"It will be everyone's secret; he won't tell, and I won't tell": the impact of HIV diagnosis on serodiscordant couples

by

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ABSTRACT

Anti-retroviral therapy (ART) and oral pre-exposure (PrEP) have proven effective in the prevention of HIV. As Tanzania begins a nationwide scale-up of pre-exposure prophylaxis (PrEP) with a focus on key populations including couples with different HIV status, described as serodiscordant, we seek to understand the perceived effects of PrEP and early ART on facets of serodiscordant relationships. Additionally, given the gender disparities that contribute to women's increased risk of HIV infection, this paper will also examine female partners' decision-making related to HIV testing and partner dynamics post-testing. Using a social constructivist grounded theory paradigm, 44 in-depth interviews conducted during the Dyadic-based Diagnosis, Care and Prevention (DDCP) study in Kisarawe, Tanzania were analysed. Content analysis was employed alongside metaphor analysis and case study analysis to create a contextual, animated yet distinctive, and holistic understanding of the experiences of serodiscordant couples. The findings of the study reveal that when there is disclosure of HIV status to the partner, there is a general feeling of closeness by both partners; however, most participants indicated being more comfortable disclosing to specific family members than partners. Analyses also found that participants were interested in PrEP as a substitute for condom use; some having expressed that PrEP will return their sexual interactions to a semblance of normality. Case study analysis showed that most female participants, regardless of their HIV status, would get tested alone if their partner refused to get tested together. There was also a general consensus on the unfaithfulness of male partners, and for some female participants this led to the breakdown of the relationship whilst others chose to live in peace.

The study shows that couples testing is a crucial intervention that may promote better quality of serodiscordant relationships. Including family members and communities in conversations about HIV testing, care and treatment, can engender a more informed support network that promote early ART/PrEP adherence and more stable serodiscordant relationships. Better guidelines that are informed by and accommodate the interests and experiences of serodiscordant couples need to be developed to improve and inform patient-centred care.

LAY SUMMARY

The HIV epidemic still burdens the African region, where more than two-thirds of the world's infections are located. Antiretroviral therapy (ART) has proven effective in treating HIV and beginning treatment early has resulted in viral suppression and reducing the number of deaths resulting from the infection. Additionally, oral pre-exposure prophylaxis (PrEP) has proven effective when adhered to, in preventing HIV transmission and has been recommended to those deemed at substantial risk of acquiring HIV. This includes serodiscordant couples who consist of partners with different HIV status, i.e., one HIV-infected and the other uninfected. As Tanzania begins to roll out PrEP nationally, our study looks at the perceived effects of PrEP and early ART on serodiscordant relationships. Study findings will inform the country's PrEP implementation plans and aid in developing initiatives to improve partner dynamics, HIV testing, care and treatment of heterosexual serodiscordant couples.

PREFACE

This thesis is based on research designed by Dr Sweat of the Medical University of South Carolina and colleagues. The original research, the Dyadic-Based Diagnosis, Care and Prevention (DDCP) study has two parts: the cohort study and the formative research. Chapter 2 explains both parts of the study in full and are sourced from the DDCP study protocol that was shared with me. Figures 1 and 2, and Appendix E in the thesis are also sourced from the study protocol.

Permission was obtained from Dr Sweat to use the DDCP study data for the purposes of this thesis. Ethics approval was obtained from the University of British Columbia Behavioural Research Ethics Board (BREB #H20-02188) and the study classified as minimal risk.

The thesis study objectives and methodology are original and independent work that was designed, carried out and data analysed by me, Kaosisochukwu Chinyelu Onochie.

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I want to thank my family and friends, who stayed by my side as I scrambled to come up with an alternative thesis proposal when the pandemic rendered the initial proposal unfeasible. My parents who constantly called to check in on my project, despite not fully understanding the subject matter; my brothers who really just wanted to know when I would get a break and have some time away from my computer. A huge thanks to my friends Sam, Hazel, Bimby, Ash, Mel, Chris & Dera who supported and comforted me during the short days and long nights; and who would ask questions about my project hoping to get a short answer – but usually never did. Special thanks to Ayo for providing the meals that sustained me during the last leg of my project, listening to 100+ run throughs of my defence presentation and providing important feedback – "did you go over the time?"

Last but definitely not the least, I would like to thank my Black and Brown sisters – Nat, Nejat and Kiran for adding so much melanin to my life. I thank you for showing me that Black and Brown women can do so much, regardless of the restraints we may find ourselves limited by. Thank you for showing me that we do not live by the status quo and we are not crazy for wanting better for academia, for healthcare and for Black and Brown women across the globe.

DEDICATION

To Black women researchers who centre Black and African women in every discipline that exists and who so often are not acknowledged or recognised. I see you and thank you.

CHAPTER ONE: Background

1.1 Introduction

The HIV epidemic has hit the African continent the hardest, as the region in 2019 accounted for more than two-thirds of the world's HIV population.(1) The number of people living with HIV (PLWH) in the region has increased from 17million in 2000 to its current 25.7million, with close to 21milliion in Eastern and Southern Africa alone.(2) Out of ten countries in sub-Saharan Africa (SSA) that account for 81% of PLWH in the region, nine are in Eastern and Southern Africa.(3) As the number of new infections in this part of the continent have largely reduced since 2010, more efforts are being taken to sustain this decline.(4) In 2014, UNAIDS' 90-90-90 fast track strategy was aimed at 90% of PLWH knowing their status, 90% of people diagnosed receiving HIV treatment and 90% of people on HIV treatment having a suppressed viral load.(5) To ensure reaching this goal, the WHO released guidelines that shifted HIV treatment and prevention procedures.

Antiretroviral therapy (ART) was initially recommended for all adults with HIV and a CD4 count at or below 500 cells/mm^3 or for those with advanced stages of the disease. However, with the 2015 consolidated guidelines, a "treat all" (6) approach was taken, where ART was recommended for all adults with HIV regardless of their CD4 count.(7) Early ART initiation has led to viral suppression early on (8–11) and over time. (12–14) Additionally, the intervention was deemed crucial to improving linkage to care (6) particularly in SSA where it was the biggest challenge in achieving the 90-90-90 target.(2) ART not only serves as treatment for key populations (men who have sex with men, transgender people, sex workers, people who inject drugs and people living in prisons and closed settings) who are disproportionately affected by the HIV epidemic (15)– making up 62% of new infections globally (16), but also as prevention from HIV.

Oral pre-exposure prophylaxis (PrEP) was recommended for people at substantial risk of HIV infection as an additional prevention choice. The drug containing tenofovir disoproxil (TDF) prevents HIV-uninfected people from becoming infected with the virus (17); making it distinctly invaluable to all people at substantial risk of HIV infection, including serodiscordant couples and men who have sex with men. Serodiscordant couple refers to an ongoing sexual relationship in which one partner is living with HIV and the other is HIV-negative.(18) The

definition of a couple relationship varies across cultures and contexts, however, in research it is typically defined by cohabiting, marital or co-parenting status or by length of relationship.(18) Heterosexual serodiscordant couples accounted for two-thirds of infected couples in a survey of five African countries (Burkina Faso, Cameroon, Ghana, Kenya, and Tanzania).(19) As a substantial global burden of HIV occurs in serodiscordant relationships, regular use of oral PrEP has proven effective in preventing HIV transmission between partners.(20,21) However, as countries move towards PrEP implementation, there needs to be a focus on the barriers and facilitators of PrEP uptake and adherence within serodiscordant relationships, specific to cultural contexts and partner dynamics. Since ART and PrEP have proven effective in HIV treatment and prevention, it is essential to examine its effects in serodiscordant couples in a Southern African country with a high HIV prevalence. Additionally, looking at relationship dynamics on a dyadic level will provide an extra perspective through which to view the epidemic and serodiscordant couples.

1.2 Relationships: Intimacy, self-disclosure & partner responsiveness

The quest for social support is a continuous process that may come from a partner, relatives, friends or community ties (22) however, the quality and functionality of these relationships is very subjective.(23) In contrast to its broad definitions as providing resources for others (23), social support refers to the perception or experience that one is loved and cared for by others.(22) Similar to social support, intimacy is a transactional process that engages two individuals in an interpersonal relationship.(24,25) Couples living with HIV – concordant or discordant – though providing support to each other may be lacking intimacy. This intimacy in most cases has been described as sexual, but psychological studies show that intimacy also results from a process that involves communicating personally relevant and revealing information to another person.(26) According to Reis and Shaver (25) this transactional process of intimacy occurs with two principal components: self-disclosure and partner responsiveness, which are interdependent. In the authors' model, a response to one's disclosure is just as important as the initial disclosure and is crucial in determining if an interaction will become intimate.(25)

Research on marital interactions found that happy couples tend to listen openly and nondefensively to their partners when discussing conflicts, whereas distressed couples tended to

reject and criticise their partner's point of view.(27) This highlights the effects of partner responsiveness and its contribution to marital harmony.(28) Responses are typically perceived as responsive to the extent that they are caring, understanding and validating; indicating the partner's active concern for one's well-being, their accurate view of one's needs and fears, and their ability to sacrifice self-interest for the good of the relationship respectively.(29) The deliberate decision to reveal information – self-disclose – to another person during an interaction despite its associated risks including judgement by others and concerns of trust, is important in beginning a relationship.(30) As a survey of newsgroups about forming relationships found that people who better expressed their true selves on the internet were more likely to develop close online relationships more quickly than real life relationships.(31) Ultimately for many, these relationships grew stronger and more intimate 2years later; further emphasising the salience of self-disclosure as a building block for closer, intimate and stable relationships.

The need for relationship stability, partner support and sexual intimacy motivates serodiscordant couples to initiate PrEP (32,33), however as studies have shown, for intimacy in a relationship, one has to disclose more and perceive the partner to be responsive.(26) Communication styles contribute to how information is revealed, expressed and responded to; a study comparing patterns of self-disclosure in psychotherapy and marriage found that overall, the extent of disclosure was similar in both contexts.(34) However, participants significantly disclosed more on the theme of despair in the therapy context, and significantly disclosed more on the theme of procreation/body concerns in the marriage context. Participants, on average, disclosed on the theme of intimacy in both contexts, and indicated the importance of disclosing this theme in both contexts.(34) Emotional self-disclosures generate greater intimacy (35) and as couples navigate serodiscordance both partners need to be in state of positive involvement with one another (36) to nurture the intimacy process thus resulting in marital satisfaction. (37) Studies have shown a positive correlation between marital intimacy and marital satisfaction, where intimacy was categorised into emotional, sexual, intellectual and recreational. (38,39)

1.3 Serodiscordant Couples, ART and PrEP: A Tanzanian Context

In a country of about 56million people (40), Tanzania has an estimated 1.6million PLWH. (2) Although the country accounts for 5% of new infections in SSA (3) about 39% of its new infections occur in stable heterosexual relationships. (41) Serodiscordance in the Tanzanian

context takes a peculiar form as it is guided by cultural beliefs and gender norms and these contribute in part, to the increased risk of HIV infection within this population. Women shoulder the burden of HIV in the country particularly in serodiscordant relationships where they are at an increased risk of infection. Serodiscordant couples make up only 2% of the country's heterosexual couples, highlighting its rarity to society and the potential for stigma and targeted discrimination (41) Heterosexual intercourse is known as the main driver of the world's HIV epidemic (3,41) with man to woman transmission more common and rampant.(42) A DHS survey of 10 countries in SSA, found that majority of the cohabiting couples were negative except in four countries including Tanzania where less than 10% of couples had one or both partner HIV-positive.(43) The HIV prevalence in these cohabiting couples was slightly higher in men than women in Tanzania, showing the risk of HIV transmission for women cohabiting.(43) As the Tanzanian government scales up PrEP for adolescent girls and young women, it is one of many steps to mitigate the increased risk of Tanzanian women. (44)

ART and PrEP have been found to restore relationships and aspects of daily living. A qualitative study investigating the experiences of serodiscordant couples after PrEP initiation found that participants felt more enthusiastic about their future together. (45) For many participants, PrEP opened up a pathway to a normal life despite their HIV serodiscordance and this included helping them meet their aspirations for fertility. The desire for conception is feasible due to the additional protection PrEP provides in instances where couples chose not to use condoms. Similarly, in another study exploring the benefits of PrEP use amongst Kenyan serodiscordant couples, participants identified that in addition to reducing the risk of transmission, PrEP would also reduce stress within the relationship.(46) This, many felt would facilitate them remaining in the relationship as well as be a motivator for their partner's ART adherence. In contrast, Franks and colleagues (47) in a randomised, open-label clinical trial with men who have sex with men in New York City, found that though PrEP was perceived as providing additional protection, many participants felt stigmatised using it. People assumed that they were either HIV-infected or promiscuous which posed a barrier to PrEP uptake and adherence. For some serodiscordant couples, PrEP alleviation of stigma was associated with having the relationship return to normal, in this context it referred to condom use. (48) Most PrEP users consider the HIV prevention intervention a more intimate alternative to condom use (49–51) and for this reason, they are stigmatised. (52,53) The stigma, as described by women

living in Washington D.C, could be HIV related stigma extended to PrEP use, partner's perception of infidelity and difficulty discussing risky sexual behaviour. (54) Despite the benefits of PrEP, some studies have raised concerns of risk compensation, i.e., increased risky sexual behaviour following PrEP initiation.(55–57) This highlights the possible ambiguity of PrEP and the need to recognise the social contexts that determine one's decisions to take PrEP and their ability to adhere to it. (54)

1.4 Unique Position of African Women in Serodiscordant Relationships

Women and girls accounted for a substantial number of new infections globally in 2019 with about 5,500 women aged 15-24years becoming infected every week. (16). These statistics are far worse in SSA, where more than half of adults living with HIV were women, with young women more than three times likely to be infected than young men. (58) In Tanzania alone, HIV prevalence is two times higher in women than in men and this is largely attributable to the country's sociocultural context. It is common in SSA to have relationships between young women and older male partners (3); as a Ugandan study participant put it "… we tend to love the female young ladies for sex." (59) Studies have shown that relationships with large differences in age are associated with unsafe behaviour, and low condom use (60), additionally, it may contribute to the inequalities within the relationship that put women at risk of violence. Heterosexual sexual relationships have men exercising more power than women in which they want to control women's lives. These power imbalances affect women's sexual behaviour and decision making, and may lead them to be psychologically, economically and socially dependent on men. (61,62) The historically organised patrilineal systems in African societies dictate how men and women behave and allow men to dominate household decision making and control over resources. (63) In Tanzania, the "central object" that women bring to marriage is a child and failing to bear one early in a marriage declines her appeal as a wife. (64) This commodification of women's reproductive organs is similar to the mammy controlling image used to oppress Black women in the U.S. (65) However, rather than deferring nurturing their own children to care for the White man's, Tanzanian women may be forced to defer all other things and centre motherhood.

