation in the length of their relationships, from one month to over 15 years as a couple. The study findings also showed that individuals in serodiscordant relationships understood serodiscordance. Problems unique to these couples were identified and broadly categorized as dealing with an HIV positive result, accepting serodiscordance, and difficulty of disclosing serodiscordance to family. Couples also showed understanding of the importance of condom use in a discordant relationship. The most common reason for using condoms was to prevent transmission of HIV to the uninfected partner. The main barriers to condom use were the strong desire to have children, male partner reluctance to use condoms and the influence of the negative partner in determining condom use.

Based on these findings, a nuanced approach to prevention strategies, such as condom use and couples counselling and testing, is required. The aim should be to increase understanding of serodiscordance, risk and condom use at all sessions or contacts with couples.

## CHAPTER 1: DESCRIPTION OF THE STUDY

### 1.0 Introduction

The HIV prevalence rate in Zimbabwe has been estimated at 15% (15 years old and above), which is one of the highest in the world, and HIV/AIDS remains a significant public health problem (UNAIDS, 2014a; UNAIDS, 2014b). The Government of Zimbabwe has consistently made HIV prevention a national priority, with the focus of prevention strategies being on heterosexual transmission since this is the primary driver of the HIV epidemic in Zimbabwe (Gregson *et al.*, 2010; NAC, 2011; Government of Zimbabwe, 2014).

Zimbabwe was the first country in the southern African region to record convincing declines in HIV prevalence (UNAIDS, 2005; Gregson *et al.*, 2010). HIV prevalence fell from 29.3% in 1997, to 15% in 2013. The decline has been attributed to two main factors: (1) successful implementation of prevention strategies especially behaviour change, high condom use, and reduction in multiple sexual partners (2) high mortality due to low ART coverage (Gregson *et al.*, 2010; Halperin *et al.*, 2011; Government of Zimbabwe, 2014). Reduction in multiple sexual partners is thought to be the primary reason why HIV prevalence declined in Zimbabwe (Gregson *et al.*, 2010; Halperin *et al.*, 2011). However, it has also been acknowledged that successful implementation of prevention strategies especially behaviour change and high condom use created the awareness and conditions necessary for decline in prevalence (Gregson *et al.*, 2010; Halperin *et al.*, 2011; Government of Zimbabwe, 2014).

The response to the HIV epidemic in Zimbabwe has been guided by the many policies and documents dating back to 1987 ([www.nac.org.zw](http://www.nac.org.zw)). The prevention strategies that have been developed or adapted and implemented from 1987 to date were part of a combination prevention strategy that included social and behaviour change communication, blood safety, condoms promotion and distribution, prevention of mother to child transmission (PMTCT), control and management of sexually transmitted infections, and HIV testing and counselling (NAC, 2011; Government of Zimbabwe, 2014). The combination prevention strategies used in Zimbabwe with fairly high levels of success have mostly focused on individual behaviour change and communication, and have largely ignored the context in which risky sexual

behaviour or transmission occurs. For instance, all sexual transmission of HIV-1 occurs within a serodiscordant couple, whilst heterosexual sexual transmission is the main driver of the HIV epidemic in Zimbabwe (Gregson *et al.*, 2010). HIV prevention strategies in Zimbabwe have largely excluded heterosexual serodiscordant couples in which HIV negative partners happen to be at especially high risk of being infected. Whilst the probability of HIV transmission in heterosexual vaginal intercourse is low (Powers *et al.*, 2008; Boiley *et al.*, 2009), the large number of unprotected sexual acts in HIV serodiscordant partnerships compounds the risk (Buchacz *et al.*, 2001). Heterosexual serodiscordant couples represent an important subpopulation for HIV prevention but are not well studied in Zimbabwe.

Zimbabwe has a high rate of condom use. A cross sectional survey conducted by Population Services International (PSI) between 2010 and 2013 showed reported condom use with a non-regular partner to have increased from 65.6% in 2010 to 71.1% in 2013 (Jasi *et al.*, 2014). However, studies have also shown that condom use with regular sexual partners, particularly within marriage, is shunned in Zimbabwe and is therefore very low (Adetunji, 2000; Callegari *et al.*, 2008; McClellan *et al.*, 2010; de Walque & Kline, 2011). The latest Demographic and Health survey showed that the rate of condom use in marriage is low, with less than 4% of married respondents reporting current use of condoms with their spouse (ZIMSTAT, 2012). Whilst research has been done on condom use in couples, few studies have focused on condom use in serodiscordant couples in Zimbabwe.

### **1.1 Background to the study**

This qualitative study, carried out at the University of Zimbabwe Clinical Research Centre (UZ CRC) in Harare Zimbabwe, sought to explore barriers to condom use in serodiscordant couples where one partner was on ART. UZ CRC was the Zimbabwean site of the HIV Prevention Trials Network (HPTN) 052 study, a multicentre trial conducted at 13 sites in four continents and 9 countries. The purpose of HPTN 052 was to determine the effectiveness of ART in preventing sexual transmission of HIV-1 among serodiscordant couples (HPTN 052 Protocol, Final version 3.0, 20 November 2006). Serodiscordant couples were randomly assigned to either early or delayed receipt of antiretroviral therapy in a 1:1 ratio. Couples were also given access to the full range of HIV prevention tools such as risk reduction counselling and education on condom use. Condoms were also provided during the entire duration of the study.

When HPTN 052 was developed and implemented, the study team had anticipated very few pregnancies assuming that condoms would be used and would be effective as contraception and for prevention of STIs. More than expected numbers of pregnancies and STIs were recorded during the conduct of HPTN 052.

A total of 10 838 participants were screened, 3526 participants were identified and enrolled as 1763 ART-naive serodiscordant couples into the study HPTN 052 (Cohen *et al.*, 2011). UZ CRC contributed 240 couples. The majority of couples enrolled into HPTN 052 were heterosexual and married (97% and 94% respectively), with 50% of the HIV-infected participants being men in the whole study population but women being the HIV-infected partner in 58% of the couples in Africa. At the time of enrollment, 73% of infected partners and 72% of uninfected partners reported having had at least one sexual encounter in the last week, with 5% and 6% respectively, reporting having had unprotected sex (Cohen *et al.*, 2011). Less than 5% of the participants had an STI at enrollment. At all sites, 87% of the couples enrolled still remained at the end of HPTN 052 with UZ CRC having 178 discordant couples (out of 240 enrolled) and 36 HIV positive individuals on follow-up at the time the HPTN 052 study ended (Cohen *et al.*, 2015). This qualitative study sampled from the participants who remained in the study at the Harare site (178 couples and 36 HIV positive individuals).

For the study HPTN 052, couples were required to have been in a stable sexual relationship for the past 3 months, to have reported three or more episodes of vaginal or anal intercourse in that period, and be willing to disclose their HIV status to their partner (HPTN 052 Protocol, Final version 3.0, 20 November 2006). After enrollment, couples were asked to attend three monthly visits initially, then quarterly visits with HIV uninfected partners being encouraged to return for visits together with their infected partners. Uninfected partners were tested for HIV seroconversion every quarter and those that seroconverted were exited from the study into local standard of care. The HPTN 052 study, being a well-funded clinical trial, provided the most ideal conditions for condom use promotion and monitoring of condom use. Within these ideal conditions, there was clear proof that some serodiscordant couples were not using condoms and some did not want to use condoms.

Preliminary results showed that the use of ART by the HIV positive partner can reduce the risk of transmission of HIV by 96% (Cohen *et al.*, 2011). From May 2011 to May 2015, results showed a 72% risk reduction, with a 93% risk reduction for the entire study (Cohen *et al.*, 2015). The conclusion was that ART is highly effective for the prevention of sexual transmission of HIV and that the benefit of early ART in HIV prevention among HIV-serodiscordant couples is durable. At the time of presentation of preliminary results, researchers noted 39 new infections in previously uninfected partners, of which 28 were genetically linked to the HIV-infected partner, which occurred mostly at African sites [82%] (Cohen *et al.*, 2011). HIV-infected women were the source of infection in the 28 linked transmissions, whilst 11 unlinked infections came from outside the stable sexual partnership. From May 2011 to May 2015, 32 new infections were noted, of which 9 could be linked to the infected partner (Cohen *et al.*, 2015). These results, together with pregnancy data, were proof of unprotected sex in these discordant couples both within and outside the relationship.

## **1.2 Problem statement**

This qualitative study sought to understand why couples, in which partners knew of their HIV discordant sero-status and in which one partner was at high risk of HIV infection, were not using condoms, an effective method of preventing HIV transmission, despite intensive and repeated counselling and condoms being readily available.

In the screening and recruitment phase (2004 – 2005) when the study HPTN 052 began, HIV serodiscordance was relatively unknown and there were various myths and misconceptions about it in Zimbabwe. UZ CRC was the only institution at the time which was actively following up and providing care and treatment for serodiscordant couples in Zimbabwe. Besides publicizing the study, the study team also had to spend time raising public awareness on HIV serodiscordance. The catchment area for HPTN 052 study participants was a 140 km radius around Harare. Participants for the HPTN 052 study, and thus for this qualitative study, were drawn from urban and peri-urban (mostly farming areas) in Harare.

During the conduct of HPTN 052 study, it was noted that serodiscordant couples were having

unprotected sex in spite of the immediate risk of HIV transmission and various HIV prevention messages. Evidence of continued unprotected sex by these couples presented as pregnancies and STIs during the follow up period. As part of HPTN 052 study procedures, information on couples sexual behaviour and condom use, in particular, was collected at every quarterly visit via self-reporting. All information collected was documented and filed in participant specific files kept at UZ CRC. As part of couples counselling procedures, the study Counsellors discussed HIV education and reinforced ways to consistently protect the HIV negative partner from infection (HPTN 052 couples and HIV counselling checklists, revised 23 December 2004). Counsellors also discussed couples condom use including consistency, frequency, techniques, couples experience and barriers to use.

In Harare, as with other sites participating in HPTN 052, almost all couples reported correct and consistent condom use at the majority of their visits during the course of the study. However, rates of STIs and pregnancies showed that couples in the study continued to have unprotected sex in spite of intensive couples counselling, quarterly follow up visits and provision of condoms (unpublished data). Some participants had multiple serial pregnancies and recurrent treatment for STIs during the course of the study. Wet mount samples from female participants collected at every yearly visit also showed the presence of sperm at times, further evidence of unprotected sex. The discrepancy between reported and actual condom use was an area that was not fully explored within the main HPTN 052 study. Using self-reports and quantitative data collection limited the HPTN 052 study from obtaining an accurate description of serodiscordant couples sexual behaviour, the reasons for such behaviour and the motivation (or lack thereof) for using condoms. The purpose of this parallel qualitative study was to identify barriers to condom use by serodiscordant couples enrolled into the main HPTN 052 study at UZ CRC in Harare, Zimbabwe.

HPTN 052 study was designed and implemented as a biomedical intervention with strong realist and quantitative research thinking. In order to comprehensively identify barriers to condom use in serodiscordant couples, a qualitative research philosophy was chosen. Also, the perceptions of the partners in the couples and the context in which they live and use condoms was considered. As such, this qualitative study also served to elicit opinions of the serodiscordant couples regarding the challenges they face as couples, their understanding of



serodiscordance, risk of HIV infection, and for couples to give their reasons for and against condom use in their relationships. This study also considered the opinions of HPTN 052 study staff members working closely with the serodiscordant couples, on condom use within discordant couples and reasons the couples gave for and against using condoms. It was anticipated that perspectives from the couples and staff members from the HPTN 052 study would provide the personal, relational and emotional factors that enable or hinder condom use in serodiscordant couples. The findings from this study could assist in refining the implementation of condom use programmes for couples and refining the information used for Couples HIV Counselling and Testing (CHCT).

### **1.3 Assumptions**

Some assumptions were made in characterizing the research problem for this study. Firstly, there was an implicit assumption that couples who knew their serodiscordant status would be proactive and take all necessary steps to prevent the HIV uninfected partner from infection. It was also assumed that protected sex and condom use was 'good' and beneficial to the partners within the serodiscordant relationship. This extended to a possible value judgment that protected sex could, and should, be desired by such couples. Secondly, there was an assumption that a real or measurable discrepancy existed between actual condom use and reported use. Also, it was assumed that quantitative data collection procedures used in the main HPTN 052 study would be superseded by a qualitative data collection approach to obtain sexual behaviour of couples. Finally, it was also assumed that it would be possible to explain couples sexual behaviour and the reasons for such behaviour using a qualitative research design and interviews as the primary data collection method.

## CHAPTER 2: LITERATURE REVIEW

### 2.0 Introduction

This qualitative study sought to identify barriers to condom use in serodiscordant couples where one partner was on ART. To understand how serodiscordant couples are situated as a subpopulation of people living with HIV, and how condom use is part of a larger HIV prevention effort, literature on HIV (statistics, prevention, risk), serodiscordance and condom use was reviewed.

In this chapter a review of the key literature regarding the research topic is presented. Firstly, an overview of HIV/AIDS is presented, from the global situation to the local (Zimbabwean) context. Secondly, literature on current trends in HIV prevention, and issues on HIV risk is reviewed. Discussions in the literature on HIV serodiscordance, conception and risk and HIV transmission in serodiscordant couples are also reviewed. Finally, condom use in general and condom use in serodiscordant couples in particular, including barriers to use, is reviewed.

### 2.1 Overview of HIV/AIDS

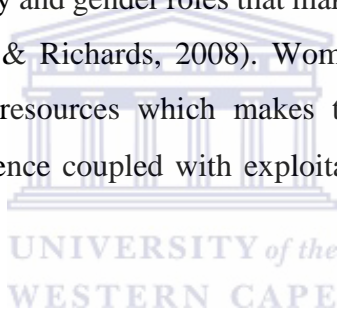
HIV/AIDS is a global heterosexual epidemic in which women are particularly vulnerable and where stable heterosexual relationships are the driving factor (Persson & Richards, 2008). In 2013, there were 35 million people living with HIV in the world, whilst 2.1 million people became newly HIV infected (UNAIDS, 2014a). UNAIDS also estimates that around 78 million people have become infected with HIV and 39 million people have died of AIDS-related illnesses (UNAIDS, 2014a). These figures, whilst high, represent tremendous results from the response to the HIV pandemic. For example, the figure of 2.1 million people newly infected in 2013 was down from 3.4 million in 2001, and the number of AIDS-related deaths at 1.5 million in 2013, was down 35% from the peak in 2005 (UNAIDS, 2014a).

Global HIV statistics show a high burden of disease in sub-Saharan Africa (SSA), with southern Africa bearing the brunt of the problem (UNAIDS, 2014a). It is estimated that in 2011, 69% of people living with HIV and 70% of deaths from AIDS were in SSA. In 2013, there were 24.7 million people living with HIV in SSA, with women making up 58% of the total number of people living with HIV (UNAIDS, 2014a). In the same year, there were an estimated 1.5 million new HIV infections in the region. SSA accounts for about 70% of the



global total of new HIV infections (UNAIDS, 2014a). The number of new infections has also been reported to be declining worldwide, with SSA having a 20% decline since 2001 (UNAIDS, 2014a). Of note is that three out of four people on ART live in sub-Saharan Africa but treatment coverage is at 37% - 67% of men and 57% of women who required treatment were not receiving ART in 2013 (UNAIDS, 2014a).