Serodiscordance in relationships can exacerbate the power dynamics leaving women more vulnerable but is at times dependent on the which partner is HIV-infected. In a study that

explored the effects of serodiscordance on gender relations, when the woman was positive the man's powers was strengthened: he kept their discordant relationships secret, contemplated leaving the relationship and his control over decision making was intensified. In contrast, when the man was positive the women gained some leverage and the men were eager to maintain the relationships; however, the women were still more vulnerable compared to the men. (61) Disclosure of discordant status to family was an issue raised by a study participant (61) and is an ongoing issue for women in serodiscordant relationships. Studies have shown that HIV-positive women fear disclosing their status for fear of violence (66), mistrust, discrimination and relationship dissolution (67,68) and have experienced these fears following disclosure.(69,70) This conflict with disclosing can be exacerbated for women not only because they are at a higher risk for infection but also because they get tested more often and so are more likely to be faced with this conflict. Comprehensive HIV testing done during antenatal visits, ensure there is no transmission from mother to child as well as a large proportion of women are getting tested. A Ugandan study of serodiscordant couples found that men were hesitant to get tested, as it may confirm their infidelity.(71) Concerns about partner infidelity (62,72) led women to consider protection with condoms and/or PrEP but considering the power dynamics within these relationships, the man may reject such suggestions. (73)

Tanzanian women play a substantial role in the country's agriculture sector, constituting more than half of labour force distribution. (74) Despite their active role in food crop production, only 4% of women are in paid jobs in either the formal or informal sector, compared to about 10% of men. (74) As women take on agriculture, they are still tasked with domestic tasks including caring for the elderly and patients with AIDS (74,75) thus engaging in their "second shift." (76) Tanzanian customary land tenure entrusts control of property to the person in whose name the property was acquired, which often works against women. (77) Although a woman cultivates food crops on her husband's plot of land, in the event of his demise or divorce, his clan may repossess the land forcing her to return to her natal community or marry one of her husband's relatives. (77) By primarily holding economic and political power, men ultimately make decisions about production, division of labour (78) and family planning. (79,80) However, in some cases, women with more schooling had more bargaining power regarding disputes on income and labour allocation. (77)

Women in serodiscordant relationships have a distinct position as a result of their association with HIV-infection – with self or partner – and their intersecting identities within their sociocultural contexts. Despite their risk of economic insecurity amongst other things, following a HIV diagnosis, African women may engage in what Patricia Hill Collins describes as "a dialectical relationship between oppression and activism." (65) This emphasises that for Black women to be fully empowered, all intersecting oppressions must be eliminated; until then, Black feminism as an activist response to the oppression will remain needed. (65) For African women, feminism may not be as precise and instead may operate differently within individual contexts. As Nigerian-American feminist scholar Obioma Nnaemeka put it, feminism for African women is not getting hung up on its articulation but instead just doing. (65) According to Nnaemeka(81), African feminism is "feminism as I have seen it practiced in Africa," proactive and rooted in the African environment. This practice of feminism can take various forms (65) and as African women are forced to shoulder the burden of this gendered epidemic, it would be a disservice to neglect intersectionality in the implementation of initiatives targeting this population.

The benefits of PrEP and ART extend HIV prevention and treatment and provide enhanced sexual pleasure and the opportunity to lead a healthy life respectively. However, in SSA where inequalities persist, gender and power relationships can adversely affect adherence thus diminishing the effectiveness of these HIV interventions. Better relationship dynamics can serve as motivation for retention to care and adherence and, be a result of better HIV testing and counselling guidelines. Psychological studies show the association between self-disclosure, closeness and partner responsiveness on improving interpersonal relationships, so utilising this theory, this paper will examine the perceptions of early ART (previously referred to as rapid ART) and PrEP on serodiscordant relationships in Tanzania. Additionally, with inequalities existent in gender relations in SSA, this paper will also explore decision-making by female partners in these discordant relationships.

CHAPTER TWO: Methodology

We conducted a secondary analysis of qualitative data from the Dyadic-Based Diagnosis, Care and Prevention (DDCP) study, a prospective observational cohort study of serodiscordant couples in Kisarawe Tanzania, which we describe in detail in this paper.

2.1 DDCP Study Overview

Building off previous studies including the VCT Efficacy trial (82), Project Accept (83) and the Triage Project (84), Dr. Sweat and colleagues aimed to investigate the feasibility, safety, and impact on improved care and prevention of novel strategies to identify and engage HIV serodiscordant couples in an integrated prevention and treatment intervention. These interventions include: (a) household-based self-testing education and HIV self-testing kits, (b) linkage to a post-test referral and counselling centre for those who test positive, (c) facilitated enrolment to care and treatment for those couples with confirmed HIV infection; and (d) access to PrEP for the negative partner in a heterosexual HIV serodiscordant couple.

Participants for the study were recruited per household based on the data from the 2012 census where the Kisarawe Ward was divided into sections by village and sub-village; and every household in the selected area was visited by data collectors. Each section of the ward was sampled until a minimum of 442 couples – but no more than 1,000 couples - had been enrolled. Data collectors explained the study to each household approached for potential participation, and with verbal consent of the head of the household determined if there were eligible couples within the household. For the purposes of the study, couple was defined as two persons in an ongoing sexual relationship of at least 6-months, and each of these persons considered the other to be a 'partner' in the relationship. To be eligible for participation, each individual had to be 18years or older, living in the household regularly, and with no plan of moving from the area. Additionally,

at least one member of the couple must be aged 55 years or below, but both had to be at least 18 years old. Each member of the eligible couples were consented separately and in private, and consent of both members was required for entry into the study.

Data collectors provided HIV self-test kits to the couples, with printed instructions left with two self-test kits. In addition to the aforementioned criteria, each member of the couple had to be willing to disclose their HIV status to their partner following self-testing, either facilitated by a counsellor or by the couples themselves. If only one partner was willing to test and disclose, self-testing kits were not provided to a couple. The OraSure OraQuick® Rapid HIV-1/2 test kit was utilised for self-testing and following a positive HIV test by either couple members, couples were instructed to visit the Study Centre together as a couple, if possible. The couples were also instructed to visit the Study Centre if they received uncertain test results or had trouble interpreting the results. Two weeks after offering self-testing, data collectors returned to the households to collect used and unused testing kits, conduct follow-up interviews and surveys, and offer confirmatory blood-based testing following Tanzania's notional HIV testing algorithm. Referral counselling was offered to any participant with a confirmed positive HIV test result. Concordant sero-negative couples, i.e., both partners having a negative HIV status, were advised to retest in 6-months, following national guidelines. Whilst concordant sero-positive couples were counselled on the importance of HIV treatment and offered an escort to the Kisarawe Care and Treatment Centre (CTC) for services. Serodiscordant couples, i.e., couples with different HIV status, were reminded of the option to enter care and treatment as a couple as part of the study's intervention, and that the negative partner would have the opportunity to receive PrEP through the study for its duration (18months). If the positive partner was not already enrolled in care, they were offered an escort to the CTC to schedule an appointment. The counsellor

reviewed the clinical risks and benefits of PrEP with the couple and sought consent for the couple to be interviewed again in 6-months and 12-months.

The second part of the study focused on couple-based treatment intervention, sought to enrol 60 heterosexual serodiscordant couples from the first part of the study; thus, couples were recruited in the self-testing phase until 60 discordant couples had been identified for the second part of the study. In addition to sampling villages for study recruitment, existing CTC patients were informed about the ongoing study. Serodiscordant couples found through this recruitment strategy were offered participation in the second part of the study as well. Patients currently receiving HIV-related care at the centre were not retested, however their negative partner received HIV confirmatory testing at the Study Centre. Similar to the first part of the study, the definition of a 'couple', residence near or within Kisarawe Ward and other eligibility criteria were used for the CTC-based recruitment. Written informed consent from both partners, were completed individually and in private prior to study enrolment. All serodiscordant couples were administered a baseline, 6-, 12-, and 18-month surveys and positive partners engaged in care as a dyad received a viral load test at 18-months.

2.2 Formative Research

To inform and improve intervention implementation, formative research was conducted to explore the knowledge, attitudes, and perceived benefits/concerns towards HIV self-testing, pre-exposure prophylaxis (PrEP) use, and early ART among people affected by HIV in Kisarawe. The research was conducted prior to the study intervention to allow for the findings to inform the intervention process and operationalisation. The goals of the formative research were: (1) developing appropriate counselling tools and strategies regarding HIV self-testing, PrEP, and early ART for the Kisarawe community during the DDCP intervention, (2) identifying and

addressing challenges/barriers to uptake of HIV self-testing, PrEP, and early ART so these can be addressed during counselling and while raising community awareness; and (3) using perceived concerns and benefits to improve intervention implementation. The in-depth interviews explored what people think about self-testing, PrEP, and early ART; as well as perceptions of benefits and risks, estimate acceptability and hypothetical usage of PrEP/ART, capture contextual issues that may facilitate or become barriers to uptake or adherence of ART/PrEP and social interactions that impact decision-making.

2.2.1 Conceptual Framework of Study

The study's theoretical framework is based primarily on Ewart's Social Action Theory and the Sweat-Denison Social Ecological Model for HIV/AIDS.

The Social Action Theory

The Social Action Theory is used to address the broad complexities of public health problems. (85) It proposes the interaction among three domains: contextual influences, self-change processes and action states. (86) Within the context of this study, the action states are described as the strategies people use to regulate their behaviour, i.e., individual self-regulatory capability such as ability to self-identify with HIV infection, trust within dyadic relationship and partner negotiation. Contextual influences are described as larger social environmental systems that determine how personal change mechanism operate, i.e., environmental context such as decreased opportunity cost of HIV testing, privacy associated with HIV self-testing at home and facilitated access to ART/PrEP. The self-change processes are described as the mechanisms that enable people to create strategies when trying to regulate their behaviour, i.e., internal affective states such as social support, self-efficacy and management of fear, depression and anxiety (see

Figure 1a). All three domains are in a state of reciprocal determinism, each affecting the others as well as the final impact which is the reduced risk of HIV transmission.

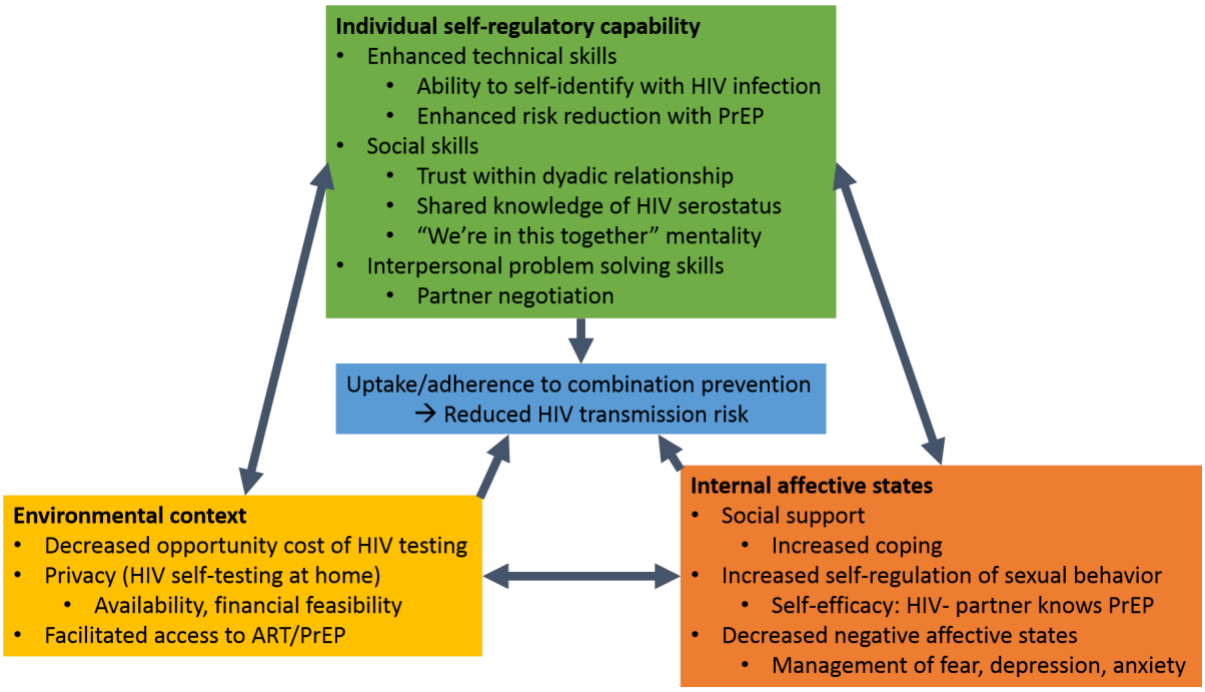


Figure 1 : Ewart's Social Action Theory

The Sweat-Denison Social Ecological Model for HIV/AIDS

The Sweat-Denison social ecological model (SDSEM) provides an alternate and more layered framework to the social ecological models that describe the interactive characteristics of individuals and environments that underlie health promotion. (87) SDSEM modified the individual, interpersonal, organisation, community and public policy layers of the social ecological model to include individual, environmental, structural and super-structural layers. (88) This model was used to identify the different factors that influence HIV-prevention or risk behaviours, whereby super-structural factors such as economic underdevelopment might affect an entire nation, structural factors such as laws and policies might affect the behaviour of a segment of the society, environmental factors might have an impact on the conditions and

resources of individuals, and individual-level factors might influence people's knowledge and attitudes. (89)

For the purposes of the formative research and given the dyadic-based study intervention, the SDSEM was modified further to include a dyadic-level such as family and couple relationships, and a technology layer such as self-testing, PrEP and ART to better explore the interactions of each layer of the nested ecological model with respect to the aims of the study (see Figure 2).

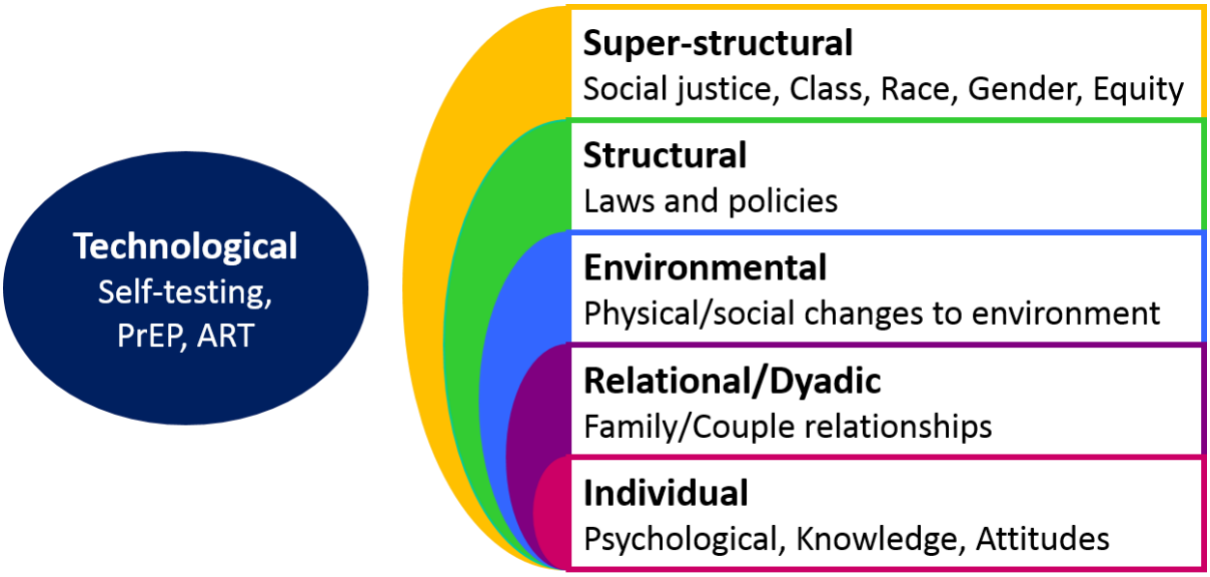


Figure 2: Sweat-Denison Social Ecological Model

2.2.2 Participants

This qualitative study was aimed at heterosexual adult community members from Kisarawe town who use or whose spouses/partners use Kisarawe District Hospital Care and Treatment Centre (CTC) services. Participants had to be aged 18 years and above and were

eligible to participate in either focus group discussions or in-depth interviews. Participation in one qualitative method did not exclude participation in the other.

2.2.3 Recruitment

Participants were recruited through the CTC, where project staff worked with CTC staff to identify people living with HIV who are receiving services. Services offered were in accordance with Tanzanian and WHO/CDC standards at the time of recruitment, which required that only individuals with CD4 counts less than 350cells/mm^3 were eligible for ART. Some ART recipients were also identified to identify a small cohort of HIV-negative partners in serodiscordant relationships. CTC staff members who agreed to help recruit participants conducted face-to-face recruitment at the CTC waiting room, briefly describing the study. If the CTC client (or partner) expressed interest in finding out about the study and potentially participating, CTC staff provided potential participants with the contact information for the DDCP staff who provided more detailed information about the study. Potential participants were scheduled for an interview at a time and location of the participant's choosing within the following 7 days, if they wished to participate in the study.

2.2.4 Study Procedure of In-Depth Interview

Using purposive sampling through the CTC in Kisarawe Town, up to 45 adult community members were selected to complete in-depth interviews. The participants were stratified by type of services received: (i) people who are currently receiving ART, (ii) people who are in care but not on ART, and (iii) HIV-negative people whose partners are in care. Chain/snowball sampling

was also used among CTC clients to reach the sub-group of HIV-negative members of couples engaged in CTC services. Interviews were conducted in Kiswahili by well-trained qualitative interviewers and lasted approximately 60 minutes (see Appendix E for interview guide). Interviewers received four days of training on qualitative research ethics, methodology, and specific data collection expectations and methods for the Dyadic-Based Diagnosis, Care and Prevention study. In addition, interview transcripts were spot checked by the study coordinator or other Kiswahili-speaking members of the study team for quality assurance and to ensure that they were truly verbatim. Interviews took place in a private room at the Kisarawe Project Office, which is a short 5-minute walk from the CTC and within 30 minutes walking distance from anywhere in Kisarawe Town, or at a private location of the participant's choosing. All interview informants received a small compensation for their time in the form of 10,000 Tsh in cash (approximately USD$5). Written consent forms were developed in English, translated into Kiswahili and provided to participants at a convenient location alongside information about the interview, confidentiality and anonymity. Daily and weekly debriefing sessions with field workers, study coordinators and/or investigators were held to foster the iterative process of the formative research, including discussions about key findings from data collection, problems/changes with topic guides and saturation.

2.2.5 Data Collection

The interviews were semi-structured, audio recorded and transcribed verbatim, and translated into English by translators fluent in Kiswahili and English. During the interview the interviewers took thorough notes on the field guides or on a separate sheet of paper – of responses, non-verbal behaviour, setting, and interview atmosphere – that were expanded on later. After each interview, the interviewer filled out the contact summary form by hand, which

was later typed into a computer file to serve as a further source of data for the study (see Appendix A).

2.2.6 Data Management

Each interview was allocated a unique identifying number based on the type of data collection (IDI), gender of respondent (male/female), type of respondent (C = client on ART; N= client waiting for ART; P = partner), and number of respondent (01, 02, etc); in that order. Pre-determined identification numbers were used on data collection form, ensuring that names of interviewees were not used at any stage of the data collection process. Notes and audio files during field work were kept on the person of the field worker at all times or in a locked vehicle or room. After field work, all papers and soft copies of field notes, audio files, contact summary form, enrolment forms, consent forms and any other notes were kept securely in a locked filing cabinet office at the project office and if in digital format on a password computer, backed up regularly and only shared within the study team. Participants and non-participants were not allowed to view the notes at any time and content of discussion and interviews were not revealed to anyone else.

2.2.7 Ethics Approval

This collaborative study was conducted by investigators at the Medical University of South Carolina, USA (MUSC) and Muhimbili University of Health and Allied Sciences, Tanzania (MUHAS). Ethics approval was obtained from the MUSC Institutional Review Board (IRB) (Application Number: Pro00014914), MUHAS IRB (IRB FWA00004301) and the Tanzania National Institute for Medical Research (NIMR) prior to the start of the study.

In addition to institutional approval, members of the study team approached local officials (e.g., Kisarawe District Executive Director (DED), District Medical Officer (DMO) at Kisarawe District Hospital) explaining the overall DDCP study and plans for the formative survey and obtained official permission to work with the in-hospital Care and Treatment Centre. Afterwards, study staff approached the director of the CTC and introduced themselves, explaining the study and then asked if they would be willing to help recruit participants.

2.3 Proposed Study

This study was a secondary analysis of in-depth formative interviews conducted as part of the DDCP study. The analysis aimed to answer two questions: **(1)** how do individuals in serodiscordant couples perceive (i) PrEP and (ii) ART in terms of self-reported (a) sexual intimacy and (b) quality of the relationship, and **(2)** how does decision-making within heterosexual serodiscordant couples reflect, reproduce and resist gendered power relations.

2.3.1 Analytic Framework

To fully engage with the data and to allow for a better understanding of the lives of serodiscordant couples in Kisarawe, I employed a social constructivist grounded theory approach using an interpretivist epistemological paradigm.

Grounded theory is an inductive qualitative research method that seeks to generate a theory grounded in systematically collected and analysed data. (90–92). It focuses on iterative analytic conceptualisation rather than description, where the researcher analyses data by constant comparison, use of open coding, memo writing and theoretical coding. (90) Since the method stemmed from a study investigating the interactions with terminally ill patients (92) there is a focus on the views and experiences of study participants as crucial to the grounded theory

process. As a result, the ontology (nature of reality) of grounded theory is regarded as objectivist; here, the researcher must maintain a position of "distant expert" during the research process, so as not to introduce any biases. (93) Glaser proposed this as the "true grounded theory", emphasising that the researcher stay away from reviewing existing literature until data collection and analyses were completed. (94) Due to the overly structured and rigid nature of Glaser's traditional grounded theory, more "flavours"(90) of the theory emerged –contemporary and constructivist grounded theory - leading to a shift in the perception of reality within this qualitative approach.

Charmaz's constructivist grounded theory (CGT) argues that the researcher is not a distant and objective observer during data collection, but co-constructs meaning with the participants during data collection and analysis. (90) According to Charmaz, the researcher does not approach reality as tabula rasa nor can they be neutral during the research process, instead how the data is viewed is dependent on the observer's view. (90,92) This new iteration of grounded theory differs from traditional and contemporary because ontologically it is relativist, and epistemologically it is subjectivist. (95) In other words, there are multiple realities, multiple truths and these are contingent on the language and culture of the observer through which they experience and engage in social processes. The researcher's subjectivity is not restricted to experiences but could also be influenced by existing literature. However, Charmaz (96) states that a main element of CGT is "methodological self-consciousness" which involves more self-scrutiny than commonly employed by qualitative researchers. This continuous engagement in self-reflexivity forces the researcher to "allow the data to be prioritised over the researcher's assumptions and previously acquired knowledge" (96) as part of the research process and not a pre-requisite.

A major tenet of CGT is that theory emerges from an active interaction between the researcher and participants during the data collection stages, including interviews. (90) The formative research of the DDCP study was designed with a traditional grounded theory approach, adhering to Glaser & Strauss' (97) theory development "grounded in data from participants who have experienced the process [data collection]." By engaging with the interviews constantly, I interacted with both the participants and the researchers, though in an abstract way, and co-constructed knowledge and meaning with both parties. An interpretivist paradigm allows the researcher to gain a deeper understanding into the subjective world of the participants rather than generalising to the whole population. (98,99) Using this paradigm, I acknowledge the underlying social processes that have occurred resulting in the interview transcripts, of which I was not a part; the layered contexts that I will be exploring and the different lens through which I view the interactions. Employing Charmaz's CGT will aid in gaining insights on the serodiscordant couples' perceptions of HIV treatment and prevention intervention on the crucial facets of romantic relationships; additionally, it will guide in exploring agency and decision-making amongst female partners within these relationships.

2.4 Methods

2.4.1 Access to data

Written permission was obtained from the principal investigator of the study, Dr. Michael D. Sweat to use the DDCP study data for the purposes of a master's thesis (see Appendix B). Dr. Virginia A. Fonner, a co-investigator, served as a member of my masters committee providing needed insight and guidance on working with the study data. I completed trainings in the ethical conduct of human subject research prior to getting access to the data, after which I was included in the amended IRB of the DDCP study.