The HIV pandemic has a skewed distribution – 95% of people with HIV/AIDS live in the developing world, and 75% of these are from SSA (UNAIDS, 2014a). Women bear the greatest of the disease burden: they are the majority of people living with HIV, and they are at greater risk of becoming newly infected, with women in lasting cohabitating relationships being at the highest risk of HIV acquisition (UNAIDS, 2014a). The high prevalence and incidence in women has been attributed by biomedical literature to physical and socio-political factors including sexual inequality and gender roles that make women more vulnerable and at risk of acquiring HIV (Persson & Richards, 2008). Women do not have equal access to economic, social and political resources which makes them dependent and powerless. Domestic abuse and sexual violence coupled with exploitation reduces women's ability to negotiate for safe sex.



The attribution of women's vulnerability has been criticised, particularly by social scientists, for focusing on a simplistic understanding and interpretation of gender. The word 'gender' has been taken to mean the same as 'women' (Dowsett, 2003). Persson and Richards argued that simplifying gender: "works against an understanding of cultural gender norms as affecting both men and women. Such norms make men also vulnerable to HIV in different ways" (Persson & Richards, 2008: 800). More work and research is needed to give a holistic understanding of men's, women's and couples experiences with HIV and exploring vulnerability to HIV infection in terms of relationships, love, intimacy and sexuality.

### **2.1.1 HIV/AIDS in Zimbabwe**

Zimbabwe is one of the countries in SSA with a high prevalence of HIV. In the country, the HIV/AIDS epidemic is described as being 'generalized and heterosexually driven' - adult prevalence of 15% and an incidence of 0.98% (Government of Zimbabwe, 2014; National

AIDS Council, 2014). It is estimated that about 1.4 million people are living with HIV/AIDS in Zimbabwe, with more than half (720 000) being women aged 15 years and above (UNAIDS, 2014b). As is the case in the rest of SSA, women in Zimbabwe bear the brunt of disease: HIV prevalence in the 15-24 age group for women is 1.5 times higher than in men (Duri, *et al.*, 2013; Government of Zimbabwe, 2014).

The first AIDS case in Zimbabwe was reported in 1985 and HIV prevalence peaked at 26% in 1997 (Government of Zimbabwe, 2014). The Government declared HIV and AIDS a national emergency in 2002. Since this time, the prevalence has been steadily declining to the current 15% prevalence. The decline has been attributed to two main factors: successful implementation of prevention strategies and high mortality due to low ART coverage (Gregson *et al.*, 2010; Halperin *et al.*, 2011; Government of Zimbabwe, 2014). Analysis of the distribution of HIV prevalence in the country shows that small towns, farms and mines have an HIV prevalence that exceeds the major cities (Duri, *et al.*, 2013). Harare, the capital city, is estimated to have the lowest HIV prevalence at 13.1% (Celum *et al.*, 2008; Abdool-Karim *et al.*, 2011; Duri, *et al.*, 2013).

The HIV/AIDS epidemic in Zimbabwe is driven mainly by heterosexual sexual transmission (Government of Zimbabwe, 2014; National AIDS Council, 2014). Zimbabwe has an interesting piece of legislation related to HIV and sexual offences called the Criminal Law (Codification and Reform) Act of 2004. This law makes it a crime for a person with knowledge of their HIV status to infect another, even between husband and wife. The wisdom of such legislation to criminalise transmission, exposure or non-disclosure of HIV has been the subject of much debate (Duri, *et al.*, 2013). This piece of legislation seems to be a contradiction given the Government response to HIV and AIDS, and has important implications for couples, especially HIV serodiscordant ones, on issues such as voluntary testing and disclosure.

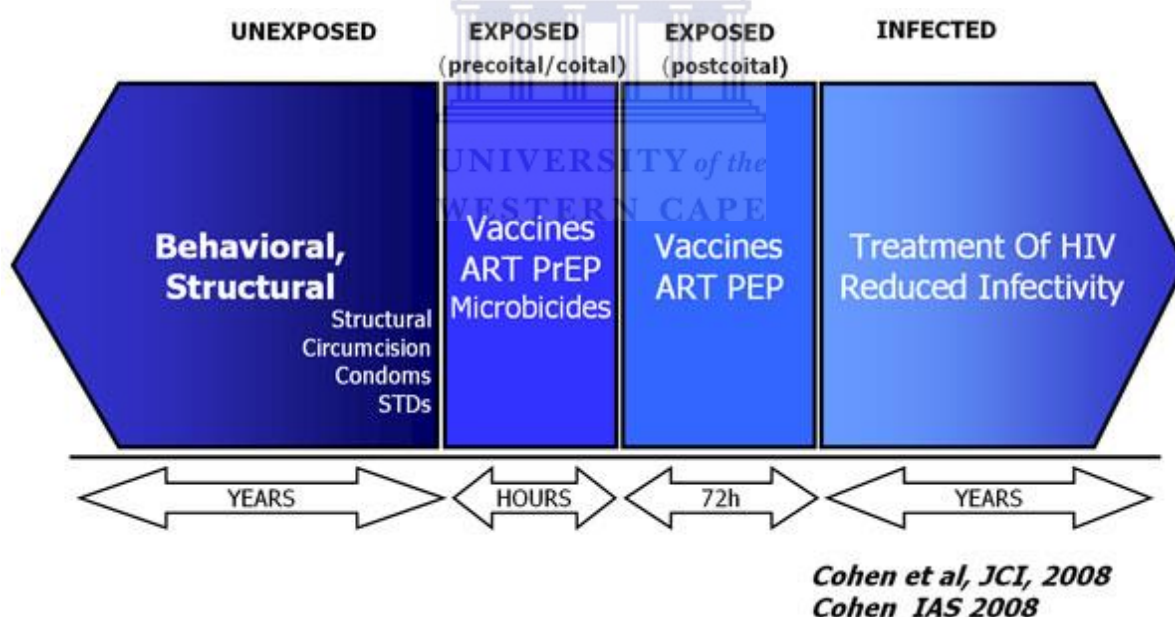
## **2.2 HIV prevention**

HIV prevention efforts and strategies have been closely related to breakthroughs in the science and understanding of HIV as a virus and evidence from research and programmes implemented to combat the disease. Recognition from epidemiological studies that the causative agent of AIDS was spread sexually led to prevention strategies focusing on sexual

behaviour change (Padian *et al.*, 2008). Further studies led to a focus on modifiable risk factors for HIV transmission such as treatment of sexually transmitted infections and male circumcision (Greenblatt *et al.*, 1988; Bongaarts *et al.*, 1989). Since then, quite a number of other strategies have been used such as improved physical barrier methods, up-scaling voluntary male circumcision in populations, and antimicrobial products for HIV prevention. Whilst all these prevention efforts have had an effect in reducing HIV prevalence in some populations, it is now widely agreed that much more is required to end the epidemic (Padian *et al.*, 2008; Cohen *et al.*, 2008a; Baeten, 2008).

It has been recognized that there are four distinct opportunities for HIV prevention: before exposure, at the time of exposure, immediately after exposure and amongst people living with HIV (Cohen *et al.*, 2008b). This is illustrated in figure 1 below.

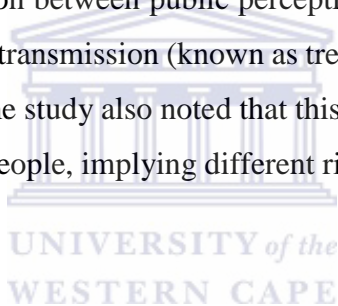
**Figure 1. HIV prevention opportunities** (Cohen *et al.*, 2008b).



This sequencing for HIV prevention coupled with scientific and technological developments have led to newer strategies using ART. To prevent HIV acquisition (also known as prevention for HIV negatives), ART is being used for pre- and post-exposure prophylaxis as well as for prevention of Mother-to-Child transmission (Padian *et al.*, 2008). Vaginal microbicides containing ART are also being developed and studied for use in prevention (Beaten, 2008).

To prevent transmission from HIV positive persons, ART is being used to reduce viral load and hence infectivity as shown by the study HPTN 052 (Cohen *et al.*, 2011; Sigaloff *et al.*, 2014). This concept has come to be known as ‘treatment as prevention’ [TasP] (Chen, 2013; Sigaloff *et al.*, 2014).

The challenge with research into HIV prevention and subsequent scale of interventions is that other factors, which are not biomedical, are involved. These factors include cost of the intervention, community acceptability, potential side-effects and benefits (Padian *et al.*, 2008). Added to this, for most biomedical interventions to succeed, there must be high adherence. There is also concern that some interventions may result in disinhibition thereby cancelling the effectiveness of other interventions or leading to an increase in HIV transmission (Chen, 2013). A case in point is treatment as prevention – a study by Chen (2013) found that there was an association between public perception on how much protection HIV treatment can offer in preventing transmission (known as treatment-related optimistic beliefs) and risk of transmission. The same study also noted that this association was not the same for HIV positive and HIV negative people, implying different risks for being infected and risk of infecting another.



### **2.3 HIV and Risk**

The transmission of HIV is related to the risk of exposure to the virus - the more exposed an individual is, the more likely the chances of acquiring the infection. Risk is defined as: “the risk of exposure to HIV or the likelihood that a person may become infected with HIV” (UNAIDS, 2011: 24). In biomedical literature, HIV risk is related to situations (or behaviour) that increase the chances of HIV transmission (Sangaramoorthy, 2012). For example, in Zimbabwe about 90% of new HIV infections are from sexual transmission, with low-risk sex being the major source (57.6%) of new HIV infections (Government of Zimbabwe, 2014). It is believed that this category is most affected because of high sexual networking and low condom use. More likely is that the repeated low-risk sexual acts translate into a significant cumulative risk over time (Buchacz *et al.*, 2001; Lasry *et al.*, 2014).

It has been argued that the conceptualization of risk is based on the positivistic logic of linearity

between knowledge and behaviour, meaning knowledge of risks would lead to taking action to avoid the risks whilst taking risks is irrational (Persson, 2012). It is quite likely that this view of risk may not be shared by lay people in general, and discordant couples in particular. The perception of risk is subjective and people classified as being at 'high risk' may not perceive themselves to be at high risk. Notably, the actual definition of 'low risk sex' is not clearly defined in literature. Persson has argued specifically that HIV risk is part of a hierarchy of risk that these couples face and that: "HIV risk can be superseded by other risks and priorities" (Persson, 2012: 4). These other priorities could be desire to be in a relationship for emotional, economic and social benefits, and a desire to have children.

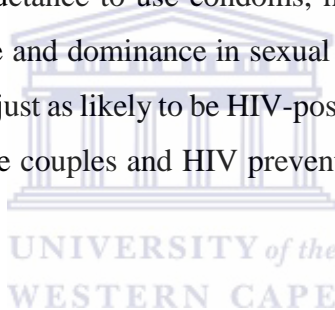
#### **2.4 HIV Serodiscordance**

Individuals in stable relationships are a group that is increasing being investigated in HIV research because of the role of concurrent relationships in HIV transmission and the personal and socio-cultural issues that influence sexual behaviour in couples. It has been demonstrated that uninfected partners in serodiscordant couples are at high risk of infection (Eyawo *et al.*, 2010). The term (HIV-1) serodiscordant couple has been defined as: "an intimate partnership in which one person is HIV-positive and the other HIV-negative" (Muessig & Cohen, 2014: 434). In SSA, it is estimated that half of HIV-positive people have negative partners and that the percentage of serodiscordant partnerships is 0 – 6% in generalized epidemics and 9 – 17% in concentrated epidemics (Chemaitelly *et al.*, 2012; Curran *et al.*, 2012). 11% of 2700 co-habiting couples in Zimbabwe were shown to be serodiscordant (ZIMSTAT, 2012).

Despite the numerous programmes and campaigns, some issues regarding HIV/AIDS are still misunderstood by the general population and communities. Serodiscordance is one example. HIV serodiscordance is not well understood and there are many misconceptions about the phenomenon (Were *et al.*, 2008; WHO, 2012). Some of these misconceptions include the perception that serodiscordance results from promiscuity by one partner, that if one partner in a relationship is HIV positive then the other partner is also infected, and that couples in a stable sexual relationship have or should have the same HIV status (Were *et al.*, 2008; Gitonga *et al.*, 2012). The effect of these misconceptions is denial of serodiscordance, distrust of discordant results by the public, and non-disclosure to family by serodiscordant couples due to fear.

Serodiscordant couples also face a variety of other problems which are social, sexual and relational. A study by Vandevanter *et al.* (1999) identified four major challenges that these couples face: dealing with emotional and sexual impact on the couple relationship, confronting reproductive decisions, planning for the future of the surviving partner, and disclosure to family and friends. The emotional challenges that couples face include trust issues, whether to remain as a couple, managing HIV as an infection and negative impact on sex (Vandevanter *et al.*, 1999; Persson, 2008). In order to overcome these challenges, it has been suggested that communication between partners in the relationship is vital (Persson, 2008).

Men and women are equally likely to be HIV-positive in serodiscordant couples (Eyawo *et al.*, 2010, Cohen *et al.*, 2011). Previously it was thought that men were the source of HIV infection in a relationship due to male reluctance to use condoms, higher number of sexual partners, higher incidence of alcohol abuse and dominance in sexual negotiation (Eyawo *et al.*, 2012). The fact that men and women are just as likely to be HIV-positive in discordancy has important implication for research into these couples and HIV prevention messaging which has mainly targeted the male partner.

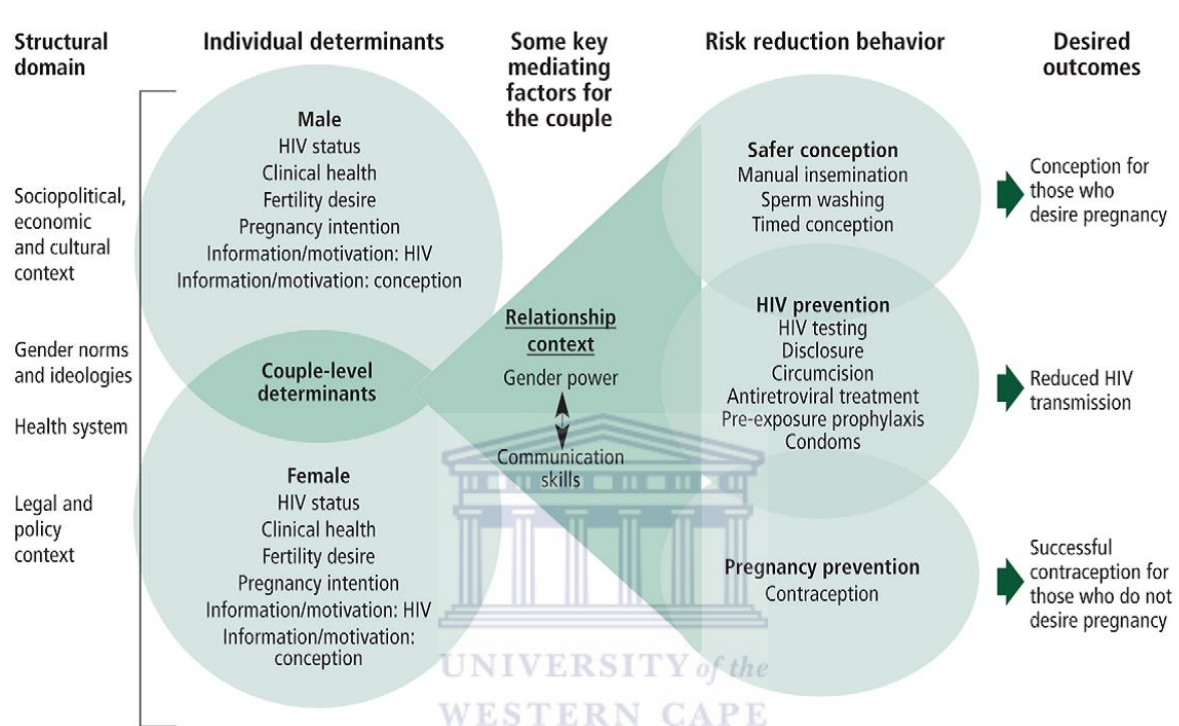


#### Conception in serodiscordant couples

With advances in ART, pregnancy and desire for children has increased in serodiscordant couples (Guthrie *et al.*, 2010; Crankshaw *et al.*, 2012; Berhan & Berhan, 2013). Studies have shown that during pregnancy for such couples, the risk of HIV acquisition and transmission may increase (Moodley *et al.*, 2009; Mugo *et al.*, 2011). The desire to have children and pregnancy may override concerns of HIV acquisition and transmission as part of a complex mix of individual decision-making, couple dynamics and context (Guthrie *et al.*, 2010; Crankshaw *et al.*, 2012). Some researchers have developed a conceptual framework to show the complexity of couple behavior particularly in the context of fertility as shown in Figure 2 below. The framework provides awareness for those dealing with serodiscordant couples regarding the interplay between different factors in conception for these couples and shows specific areas of possible intervention to produce positive outcomes (Crankshaw *et al.*, 2012).



**Figure 2. Conceptual framework of the processes involved in periconception decision making and behavior in heterosexual serodiscordant couples (Crankshaw *et al.*, 2012: 52)**



### Risk and HIV transmission

All sexual transmission of HIV occurs in a serodiscordant scenario, that is, one partner in the sexual encounter has to be HIV infected whilst the other partner is not. The risk of transmission in serodiscordant couples is affected by many variables such as a repeated exposure to the virus through unprotected sex, high viral load in the infected partner, multiple partners and uncircumcised male partner (Kahle *et al.*, 2013). A study by Hughes *et al.* (2011) estimated that the probability of HIV transmission in stable heterosexual couples was 1-2 cases per 1000 coital acts with the viral load of the infected partner being the main driver of transmission. The same study also found that after adjusting for viral load, male-to-female and female-to-male transmission rates were similar and that older age was associated with reduced transmission (Hughes *et al.*, 2011). A systematic review of HIV transmission in heterosexual couples where

one partner had full viral suppression due to ART showed that there was minimal risk of transmission (Loutfy *et al.*, 2013).

Kahle *et al.* (2013) developed a risk score to identify stable serodiscordant couples at higher risk than other serodiscordant couples for transmission of HIV. The predictors of high risk as developed and validated by this model include: age of uninfected partner, number of children, uncircumcised male partner, viral load of the HIV infected partner and unprotected sex within the relationship in the last 30 days (Kahle *et al.*, 2013). The most important predictors were age of uninfected partner, with partners aged 20 years or less contributing to highest risk, and plasma viral load of 50 000 copies or higher contributing to high risk. Despite this risk score model and studies on risk in serodiscordant couples, there is data to suggest that sexual transmission risk in serodiscordant couples may remain constant even with repeated exposure (Baggaley, White, & Boily, 2010).

Much of the available literature has focused mostly on HIV transmission risks in serodiscordant couples overlooking relational and decision-making dynamics within these couples (Persson & Richards, 2008). Couples are complex and the term serodiscordant couple does not quite capture this. Couples do not stay together, hence they do not remain discordant forever; they may temporarily or permanently split, get back or involve partners outside the relationship (Cohen *et al.*, 2011; Muessig & Cohen, 2014). A number of qualitative studies have been done involving serodiscordant couples, with a view to understanding issues such as risk perception, knowledge on discordance, risk reduction behaviour and conception (Eyawo *et al.*, 2010; Curran *et al.*, 2012; King *et al.*, 2012; Ngure *et al.*, 2012; Ware *et al.*, 2012). Most have noted limited knowledge on serodiscordance and challenges in adopting risk reduction behaviour for a variety of reasons. For example, a study was conducted in rural Uganda on serodiscordant couples taking ART to explore and describe the relationships between individual beliefs around discordance, issues surrounding couple relationships and engagement in risk behavior over time (King *et al.*, 2012). The results of the study showed that couple members had divergent views about their HIV status while others described multiple beliefs around the negative partners HIV status (King *et al.*, 2012).



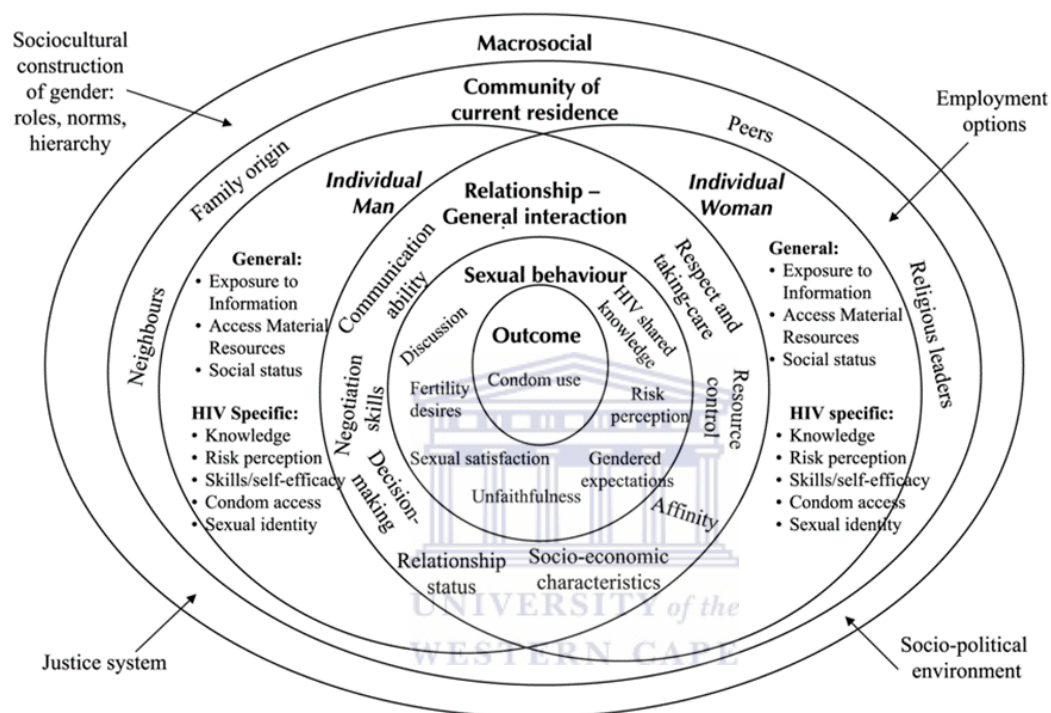
## 2.5 Condom use

Condoms have the dual function of being both a contraceptive and method for preventing transmission of STIs including HIV. A systematic review of the effectiveness of condoms in reducing heterosexual transmission of HIV showed a protective effect of 80%, unadjusted for correct use, and provided condoms were used consistently (Weller & Davis, 2002). Despite the effectiveness of condoms, and that heterosexual sexual intercourse is the main route by which HIV is transmitted, condom use remains relatively low with men reporting more frequent condom use than women, and unmarried individuals using condoms more frequently than partners in a marriage (de Walque & Kline, 2011).

The main barriers to the use of condoms have been classified broadly as cost and scarcity (lack of condoms and low income resulting in people being unable to purchase or obtain condoms), morality, religion (Churches expressly forbidding the use of condoms), social factors (women's inability to negotiate for condom use, male partners refusal to use condoms, association of condom use with promiscuity), commercial sex work (non-condom use in sex workers because of client demands, familiarity with clients limiting condom use), partner characteristics and type of relationship (condoms being used differently in main versus casual partners, differences in condom use between polygamous and monogamous individuals), personal factors (perception of condoms influencing use or non-use, lower education and unemployment decreasing use), substance use, and psychological factors such depression and social anxiety (Sarkar, 2008; Persson, 2012).

Mumtaz, Slaymaker, and Salway (2005) developed a conceptual framework to show the environment in which condom use exist, and the many ways in which factors interact. This framework is shown in figure 3 below. The numerous barriers to condom use exist because the outcome that is condom use occurs in a complex personal, relational and sociocultural environment with variables at each level that interact in complex ways to influence sexual behaviour (Mumtaz, Slaymaker, & Salway, 2005).

**Figure 3: Dynamics of sexual behaviour: Influence of individual, community, and macrosocial variables on the sexual behaviour of couples (Mumtaz, Slaymaker, & Salway, 2005)**



### Condom use in serodiscordant couples

It has been shown that condoms can decrease HIV transmission by more than 70% in serodiscordant couples when used consistently (Giannou *et al.*, 2015). Just as in other couples, use of condoms by serodiscordant couples is low and inconsistent (Buchacz *et al.*, 2001; Persson, 2012). Many reasons why serodiscordant couples do not use condoms in their relationship have been put forward and include absence of illness or HIV symptoms, negative perceptions of condoms including male partner reluctance, greater HIV optimism, desire for children, and desire for normalcy (Buchacz *et al.*, 2001; Corbett *et al.*, 2009; Persson, 2012; Magada, 2014). The complexity of couple dynamics in serodiscordant relationships, such as greater need for acceptance and reciprocated love and achieving a sense of normalcy, has been

proposed as the reason why condom use in these couples is different than in other heterosexual relationships (Corbett *et al.*, 2009; Persson, 2012).

Differences between the technical and lay perspective may explain inconsistent condom use amongst couples. Corbett *et al.* (2009) have argued that in relationships, partners may not act in rational ways such as using condoms or practicing safe sex. Other factors (couple and sexual dynamics within couples) related to sexual behaviour within a relationship also influence the decision to use condoms (Persson, 2012). These factors are in turn influenced by cultural, social and socio-economic determinants, for example, gender inequality and differential power relations within couples, partners' beliefs on condom use, for example, that condoms feel unnatural and reduce sexual pleasure (Corbett *et al.*, 2009; Persson, 2012). Potts *et al.* (2008) have pointed out that condom use is difficult to maintain in regular (and particularly multiple concurrent) partnerships in spite of awareness and knowledge on the use of condoms. This may be due to both male and female attitudes on incorrectness of condom use within marriage (Adetunji, 2000; Callegari *et al.*, 2008). Corbett *et al.* have summarised the challenge by stating that: "condom use may be inconsistent with relationship ideals of intimacy, trust and fidelity" (Corbett, *et al.*, 2009: 218).

#### Barriers to condom use in serodiscordant couples

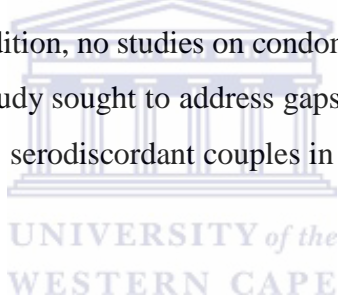
A qualitative study done in Iran explored the barriers to condom use among women at risk of HIV/AIDS (Lofti *et al.*, 2012). The definition of the risk was based on risky sexual behavior of either the woman or her partner. This study determined that there were two categories of barriers namely personal and socio-environmental (Lofti *et al.*, 2012). Personal barriers included perceived lack of control, loss of motivation for protection, lack of threat based on trust and loyalty and misconceptions about HIV transmission. Socio-environmental barriers included unsupportive environments such as lack of partner support, financial needs and cultural norms encompassing gender roles, and lack of condom acceptance by the general population.

Another qualitative study of serodiscordant couples was done in two districts (Thika and Nairobi) in Kenya with the aim of exploring barriers to consistent condom use among heterosexual HIV-1 serodiscordant couples (Ngure *et al.*, 2012). In this study, most of the

couples reported having difficulty with consistent condom use. The main challenges to consistent condom use identified included reluctance to use condoms by male partners, combined with female partners' inability to negotiate for condom use, and reduced sexual pleasure reported by both male and female partners (Ngure *et al.*, 2012). Other challenges noted were poor knowledge of condom use leading to condom breakage, misconceptions about HIV-1 serodiscordance, challenges in disclosing HIV-1 positive results to new sexual partners, and desire for conception.

## **2.6 Conclusion**

The literature reveals quite a number of diverse studies done on or with serodiscordant couples (Eyawo *et al.*, 2010; Curran *et al.*, 2012; King *et al.*, 2012; Ngure *et al.*, 2012; Ware *et al.*, 2012; Persson, 2012; Lau *et al.*, 2013). However, very few of the studies focus on serodiscordant couples taking ART and condom use or investigate whether taking ART had any effect on condom use. In addition, no studies on condom use in serodiscordant couples in Zimbabwe was identified. This study sought to address gaps identified in previous studies and assess barriers to condom use in serodiscordant couples in which the HIV positive partner is on ART in Harare, Zimbabwe.



## CHAPTER 3: METHODOLOGY

### 3.0 Introduction

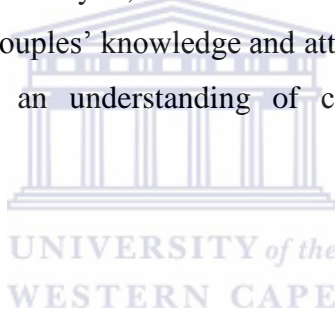
This chapter describes the methodology of this descriptive qualitative study. It outlines the study aim and objectives, study design, study site, study population and sampling procedures. It goes on to describe the data collection process and data analysis. Finally, issues of rigor (confirmability, dependability, credibility and transferability) of the study are described.

### 3.1 Aim and objectives of the study

The aim of this study was to explore barriers to condom use in serodiscordant couples where one partner was on ART at the UZ CRC in Harare, Zimbabwe.

The specific objectives of the study were:

1. To explore and describe couples' understanding of serodiscordance and attitude towards risk of, and vulnerability to, HIV infection.
2. To explore and describe couples' knowledge and attitude towards condom use.
3. To explore and describe an understanding of couples' reasons for or against condom use.



### 3.2 Study design

The study used a simple descriptive qualitative design. The aim of the study was to understand why couples, in which a partner is at high risk of HIV acquisition, did not use condoms which were readily available and information on their use was provided. Obtaining data to achieve the study aim required a study design that would allow participants to give their own perspective on the issue, and enable deeper exploration of issues through encouraging interaction between the participants and the researcher. For this reason, a qualitative design was selected.

Within the HPTN 052 study, both partners were aware of the HIV status of the other. Given that the HIV negative partner was aware of the risks of unprotected sex, not using condoms and hence exposing oneself seemed to be a surprising behavior. This discrepancy could best be explored by talking to couples to understand their perspectives on their sexual behaviour and risk, and allowing them to communicate their own experiences and realities (Hanson *et al.*, 2011; Petty *et al.*, 2012). Exploration of the process and decision

whether to use condoms or not, requires in-depth inquiry especially of personal beliefs, understanding of information and perspectives within the context in which the participants reside (Pope & Mays, 1995; Hanson *et al.*, 2011; Petty *et al.*, 2012) This favours interviews over focus group discussions. Furthermore, the personal and sensitive nature of condom use as a proxy for sexual behaviour may make participants uncomfortable and/or unwilling to discuss the topic in a group. Individual interviews were used to accommodate such people who may be unable or unwilling to discuss such a topic in a group. For these reasons, interviews were used in this study.