2.4.2 Data Analysis

Interview transcripts were read thoroughly prior to data analysis. Given that I was not involved in the interviews, to immerse myself in the data and become familiar with the interactions in the interviews, all interviews were read about 3 times before engaging in data analysis. After grounding myself in the interviews, using a qualitative software, NVivo version 12.2, I employed three modes of analysis: inductive content analysis, metaphor analysis and case study analysis.

Inductive content analysis is used when there is limited knowledge about a concept (100), which is the case for heterosexual serodiscordant couples in Kisarawe Tanzania. It is also considered a dialogue between the research and the data since the method lacks structured rules for data analysis. (100) This mode of analysis involves data reduction, data grouping and the formation of concepts related to research questions. (100) Constant readings of the interviews allowed me to immerse myself in the data, becoming familiar with concepts that were reoccurring across interviews and allowing new insights to emerge. (101) During open coding, I highlighted lines and narratives using phrases to describe the concepts I perceived. These phrases were then grouped based on similarity during axial coding, and later abstracted into higher concepts showing the connections between sub-themes and themes to the overall research question (see Figure 2 for summary of process). This iterative process was accompanied by memoing and constant self-reflexive activities.

To avoid surface descriptions and general summaries, which is a challenge of inductive content analysis (102), metaphor analysis was used to complement the emerging concepts. Metaphors are essentially used in understanding and experiencing one kind of thing in terms of another. (103) Lakoff and Johnson(103) explained that metaphors are more than linguistic

devices but rather "are pervasive in everyday life, not just in language but in thought and action." Conceptual metaphors, as the authors termed it, are influenced by our conceptual system which though we are unaware of, play a central role in what we perceive and how we relate to others. (103) The use of metaphor analysis in the study allowed for another understanding of concepts raised in inductive content analysis, as well as the experiences of the participants. As metaphors enable communication of complex topics, so do they affect perception and interpretation of experiences.(104) Exploring natural occurring metaphors in the interviews not only help in preserving the richness of the Kiswahili-conducted interviews but provide more in-depth understanding of interview interactions within their cultural contexts. Metaphors were identified as phrases or sentences within the interviews that were not literally coherent; literally referring to surface level meaning upon reading. In employing CGT and engaging in methodological self-consciousness, I engaged the DDCP study team members in Kisarawe to provide their understanding of the metaphors as native speakers, interviewers and members of the community.

Case study analysis was used in addition to the aforementioned modes of analysis, specifically to explore the decision-making amongst female partners in the study. Although case studies use a variety of data sources to better understand a phenomenon (105) for the purposes of the study, the different HIV statuses of the female partners situated in relation to their male partners and other female participants provided a variety of lenses to view decision-making. An exploratory single case study with embedded units was employed, where the case was the decision-making experiences of female partners with the embedded units as the three sub-groups of the study. The rationale for a case study analysis is the uniqueness of the context in which the female partners live, not only as members of a serodiscordant relationship but as African women. Pattern matching was the analytic technique used for the case study analysis, which involves

comparing an empirically based pattern with a predicted one. (106) I predicted that there would be no difference in decision-making amongst the female partners. Interviews of female partners were read, emerging patterns/themes categorised and a between case analysis using the themes conducted, eventually conducting a pattern match.

Employing different modes of data analysis provides the opportunity to explore the interviews and the experiences of the participants in a more holistic manner. Although each analytic approach may provide rich stand-alone insights on the participants and the study subject matter, utilising all three aids in emphasising portions of the narrative unearthed by the other approaches. Inductive content analysis would provide a plethora of themes emergent from the data, the metaphor analysis would emphasise some of these themes drawing on cultural contexts of the participants; whilst the case study analysis would centre the female participants on the study creating a focus from the findings of the other two approaches.

2.4.3 Ethical considerations

I constantly engaged in self-reflexive activities including memoing my thoughts at every stage of the data analysis process. Additionally, I was cognisant that though I may be similar to the participants as an African, I am an outsider who knows nothing about their lived experiences, nor lives/have I lived in Tanzania. Thus, I approached the data and the interviews with a mindset to learn about and interact with these lived experiences. I also familiarised myself with Black Feminist Thought and literature authored by African women, to provide some needed context about the experiences I was going to be immersed in; which also provided some guidance for the case study analysis phase of the study. Acknowledging my power and positionality as an English speaking, sero-negative, ‘western’ university educated African woman, I made conscious efforts to check my biases, personal projections and over generalisation through constant reading of the

interviews, journaling whilst writing up this master's thesis and speaking with members of my thesis committee.

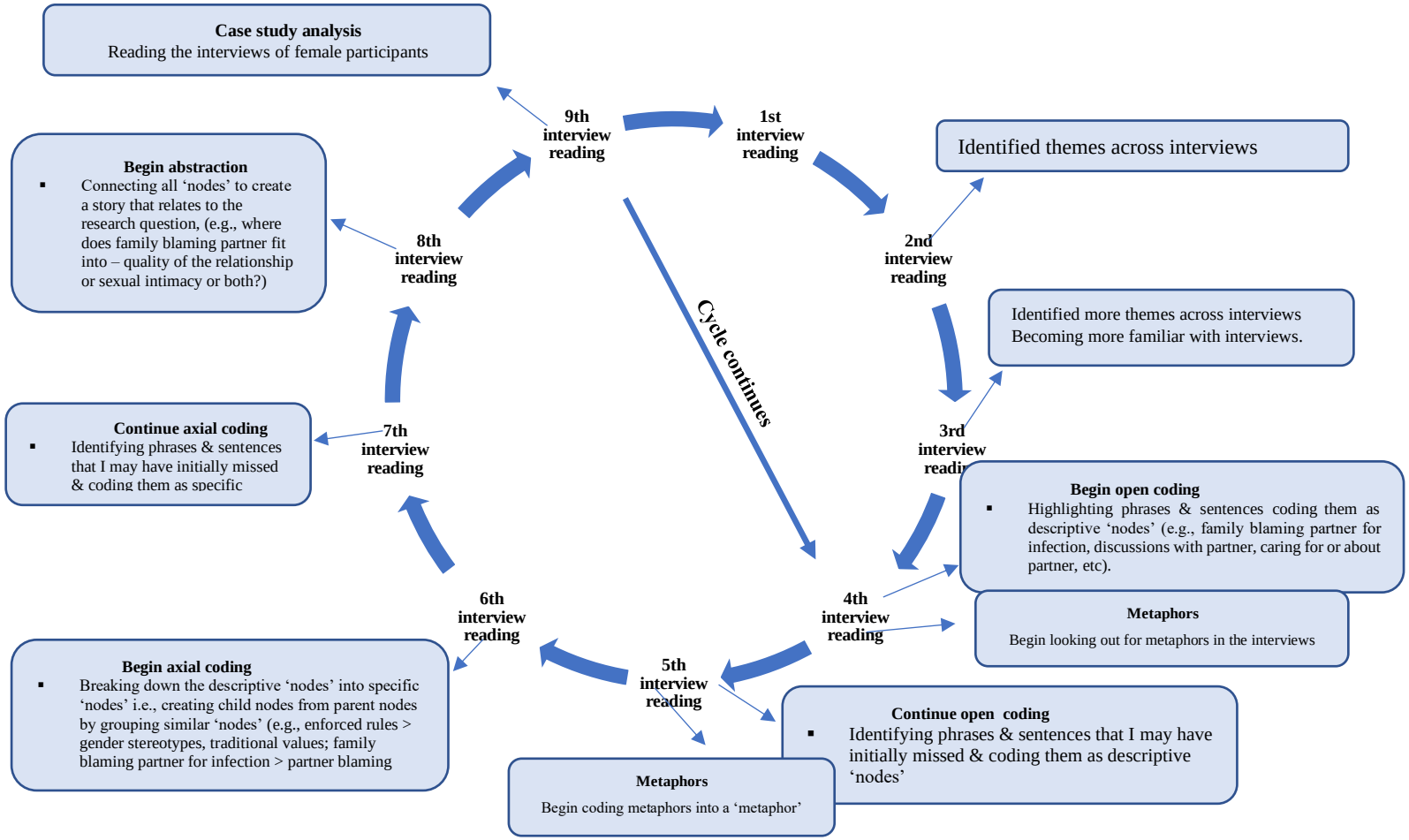


Figure 3: Visual Description of Data Analysis Process

CHAPTER THREE: Results

3.1 Sample Description

The sample consisted of 44 participants residing in Kisarawe, Tanzania. Participants were either currently receiving care or were negative partners of individuals receiving care at the Kisarawe Care and Treatment Centre (CTC). Participants were grouped based on the kind of care being received at the CTC – individuals living with HIV who were currently on ART, individuals living with HIV who were not on ART but receiving care and HIV-negative partners whose partners were living with HIV. Participants were labelled with C, N or P in accordance with the aforementioned groups respectively.

There were 24 female-identifying participants and 20 male-identifying participants who were interviewed for the study. All participants were married and most had some form of school education at the primary, secondary or vocational level. Participants' ages ranged from 21-66 years, with the maximum and minimum ages amongst the male and female participants respectively. The average age of male participants was 48.6 years, making them much older than the female participants in the study, 37.6 years. Amongst the male participants, there were 7 self-identified farmers, 3 drivers and 5 businessmen. In addition, 9 female participants indicated being businesswomen, 3 entrepreneurs and 6 informal caregivers. Of all 44 participants in the study, 29 participants were living with HIV of which 15 were female (see Figure 3 for occupation summary of participants).

All participants were provided with information about PrEP and ART prior to enquiring about their perceptions of these interventions. Participants were aware that PrEP was not currently implemented in Tanzania, however a minority were sceptical about its effectiveness

and asked the interviewer questions to this effect. Some participants responded to questions in a 'if it were me' third-person manner, in addition to a first-person manner.

Several themes emerged during the content analysis of the interviews relating to the perceptions of PrEP and early ART on a) quality of the relationship, and b) sexual intimacy. In the following section, I will be exploring the themes in detail substantiated with direct quotes from participants. Quotes will be accompanied by letters and numbers denoting group and participant number. Thus, C01 would refer to a participant on ART, N05 would refer to a participant not on ART but in care, and P03 would refer to a negative partner.

Figure 4: Occupation Demographics of Participants in the Qualitative Study (N=44)

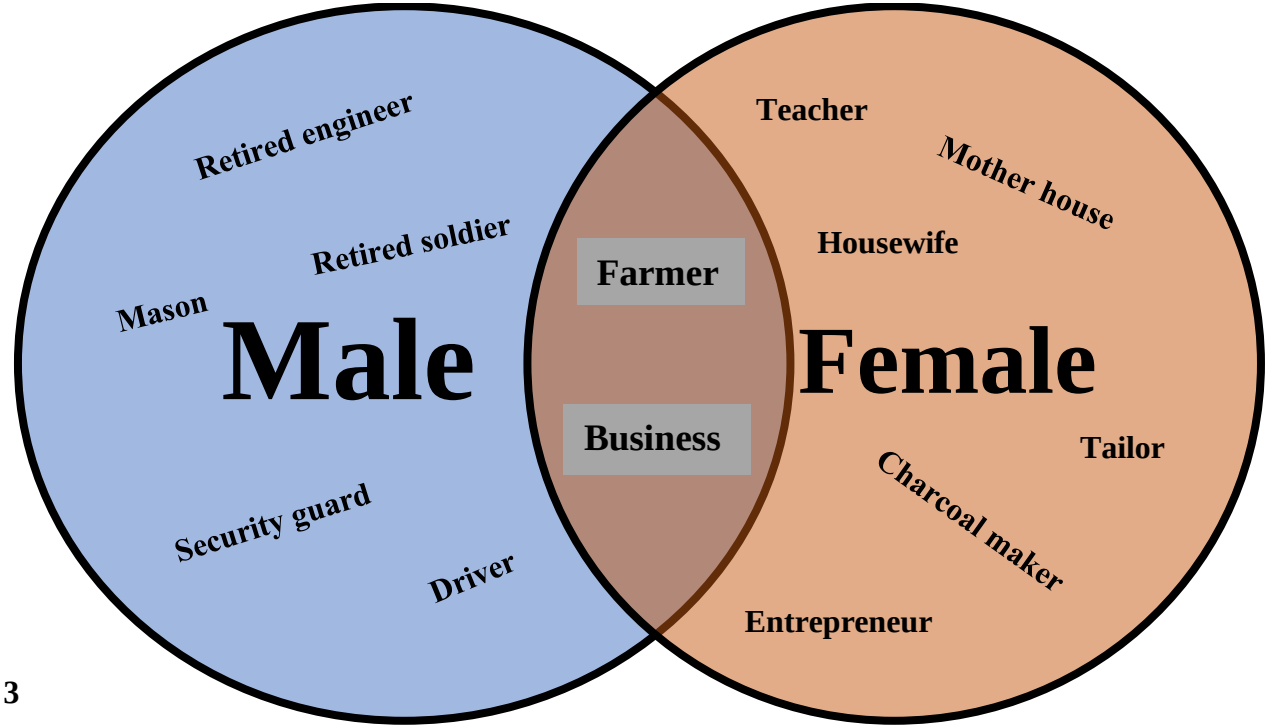


Table 1: Key(N) for Figure 3

Male	Female
Farmer (6)	Farmer (2)
Business (5)	Business (10)
Driver (3)	Housewife (5)
Guard (2) Mason (2) Retired (2)	Entrepreneur (3) Tailor (1) Teacher (1) Mother house (1) Charcoal maker (1)
Total = 20	Total = 24

3.2 Study Findings

Key: I – interviewer, R – respondent

3.2.1 Quality of the relationship

3.2.1.1 Disclosure – *"Truth sets you free"*

Participants when asked about disclosing their use of early ART/PrEP to their partners often times focused mostly on disclosing their intention to test for HIV to their partners and family. For many participants, disclosure did not begin during HIV care and treatment but instead during HIV testing; and most participants expressed disclosing getting tested for HIV to their partner, selective family members but never friends, colleagues or the larger society.