A two stage data collection process was used for this study. Stage 1 involved interviewing staff members of the main study HPTN 052 as key informants, whilst stage 2 involved interviewing serodiscordant couples. The key informants were chosen to add their knowledge and wealth of experiences of working with serodiscordant couples to the study particularly for revealing discrepancy between reported and actual condom use. The assumption was that staff members would provide information on knowledge, risk perception and sexual behaviour of serodiscordant couples in this cohort. Responses from key informants were also used to guide the conduct of interviews with the serodiscordant couples (for example should couples be interviewed together or separately) as well as the type of questions asked and issues to be probed.

### **3.3 Study Site**

The study was conducted at the University of Zimbabwe Clinical Research Centre UZ CRC in Harare, Zimbabwe, the same place as the main HPTN 052 study. Harare is the capital and largest city in Zimbabwe. Participants for the study (key informants and serodiscordant couples and individuals coming for HPTN 052 study activities) were approached at this site for participation. The UZ CRC is a component of the University of Zimbabwe (UZ) – University of California, San Francisco (UCSF) Collaborative Research Programme clinical trials unit sponsored by Division of AIDS (DAIDS), National Institutes of Health (USA) ([www.uz-ucsf.co.zw](http://www.uz-ucsf.co.zw)). The Centre was founded in 2002 and is located at Parirenyatwa Hospital Annex which is a part of the Parirenyatwa Group of Hospitals, Zimbabwe's premier referral hospital and one of two teaching hospitals of the University of Zimbabwe ([www.earnest.cineca.org](http://www.earnest.cineca.org)).

### **3.4 Study Population**

All staff who were listed in the delegation of duty log and working in the HPTN 052 study were eligible to participate. All couples and individuals enrolled and being followed up in HPTN 052 study were also eligible for participation (inclusion and exclusion criteria for HPTN 052 was applied: Appendix 1). Any participant with documented psychiatric or psychological issues was ineligible for participation in this study.

### **3.5 Sampling**

The literature revealed various methods and nomenclature for sampling in qualitative studies with purposeful, selective and theoretical sampling being used to describe the same or similar sampling methods. In this qualitative study, purposeful sampling was used as argued by Patton (1990), Sandelowski (1995) and Coyne (1997). These authors argued that in a qualitative study, the researcher intentionally seeks a sample according to the needs of the study hence all sampling could be categorized under the broad term 'purposeful sampling'. Snowball sampling was also used in this study to identify serodiscordant couples or partners in serodiscordant couples and individuals being followed up in the main study HPTN 052. Snowball sampling 'yields a study sample through referrals made among people who share or know of others who possess some characteristics that are of research interest' and is best suited when the research is focused on sensitive issues and people with inside knowledge may assist in identification of participants (Biernacki & Waldorf, 1981: 141; Marshall, 1996). Due to the nature of this study, where condom use was used as a proxy of risky sexual behaviour, and to ensure the greatest diversity of information on condom use, snowball sampling was chosen. To begin the referral chain and to verify the eligibility of serodiscordant couples and individuals, some staff members in the main HPTN 052 study known to the researcher were chosen as key informants. Verification of eligibility was also done using patient records kept in the UZ CRC clinic. Key informants had an additional purpose of being a sample, which contributed to the diversity of the sample population and allowed for sample stratification according to expertise (key informant sample), specific experiences and outliers (deviant sample) in this qualitative study (Marshall, 1996).

Staff members most familiar with serodiscordant couples and condom use in these couples



and who collected information on condom use were approached to participate as key informants in the study. The groups most likely to satisfy the requirement of familiarity with couples were Clinicians (Doctors and Nurses) and Counsellors. The first key informant was purposely selected from these two groups.

Nurses, Doctors and Counsellors on the HPTN 052 study staff log were approached for interviews. The first staff member (key informant) to agree to participate was recruited and interviewed. After this first interview, snowballing was used to expand the sample - the key informant was asked to suggest another staff member with similar or more knowledge and experience for participation in the study. This staff member was then approached for participation until no new staff members were identified and no new information could be obtained from the key informant interviews.

Serodiscordant couples and individuals were identified using data from the key informant interviews and patient records in the clinic. The study HPTN 052 routinely documented condom use (and non-use) and checked for STIs and pregnancies at each participant visit. This information was contained in participant-specific folders and formed the basis for purposeful critical case and deviant sampling of these couples (Marshall, 1996). Subsequent couples and individuals were selected serially and selectively according to the researcher's interpretation of the progress of the study, including information obtained in the preceding participant interview. In this way, the researcher controlled the types of chains and numbers cases within each chain in line with a robust snowball sampling strategy (Biernacki & Waldorf, 1981).

### **3.6 Data Collection**

Data collection for the study was done in two stages and semi-structured interviews were the primary method of data collection. Interviews were conducted in either English or Shona as chosen by the respondents. The researcher was the primary interviewer for this study as there were institutional and study related confidentiality issues with regards use of an external research assistant. As the researcher was employed by the study HPTN 052, he was familiar with all the potential participants and had some insight into condom use in serodiscordant couples. The researcher could also access participant files which provided important information with regards sampling and probing during interviews. Some disadvantages arose



by the researcher being familiar with the study population and the research problem. The decision to participate in this qualitative study and responses from those being interviewed could have been influenced by the relationship between the researcher and the participant. Also, the researcher biases on the issue could have affected the study design, in particular the data collection and analysis thereby reducing the rigor of this study.

Stage 1 involved interviews with selected members of staff of the study HPTN 052 as key informants (see Appendix 2: Key informant interview guide). Their recommendations were used to inform the interview guide for stage 2 participant interviews involving serodiscordant couples and individuals on follow up in the main study HPTN 052 (see Appendix 3: Couples interview guide) and to select serodiscordant couples and individuals to be interviewed. Information from key informant interview was also used primer for probing of issues during participant interviews. Key informant interviews were done at UZ CRC during working hours with staff members who consented to participate. Five key informant interviews from all the healthcare providers were conducted.

In stage 2, one interview per couple was conducted and partners were interviewed separately if they requested. The decision to interview partners together was based on feedback from key informant interviews, which suggested that for this group this would be the least disruptive manner in which to conduct this study. One interview per individual (index case or partner) was conducted in cases where the couple requested separate interviews and for those HPTN 052 participants were being followed up as individuals. All interviews were conducted at an office at UZ CRC as this was the most convenient place. These were tape-recorded (provided consent was given) and transcribed verbatim, and the transcripts thoroughly checked for errors. The transcripts were not edited for grammar and incomplete sentences.

### **3.7 Analysis**

Thematic data analysis was chosen as the data analysis method used in this study. This method was selected due to its flexibility, compatibility with previous studies and application across diverse epistemological approaches in qualitative studies (Braun & Clarke, 2006; Fereday &

Muir-Cochrane, 2006). The definition of thematic data analysis used for this study was taken from Braun and Clarke who defined thematic analysis as: “a method for identifying, analysing, and reporting patterns (themes) within data” (Braun & Clarke, 2006: 82). The four basic steps for analysing qualitative data were used in this study namely immersion in the data, coding, creating categories, and the identification of themes (Green *et al.*, 2007). Although presented as a linear, step-by-step procedure, the research analysis involved simultaneous collection and analysis of data and constant rereading of transcripts to check and redefine codes, categories and themes.

The data corpus is all data collected for a study whilst data set is all data from the corpus used for analysis (Braun & Clarke, 2006). The data corpus for this study was HPTN 052 study files containing information on study staff and participants, HPTN 052 study participant files, qualitative studies on serodiscordant couples published, published manuscripts on qualitative studies and analysis, and transcripts from interviews. The data set for analysis was limited to transcripts from the interviews. All interviews were tape-recorded and transcribed verbatim to enable the researcher to fully immerse in the data. Key informant interviews were done in English so no translation was necessary whilst couples’ interviews were transcribed and translated where necessary. Transcription was part of the analysis as the researcher chose to transcribe verbatim without correcting grammar to ensure that the interviewee’ message was not lost or misrepresented. After transcription, each transcript was read to verify accuracy of transcription and translation and to obtain an overview of the interview and some issues arising from the interview. After the initial reading the transcript was read more slowly with highlighters of different colours being used to highlight phrases, statements and paragraphs that were interesting, surprising or of significance. The transcript was read again with highlighted sections being assigned codes that were written at the margins of the transcript. As defined by Hanson *et al.*, codes were: “words that act as labels for important concepts” (Hanson *et al.*, 2012: 379). All transcripts were read at once to refine codes and identify differences and similarities of concepts, explanations and experiences.

Mind mapping was used to assemble the codes into descriptive groups forming categories. All transcripts were read at once with different codes being noted on a single page. Similar and

linked codes were grouped together and these groups formed categories such as knowledge, problems, incidents and personal reflections. In each category, sub-categories were also assigned based on similarity and differences of codes such as sub-categories of knowledge of serodiscordance, misconceptions of HIV and knowledge of condom use which are under the category of knowledge. Categories formed the basis for forming themes; themes were developed and assigned after reviewing and refining information contained in the categories and sub-categories. Themes had the function to capture the main idea covered by several codes within the data (Hanson *et al.*, 2012). After themes were assigned, each transcript was read again to confirm the assignment of themes and to identify quotes to justify or explain the concepts (Green & Thorogood, 2004).

### **3.8 Rigor**

Rigor in qualitative studies relates to the measure or the means of achieving quality in the qualitative study regardless of the methods used to obtain and analyse data. The criteria that have been put forward to achieve rigor have been described as credibility, dependability, confirmability, and transferability (Petty *et al.*, 2012; Erlingsson & Brysiewicz, 2012). Careful attention was devoted to rigor for this study since the researcher was familiar with all the study participants.

Credibility is the extent to which the findings can be trusted by participants of the study and is used in qualitative research in preference of the term internal validity that is used in quantitative studies (Petty *et al.*, 2012; Erlingsson & Brysiewicz, 2012). To achieve credibility, the researcher collected data and refined the interview guides by himself and recorded all interviews. All interviews were transcribed verbatim and translated where necessary and the results and final write-up contains representative quotes on themes and categories from the participants (Erlingsson & Brysiewicz, 2012). In addition, the data and findings obtained in the study were taken back to the key informants and some participants during the interviews for confirmation of the information and narrative (Creswell & Miller, 2000).

Dependability relates to consistency within the study and describes the extent to which the

study can be repeated by another researcher (Petty *et al.*, 2012). To achieve dependability, the researcher developed a detailed description of the entire study design and justification where necessary (Sandelowski, 1986). This included description of the research problem, the aim of the study, choice of the qualitative methodology and in-depth interview method, sampling strategy, data collection, analysis and interpretation.

Confirmability is the extent to which the results reflect the focus of the study conducted and is closely related to dependability (Petty *et al.*, 2012). This is achieved by checking for the how well all the data collected represents the views of the participants of the study (Thomas & Magilvy, 2011; Houghton *et al.*, 2013). To achieve credibility, the researcher provided reflexivity during the write up of the mini-thesis, for example, the researcher described the assumptions of the study in the first chapter and discussed the potential impact of the fact that the researcher was known to all the participants. In addition, the researcher had a clear audit trail for important aspects of this study such as the rationale for choosing a qualitative approach and for using semi-structured interviews for data collection.

Transferability is the extent to which the findings of a study can be applied in other contexts and when readers find the results of a study to have meaning and to be applicable to their own experiences (Sandelowski, 1986; Petty *et al.*, 2012). This was done by the researcher providing detailed descriptions of the study setting, study design, sample population, study methods and data analysis to allow the reader of this mini-thesis to determine if the findings are applicable in their own context, and if the findings and conclusions can be applied to other settings (Malterud, 2001; Houghton *et al.*, 2013; Hadi & Closs, 2015). In addition, the researcher also provided detailed descriptions of the findings, including appropriate raw data through quotations, so that the reader could consider how the data had been interpreted.

### **3.9 Ethical considerations**

#### **3.9.1 Introduction**

The design of the consent form, selection and recruitment of participants, and setting for conducting this study took into account good clinical practice guidelines, local regulations and

institutional policies. The emphasis was on giving adequate information on this qualitative study, voluntary participation and ensuring the strictest confidentiality since the study population consisted exclusively of people already involved in the main HPTN 052 study as staff or participants.

### **3.9.2 Informed Consent**

Participants consented using a simple but comprehensive informed consent form in the language of their choice. The consent form was in both English and Shona (Appendix 4: English Informed consent form). Based on the requirements of the local ethics board, Medical Research Council of Zimbabwe MRCZ, the University of Western Cape (UWC) informed consent template and Participant information sheet were combined into one comprehensive informed consent document.

Couples and individuals who agreed to participate were given adequate time to read the entire consent form. After each participant read the consent form, contents of the consent form were discussed with the researcher to provide further explanation and address any concerns prior to signing. First, the researcher introduced himself and outlined the purpose of the study as well as what was expected from the participants. Participants were informed that their participation was voluntary and that all information collected was to be kept confidential and was to be destroyed after the study. Participants were also informed that no names were to be used during data collection, analysis and write-up. Data collected from the interviews was stored in a password-protected computer and file. Participants were made to consent separately for participation and for tape-recording (Appendix 4: English Informed Consent). Contact details of the researcher, the study supervisor and the UWC, School of Public Health and the MRCZ were made available on the informed consent form. Participants were given a signed copy of the consent form to keep.

Permission to conduct this study was obtained from the UZ Clinical Research leadership and the HPTN 052 Protocol team and HPTN 052 Publications committee. Ethical clearance for this study was obtained from University of the Western Cape's Senate Research Committee and the local IRB, MRCZ (Appendices 5, 6 and 7).

## CHAPTER 4: FINDINGS

### 4.0 Introduction

Whilst sex and sexual behaviour is considered a private matter between partners, and condom use is a sensitive subject, it was possible to identify the main barriers to condom use in serodiscordant couples where one partner was on ART in Harare, Zimbabwe. It was also possible to understand serodiscordant couples' thoughts on serodiscordance, risk, and condom use. This chapter presents the findings of this study, with an emphasis on key issues and themes. Barriers to condom use were identified broadly as the strong desire to have children, male partner's reluctance to use condoms and the power of the HIV-negative partner to determine non-condom use.

### 4.1 Sociodemographic information

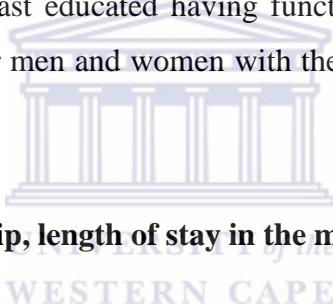
Five key informant interviews were done on female respondents, and the average time working in the study HPTN 052 was 7.5 years (range 5 – 10 years). The sociodemographic characteristics of couples and individuals for this study are shown in Table 1.

**Table 1: Sociodemographic information for serodiscordant couples and individuals**

CHARACTERISTIC	GENDER	
	Males n = 9	Females n = 10
<b>Age in groups</b>		
30 – 34	-	6
35 – 39	4	1
40 – 44	1	-
45 – 49	1	2
50 and over	3	1
<b>HIV status</b>		
Positive	7	5
Negative	2	5
<b>Level of education</b>		
Primary	2	2
Secondary	6	7
Tertiary	1	1

Fifteen interviews were conducted from a sample of couples and individuals being followed up in the main HPTN 052 study as follows: four couple interviews and 11 individual interviews (five males, six females).

Couples and individuals in this study were in a fairly large age range (30 to 50+ years old) with males being slightly older than females, and no participant was below the age of 30. This could have been due, in part, to the fact that most participants in the main HPTN 052 study had been in follow up since 2007. In all the couples, the male was always older than the female. There were slightly more HIV positive males than females in this study with more males coming with their negative partners as a couple. This was indicative of another relationship dynamic in which the male partner could, and did, influence couple decisions by having the final word. Participants were literate; all the participants in this study had spent some time in school with the least educated having functional reading and writing skills. Education levels were similar for men and women with the highest level being professional qualifications at tertiary level.



**Table 2: Duration of relationship, length of stay in the main study HPTN 052 and number of children**

	Length of current relationship (years)				Length of stay in HPTN 052 (years)				No of children				
	0-5	5-10	10-15	>15	5-6	6-7	7-8	>8	0	1	2	3	4 or more
<b>Couples (5)</b>	0	1	2	2	-	3	1	2	-	-	1	2	2
<b>Individuals</b>	1	1	-	2	3	-	1	-	1	-	2	-	1
Male (4)													
Female (5)	2	1	-	2	4	-	1	-	-	1	1	2	1



Couples showed a wide variation in the length of their relationships, from one month to over 15 years as a couple. The longest relationship was reported to be over 29 years by one couple. Four couples reported being in their second long term relationship and two relationships with HIV positive females were recent at 2 years and 1 month respectively.

Couples for this study showed a wide distribution of the time they had stayed in the main HPTN 052 study with most having spent an average of 7 years. In this time, the couples visited the clinic at least four times a year for various services such as counselling and medical examination. The duration in the study, coupled with the frequency of visits and intensity of counselling at each visit, meant that these couples were well educated about risks of HIV transmission and the importance of risk reduction. This could have had significant influence on couples' sexual behaviour including condom use.

Most participants had managed to spend the entire duration of the main study HPTN 052 with the same partner they enrolled with. The two HIV positive females with recent relationships had not enrolled any other partners into the study HPTN 052 after their primary partners were exited. These two had spent close to 75% of their time in HPTN 052 study with the primary partner. The reason for them not completing the study HPTN 052 with the primary partner was couple dissolution due to infidelity. Spending the duration of the study, an average of seven years, with one primary partner was an indication of the stability of the partnerships in spite of HIV in the relationship and serodiscordance. That couples were also able to spend such a long time in the HPTN 052 study was also an indication of the ability of the partners and individuals to commit to something and see that commitment to the end.

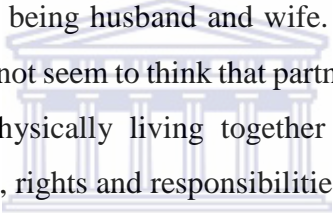
The couples and individuals in this qualitative study all had at least one child with a clear majority having more than two children. The exception was one HIV positive male who did not have any children prior, or during the main study HPTN 052. Six was the highest number of children reported by two couples who participated in this qualitative study. One couple had been together for more than 20 years, whilst other had been together for 8 years. In both cases, the relationships represented second marriages. Six respondents had children prior to enrollment into HPTN 052, whilst 7 respondents had children after enrollment - five had one



child, the other two had two children.

#### **4.2 Knowledge and understanding of serodiscordance**

There was consensus from all respondents (key informants and participants) that couples and individuals participating in the study HPTN 052 knew and understood HIV serodiscordance, and the implications for HIV transmission, from the repeated teaching and counselling in the main HPTN 052 study. During the participant interviews, all respondents described serodiscordance as one partner being HIV positive and the other partner being HIV negative whilst living together or living as husband and wife. The terms ‘living together’ or ‘living as husband and wife’ were used interchangeably during participant interviews and were used to describe the state of being in a stable sexual relationship. This state had two essential elements: proximity by living together, and expectations, duties, responsibilities that arose from the partnership, or more specifically, being husband and wife. The implication of this was that stage 2 interview respondents did not seem to think that partners could not be in a stable sexual relationship unless they were physically living together and that the act of cohabiting automatically conferred the status, rights and responsibilities of husband and wife.



#### **Challenges of being a couple**

When asked about challenges faced by couples in general, the most common challenge reported by all respondents was infidelity. The terms used to describe infidelity by couples and individuals were ‘unfaithfulness’, ‘being unfaithful’, ‘having extramarital affairs’ and ‘having a girlfriend’. Infidelity was seen as a breach of trust and commitment and it was made evident by bringing something negative into the relationship, be it another party (girlfriend) or an infection such as an STI. The term ‘having a girlfriend’ was particularly informative as it spoke to men being the more promiscuous than women in a partnership, and hence having another female partner. The term ‘having a boyfriend’ was not used even when it was reported that the female partner was also being unfaithful. Having a girlfriend in this sense implied exclusively male commitment to another relationship, in an active and long-term way. The implications were that for females, infidelity was something casual or temporary, unusual and unacceptable hence there was no need to name it. Females could not ‘have a boyfriend’ because the relationship was hidden and short-term. There were suggestions that infidelity

arose from dishonesty from the other partner, differences in sexual activity between partners (one partner wanting more sex than the other can give) with men being singled out as being unsatisfied with one woman. Other challenges mentioned were finances, for example, disagreements over how money should be spent, and male partners withholding money from their partners. Difficult in-laws and interference by relatives in relationships was another frequently cited challenge. One partner captured the main points of relatives interfering by this statement:

*“Relatives may say the woman you have married is not your type . . . . or does not suit you. Like in our case, I am big but my husband . . . . Some may say how are you living. Some may say you should have married an educated woman who reached university.”* HIV negative female, aged 49

### Challenges of serodiscordant couples

Key informant respondents all reported that the discordant result, and its implications, was the biggest and unique challenge that serodiscordant couples faced. This challenge was in addition to the challenges other couples face and was at times the dominant one. Accepting an HIV positive result was initially difficult for both partners with the uninfected partner reported to have more difficulties accepting the result. The challenge was explaining the discordant result and trying to determine how, or when one partner became infected. Serodiscordance led to the next obstacle reported to be faced by these couples which was disclosure to friends and relatives.

Couple and individual respondents initially did not all agree that serodiscordant couples had more or unique challenges as compared to concordant couples. The majority view was that nothing changed or was different after obtaining the discordant results, which is couples continued living their lives normally. This was surprising given that the same respondents reported serodiscordance being abnormal and difficult to accept. It is possible that the couples may have seen a serodiscordant result as a negative event to be negotiated and overcome, rather than an ongoing process.

*“We can’t say that there are any specific challenges as we continued to live the same way we lived before.”* Discordant couple, HIV positive male aged 49, HIV negative female aged 41

*“We continued to live the same as before.”* HIV negative female, aged 30

The minority view by couple and individual respondents was that the difference in status between partners was difficult to accept and negatively affected relationships, especially if the infected partner was female. Disclosing to family was also another major challenge raised and this was in agreement with what had been reported by key informants. After probing, later on in the interviews, the couple and individual respondents acknowledged that serodiscordant couples had more and unique problems than concordant couples. These challenges were broadly categorized as dealing with an HIV positive result, accepting serodiscordance, and disclosure to family.

(a) Dealing with an HIV positive result

Accepting an HIV positive result was reported not to be easy to accept by respondents. The time of discovering one's HIV positive status was reported to be a particularly difficult period with negative emotions such as hurt, shock, confusion, and lack of understanding. The positive partner had to deal with the concerns related to personal issues around an HIV positive result namely questions around how, when or where the infection was acquired and fear of death. Most of the fears were based on misconceptions of HIV diagnosis and implications of infection. The positive result was interpreted as a death sentence or an immediate reduction in one's life expectancy.

*"I myself do not know how or rather when I contracted HIV. When I found out my status I saw as if my life had been cut short. It took a long time for me to accept my status. I even cried although I am a man."* HIV positive male, aged 49

*"I did not understand and was confused as to why I was found to be positive . . . I did not know how I got infected with HIV . . . In the first days, as a result of what we would hear from others, people and I too thought that positive people do not survive for more than 2 years."* HIV positive female, aged 45

The negative partners had fears related to how the other got the virus and what this meant for the relationship. HIV serodiscordance was both evidence and confirmation of infidelity as only one partner in a supposedly stable relationship had a sexually transmitted infection. The infected partner could only have been infected through sexual contact outside the relationship

and, hence, had broken the commitment of sexual monogamy made to the uninfected partner.

*“It depends on the negative partner. Does he or she accept the situation . . . how the partner became positive whilst the other is negative.”* HIV positive male, aged 43

*“I did not receive the news well. I was hurt and at that time I was pregnant. I ended up accepting my husband’s status as time progressed but it was a big challenge. Yes I was afraid. So I was now also trying to think when he contracted the virus considering the many years we had lived together. How did it start? You will be asking yourself questions that no one can give you answers.”* HIV negative female, aged 41

#### (b) Accepting serodiscordance

Initially, serodiscordance was difficult to understand and accept, especially when the couple first obtained their discordant result. The HIV positive result was interpreted as a death sentence and the discovery of serodiscordance was accompanied by psychological trauma in these couples. Fear of separation due to serodiscordance and fear of infection (the negative partner fearing infection whilst the positive partner fearing infecting the negative partner) added stress to these couples. There was an implicit assumption that to be fair, couples had to be sero-concordant, which is, both partners being either sero-positive or sero-negative.

*“When we were not yet in the programme, it was shocking that your partner tested HIV positive whilst the other was not. The one who was negative would decide to leave the positive partner and opt to go look for someone who is HIV negative.”* HIV positive male, aged 38

*“Upon discovering my status my thoughts and decision was for my partner to leave and get a new partner of the same status and his and start a new life. If possible, I would then get a new partner with a similar status to me than know that I’m killing him. He never wronged me.”* HIV positive female, aged 36

Further probing revealed that being in a discordant relationship was viewed as undesirable by other couples, with some partnerships dissolving soon after a discordant result. Misconceptions about HIV infection may have had a part to play in couples divorcing. Some misconceptions mentioned were that HIV infects promiscuous people and thus an HIV positive result was shameful, and an HIV positive result meant one will die quickly or earlier

than expected. There were also misconceptions around serodiscordance namely that discordance was impossible for couples in a stable sexual relationship. The psychological stress of an HIV positive result and serodiscordance was too much to bear for some couples resulting in break-ups.

*“Other couples say that once they discovered the situation . . . that they are discordant, the way they began treating each other changed. Many ended up divorced.”* HIV negative female, aged 41

Support for the partners and couples especially through counselling was reported to help accept serodiscordance. Counselling helped provide support in this time of personal and relationship stress. This support was in the form of information about HIV infection, serodiscordance and risk reduction measures. Information helped to make the couples understand and dispel myths associated with HIV, such as the myth that HIV only infects promiscuous people, and myths associated with serodiscordance such as the myth that discordance is impossible.

*“Thankfully we got people who helped and supported us and even us we came to know that this situation (serodiscordance) can happen.”* HIV-1 positive male, aged 39.

*“Through the lessons we went through, one does not become anxious or suspicious of one’s partner due to the positive result as we were taught that HIV can be transmitted through many other ways other than sex without a condom.”* HIV negative male, aged 56

### (c) Disclosure to family

Almost all participants (key informants and couples) revealed that disclosure of the discordant status to parties outside the relationship such as relatives and friends was difficult due to stigma and possible interference with the relationship. In the case of serodiscordant couples, family and friends involves those both from the male and the female side which can be a considerably large group of people. The most commonly used term to describe the stigma was *‘relatives will begin to sideline you’*. Other ways in which stigma was described to manifest was through relatives not visiting the couple, not sharing utensils and by relatives spreading the information or talking about the couple in their absence. Disclosure was difficult because the relatives being told could not be trusted with sensitive information, that is, an HIV positive

result. Couples also had the added problem of deciding how to disclose, the male partner to his relatives only and vice versa, both partners to both sets of relatives, the male partner to his in-laws and vice-versa. Couples who managed to tell their relatives confirmed this dilemma of how to disclose with most reporting that they had decided that each partner who be responsible for informing his or her relatives. This would prevent conflict with in-laws. Those who disclosed revealed that initially disclosing was difficult, and that only those who were close to a partner, such as mother, sister or brother, or those the couple felt could keep a secret, were told about the discordant status. It was all about trust and confidence that information would be kept private. The reason for disclosing was that these relatives would know and be able to help the couple if the positive partner fell ill. The dilemma of disclosure was articulated by one partner who said it this way:

*“Often you need to find a perfect relative to disclose your status to.”* HIV positive male, aged 39

The perfect relative therefore was some who was close to the partner or couple, someone important in the family, someone who could maintain a secret and someone who could assist the couple in times of trouble. The implication was that if one did not find that perfect relative, then disclosure would not be possible or desirable. Some individuals reported suffering the consequences of disclosure namely avoidance and stigma.

*“It actually reached a point where when there was a family gathering such as a party, and I would go to the kitchen to assist the other women, I would be stopped as they would say that I am sick. They would pretend to want to treat me as a special person yet they would be avoiding me.”* HIV positive female, aged 45

#### **4.3 Risk and vulnerability perception**

Respondents generally agreed that couples in the study HPTN 052 had adequate teaching on the different ways in which HIV is transmitted and the various ways to prevent infection. This was due to the couples counseling, testing, and risk reduction counselling that couples received at every quarterly visit. Couples and individuals in the stage 2 interviews reported different groups of people as being at most risk of HIV infection such as those not yet tested, adolescents and young adults and women. Women in all relationships were said to be most at



risk, which was an acknowledgement of the vulnerability of this group due to socio-cultural and personal relationship factors. When specifically asked about partners in serodiscordant couples being at risk, some risk was acknowledged but this risk was not as emphasized or supported as that for women and young adults. Serodiscordant couples, and partners interviewed did not seem to think the negative partner was at high risk. HIV negative female partners interviewed did not think they were at higher risk than other women in general. The fact that the partners knew each other's status, and knowledge of HIV transmission and prevention methods seemed to be the reasons to support their view. When couples and individuals were asked why they thought the people or group they mentioned was most at risk the most common response was that the people or group mentioned did not know their status or that of their partner and thus could not behave accordingly, such as acting to protect themselves from infection by using condoms.

*"It's not that great but it's there. They should not be at risk as they are people who would have been educated on the issue of discordance."* HIV negative male, aged 56

There was also evidence of risk compensation through the use of ART by the partner and the protection that came from ART. The HPTN 052 study preliminary results, which showed that the use of ART by the HIV positive partner can reduce the risk of transmission of HIV by 96%, were disseminated to participants in 2012. Key informants reported that these results had a significant impact in reducing the use of condoms in serodiscordant couples. The couples seemed to use the protection offered by ART to change their sexual behaviour and not use condoms. This implication was that couples were using condoms out of desperation rather than out of desire, and took the protective effect of ART as an opportunity to stop something they felt compelled to do, which is using condoms.

*"I think their understanding was that it helps. . . if one is taking medication (ART) then it helps . . . that you can still have sex without condoms because the medication (ART) is good enough to prevent you from getting infection."* Key informant 5

*"Couples heard about and knew the 96% protection from ART and some were not afraid of the 4% risk. Results were significant in affecting condom use as couples were now relying on the protective effect of ART."* Key informant 4



The couples reported that the combination of the high percentage of protection as announced from the results with undetectable viral load for the HIV positive partner was enough to convince them not to use condoms either to have children or to take a break from condoms. Some participants stated that 4% risk of transmission was low enough to risk unprotected sex especially when it came to having children. This was combined with the influence of the observation that other couples had children and were having children without any problems and resulted in condoms not being used.