Interviewer: Ok, how did your partner thought, when you decided to get tested for HIV?
Respondent: She was at peace, since I handled her with care during the time she was sick and she knew she will be free with me knowing our HIV status, but at a time I was still strong and she was sick. (Male, C01)

Interviewer: if you are ready to discuss it with your partner, will you hide it from the society?
Respondent: to my relatives? Interviewer: to your relatives and the society at large?
Respondent: I will be free to share with some of my relatives such as my mother and father, other I won't tell them since they will be spreading the news.
Interviewer: how about your friends? Respondent: I can tell some close friends who can keep secrets, others I can't tell them since they can spread it and you can die of pressure. (Female, P04)

For participants who indicated that they would disclose their interest to test and/or getting tested to their partner, they expressed some wariness about this decision. Some participants highlighted the gendered nature of disclosure, whereby men who tested positive for HIV were less likely to disclose such information compared to women. Additionally, female participants shared that they were wary of disclosing a positive test result because it could lead to separation and rejection by the male partner. These reasons, participants described, may lead many to not disclose any information to their partners until their health worsens.

Interviewer: Why do you say you could start?
Respondent: Because women have the tendency of telling their husbands their results after testing but men won't tell their results to their wives after testing, they will just starting using medicines without the knowledge of their wives, but women don't see the reason of killing their partners even if there is possibility of separation. (Female, C08)

It depends on how the person takes the results and going to tell his/her spouse. Others might be infected and they are not telling their spouses until when the situation is critical. (Female, C10)

Yes. Others might even know their health status and they have already started using the medicines, but they don't tell you. They are afraid ding of the misunderstandings. When it will be late, it's when the infections are going to be chronic. (Female, N08)

Respondent: she [participant's sister] is using treatment and healthy now her husband doesn't know.

Interviewer: Why is she keeping a secret?

Respondent: Men are different from women, because they would left you and take the children. (Female, P02)

I: Who else did you talk to about testing apart from your husband? R: My relative… but the results I only gave my husband even if he will dump me but at least he must know the truth so I wrote his name as person to receive all my confidential reports because I'm always with him. (Female, N02)

I : So did you tell your wife? R: She found out herself in a while. I: How R: She noticed the pills I was taking and I had no choice but to tell her that I'm HIV positive that's why I've been so sick and I told her to get tested too and I brought her here today so that she can start treatment, but she hasn't opened a file yet. (Male, C04)

I was married for 11 years and we have 3 children, my husband started to get sick and he was HIV positive, but he didn't tell me. (Female, N07)

A handful of participants mentioned that for them, as well as for others, disclosure may only happen when they go for HIV testing with their partner. Many participants expressed that testing together with their partner would be beneficial to their relationship as it allows for disclosure and will aid in managing the reactions that may come up following test results. Others, on the other hand, stated that they would test alone first to know their HIV status and then get tested with their partners pretending that it was their first time. For these participants,

this was their way of deciding if to disclose their HIV status and how best to do so. Another set of participants reported that disclosure often times occurred after it was discovered that they or their partners was secretly taking medications reserved only for people living with HIV.

I : mmmh, why do you think it is good testing together and not when you are alone? R: testing alone he can tell you he is not infected and when you get into toilet he can take the medicine. (Female, P04)

He knew about his status he just hide it from me, so he went there knowing but only needed doctor's advice .(Female, N01)

I: So if you have used that test without your partner, would you tell her your results? R: Errr..., that depends on the results, if the results are good I can share with her but if the results are bad I will convince her to come for the test. (Male, C03)

I: Did you tell your wife about your status when you tested for HIV the first time? R: No... she thought it was UTI and headaches because I was hospitalized for drips, but then I thought of the fact that she has to know, but since I was afraid I made her test with me acting like it's my first time while I know my results already. (Male, N01)

We were already married but he had left me at home, and he told me that there is no problem, we will go for the test. We lived and at the end of the day I found my partner using the medication so I had to ask him why you are on medications daily? He told me that the medicines he is using are

for reducing the pain since he is working on the farm. Life went on and the other day I was cleaning my house and I found those medicines, I was very shocked … I was recognizing them because young sister of my mother was using the same medicines and because I can read, I read and understood. When he was back from his job I asked him, my husband what are these medicines for? He replied these medicines I am selling to the guys with chickens so that their chickens can get fat [laughing]. So I told him that stop lying to me, just tell me the truth so that we can go for the test together so that we may not destroy our family. But my partner was not ready to say the truth, he was saying that are the sick people health like me? (Female, C02)

I: … so I would like to know how did you find out you are HIV negative and what made you test for HIV? R: I was told by my wife after she has been sick and we have two children a boy and a girl, first born is 8 years old and the other one is 5 years old, it has been 13 years since we have been married. So since she was sick we decided to get tested for HIV. She knew about her status that she has HIV but she kept it a secret until one day I asked her and she confesses that she is positive and wanted to know how I would react. Then she convinced me to get tested which I did and I was safe. (Male, P03)

Disclosure of HIV status seemed to be a fairly easy decision to make by some participants who gave responses that disclosing to one's partner was very important as it brought 'freedom' and peace in the relationship. For these participants, disclosure to both partner and family, allowed for better support during their HIV care and treatment, as well as a better relationship dynamic with their partner. In addition, disclosure of early ART/PrEP use was perceived as fostering peace within relationships and better dynamics between partners.

You know some people don't like their relatives to know about their status, but I told them as for me I want my relatives to know because I can be in worse situation so they will be aware and they will be able to help me out. (Female, C01)

It doesn't make sense to hide from each other since you are living together, I think if you have understanding between each other you will live with peace than when you have misunderstanding.(Female, C01)

I: … Do you think one partner might tell the other when he/she is using the ARV? R: Yes. It will also depend on how they life together. If you are open, you will tell your partner. (Female, N04)

I: So now you have tested and know that you are HIV positive and your wife was diagnosed the same, what if your wife was negative and using these pills, how would you feel? R: Very peaceful. (Male, C01)

I: You have already tested and know your status, so how do you feel going for the HIV test with your wife? R: It's good. I: Mmhhh… How? R: It's a good thing for bringing unity and trust in a family since when you have a unity and you go together for the HIV test with good faith, it is really a good thing. (Male, C03)

I: What are the advantages of using Truvada? R: It prevents a person from getting infected for HIV, and for married couples will be in peace. (Male, N01)

I: After giving you all that information on PrEP, what do you think are the advantages of using this PrEP medicine? R: To reduce infection, since people will be free and open even if you are living with the infected partner rather than having worries if you will be infected or not. So when you use this medicine you become free. (Female, C01)

Contrary to the perceived advantages of PrEP, a number of participants expressed that early ART/PrEP use may lead to non-disclose by some as there would be no need to, due to its protection from HIV transmission.

I: Do you think these pills of prevention PrEP might cause for people not to tell each other their status so that their partner won't use these pills? R: They might keep it from each other. I: Why do you think that? R: Not me… I will tell, but some might not. (Female, N02)

I: Will this medicine promote the situation of the spouses keep the secret about the infections? Or one will not [tell] the other that he/she is infected. R: Yes I: How? R: There are people in the marriage that take the medicines in secret because they are afraid that their spouses will not understanding them. (Female, C10)

I: Do you think these pills (PrEP) might cause people not to be open on their HIV status, thinking by doing that it might calm things at home between married couples? R: It's true some people are secretive; not only because of these pills but also since way back many do say their

status. I: Do you think as the use of PrEP starts that behavior will increase or decrease? R: Will increase… people to hide their status to their partners. (Female, P08)

I: Ok… for those couples who get tested separately and one is tested HIV positive and start treatment and gets healthier, do you think the use of ARV early will be the reason people don't tell their partners about their status just because they are getting healthier? R: That's exactly what is happening. As long as people find themselves healthy they will not tell if they are HIV positive. (Male, C08)

I: Let's assume, you are not infected but your partner is infected. Do you think the use of this TrEP [PrEP] will affect your normal routine? R: May be when you are not certain when he/she uses and I don't. I mean you might lack some peace. When you are cool with it. It's okay. You can take them. (Female, N04)

3.2.1.2 Closeness to partner - *"you better separate from each other because you are not in love than separate because of the infection"*

Similar to perceptions described regarding disclosure of PrEP use, simply using PrEP was perceived by most participants as a means of promoting togetherness within relationships. For many, PrEP use enabled partners – both married and unmarried – to be cooperative and close in their serodiscordant relationships. Importantly, most participants highlighted that PrEP use would lessen the burden that comes with serodiscordance, particularly separation, and relieve both partners of worries.

May be they can enjoy and have peace, because they will be using medications together, one for prevention and the other one for slowing down the infection rate, so they can live freely. (Female, C01)

I: What are your comments about this medicine named PrEP? R: It is good. I: How? R: First it will help to reduce segregation between marriage people, and when I say marriage people I mean it, also for those who are in relationships. (Female, N03)

I: How about the communication between spouses after starting using this medicine? R: People will understand each other. I: Being open about their diseases between the spouses.? R: There must be openness between the spouses, everything happening must be communicated. I: How will it contribute on being open to each other? R: For me I think I should be open everything. (Female, P07)

I: Do you think usage of PrEP medications can affect you on your daily life? R: No. I: Why? R: First the fact that my partner is infected doesn't mean she was cheating a lot or I would have segregate her, this medicine will help out a lot of partners. (Male, C06)

I: What are the advantages of using Truvada? R: It prevents a person from getting infected for HIV, and for married couples will be in peace. (Male, N01)

I: Thank you very much for your understanding, so what do you think is the advantage of using these pills for prevention (PrEP)? R: To bring back good relationships between married people. (Male, C08)

Though converging with the question of sexual intimacy, a minority of participants expressed that sex with condoms often caused disagreements with their partners and problems in their relationships and they believe that PrEP would mitigate these issues, leading to more agreement in the relationships. For one participant, however, PrEP would only exacerbate ongoing issues of using condoms with their partner.

I: After starting using PrEP, how will the issue of agreement between partners be?
R: Agreements in marriage will start again because people will be tired of using condoms. (Female, C08)

I: For now you are HIV infected but your partner is not, how would you feel when your partner starts PrEP medicine? R: I will feel happy because apart from me some partners do not like condoms so they do quarrel during having sex, a lot of partners get into quarrels. (Male, C06)

I: Do you think the use of PrEP have any effect on the communication between the partners? R: There will be little communication. I: Why? R: Because when I was using condoms he said I don't believe him and now if I use this the communication will decline. (Female, P05)

Most participants believed that PrEP is very advantageous and great because it protects the negative partner from getting HIV. For many participants, true love means choosing to remain in a serodiscordant relationship and trying to make it work; the implementation of PrEP would also make the relationships easier to navigate.

R: Its great love for one to be infected and the other is not. I: What do you mean by great love? R: I continue to love my wife I did not want to discriminate her, because it's not a good thing. (Male, P03)

I: Let's say your partner is not HIV positive and you are HIV positive, how would you feel when he will be using this medicine? R: I would feel very okay. I: How? R: Because you love each other, it will keep you together because there will be no need to break up. (Female, N08)

I: Is there any other advantage? R: For this prevention medicine? I: Yes R: There is advantage of living without problems. (Female, P05)

I: Thank you, so what do you think will be the challenges of using this medicine? R: I can get a challenge, for instance if my husband has a wound and I get into contact with him I won't be scared since I have a prevention, so I will just be having a happy life. (Female, P09)

R: I would use it [PrEP] to protect my marriage. To save it. I: If it were your partner who is using it. What might be the reason that push him to use it? R: The same. I: How? R: Because he loves his wife, and he want to stay together forever. (Female, N08)

I: What about your behavior? R: Will be good as usual… (Laughter)… because they are for protection and will make you to stay with your partner if you really love each other (Female, N07)

Despite the perceived advantages of PrEP highlighted by participants, some participants expressed that the 'one pill daily' nature of PrEP would be difficult for them to routinely keep up with. This was as a result of different factors, including that they were not infected but had to take this medication for the rest of their lives. On the same note, a handful of participants were concerned that their use of PrEP may lead society and their partners to question their HIV status. Such questions may cause their partners to think that they were untruthful about their negative status.