*“Yes, I was aware of the 96% protective effect from the results of HPTN 052. There was 4% chance which was a small percentage . . . . a low risk making it worth having a child.”* HIV negative female, aged 35

*“Yes. As many (couples) began having children. We also did the same experiment.”* HIV positive male, aged 39

#### **4.4 Condom use**

There was consensus that serodiscordant couples had knowledge on the importance of correct and consistent use of condoms in the relationship after intense and consistent education and counselling during the study. There was also consensus that condom use was not usual, possible, or necessary in a sero-concordant couple. Couples in this study confirmed that couples in which both partners were negative had no reason or motivation to use condoms. Condoms in a relationship were taken to be a sign of mistrust or an accusation of infidelity and hence were not desirable in a stable sexual relationship in spite of the risk of infidelity by a partner. Condoms in discordant couples were accepted as a necessity due to the presence of HIV in the relationship. Couples in this qualitative study all agreed that they would encourage the use of condoms to other serodiscordant couples and to those couples in which partner HIV status was unknown due to the risk of HIV transmission.

In this qualitative study, condom use was related to the male condom. When interviewees said condom use, it meant, or was short for, male condom use. The majority of those interviewed confirmed that the male condom was more popular, and used more often than the female condom. There was low use of the female condom mainly due to dislike, especially by female partners whether HIV positive or negative. The dislike seemed to arise from not knowing or

understanding the female condom and negative perceptions about how the female condom looks or is packaged.

*“I personally do not like, believe or understand the use of female condoms. I have very little knowledge of the female condom and so I don’t trust them.”* HIV positive female, aged 36

*“I have never opened them (female condoms). I have never tried them. Yes, I don’t like them. . . .They seem difficult to use . . . It’s clear by looking at it.”* HIV negative female, aged 32

#### **4.5 Reasons for condom use**

The main reason given for couples using condoms was to prevent transmission of HIV from the positive to the negative partner. There was a distinct difference in the motive for preventing HIV transmission – key informants reported fear being the main reason whilst the couples and individual participants reported love as the primary motivation. Key informants reported that couples used condoms out of fear of transmitting the virus and fear of the negative partner seroconverting, whilst couples said condoms were used to protect the negative partner or maintain the negative status of the partner. Both views reinforce the idea of HIV infection being a negative intrusion in the relationship, which caused fear and required action to protect the partner without infection. The idea of HIV as an intruder was also supported by the consensus that condom use was not usual or possible in a seronegative concordant couple.

*“The other one the other day was telling me that it’s better to use a condom rather than both of us being positive . . . the main thing there is fear of seroconversion, fear of falling ill to the negative partner.”* Key informant 2

*“If you find out that you are now HIV positive you should protect your partner so that you do not infect your partner.”* HIV negative female, aged 30

*“I want to protect the status of the negative partner.”* HIV positive male, aged 43

Using condoms to prevent HIV transmission seemed have a proximal (explicit) and distal (implicit) component. The proximal reason was making sure the HIV negative partner remained uninfected. The distal component, implied and suggested repeatedly by couple and individual respondents, was ensuring that the negative partner would remain uninfected so that they would be able to look after children or family when the HIV positive partner died.

The assumption seemed to be that the positive partner would die first, with a further suggestion that death was imminent and inevitable for the positive partner.

*“If effort is made to maintain the couple’s status, if the HIV positive partner gets sick, the HIV negative partner can take care of the children and home as a whole.”* HIV positive female, aged 30

*“The best method of preventing infection is the use of condoms. By doing so you being the HIV positive person can get sick and die . . . the HIV negative partner survives and takes care of your children.”* HIV positive male, aged 39

#### **4.6 Barriers to condom use**

The main barriers to serodiscordant couples using condoms were the strong desire to have children, the male partner’s reluctance to use condoms and the power of the HIV negative partner, male or female, to determine whether condoms were used or not. There was consensus on these three main barriers but other reasons for non-condom use were mentioned. These were lack of appreciation of the benefits of using condoms, lack of proper training on the use of condoms, poor quality of condoms available, fear that condoms don’t work and actually spread disease, and unavailability of the condoms at the time of intercourse due to practicality issues such as location and timing. These other barriers were explored in-depth during interviews and there was some agreement that they were theoretically possible but practically unlikely barriers for these couples. The reasons given for these barriers not to be significant was that these couples had received extensive and thorough education on using condoms including practical demonstrations, good quality condoms were provided through the study at every quarterly visit and the nature and duration of couple’s relationships was such that location and timing of sex would not hinder or affect availability of condoms.

##### **(a) Strong desire to have children**

The main barrier identified during both the key informant and participant interviews was the strong desire to have children. Table 2 above shows that all the women in this study had children with the majority having three or more. Two couples had children after enrollment into the study HPTN 052 whilst three females had children in the main study - one had two children, two had one child each. Two male individuals had one child each during their follow up in main study. From the sample of HPTN 052 participants who participated in this

qualitative study, a total of six children were born from the time this group were enrolled into HPTN 052. Despite serodiscordance, provision of condoms and risk reduction counselling, couples still wanted children. It was made clear during the interviews that the desire was not just for conception, which is having a child, but was related to the strong desire to have more than one child.

*“Children are more important to these couples, HIV is secondary to them.”* Key informant 4

Young and recently married serodiscordant couples without children were reported to have not used condoms consistently. Condom use interfered with conception and these couples had to fulfill cultural and societal obligations of married couples having children. In the local culture, once married, couples are expected to have children and have them as soon as possible.

*“ . . . for those who want to use condoms, they use and have been using them without any problems, but with the young couples now those who still want to have babies, yah, it becomes a challenge.”* Key informant 1

*“Especially the young couples they they . . . want to have children. It’s actually very strong because you know in our African tradition if a couple is married they want to have children so they find it taboo staying without children so they really want to have one or two children.”*

Key informant 5

*“If we live childless relatives start questioning. So as a couple to quieten the questions. . . . they may decide to just have a child. When using condoms, no child can be conceived.”* HIV positive male, aged 49 (Father of 2)

Serodiscordant couples showed that children were an important part of the relationship and relations with extended family and society. Children were said to strengthen the bond between partners in a relationship and having children ensured that the HIV positive partner would live on even after an earlier-than-expected death. As such, the strong desire for children could be related to fear of an early death, or the concept of dying brought into the relationship by HIV infection. Children served different socio-cultural functions to different couples from desire to have the family line continued, especially through a male child, to having more than one child to satisfy relatives particularly close family.

*“There is no way you can survive as a couple without children. . . . even if you just have one.”*  
HIV positive male, aged 39 (Father of 3)

*“When a person gets married, his aspiration is to have children so that after he passes on, there are children to carry on his family line . . . (if a couple remains childless) The relatives especially the sisters-in-law may start talking to their relative the husband, suggesting that they have an extramarital affair in order to have a child, so that their mother can have a grandchild”* HIV positive male, aged 49 (Father of 2)

The issue of having children was not always simple and clear cut concerning the use of condoms. Older couples and those who had children had different opinions to younger couples and couples with fewer children. Older couples and couples with many children reported that prevention of transmission of HIV was more important than having children unless the union was childless or if one of the partner really insisted on another child.

*“Personally I would say in such a situation (discordant childless couple), it is better to not have any children. . . . that is what some people do not understand. So I would insist that we use protection and not try to have children.”* HIV positive male, aged 36 (Childless)

*“Protection is more important than wanting a child. . . . Maybe if I did not have a child. But since we already have children I do not see the importance of stopping condom use in order to have more children.”* HIV positive female, aged 30 (Mother of 3)

(b) Male partner’s reluctance to use condoms

Male partners were identified by most respondents as being reluctant to use condoms consistently even when the female partner was HIV positive. The most commonly cited reason for this reluctance was that using condoms reduced sexual pleasure and negatively affected sexual performance. An illustrative expression common throughout the interviews was males reportedly saying ‘*why would I have a sweet in a wrapper*’ or ‘*I can’t have a sweet in a wrapper*’.

*“The man can become a problem concerning the issue of using condoms.”* HIV positive female, aged 31

*“Another challenge which I once faced was that it can happen that once you have used the condom at first it is ok . . . but as you continue the lubrication inside the condom causes your manhood to feel hot and end up losing the strength you had. The heat will be at the tip and you end up wondering whether it is not because of the condom.”* HIV negative male, aged 56

The reduction in sexual pleasure attributed to using condoms during sex, and the lubrication in particular, may help explain a phenomenon observed in the main study HPTN 052 of reported condom bursts. Couples who got pregnant or those reporting to the clinic with STIs would claim that the condoms had burst during intercourse. When couples and individuals in this study were probed about this there were mixed views on whether condom bursts were possible or not. The majority claimed that this was not possible and stated that this was an excuse or tactic by partners not wanting to use condoms. The few who claimed that condom bursts were possible confirmed the reluctance to use condoms and gave an explanation that the burst condoms resulted from improper use or choice such as deliberate tampering.

*“They will be lying. We have been using protection for a long time and that (condom burst) has not happened. They would have chosen to have unprotected sex.”* HIV positive male, aged 39

*“In all my life, whenever I used a condom, I never experienced an incident where the condom burst. It can burst. The truth is that if you don’t know how to use it properly, it can happen.”* HIV positive female, aged 36

*“It is true that it can burst but that is if you have wiped the inside of the condom. The condom itself is lubricated so that there is minimal friction and to reduce heat. But for those that say they do not like the lubrication and remove it, surely it will burst because you have wiped away the lubrication resulting in greater friction”* HIV positive male, aged 38

Some male partners did not seem to care about the risk of transmission arguing that they were having unprotected sex before they knew of their discordant status. This extended to negative male partners as confirmed by the key informants and female partners. Two male partners exemplify the consistency and possible stubbornness of male partners. The men were in a serodiscordant relationship prior to participation in the main HPTN 052 study. The men were HIV negative, with their female partners being positive. At the time of enrolment into HPTN

052, the duration of their relationships was not determined but the couples reported having been together for some years. For the duration of the study, which was about 7 years, these HIV negative male partners consistently refused to use condoms despite repeated and concerted efforts on the part of study staff. Their reason for not using condoms was illustrative of misconceptions about HIV transmission and a hardened stance that would not yield to information or counselling.

*“They say they have been having sex with the index cases (HIV positive partner) before they got to know of their status so they somehow feel that they cannot catch the HIV virus . . .so they say if we didn’t use condoms before we knew our status why use the condoms now.”* Key informant 3

*“The husband is negative but does not want to use condoms. And he actually surprised me the other day he said . . . if it’s my wife’s HIV it cannot be transmitted onto me.”* Key informant 1

(c) The power of the negative partner to determine non condom use

It was widely reported that the HIV negative partner had greater power to decide whether to use condoms or not. The negative partner did not seem concerned about infection with HIV or may have had the misconception that they would not be infected by their partner. This power arose from fear from that the positive partner that the negative partner would or could leave the relationship at any time. As such, HIV decreased the negotiating power of the infected partner.

*“If it really is the desire of the negative partner, then we will not use protection”* HIV positive female, aged 31

*“The one who was negative could decide to leave the positive partner and opt to go look for someone who is HIV negative.”* HIV positive male, aged 38

The power to decide condom use was not limited to either male or female but the different gender used their power(s) differently. For example, men used this power to negotiate for unprotected sex within the home or sex outside the home with another partner. Negotiating for sex without a condom was related to the male partners’ reluctance to use condoms due to decreased sexual pleasure. The negative status of the male partner coupled with the inherent



decreased negotiating power of women in relationships meant that at times, there was no negotiation at all. The male partner did as he pleased, made all the decisions and the female had to comply.

*“For you being the HIV positive partner, when your HIV negative partner wants sex without a condom it is a challenge, very difficult to agree to that. But if your partner has totally refused condoms if you continue insisting he can then go to have sex with girlfriends.”* HIV positive female, aged 31

*“Yes (HIV positive partner) may be insistent on continuing condom use but at some stage there might be an issue and that partner is overpowered . . . there was someone I heard saying that he goes and has unprotected sex elsewhere as his wife refuses to have unprotected sex. So one partner may be insistent on condom use but get overpowered.”* HIV negative male, aged 56

Female partners used their power to not use condoms especially if they wanted to have a child or more children. There was an illustrative case concerning the power of the negative partner to determine condom use. The HIV negative partner was female and she wanted another child. The positive male partner suggested they continue using condoms as he was afraid of transmitting HIV to his partner and child. The wife persisted with wanting another child, including removing long term contraception, and the couple separated for some months due to this disagreement. Once the couple reconciled, the negative female partner fell pregnant soon after.

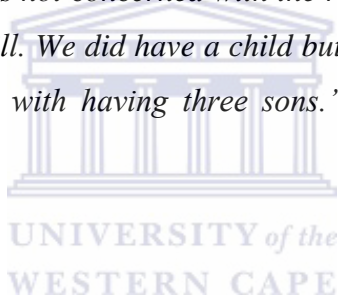
#### **4.7 Summary of findings**

The study findings showed that partners were in a fairly large age range (30 to 50+ years) with males being slightly older than females. Seven males and five females were HIV positive. Couples had a wide variation in the length of their relationships, from one month to over 15 years as a couple. The study findings also showed that individuals in serodiscordant relationships understood serodiscordance. Problems unique to these couples were identified and broadly categorized as dealing with an HIV positive result, accepting serodiscordance, and difficulty of disclosing serodiscordance to family. Couples also showed understanding of the importance of condom use in a serodiscordant relationship. The most common reason for using

condoms was to prevent transmission of HIV to the uninfected partner. The main barriers to condom use were the strong desire to have children, male partner reluctance to use condoms and the influence of the negative partner in determining condom use, which were all interlinked.

The interlinkage and complexity of the barriers to condom in serodiscordant couples, and the context in which they occur, is shown vividly in this story related by a participant.

*“In my case I had two children both boys. My husband’s brother’s daughter got married with my husband not being notified. As they were later discussing, the brother said there had been no need to call my husband as he has no daughters and would never have the opportunity to call his brother to come for a marriage ceremony. Because of that incident he decided we should try once more to have another child and perhaps we would be blessed with a baby girl. When I asked him whether he was not concerned with the risk of getting infected, he replied that it would have been God’s will. We did have a child but were blessed with a son. At that point my husband was satisfied with having three sons.”* HIV positive female, aged 36 (Mother of 3)



## CHAPTER 5: DISCUSSION

### 5.0 Introduction

This study set out to explore barriers to condom use in serodiscordant couples where one partner was on ART at the UZ CRC in Harare, Zimbabwe. Despite knowledge of partner's status, risk of HIV transmission, and the importance of using condoms correctly and consistently, there were significant barriers to condom use by serodiscordant couples at this site.

The barriers identified in this qualitative study indicate that condom use is both a philosophy and an act within serodiscordant couples. The philosophy of condom use is related to individual partner perspectives and preferences of sex and appropriate sexual behaviour in a stable sexual relationship. The philosophical question that arises and is answered by each partner is 'should we use condoms in our relationship'. The answer to that question formed a fixed basis for future decision-making and sexual behaviour related to condoms. In addition, relational issues and contextual dynamics of the couple, such as pressure from family to bear children, had an impact on the overall thinking of the partners in relation to whether condoms should be used or not.

The act of using condoms seemed to arise from the partner perspectives, and couples agreement, regarding condom use in the relationship. This aspect was related to the actual decision to use the condom at a particular time, and with every sexual act. It was possible for a couple to be aware of the need for, and agree with, using condoms in general but still decide not to use condoms for a particular act, specific time or specific period. A couple, thus, seemingly had one major decision point related to condom use in the relationship in general, and many other decision points when faced with using condoms at the time of the sexual act. Many factors, influences and barriers impacted these other decision points resulting in use or non-use of condoms. These factors and barriers will be discussed in detail in the following chapter.

### 5.1 Socio-demographics of couples

The couples who participated in this qualitative study were balanced in terms of numbers, HIV status and level of education. The obvious imbalance was in age, where males were always

older than females in the couples. This is in line with societal and cultural norms where older men marry younger women and men dominate in line with a patrilineal society that exists in Zimbabwe (Montgomery *et al.*, 2012; Motsi, Banda, & Mabvurira, 2012). This age disparity means men have greater power within the relationship to make decisions and influence the relationship by compounding existing gender imbalance (Montgomery *et al.*, 2012).

Patriarchy in Zimbabwe means that men have control over major decisions in a household and in relationships including control of the woman's sexual decisions (Motsi, Banda, & Mabvurira, 2012). A study by Montgomery *et al.* (2012) showed that men in Zimbabwe had an important role to play in the decision to use HIV prevention products such as condoms, even when these were female-initiated. Mumtaz, Slaymaker, and Salway specifically stated that: "condom use is a male-controlled activity over which women have limited control" (Mumtaz, Slaymaker, & Salway, 2005: 121). It can be concluded that the sociocultural context of serodiscordant couples is one of patriarchy, in which the male is distinctly dominant.

## 5.2 Serodiscordance

The findings indicate that serodiscordant couples in this qualitative study understood serodiscordance. Understanding of serodiscordance as well as knowledge of the partner's status, makes this population different from that reported in literature. Previous studies done have identified limited knowledge, divergent views and misconceptions about HIV-1 serodiscordance as a challenge in adopting safer sexual behaviours by serodiscordant couples (King *et al.*, 2012; Ngure *et al.*, 2012). This cohort, serodiscordant couples in the HPTN 052 study at UZ CRC in Harare, cannot be said to have had limited knowledge or divergent views on serodiscordance. The couples in the HPTN 052 study had spent 7 years in the study on average and this could explain the difference between these couples and those described in the literature. The couples in this qualitative study however seemed to have a conception that a stable sexual relationship was the same as marriage. As such, a stable sexual relationship was deemed to be a long-term commitment with the same conditions of marriage. This could be related to the local culture in which a stable sexual relationship is thought to only exist within a formal commitment such as a marriage.

Part of the process of the main HPTN 052 study was to assess if couples could correctly

describe and explain information as relayed to them and this assessment was done at every scheduled participant visit. The main study did not attempt to assess participant understanding and knowledge through their own expression and experiences. This could be due to the fact that the HPTN 052 study was mainly quantitative, and hence had right and wrong clearly defined. The result may have been that this approach superseded couples experiences and meaning of serodiscordance that this parallel qualitative study sought to explore. It has been shown that healthcare providers have an influence on patients practices by influencing their knowledge and attitude (Matthews *et al.*, 2015) It could be argued that the couples did not fully understand serodiscordance but were relaying back the information that they had been ‘taught’ in the main HPTN 052 study. Persson (2012) has led the calls for the revision of the way in which researchers frame and view serodiscordance arguing that researchers assume that partners always experience and view their status in terms of the difference. Couples may view and experience the difference in status in many other ways; hence, their understanding should always be sought.

The complexity of serodiscordance was revealed by most couples saying that their relationship was no different from concordant ones despite the discordant result being difficult to accept at first. In other words, these discordant couples saw themselves as just like other ‘normal’ couples with challenges to be overcome. This is in line with what has been previously reported in the literature that serodiscordant couples see their relationship as normal possibly as a means of psychological protection (Persson, 2008; Persson, 2012; McDonald, 2013; Chen, 2013). Surviving the serodiscordant result was key for these couples, as serodiscordance seemed to bring the relationship to a crossroad with two options: adapt or die. Survival of the couple depended on the strength of the bond and the level of commitment partners had to the relationship before receiving the HIV positive result. Counselling helped couples survive by providing support to adapt to the new reality of living as a discordant couple and by restoring the relationship to some level of normalcy. Serodiscordant couples seem to reach a state of equilibrium regarding HIV. This may be in line with concepts of how heterosexual serodiscordant couples manage HIV called “sero-sharing” and “sero-silence” (Persson, 2008: 504). In sero-sharing, HIV was shared and central to the couple whilst in sero-silence, there was silence or some form of avoidance of HIV.

Whilst confirming the sameness, these couples also revealed reluctance to disclose their discordant status due to fear of stigma. Stigma towards HIV and AIDS is still prevalent in families and communities despite the many campaigns and programmes to reduce it. It has been shown that the threat of stigma may override sexual risks such as HIV infection in some communities (Persson, 2012). Stigma was an extension of relatives' interference in a couple's relationship and some couples preferred not to disclose as a way of keeping other people out of their relationship. In a way, couples seemed to own their serodiscordance by keeping it a private matter, shared only with a closed circle of trusted people.

### **5.3 Condom use**

Participants in this study had knowledge on the importance of using male condoms particularly for discordant couples. This is not surprising given the amount of information and counselling on risk reduction strategies they were given in HPTN 052. This cohort could also not be said to have inadequate knowledge or access to condoms as these were readily provided in the main study. These two factors have been previously identified as being barriers to condom use (Persson, 2012; Lau *et al.*, 2013). The couples in this qualitative study, and couples in the main HPTN 052 study, had high rates of condom use and a compelling reason for use. However, there was still evidence of non-condom use in this highly controlled environment with adequate resources. This points to the complexity of factors involved in couples using condoms with other psychosocial issues at play such as personal issues, and couple relational and power dynamics. Part of the issue, as has been reported in literature, is that most serodiscordant couples did not use condoms before knowing their results (Allen *et al.*, 1992)

The barriers identified in this study – desire to have children, male partner reluctance to use condoms and the influence of the negative partner in determining condom use – have been previously reported in other studies (Eyawo *et al.*, 2010; Curran *et al.*, 2012; King *et al.*, 2012; Ngure *et al.*, 2012; Ware *et al.*, 2012; Persson, 2012; Lau *et al.*, 2013). This study showed that these barriers are interlinked and were dependent on the circumstances of each couple. Whilst these barriers have been reported elsewhere, it is debatable if these can truly be called barriers. A more accurate description may be reasons for non-condom use. This is because each 'barrier' represents a trade-off between many competing and at times conflicting options regarding each individual's life and the functioning and experience of the couple. For example,

the desire for children was not necessarily at odds with condom use to prevent HIV transmission. The tension arose because these couples may have attempted to achieve both conception and protection simultaneously amongst other things. This is related to relational and decision-making dynamics of the couple in which risks are in a hierarchy (Persson & Richards, 2008; Persson, 2012).

The findings of this qualitative study confirm that children are very important in socio-cultural contexts such as Zimbabwe, which are patrilineal societies with extended families. These couples showed that they highly desired children and the more children the better, as the majority had three or more children. The strength of this desire is also reflected in the fact that some couples had children within the study HPTN 052 after discovering their serodiscordant status, after intense and repeated counselling, and after condoms were provided consistently. It has been noted, however, that serodiscordant couples do not often discuss their strong desire for children with healthcare workers (Mathews *et al.*, 2015). This may be due to the current messaging in couples counselling in which prevention and having children are mutually exclusive; either couples give up having children or risk infecting the HIV negative partner (Mathews *et al.*, 2015). Conformity to social norms and expectations overrode the fear of HIV infection and resulted in deliberate non-condom use in order to bear children. Social stigmatization and social death was more frightening than physical death. Couples, in the hierarchy of risk, chose to live as normally as possible and chose social acceptance rather than HIV prevention or living with the restrictions imposed by serodiscordance.

Male partners refusing to use condoms in relationships is a well-documented phenomenon. Possible reasons other than the commonly cited reduction in sexual pleasure could be that condoms are a barrier to physical intimacy as expected by the males (Allen *et al.*, 1992). Condoms in discordant couples also serve as a reminder of serodiscordance, which would reduce the motivation for use (McDonald, 2013). The macho tendencies of men, of not fearing death therefore not fearing HIV infection, could be amplified in discordance especially if the negative partner continues to be uninfected. This would make male partners believe that they were somehow immune from infection or that they could not get HIV from their regular sexual partner. This seems to contradict studies that suggest that testing had a strong positive effect on condom use (Allen *et al.*, 1992). Recent studies, however, have also shown that repeated



negative HIV results for the uninfected partner may strengthen the belief that risk is low (Persson, 2012; McDonald, 2013).

Quarterly visits times an average of 7 years in the study meant that each couple had on average 28 intense contact sessions with a dedicated and multidisciplinary team of trained health professionals including counsellors, nurses, doctors and pharmacists. After such intense and consistent counselling, couples had knowledge on the importance of adopting risk reduction behaviour such as correct and consistent use of condoms during sex. In relation to risk of HIV infection, couples in this qualitative study implied that what was unknown was more dangerous than what they knew. Their knowledge of their partner's status, and knowledge of HIV transmission, prevention and treatment seemed to decrease their perception of risk. Knowledge seemed to decrease risk perception by providing options for taking action such as having the HIV positive partner on ART and using risk reduction methods such as condoms. These options were empowering to these couples (Matthews *et al.*, 2015).

Having the partner on ART, with a low viral load had the effect of making couples believe that the degree of protection was greater than the degree of risk. This was compounded by the low rates of seroconversions presented in the preliminary results of HPTN 052, repeated negative results and the observation that other couples in the study were having children without the uninfected partner seroconverting. For these reasons, serodiscordant couples did not think their negative partners were at high risk of acquiring HIV. Studies have shown that partners risk perception influenced condom use (McDonald, 2013). An additional effect of ART, was that it rationalized the belief of non-condom use that existed in negative partners. Chen has stated that

Optimistic beliefs about HIV treatment may be used as a justification for sexual risk behaviours among people who are more likely to engage in sexual risk behaviours regardless of the information on reduced HIV transmissibility given ART and undetectable viral load. In other words, optimistic beliefs may rationalize rather than predict sexual risk behaviours (Chen, 2013: 85).

Low risk perception by these negative partners, with greater negotiating power already, resulted in non-condom use by the serodiscordant couple. It has been noted in literature that

uninfected partners are more likely to motivate and initiate sex without a condom (Persson, 2012).

#### **5.4 Limitations**

One of the limitations of this research was the sampling frame – participants were selected from a cohort of serodiscordant couples already participating in a clinical trial. The experiences and perspectives of these couples could have been significantly affected by participation in the clinical trials given the continued education and counselling these couples received. As such, the results obtained may not be applicable to other serodiscordant couples who have never participated in a clinical trial. Also, couples who participated in the trial HPTN 052 represent those couples who actively seek and receive care from the health system. The characteristics, meanings and experiences of such couples could be vastly different from those serodiscordant couples that do not and/or cannot seek health care services such as counselling and testing. The silent or hidden couples are probably more important in terms of transmission dynamics of HIV than those that seek and receive health services.

This study used a relatively small sample size and so findings may not be readily generalizable to a wider population. Another limitation was that the researcher was known to all participants as a member of staff of the HPTN 052 study at the Harare site. This could have influenced the sampling process and hence the participants chosen as the sampling chain was controlled exclusively by the researcher. The insider status of the researcher could have influenced individual and couples decision to participate in this study – the people approached could have felt a responsibility to agree to participate or some may have refused to participate based on the relationship they had with the researcher. This relationship may also have resulted in limited responses from the participants and may have introduced desirability and reporting bias. Such bias would have arisen by participants trying to maintain similarities between the identity and responses they had made in the main HPTN 052 and this qualitative study.

Another limitation of this study was related to the methodology. The use of semi-structured interviews as the only data collection method could have limited the responses and therefore the findings of this study. Interviewing couples together could have limited partner's responses and prevented some partners from opening up fully to the researcher. Also, the findings of this

study could have been amplified and verified through focused group discussions. The use of one coder during data analysis could have resulted in bias and have limited the codes, categories and, ultimately, the themes obtained.

The decision to give couples the choice to be interviewed separately or together was another limitation with this study. Couples interviewed together may have resulted in one of the partner's voice being dominated by the other, especially the male. Also, couples may not have been open about aspects of the interview that related directly to sensitive relationship issues that the couple could have been dealing with such as infidelity or alcohol abuse. For some couples, some issues raised in the interview may not have been brought up or discussed in the relationship. This would make either partner unwilling or uncomfortable to reveal information on such issues.



## CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

### 6.0 Conclusion

In an attempt to explain sexual risk-taking behaviour, Mumtaz, Slaymaker, and Salway had this say:

Sexual behaviour varies; it is, by its very nature, a product of interaction between two individuals and not the result of individual action and decisions only. The same individuals may interact differently with another set of partners, producing a separate set of behaviours. The interaction between a particular couple is influenced by characteristics of the individual partners, who, in turn are located in a wider social milieu (Mumtaz, Slaymaker, & Salway, 2005: 118).

The findings of this study confirm this view and indicate that using condoms in a serodiscordant relationship is not simple. It is an outcome of many complex processes mediated by a variety of factors operating at different levels. This study showed that serodiscordant couples have numerous challenges with barriers to condom use being one subset of challenges in sexual behaviour. These barriers showed a high degree of interlinkage. For these barriers to be overcome, it is important to appreciate the context in which they occur, and embrace the complexity, and at times contradictions, that come with them.

### 6.1 Recommendations

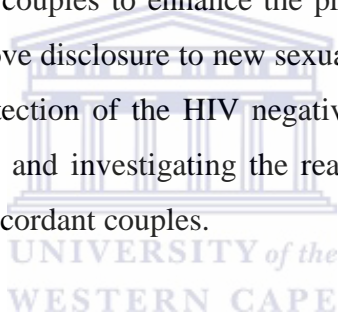
Based on the findings of this study, the following recommendations are made.

This study identified barriers to condom use in serodiscordant couples where one partner is on ART and provided the basis for understanding the context in which serodiscordant couples use condoms. It is recommended that the findings of this study be discussed with the Ministry of Health and Child Care (MoHCC), Directorate of Preventative Services, and organizations providing couples counselling on HIV risk reduction such as PSI. In order to achieve the desired outcome of zero infections in serodiscordant couples, there is need for refinement in the implementation of couples counselling and testing as well as promotion of condom use in serodiscordant couples. A nuanced approach to these prevention strategies is required. For example, young and recently married couples have to be treated differently from older couples or those who have had children due to differing desire to conceive. The aim should be to

increase health care providers' understanding of the effect(s) of the differing HIV sero-status on a couple's relationship, and the influence of risk perception within serodiscordant relationships on HIV prevention behaviours such as condom use.

Secondly, it is recommended that the MoHCC develop a specific policy and guidelines for Couples HIV Counselling and Testing (CHCT) in Zimbabwe. The Ministry of Health should also develop guidelines for safe conception practices in serodiscordant couples to ensure uniformity of messaging and practices regarding conception for serodiscordant couples.

Finally, further studies that would help to inform prevention strategies for couples should be actively promoted and funded. Areas of study would include: assessment of knowledge on safe conception by serodiscordant couples who desire children; leveraging the influence of negativity within serodiscordant couples to enhance the prevention of HIV transmission in these couples; strategies to improve disclosure to new sexual partners and people outside the relationship such as family; protection of the HIV negative partner as a facilitator for the success of prevention strategies; and investigating the reasons why the female condom is unpopular with women in serodiscordant couples.