I: I would like to know your opinion on these pills. R: It is a good pill, a person can use it to protect him/herself, and it's a good thing. But the challenge is that you have to use it every day. I: You said the challenge is to use it every day? R: Yes, for a person who is using ARV he/she had no choice because he/she is infected, if stopped can cause problems, but to a person who is HIV negative will use it for few days only and that's when the problem will start. (Male, C01)

R: You will have to take them every day? I: Yes… R: For how long? I: Everyday. It's a daily pill. R: Its good, but it's hard for a person who is healthy to use them every day. (Male, P07)

I could use it [PrEP] if there could be no restrictions of stop using it since when you start using it you become like the ARV user. (Female, P05)

I would feel like both of us are infected since there is no difference on taking medicine between the infected one and the uninfected one although I will be infected while she is not. (Male, C03)

R: To me it's just okay when a person thinks of anything since it is fine with me for my wife to be infected while I am not, I stay by her so people know that I am also infected, so I do tell them that I am on medication. I: Why do you do that? R: I need people to know that people should be open when having problems. (Male, P05)

He is the first one to say that I am segregating him when he sees mu [me] using the medicine. (Female, P05)

I: Ok, let me take you back to PrEP, do you think you will be using these oils [sic] PrEP while your wife is using ARV? R: Yes… I will… I: Now your wife hasn't started ARV treatment yet, will you be using PrEP? R: No… I think its best she starts to use hers first then I will too… I: Why? R: She will be worried and curious. I: You will talk to her. R: She might ask she is the one who is sick, why she hasn't started treatment? (Male, P07)

I: If you are the one who is infected and you use this medicine. How will your partner take it? R: I don't know because I don't know he might be thinking. I: Mhh R: If he thinks I will be segregating him it's okay. because there are more tough diseases than HIV. (Male, N06)

As some participants expressed that PrEP is useful for protecting oneself from HIV transmission, a minority of participants, specifically female participants, mentioned that their current relationships with their partners is not good and so they doubt that early ART/PrEP would be able to salvage that. Also, a minority of participants shared that they would use PrEP to protect themselves from their partners, not because of their ongoing intimate relationship but instead because they strictly served as care takers for their sickly partners. Another participant added that there was no love between themself and their partner and so they would make independent decisions regarding PrEP use.

I: Now before I told you about PrEP or TRUVADA, for example you are using PrEP for protection and your husband is using ARV to reduce the spread of infection, would you use them? R: I will not use them, because I'm not close to him. But for those who are close it's good to use them. (Female, P02)

I: You find some people where having good or bad communication before starting using ART, so can the use of ART lead to changes in communication between partners? R: I can't lie but conversation between me and my partner was not good even before him starting using the medicine. I: Mmh R: I don't like having several affairs that's why I am with him. (Female, P05)

I: If these pills are available would you use them? R: Yes for protection. I: When you start using them how will your husband react? R: No… it will be my secret. I: Why? R: I might tell him,

because there is nothing he can do, if I say no means no and if I say yes means yes. I: What if he find out about it? R: (With full confidence) he can't do anything since he has another woman there is n [no] love between us. (Female, P01)

3.2.1.3 Responsiveness of partner– "*Even when my husband gets sick, I go with him to the hospital. And when I'm sick, I want him to escort me also."*

As most participants indicated interest in PrEP use and as more information was provided about the daily medication by interviewers, participants relayed that their adherence to early ART/PrEP would involve their partners. Participants mentioned that they would use various means to remind themselves to take to early ART/PrEP including setting alarms on their phones and using the time for nightly news, however, most participants turned to their partners to serve as reminders.

I: So is there any particular time for you to use these pills? R: For example at 08:00, it will be everyday at that time. I: What will be your reminder? R: Phone alarm. I: What else? R: My wife. (Male, N02)

I: Who will be reminding you to take the medicine every day? R: The one who is near me, I mean my wife. (Male, N03)

I: What helps you to remember? R: My partner will be reminding me or we will be reminding each other. (Male, N05)

I: What would you do as a reminder to use the pill every day? R: First I wont forget because it important for my own health and I'll make sure it must be the time where I'll be at home, but if I forgot my wife will remind me. (Male, P02)

I: What will make you remember taking medicines every day? R: I will involve my husband because when I forget, he may remind me because I am living with him. (Female, C09)

As most participants expressed that they would disclose testing and taking early ART/PrEP to their partners, they would also be involving their partners in their daily HIV care and treatment process. Some participants shared that they get tested with their partner and are accompanied by their partners on their routine visits to the clinic. In addition, most participants shared that their use of early ART would not solely be to protect their partner but importantly to stay healthy and live long enough to care for their family. They would also want their partners to use PrEP in order to remain a healthy caretaker of the family, in the event that they pass away from the infection.

I: How did your husband react after finding out you went for HIV testing? R: Honestly, he didn't take it well but after being educated he found it okay. So, every month he was taking me to the clinic to the day of delivery. (Female, C09)

He told me not to worry because that issue [HIV infection] is not mine alone, so even in the morning I was not in the mood of coming here but he told me that we have to go since it was a follow up day. (Female, C08)

I: How will you encourage your spouse to take the medicines? R: I would encourage him, if he takes the medicines will help to replenish his health and take the balanced diet too. Discourage him will not help him. (Female, P07)

I: [of PrEP] Is there any advantage? R: It has but I don't know how to explain it. I: Just try in short R: You I have HIV so I might die and my partner will remain to take care of the family. (Female, N01)

I: Let's say you are HIV positive and your wife isn't how would you feel if your wife is using PrEP? R: I will feel good and tell her to use them every day so as to be able to take care of the family when I'm gone. (Male, C05)

I: What will motivate you to use ARV? R: I take a good care of my health, I want to take a good care of my family. No one likes to die, we all want to live. (Female, C10)

Not all participants experienced as supportive and involved partners; a handful of participants relayed that getting tested with their partner was difficult. For some, when they asked their partners to get tested with them, they received conditional responses. Another set of participants expressed that their partners were unresponsive to their requests or disclosures. The

unresponsiveness often led the participants to resort to secrecy, since they felt that they were not being taken seriously by their partners.

I: Have you ever told him to go to test with him? R: Yes. He says if I test, it's when he is testing … So those are his thoughts (Female, N08)

I: Okay! You told me about how you were telling him to go for the HIV test after seeing his medicine, how was that? R: He refused to go with me saying that I just got tested recently and I am okay, so I went with my in-law. (Female, C02)

R: Do you mean anyone who has motivated us to go for the test? I: Yes … R: Only doctors alone, because before that my husband was not ready and if you ask him he replies, why? I am not sick, but when doctors advised us is when he agreed. (Female, C03)

… The first day he accepted [to get tested], he stayed when the setting [certain] day arrived I said to him that I was told that you may have the infection so you should also go so he said you are the one who started to be sick, go and I will go. (Female, C07)

I: How does your partner feels when you are going for the test and when you are found negative every time? R: I can't know his heart but there is time when he says that my CD4 are many, when they decrease the virus will be revealed but I told him I can't know God's plans. I: So he thinks you are positive put [but] you have a lot of CD4? R: That is what he is saying every time

but I don't lose hope, I keep on attending him and when it is time for the test I go for the test. (Female, P05)

I: How did your husband felt [sic] when you get tested for HIV? R: (Laughter) He didn't believe that I'm HIV negative. (Female, P06)

I: Before having a test and found that you are infected. Have you ever wanted to go for the test with your partner? R: I wanted and whenever I was telling he refuses I: Mmh R: He doesn't want, may be you call him and talk to him. (Female, N09)*

after getting back home after the test I told my partner lets go for the test and he told me I can't go because I am not sick. So I had to continue using the medications secretly, and when I tell the doctors feedback that my partner refused to come they tell me that leave him alone and proceed with the medications and we shall find the way of bringing him here. (Female, C01)

3.2.2 Infidelity/Promiscuity – *"You will be risking your life if you do unfaithful acts."*

Most participants acknowledged that infidelity and promiscuity was present in their society and in some cases, their marriages. Female participants in particular shared that their partners were having sexual affairs with other women during the course of their marriage. A minority of male participants, on the other hand, relayed that they were having relations with other women whilst married. A handful of women suspected that their partners may have gotten infected because of their infidelity and in some cases infected them as well.

A lover is the one you have sex with once or few times, you cannot tell him/her about your HIV status. Lovers are the permanent one like a husband or a wife or a fellow parent living together, these ones you can tell them about your HIV status. (Female, C03)

I: Ok… what makes people not to tell their partners? R: Unfaithful behavior among married couples, so in order to avoid fights, they keep their HIV status a secret. (Male, P04)

I: Ok… so you were the one to start the conversation? R: I did… I told him his unfaithfulness to get a second woman caused misunderstanding between us, and since he made it a secret between them and didn't tell me about it until I decided to do my own investigation. (Female, N07)

I: What if he find out about it? R: (With full confidence) he can't do anything since he has another woman there is n [no] love between us. I: So he has another wife? R: Yes I: Are they married? R: I just heard from my neighbors that she came looking for my husband while I was away. (Female, P01)

I: Since you are used to this medicine [ART] and there are other people that you know who use this medicine, do you think there can be a way that this medicine is associated with behavior changes? R: For now, I have changed my behavior, I have decided to be with her alone, before that I had more than one partner and I don't know from whom of them I got the infection. (Male, C03)

After I was tested and found out that I am infected, he started telling me all about his past, and then he started going for alcohol, so I had to tell the street chairman again. The street chairman was our advisor. (Female, C02)

… I guess my husband is the one who brought me the infections because he went out to find our daily bread. (Female, N09)*

Previously, some participants described various advantages of early ART/PrEP to the quality of the relationship, however, most participants shared concerns about early ART/PrEP use. According to them, early ART/PrEP may lead to an increase in unfaithfulness, as an unfaithful partner would have no worries of getting HIV or infecting others. Others shared contrary sentiments stating that it would reduce unfaithfulness; particularly, participants who were having extra-marital affairs expressed that after a positive test result and ART initiation they would settle down. Amidst these perceptions, a minority of female participants stated that the nature of their partners' jobs which involves constant travelling may pose a challenge to being faithful.

R: On my opinion, I think it will cause trouble. I: You are trying to say you are worried about these pills? R: Yes I: Worries like what? R: Because a person will be protected so he/she will be unfaithful. (Male, C02)

I: On your opinion, how do you think people's behaviors in your society will change as a result of the use of these pills? I: Will change some will protect themselves and stop having sex with

different partners and some will think since they are protected, they will have sex with different partners. (Female, N06)

R: I never thought if my husband has such problems, my husband was a police, I never had doubts if my husband has affairs with some prostitutes since I knew after marriage the husband is mine alone, so after been sick and went here and there and after being told by my in-law, I told my husband what you have done is not good and you have spoilt my life. (Female, N03)

I: During sex, what will change while using these pills? R: I will be focused and if I'll stop using condoms I will only make love to my wife every day. (Male, P06)

I: Do you think the use of ART can change people's lives and behaviors? R: Yes it might… I always talk about my situation as an example. Now I'm using ART I'm faithful to my wife. (Male, C07)

I: How will this medicine affect peoples' behavior after starting using this medicine? R: mmhhh.. let me speak of my side, I will take care of myself, and I will take a good care of my husband as I always do. You will be risking your life if you do unfaithful acts. Take care of yourself so as to live long, when I get this medicine I won't risking to have affairs with someone else, I will deal with my husband only. I also know how to deal with him as long as he knows his status. (Female, P03)

R: A woman if a mother the one to take care of the children so it's important to make sure you stay healthy, for example my husband is a driver at times Dodoma or Songea or Mwanza and he sleeps in the hotels who knows what he is doing, plus he drinks alcohol. That's why I like to test for HIV to check my health. (Female, P02)

I: Before coming for the test, what were your views? R: Honestly, I was afraid of HIV/AIDS, I talked to him to settle and be faithful as I do. Because he is travelling much, so it will be a challenge to be faithful. (Female, C10)

3.2.3 Role of family/God – *"She said it is just God's plan..."*

Many of the participants during the entirety of the interviews mentioned their families and relatives, thus highlighting the relevance of family in their lives. With this relevance, comes the role that families may play within these serodiscordant relationships or in a participant's daily life. Some participants highlighted that their families often had opinions on actions to take if their relative was in a serodiscordant relationship, where the advice entailed telling the participant to leave their infected partners. On rare occasions, the family provided information on the extra-marital affairs of the participant's partner and became involved in the HIV care and treatment of the participants especially when the partner was unresponsive, dismissive or left the participant because of their HIV infection. At the same time, a minority of participants shared that their families were not supportive after learning of their positive status.