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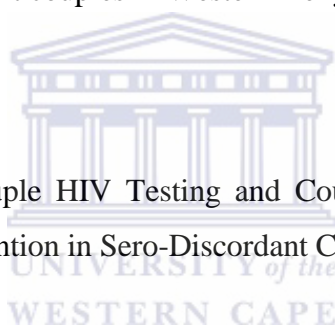
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## Appendix 1: HPTN 052 Inclusion and Exclusion criteria

(HPTN 052 Protocol, Final version 3.0, 20 November 2006)

### HPTN 052 Inclusion criteria

Couples are defined as sexual partners, same or opposite sex, who are married, have been living together, or consider each other a primary partner. They must have been together for a minimum of three months, and at the time of enrollment expect to maintain their relationship for the duration of the study.

Additional sexual partners of either the index case or their partner will not be eligible to enroll while the initial couple is enrolled is being followed. Each partner of an HIV serodiscordant couple must meet the criteria presented below to be eligible for inclusion in this study.

#### Index case

- Positive HIV serology obtained within 60 days prior to enrollment.
- Has a sexual partner (as defined above) who is not infected with HIV (documented by negative HIV serology), and who is willing to participate in the study.
- Plans to maintain a sexual relationship with the person who is enrolled in the study with them.
- Reports having sex (vaginal or anal) with partner at least 3 times in the last 3 months.
- If pregnant or breastfeeding during screening or at the time of enrollment, willing to be randomized to either arm of the study.
- The following conditions must be met for laboratory parameters within 60 days prior to enrollment:
  - CD4+ cell count of 350 – 550 cells/mm<sup>3</sup>
  - Hemoglobin > 7.5 g/dL
  - Platelet count > 50,000/μL
  - AST (SGOT), ALT (SGPT), and alkaline phosphatase < 5 x ULN
  - Total bilirubin < 2.5 x ULN
  - Calculated creatinine clearance > 60 mL/min (use the Cockcroft and Gault method to calculate)
  - Absolute neutrophil count > 750 mm<sup>3</sup> or 0.750 x 10<sup>9</sup>/L (see Section 4.5.5.5 for information on neutropenia)

### Partner

- Negative HIV serology within 14 days prior to enrollment.
- Has a sexual partner infected with HIV who is willing to participate in the study.
- Plans to maintain a sexual relationship with the person who is enrolled in the study with them.
- Reports having sex (vaginal or anal) with partner at least 3 times in the last 3 months.

### Both Index case and Partner

- Men and women > 18 years.
- Willing to disclose HIV test results to partner.
- Not intending to relocate out of the area for the duration of study participation and does not have a job or other obligations that may require long absences from the area.

### **HPTN 052 Exclusion criteria**

#### Index case

- Current or previous AIDS-defining illness (as defined in Appendix III). (Note: active TB, as defined by the ACTG Appendix 60 – Diagnoses Appendix, is an exclusion, as well as currently being on intensive phase of TB treatment, but previously treated cases of pulmonary TB may be waived at the discretion of the study clinician.)
- Current or previous use of any ART drugs (exceptions will be outlined in the SSP Manual. For example, previous short-term use of ART for prevention of perinatal transmission will be waived as an exclusion)
- Documented or suspected acute hepatitis within 30 days prior to enrollment, irrespective of AST (SGOT) and ALT (SGPT) values.
- Acute therapy for serious medical illnesses, in the opinion of the site investigator, within 14 days prior to enrollment. Candidates with chronic, acute, or recurrent infections that are serious, in the opinion of the site investigator, who must continue with chronic (maintenance) therapy (e.g. TB), must have completed at least 14 days of therapy prior to study entry and be clinically stable.
- Radiation therapy or systemic chemotherapy within 45 days prior to enrollment.
- Any immunomodulator or other investigational therapy within 30 days prior to

enrollment.

- Active drug or alcohol use or dependence that, in the opinion of the site investigator, would interfere with adherence to study requirements.
- Vomiting or inability to swallow medications due to an active, pre-existing condition that prevents adequate swallowing and absorption of study medication.
- Need for a prohibited medication
- Allergy/sensitivity to any study drugs or their formulations.

Both Index case and Partner

- Reports a history of injection drug use within the last five years.
- Previous and/or current participant in an HIV vaccine study.
- Any condition that, in the opinion of the study staff, would make participation in the study unsafe, complicate interpretation of study outcome data, or otherwise interfere with achieving the study objectives.
- Incarceration in a correctional facility, prison, or jail; and involuntary incarceration in a medical facility for psychiatric or physical (e.g. infectious disease) illness.



## Appendix 2: Key Informant Interview guide

### Introduction

What is your current position in HPTN 052?

How long have you been with the study?

### Work experience

Please briefly describe your duties

Do you think participants in HPTN 052 understand what serodiscordance means? Why/Why not?

What do you think are the challenges that discordant couples face which might be different from other couples?

Do you think discordant couples in the study have enough information on condom use? Why?

### Condom use in HPTN 052

What would you say about condom use among couples in the study?

Are couples in the study using condoms? Why do you say so?

Are there gender differences in condom use say it's the female who is infected or vice versa?

What do you think are some of the reasons why couples use condoms?

What do you think are some of the reasons why couples do not use condoms?

Which ones are the major reasons according to you?

Are there any couples you can think of who have refused to use condoms?

Do you know why they don't use condoms?

Can you think of couples who consistently use condoms?

Do you know why they do?

### Other sources of information

Among the staff members, whom do you think will be more knowledgeable on condom use amongst participants?

Any reasons for choosing these staff members?

Are there any couples you think should be included in this study?

In trying to find out about condom use amongst discordant couples, are there any questions which SHOULD be asked?

Are there any questions which SHOULD NOT be asked?

Which ones? Why not?

### Appendix 3: Serodiscordant couples Interview guide

#### Introduction

How old are you? How many children do you have? Ages?

How far did you go with school? How long have you been with your current partner/ current relationship?

#### Relationships

What are some of the challenges that people in relationships face?

What are the benefits of being in a relationship?

#### Understanding Serodiscordance

How long have you been in the study HPTN 052?

Would you say that you know understand what serodiscordant means? What do you understand?

How did it feel when you first knew about being discordant? Was it easy to disclose to people?

Do you think people in discordant relationships have more challenges than other couples?

Please explain

#### HIV Risk Reduction Strategies

Would you say you have enough knowledge on HIV transmission, prevention and condom use? Why do you say so?

According to you, which people are at risk of getting HIV?

Should people in a relationship be encouraged to use condoms? Why/why not?

Should discordant couples use condoms? Why/why not?

What do you think are some of the reasons that people do not use condoms? Of the reasons you mentioned, which one is the main reason?

What do you think are some of the reasons that people do use condoms? Of the reasons you mentioned, which one is the main reason?

#### ART and HIV transmission

Do you remember that HPTN 052 results? What did those results mean to you?

Do you think these results had an effect on condom use? Why do you say that?

Would you recommend ART for other discordant couples? Why/why not?

## Appendix 4: English Informed Consent Form

### CONSENT FORM

**Project Title: Barriers to condom use in serodiscordant couples where one partner is on ART at the UZ Clinical Research Centre, Harare, Zimbabwe**

**Principal Investigator:** Wilfred T. Gurupira

**Contact information:** Tel: +263-4-701326 or 701356 or 705995 Cell: +263-772 418 435

E-mail: [wilfred@uzcrc.co.zw](mailto:wilfred@uzcrc.co.zw) or [wilfred@uz-ucsf.co.zw](mailto:wilfred@uz-ucsf.co.zw)

#### **What is this study about?**

This is a research project being conducted by Wilfred T. Gurupira, a Masters in Public Health student, at the University of the Western Cape. We are inviting you to participate in this research project because you can provide important information on condom use amongst serodiscordant couples taking HIV medication. The purpose of this research project is find out how couples feel about using condoms and if there are any problems with using condoms faced by serodiscordant couples. The project will also try to find out the reasons for and against the use of condoms by serodiscordant couples.

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#### **What will I be asked to do if I agree to participate?**

You will be asked to participate in an interview with the researcher. This interview will take place in one of the offices at the University of Zimbabwe, Clinical Research Centre. During the interview, you will be asked questions related to HIV prevention, HIV serodiscordance, condoms and the use of condoms by serodiscordant couples. Each interview should take about one (1) to one-and-a-half hours (1.5).

#### **Would my participation in this study be kept confidential?**

We will do our best to keep your personal information confidential. To help protect your confidentiality, your real name will not be used during the interview or on any documents related to the research. The recording from the interview will be kept locked in storage areas accessible only to the researcher.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

**What are the risks of this research?**

There are minimal risks associated with participating in this research project.

**What are the benefits of this research?**

This research is not designed to help you personally, but the results may help the investigator learn more about condom use amongst serodiscordant couples. We hope that, in the future, other people might benefit from this study through improved understanding of the needs of serodiscordant couples with regards condoms

**Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

**Is any assistance available if I am negatively affected by participating in this study?**

If your participation in this study affects you negatively, you will be referred for care and counselling at Parirenyatwa Hospital and Crisis Support Centre, Parirenyatwa Hospital Annexe respectively.

**What if I have questions?**

This research is being conducted by *Wilfred T. Gurupira*, School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact *Wilfred T. Gurupira* on:

Tel: +263-4-701326 or 701356 or 705995

Cell: +263-772 418 435

E-mail: [wilfred@uzcrc.co.zw](mailto:wilfred@uzcrc.co.zw) or [wilfred@uz-uscf.co.zw](mailto:wilfred@uz-uscf.co.zw)

I am accountable to Dr Thuba Mathole, my supervisor at UWC. Her contact information is as follows:

Work tel: +27 21 959 9384

Cell: + 27 79 324 7638

E-mail: [tmathole@uwc.ac.za](mailto:tmathole@uwc.ac.za)

**This research has been approved by**

- 1. University of the Western Cape’s Senate Research Committee and Ethics Committee.**
  - 2. University of Zimbabwe Clinical Research Centre leadership**
  - 3. HPTN 052 Protocol team**
  - 4. Medical Research Council of Zimbabwe (MRCZ)**
- .....

**SIGNATURE PAGE**

**Project Title: Barriers to condom use in serodiscordant couples where one partner is on ART at the UZ Clinical Research Centre, Harare, Zimbabwe**

I have read the information about the study on this Informed Consent sheet or it has been read to me. The study has been described to me in language that I understand and I freely and voluntarily agree to participate.

My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

My signature says that I am willing to participate in this study.

**Participant’s name** .....

**Participant’s signature** .....

**Date**.....

**Researcher conducting informed consent name**

.....

**Researcher’s signature** .....

**Date**.....

**Statement of Consent for tape recording**

I understand that tape recording will be taken during the study. (Please choose YES or NO by inserting your initials in the relevant box)

- I agree to being tape recorded

YES

NO

---

**Name of participant (please print)**

**Signature**

**Date**

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant or if you feel that you have been treated unfairly and would like to talk to someone other than the researcher, please feel free to contact:

The Medical Research Council of Zimbabwe (MRCZ) on telephone 791792 or 791193

Physical address: Josiah Tongogara Avenue/Mazowe street, Harare, Zimbabwe

Or

The Director of the School of Public Health:

Prof Helene Schneider

University of the Western Cape

Private Bag X17, Bellville 7535

Cape Town, South Africa

[hschneider@uwc.ac.za](mailto:hschneider@uwc.ac.za)

## Appendix 5: Senate Research Committee Approval



UNIVERSITY of the  
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### OFFICE OF THE DEAN DEPARTMENT OF RESEARCH DEVELOPMENT

15 September 2014

#### To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape approved the methodology and ethics of the following research project by:  
Mr WT Gurupira (School of Public Health)

Research Project: Barriers to condom use in serodiscordant couples where on partner is on ART at the UZ Clinical Research Centre, Harare, Zimbabwe

Registration no: 14/7/15

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

*Ms Patricia Josias  
Research Ethics Committee Officer  
University of the Western Cape*

Private Bag X17, Bellville 7535, South Africa  
T: +27 21 959 2988/2948 . F: +27 21 959 3170  
E: pjosias@uwc.ac.za  
www.uwc.ac.za

A place of quality,  
a place to grow, from hope  
to action through knowledge



Appendix 6: Application to MRCZ

STUDENT COPY

MRCZ/B/727



Parienyetwa Annexe Building  
Cnr Mazoe St/ J Tongogara Ave

Tel: 263-4-701717  
263-4-701356-26  
Fax: 705995/251017  
Email: [uzcrc@uzcrc.co.zw](mailto:uzcrc@uzcrc.co.zw)  
Website: [www.uzcrc.co.zw](http://www.uzcrc.co.zw)

09 October 2014

The Secretary  
Medical Research Council of Zimbabwe  
Harare

**RE: Application for registration to conduct research**

Dear Sir/Madam,

I write in application for registration to conduct research. I am an MPH student with the University of Western Cape in South Africa. I am doing a mini-thesis in fulfillment of the Masters in Public Health degree programme.

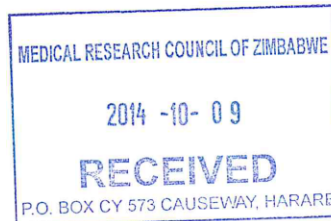
I have attached the following documents with this application:

- Completed MRCZ application form
- Approval and registration from the Senate Research Committee of the University of Western Cape
- Approval from HPTN 052 leadership
- 2 copies of the research proposal summary and the full research proposal
- 2 copies of the Informed consent forms and Participant information sheet (English and Shona)
- 2 copies of my CV

I look forward to your favourable response.

Sincerely,

  
Wifred T. Gurupira  
MPH student (UWC) 3206609



## Appendix 7: MRCZ Approval

Telephone: 791792/791193  
Telefax: (263) - 4 - 790715  
E-mail: [mrcz@mrcz.org.zw](mailto:mrcz@mrcz.org.zw)  
Website: <http://www.mrcz.org.zw>



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

### APPROVAL

REF: MRCZ/B/727

04 November 2014

Wilfred T Gurupira  
U Z College of Health Sciences  
P.O Box A178  
Avondale  
Harare

**RE: Barriers to condom use in serodiscordant couples where one partner is on ART at the UZ Clinical research Centre, Harare, Zimbabwe**

Thank you for the application for review of Research Activity that you submitted to the Medical Research Council of Zimbabwe (MRCZ). Please be advised that the Medical Research Council of Zimbabwe has **reviewed** and **approved** your application to conduct the above titled study.

This approval is based on the review and approval of the following documents that were submitted to MRCZ for review:-

- a) Study proposal
- b) Informed Consent Form (English and Shona)

- TYPE OF MEETING : Expedited
- EFFECTIVE APPROVAL DATE : 04 November 2014
- EXPIRATION DATE : 03 November 2015

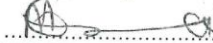
After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the MRCZ Offices should be submitted three months before the expiration date for continuing review.

- **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 or website.
- **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 or website.
- **QUESTIONS:** Please contact the MRCZ on Telephone No. (04) 791792, 791193 or by e-mail on [mrcz@mrcz.org.zw](mailto:mrcz@mrcz.org.zw)

**Other**

- Please be reminded to send in copies of your research results for our records as well as for Health Research Database.
- You're also encouraged to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study.

Yours Faithfully

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



PROMOTING THE ETHICAL CONDUCT OF HEALTH RESEARCH