My husband's relatives might raise some unsupported claims on your behavior which is not supported. They may think I am mistreating my husband because I am not infected … Or my relatives will persuade me to leave my husband simply because he is infected. (Female, C10)

I: Ok… is there anyone apart from your husband you involved about your decision to get tested? R: Yes my sister, but she told me to go away from him and find someone else, but I refused because I've been with him for so long. (Female, P06)

I: Apart from your brother did you involved anyone else about you getting tested? R: I evolved [involved] my brother and he told me to be with him because we have children already and he was about to retire and I should keep on being with him so that he won't say that I loved him when he was wealthy, then he retired and brought a house in Kisarawe and brought us here. (Female, P01)

R: Yes, I told him from the beginning let's go for the HIV test but he was refusing, so after I went for the test I lost my peace and I feel like they are segregating me at home. I: Who is segregating you? R: Parents, since at home I have three children who are studying at Msimbu primary school, so later I was getting sick, I had to work hard and buy the medicines. My brother who is working as a teacher in Shinyanga told me that bring those children so that I can help you to take care of them since he was the person whom I was involving in most of my stuffs. Currently the children are studying at Shinyanga. (Female, C02)

R: For like four years, so after sometime when we were sitting here my partner was so furious and I decided to report to the street chairman that I have seen my partner using these medicines and he said that he is selling it to the guys with chickens, so the street chairman called one of his siblings and brought us together and he told him that you don't have to hide anything if you are

using them. My partner refused the call so my in-law took me and we came to the Mbuyuni health center at Kisarawe. (Female, C02)

I: Your husband has another wife? R: Yes… my brother in-law told me about her, so I don't know about her HIV status but I heard she is getting sick more often. I: You two are not talking? R: We don't talk at all she has her own house and I have mine away from each other. (Female, P02)

I stayed and my husband died and I told my relatives but I could not get any support. (Female, N03)

Similar to the role of family, some participants expressed the involvement of God and relevance of religion in their daily lives, in particular, during difficult times in their marriage where sought God and religion as a source of strength and support. For some, they remained in the serodiscordant relationship as a result of Christianity's teachings regarding marriage.

Then my husband died and I decided to enter into Gods salvation knowing that one day god will cure me. (Female, N03)

I: How did you react when you find out your wife is HIV positive? R: I felt so bad, but we did not have a fight because it's God's plan. (Male, P06)

… I told him his unfaithfulness to get a second woman caused misunderstanding between us, and since he made it a secret between them and didn't tell me about it until I decided to do my own investigation, but since he was sick he couldn't handle having two women, by the way the other woman was living in a rental house so he couldn't pay and decided to come back to me because we have a house together. But since we have this problem I thanked God and received him because we have children together. (Female, N07)

3.2.4 Burden of serodiscordance – *"They will think negative of you and especially relatives, they will start gossiping around that this person is HIV infected."*

As it has been highlighted in other themes, most participants expressed that there is some weariness and concern associated with serodiscordance, particularly depending on who the infected partner is. For some participants, serodiscordance leads to discrimination and 'segregation' by one's partner, family and society at large.

I: Do you think she will show you her results? R: She won't show until I show her first I: You haven't shown her yours, she may not show you hers? R: She may not show me I: Why? R: Because she is having fear that I may leave her. I: So she will hide? R: Yes. (Male, N03)

I: Would you use it [HIV self-test kit] ? R: Yes I: How would your husband perceive that? R: About that is a problem to most of men, May God forgive me, but he once said that if I could the one infected with HIV he could leave me. I: Mmh R: I asked him why, he said he could see me as disgusting, I told him why don't I see you as disgusting? (Female, P05)

For instance if I have tested with my husband and I was found infected while he is not infected, I assure you that we can end up in separation, that's a very big challenge. (Female, P09)

I: Will you keep it a secret to the society? R: I will… I: Why? R: So that they won't discriminate me. I: What about those who will keep it a secret? R: They don't want to be discriminated. (Male, N04)

3.2.5 Sexual Intimacy

For many participants, they shared that early ART/PrEP would make their marriages better and bridge the gap between partners. Many explicitly stated that early ART/PrEP would allow them to have better sexual relations with their partner and many shared their preference for condomless sex. Some of these participants often asked the interviewers for clarity on using PrEP as a substitute to condoms for all forms of sex. Some participants expressed that they do not currently have regular sex with their partner because of their doctor's advice to reduce their frequency of sex, as excess sex leads to health deterioration. Additionally, some participants questioned if PrEP would accommodate the possibility of having sex frequently with their partners and for a handful of participants, even with PrEP they would continue using condoms to have sex with their partners to ensure they do not contract other diseases.

R: That's the priority; can I ask you a question? I: Yes! R: Can I use Truvada and have sex without using condom and not being infected? (Male, P03)

I: Is there anything else that you would love to know about Truvada? R: I have listened very carefully when you said you have to use the medicine daily (coughing), but are there any binding rules since in marriage some people have to make love daily, so if the husband is infected and you can't have oral sex, so when using this medicine can we have oral sex again? (Female, P09)

I: Do you have any questions about starting using the ARV early? R: First, when I start using Truvada and he keeps using ARV, what about the use of condom? Should we stop using or we can keep using it? I: Another one, because I know from the start, you might have a lot of questions. R: Then, when we start using these medications, should we reduce the rate of having sex? Because before we were having sex continuously but now we have reduced. (Female, P03)

I: Talking about frequent sexual intercourse, do you think ARV can change ones behavior? R: You know when you start using the medications without leaving the frequent sexual intercourse that will cause much deaths, it is advised to stop frequent sexual intercourse. (Male, C06)

I: I mean will you be free to talk to your partner about this medicine? R: Yes, I will be free. I: Mmh R: As you said he has the infection and I don't, so using this medicine will prevent me from getting the infections and will enable us to stop using condoms during sex and enjoy it without condoms. (Female, C08)

I: Okay. What are the advantages do you expect to occur from using this medicine [PrEP]? R: Yes. The person who is not infected is prevented to get the infections. I: What else? R: Nothing else than being free with your sexual activities. Because when your spouse is infected and he/she

is using the medicine, you will find yourself not hesitating having sex with his/she partner. I can recommend others to use this medicine. (Female, C10)

I: How [will] the use of PrEP will affect your daily life and behavior? R: Raise of sex abuse in the society on my opinion I: How about the use of condoms? R: Many find condoms an issue to use, so these pills will help. (Male, P02)

R: It's a good method, it will help those who are HIV negative to keep healthy and they will be free to have sex knowing that they are protected. For example me and my wife, we might use condoms but she won't be so comfortable. (Male, C08)

R: I have a problem with condom. I: Mmh R: When using it, I can't erect, I don't know what is wrong. I decided not to have sex. I: Very sorry. Since when? R: I wasn't using it before. But according to the teachings that they told us to use it. But I can't. (Female, N09)*

I: What will motivate you to use ARV? R: So as I protect myself to have a better and improved sex. (Female, N04)

I: For now you are HIV infected but your partner is not, how would you feel when your partner starts PrEP medicine? R: I will feel happy because apart from me some partners do not like condoms so they do quarrel during having sex, a lot of partners get into quarrels. (Male, C06)

When you keep having sex will keep his health deteriorating as the doctors instructed him. I just saying on my behalf. (Female, P03)

I: Sex and the use of condoms? R: You must reduce sex abuse. I: Why? R: So as to protect your health, because sex abuse can cause your body to become weak. (Male, N01)

After knowing your status and after starting using the medications you have to stop frequent sexual intercourse since you will be losing energy. (Female, C08)

So as the results been negative I decided to stay faithful to my husband and to use condoms whenever we are having sex. (Female, P08)

As some participants saw PrEP as a substitute for condoms and a path to better sexual intimacy with their partners, others were concerned specifically for these reasons. Some participants expressed concerns over excessive alcohol use by individuals, and this leading to an increase in 'unsafe and reckless sex.' Just as PrEP is perceived by some to lead to 'sex abuse', some participants shared that since testing positive for HIV they have not engaged in any sexual activities with their partners. A minority of participants also shared feelings of fear when not using condoms particularly on occasions when trying to conceive.

Vey [very] few who have unsound mind will keep having unsafe sex because they will need to spread the infections to others. Even when you are having sexual intercourse, you should use the

condoms with your wife or not. But others will just spread the virus unknowingly, may [maybe] when they are drunk. That's why they are advised not to take alcohol. (Female, C10)

I: If someone uses condom, do you think he/change his regular sexual routine? R: It can be changed if he knows; regular sex can lead to several diseases he will abstain from it. Others may think, because of the medicine, someone can have reckless sex and he/she may not get the disease. (Female, C09)

I: how will the use of PrEP lead to behavior change? R: behaviors will change. I: such as. R: Since you will be given medicines to use at home, this will help to reduce some behaviors such as alcoholism's and having affairs outside the marriage since people will know that they can use medicine and be safe. (Female, P04)

Or others may be taking the medicines and alcohol at the same time which may cause him to have unsafe sex or he/she may not adhere to the medical prescription. And also there medicines do not work with alcohol. (Female, P03)

I: Ok… now how do you think the use of these pills can change people's lives between couples in your society? I just need your opinion on this… R: It might change people, since they will be sure to be protected they will have a lot of sex (sex abuse). (Female, N02)

I: Do you think the use of PrEP will change the people's habit? Or the spouses habit? R: There will be no change of habit, but it will depend on the way couples live. If they are afraid of

HIV/AIDS, they won't change their habit. Other's will just use them to accelerate unsafe sex. (Female, P07)

I: How can this medicine named PrEP change people's behavior especially on the side of frequent love making? R: Behavior will change. I: How? R: You know this medicine will be preventing HIV infections so a person knows even if he gets outside the marriage he can't get the infections, so unsafe sex acts will increase. (Female, N03)

I: And what about being transparent about the infections, will it change someone's behavior.? R: The one as prevention? I: ARV R: It can. I: How? R: Because people will know they are having immunity; people will have uncontrolled regular sex. (Female, N09)*

I: Do you think people will act that way when the medicine is advertised? R: It will promote unsafe sex because of the presence of Truvada [PrEP]. (Female, N08)

I: Ok, how will the use of PrEP affect your behavior, starting with sex abuse? R: I don't like sex, ever since I tested with my wife, I've never had sex with her or anybody else. (Male, N04)

I: [of PrEP] How do you see it? R:I like it with all my heart. I: What do you like about it? R: I won't be afraid having sex with my husband; I will feel very free with him. And after three months I will be checking my health without hesitation. I: Does it mean, you are afraid after having sex? R: Yes. Sometimes I am afraid. The doctor told us to have sex in the conception

dates without condom. It makes me become hesitant that's why after every three months I must have a checkup. (Female, P03)

In addition to the other questions raised by the participants including if PrEP is safe for pregnant women, what other forms the PrEP medications can be taken (e.g., liquid, injection, etc), side effects associated with PrEP, etc, some participants were particularly interested in who would have access to PrEP. Participants asked the interviewers if PrEP would only be available to married couples or if unmarried serodiscordant couples would also have access. At the same time, some participants suggested a mass education about PrEP prior to its implementation and distribution to ensure that PrEP is not misused.

I: What do you think about this pill for HIV prevention? R: It's good for us. I: What would you like to know more about these pills? R: How many pills should I take and for how long? I: Once the program starts you'll be given all the information. Another question? R: So will they be provided to everybody or for those with partners who are HIV positive, and if you are using them can you have sex and not getting HIV? (Female, P08)

I: For instance this medicine is start being used in the society, do you think that people's behavior could change? R: People will stop prostitution and others will get married because even when one partner is infected will get medicine and the life will proceed as usual, many of them will agree to get married. My advice is that I am requesting all people should be given this even those who are not in marriage so that diseases can decrease. If it is possible the

government could test all students in schools and for those who have HIV should be given ARV and those who not infected should be given prevention medicine. (Female, P09)

More emphasis should be on teaching people on abstaining from reckless sex even if they are taking the medicines. And they should be taught that, HIV infections may be reduced but they may get other diseases. (Female, C09)

I: What [sic] should they be educated [on] while they are doing it out of their free will and they deliberately know they can't transmit to others? R: They should be educated that when have unprotected sex with someone who has infections will cause to have other types of virus which will fight his. (Female, N04)

Also unwanted pregnancies will increase since a person will know that even if I make love with someone without condoms I won't get infection and the condom market will decline, since we Tanzanians are so lazy in thinking so, we can't even reason that let me use condom and if it get burst I will still be safe. So we still have the work of educating the mass. (Female, N03)

3.2.6 Metaphors

During the interviews, some participants made statements which I interpreted as metaphors, that provided a deeper understanding of the subject topics that emerged from the study. In the following section, I will describe the organically emerged metaphors in relation to the experiences the participants shared. For another description of these metaphors by the interviewers and team on ground directly involved in the study (see Appendix C for metaphor description by the Tanzanian team).

Violence

R: We were sleeping in different beds some time I had nightmares like he is raping me and holding a knife, and once my daughter give [sic] birth to her children I shifted from where I was to her house. I: So you were sleeping separately because you were having nightmares at night? R: Yes he was raping me… (Both of them are laughing) ***you know soldiers can't die alone that's why I was afraid.*** (Female, P01)

This female participant shared that they were very upset and mad with their partner because he put their life at risk due to his infidelity. Ultimately, prior to the partner being sick he had moved out to live with "his other women" and once he became sick, he returned to the participant to serve as his caretaker. The participant described nightmares they had about their partner where he raped and held a knife to them leading them to move out of the house. By stating "you know soldiers can't die alone that's why I was afraid" I believe may speak in part, to the aggressiveness and violence soldiers in particular are known for. It could also be that there may be a pattern in how soldiers treat their spouses. Such a violent nightmare caused the participant to stop sleeping under the same roof with their partner. At the same, such a dream may symbolically speak to the nature of the participant's marriage, however, the participant continued caring for their partner.

Normal routine

I: Tell me how will the use of Truvada affect your daily life? R: It won't change ***anything it will be as normal as taking panadol***. (Female, P01)

Panadol is a brand name for paracetamol, an analgesic often used to treat headaches, body pain and even fever. By stating "it will be as normal as taking Panadol" I understand that similar to some West African countries, Panadol is appreciated in the same regard in Tanzania; meaning that people often resort to take Panadol for the slightest body discomfort. This normal routine is what the female participant is describing, stating that PrEP would become a part of their life just as Panadol is part of their life. It highlights the mundane nature in which the participant may approach PrEP use and adherence.

Lesson learned

I: so, what will you do so that you can remember to use the medicine daily? R: so that I won't forget I: Yeah R: I cannot do that I: why can't you? R: mmh, why would I forget? You know ***when you have been bitten by the snake you must jump when the leaf touches you***. (Female, P04)

PrEP adherence is essential to its effectiveness and when participants were asked how they would remember to use it daily, some mentioned using alarms and their partners. This female participant implies that forgetting to take PrEP was not an option and not one they were willing to consider. The statement "you know when you have been bitten by the snake you must jump when the leaf touches you" I believe speaks to the serodiscordant relationship the participant is a member of. Living with their infected partner and being involved in their care and treatment may put things in perspective where the participant understands the need to adhere to medication and keep transmission risk low. Although the snake – HIV – did not bite the

participant, the leaf which is serodiscordancy, provides some insight and may keep the participant motivated to remember to adhere to PrEP.

Marriage is sacred

I: How about your wife, will she tell you about it if she used it? R: I'm sure she will ***as they say one flesh****… hahahah (laughter)* (Male, C05)

Disclosure is a subject topic that participants highlighted during their interviews, which many shared was important to fostering togetherness in the relationship. Another subject topic raised by some participants was the role of God and religion in their relationships. This male participant when asked if their partner would disclose testing for HIV, responded that she would, adding "as they say one flesh." The statement refers to Christianity's description of marriage as when two become one. This shows, I believe, that the male participant knows how devoted their partner is to the teachings of Christianity, it also depicts the role of religion in their relationship.

Raw sex

*I: Let's say if these pills are available and for free, how would you[sic] they affect your daily life? R: I don't know. I: Would you like to use them? R: Yes. I: Why? R: Because it's for people like us. We don't like the trouble we are going through. I: (Laughter) what seems to be the trouble? R: For old people like me****, we need to feel the hotness while having sex, if not there will be trouble****.* (Male, P06)

This male participant is the oldest in the sample and echoes what other participants expressed during the interviews - that PrEP would be advantageous for better sexual intimacy between partners. The participant shared that their current sexual situation is troublling, the trouble being that condoms are in use. “We want to feel the hotness while having sex” this statement summarises the sentiments of other participants who prefer to have sex without condoms. This shows that condoms have posed a barrier to utmost sexual pleasure and enjoyment by serodiscordant couples. By highlighting their age, the participant may be alluding to the need for skin-on-skin contact to ensure sexual arousal during sexual activities.

Need to make an informed decision

I: What do you think are the advantages of using PrEP? R: There will be advantage since you will be making sure that you are safe that ***having sex without protection, it’s like getting into big hole while knowing there is a lion in it***. (Male, P05)

Similar to other participants, this male participant highlighted that PrEP would provide protection when having sex without condoms. However, the statement “getting into big hole while knowing there is a lion in it” I believe alludes to some of the doubts that some participants have expressed about the effectiveness of PrEP in protecting one from HIV. The lion may refer to HIV and the big hole may refer to skipping condoms, thus if one knowingly has sex with a HIV infected person and does so without condoms, then the person would be in big trouble. But if that happens and PrEP is used as well, then everything should be okay – it seems.

Marriage without sex?!

I: So how will the use of condoms be if this treatment is available in your society? R: I'm worried the use of condoms will drop, because it's a punishment especially to those who are married, ***it comes a time you live like brother and sister even though you are married.*** (Male, P03)

Some participants shared that PrEP implementation may lead to an increase in 'sex abuse' and a drop in condom use. This male participant echoes the same sentiments clearly stating that the use of condoms will drop, however, they add that condoms are a menace to married people like themself. "It comes a time you live like brother and sister even though you are married" this is an insightful statement as I believe it shares the effects of condoms in serodiscordant relationships. Living like brother and sister, would mean that it gets to a point where rather than use condoms, partners may choose to abstain from sex entirely; thus, there is no sexual intimacy but rather two people that live together and possibly love each other.

Rough play

*I: Ok, if the treatment is to be brought to the society how would you like the information to be conveyed? R: Through the media such as radios and TV. I: Mmh R: But with a lot of advertisements through the media****, people may decide to play rough knowing that there is medications available and things will be smooth.*** (Female, C03)

In addition to asking questions about the advantages and disadvantages of PrEP, participants were also asked to suggest ways that information on PrEP could be disseminated.

Many like this female participant mentioned using the radios, tv and other media outlets for information dissemination. The caveat, however, is that PrEP will lead the populace to "play rough" since they will be protected. In order words, there would be an engagement in risky behaviour, specifically sex without condoms since a protective medication would be available. Interestingly, the participant juxtaposes "rough play" with "smooth", further highlighting the confusion that many participants have about PrEP and condom use.

Seeing (feeling) is believing

I: What advantage did you said [sic] the medicine will have? R: There are advantages since people will move from using condoms to this one. I: Mmh R: You know a lot of people don't like to use condoms, so when you tell them about condoms you must have a quarrel, ***how can you sell me a goat in the sack?*** *I: What does that mean? R: It is some Swahili saying*. (Female, C08)

Sexual intimacy is a recurring subject topic in the study when discussing PrEP use and most participants have shared their interests in deferring to the preventive measure from condoms. This female participant reiterates the sentiments of other participants by highlighting that condoms often cause quarrels in marriages, particularly when the female partner proposes the idea. "How can you sell me a goat in the sack" literally speaking is a valid reason as one needs to see the goat they are buying and so it should not be hidden in a sack. The same goes for sexual intimacy in a marriage, there should be transparency in every facet of a marriage and condom use during sex does not seem to translate to transparency. It is an interesting saying especially when used in the context of sex within marriages in the African culture, as it could be

perceived that condom use means something is amiss and a member of the marriage is hiding something.

HIV is everywhere?

*Our former president once said that **"the sugar is poisoned",** so you never know I may have got the infection from helping a person out or from having sex with a different person, since the disease can be transmitted through various ways.* (Male, C03)

This statement may be less of a metaphor and more of actual events that occurred in Tanzania. "The sugar is poisoned" as the male participant further explains may be alluding to the acknowledgement that HIV is transmitted in other ways besides sex. This statement echoes what some participants expressed when processing that their partner tested positive for HIV. Sugar in of itself could symbolise the various ways HIV transmission occurs.

No one is perfect

*I: What do you think people will do if they see you have these tests in your house? R: They won't think of anything since their thoughts are different since if you have fever and someone else have diabetes, they are both diseases. There is no one who is perfect, **as you point one finger to someone, the rest four fingers are pointing back to you**.* (Male, N03)

This male participant specifically speaks about the discrimination and stigma that come with HIV, but in this case they are talking about HIV self-test kits. Since most of the populace, may not be aware of self-test kits, possessing one may lead others to think you have HIV. The

participant clearly states that no one is perfect in response to stigma, adding that "as you point one finger to someone, the rest four fingers are pointing back to you." This is a practical metaphor, as it can be demonstrated but also speaks volumes to the possible lack of awareness and knowledge that often fuels stigma and discrimination.

Food has to be prioritised

*I: I mean before she travelled, haven't you ever thought of going together for HIV test? R: We thought about it but you know our economic conditions are so difficult? I: Mmh R**: Everything you get you save for the stomach** and we had some grand children at our place*. (Male, N05)

The logistics associated with the care and treatment of HIV is one that is often dependent on the socioeconomic status of individuals living with HIV. This male participant highlights that they would be interested in getting tested with their partner, however, the cost of transportation to go to the clinic is usually too high for them to afford, resulting in only one person going at a time. Unfortunately, in such situations the participant expressed that other things would have to take priority over testing together, in this case food and care of their grandchildren. This opportunity cost may put a strain on relationship dynamics for some individuals.

3.2.7 Case Study Findings

The case study analysis used to explore decision-making amongst female participants resulted in two subject topics that emerged as patterns across the three participant groups, i.e.. participants on ART, not on ART but in care and negative participants. In the following section,

I will describe decision-making of female participants within two contexts (see Appendix D for an extract of quotes used in analysis).

3.2.7.1 HIV Testing

Participants were asked about their interest, thoughts and perceptions about self-test kits, which most indicated would be a good substitute to having to spend money transporting oneself to the clinic to get tested. If offered the self-testing kits to use, the female participants had varying opinions on how to proceed.

Participant FN06 stated that if the testing kits were offered, they would wait to speak with their partner to get their opinion and if their partner agreed to use the kits, then the participant. would do the same. However, if the partner chose not to use the kits, the participant would do the same. For another participant living with HIV, FN07, although they would discuss with their partner about the testing kits, "if he agrees we would, but if not I'll do it on my own to check my health". For this participant, they would make an effort to try and convince their partner to use the self-test kits, but their decision would not be dependent on their partner's decision. A negative female partner, FP01, echoed almost similar sentiments of participant FN07 but stated that they would not inform their partner about the testing kits as it would be their secret. We see how disclosure is perceived differently by the female participants and how it seems to be somewhat dependent on the nature of the existing relationship.

For many, the decision about receiving the offered test kits was one factor of HIV testing. Another factor regarding who begins discussions about using the test kits pushed the conversation into one that focused on gendered responses to this question. Most of the female participants explicitly stated that they would begin discussions about using the self-testing kits, particularly because they were women.

Participant FC08 stated that they would start the conversation with their partner about self-testing kits because "… women have the tendency of telling their husbands their results after testing but men won't tell their results to their wives after testing, they will just starting [sic] using medicines without the knowledge of their wives." Another participant, echoed similar sentiments stating that they would start conversation about using self-testing kits, "because as a woman you have to know your health status since a man is there to take care of the family, to make sure the family has eaten but woman has to take care on the side of diseases unlike men." A negative participant shared similar remarks and bestowed the responsibility on women because "if a mother the one to take care of the children so it's important to make sure you stay healthy." The female participants deem it the duty of the woman in the relationship to begin conversations about using self-test kits because of their identity as women and in some cases, mothers. It could be depicting the power and authority that the female participants have as caretakers of the family, and could also highlight what marriage means to the individual female participants – for some agreement, for others independent decisions amidst disagreement.

3.2.7.2 Nature of Relationship Post-Testing

Following testing, most female participants shared experiences relating to condom use, sex, relationship dynamics and HIV care and treatment. These experiences in some cases exuded with gendered dynamics and also a stark insight in how female participants in serodiscordant relationships navigate their world.

Condoms have been described by a host of participants in this study as posing a barrier to sexual intimacy between partners. For participant FP05, prior to testing, they used condoms with their partner, however after a month of using condoms, their partner asked when they would cease to use condoms. The participant shared that they agreed not to use condoms. This decision

to not use condoms is one that participant FC01 shares is commonly preferred and expected of amongst married people in Tanzania. According to the participant, “when you ask them why are you not using condoms while you are infected, they just tell you I can’t use condom while I am with my wife.” For women who want to use condoms with their partners, it often a difficult task which can determine their protection against HIV. Participant FC01 put it candidly, “Some women can’t tell their partners to use condoms, so can they be safe?” Adding also that one has no option but to refuse to have sex with their partner if condoms are not on the table. However, condom use by married individuals symbolises more than mitigating risk, it may also lead to the perception that the female partner is something that she is not. For participant FC10, by having condoms at home, “someone might conclude that I am a prostitute” even when they are not. Though these factors may influence women’s decision to request condom use, it would not stop them as participant FP05 expressed that their partner could say “I am segregating him, I don’t love him but I tell him if I don’t love you I could have leave you way back.” As we see, women are aware of these factors and make decisions on how to navigate condom use with their partners.

Serodiscordant relationships, as described by participants in the study may have their particular burden and may require special navigation. For female participants, being the HIV infected partner in the relationship is a huge blow that on occasion leads to the dissolution of the relationship. Participant FP04 shared a story of their sister who “after coming from labor, you can’t know where she might get the infections. Her husband left her, CD4 count fell and she died.” According to the participant, men are weak and only “one out of ten can accept his wife’s situation” thus leaving women at the mercy of their partners. Participant FP06 concurred with this statement adding that women are merciful unlike men because “I don’t think if I had HIV he

would still be with me." Another participant living with HIV, FC07, shared a similar story where their brother-in-law "… went to test, his wife found positive he is negative. he wanted to banish her, people told him do not banish her you yourself first test three times to confirm. as you see you have saved so thank God ... now you banish your partner." This story highlights the role of others in decisions made within marriages specifically serodiscordant couples, and how women are often treated if they are the infected member in the relationship.

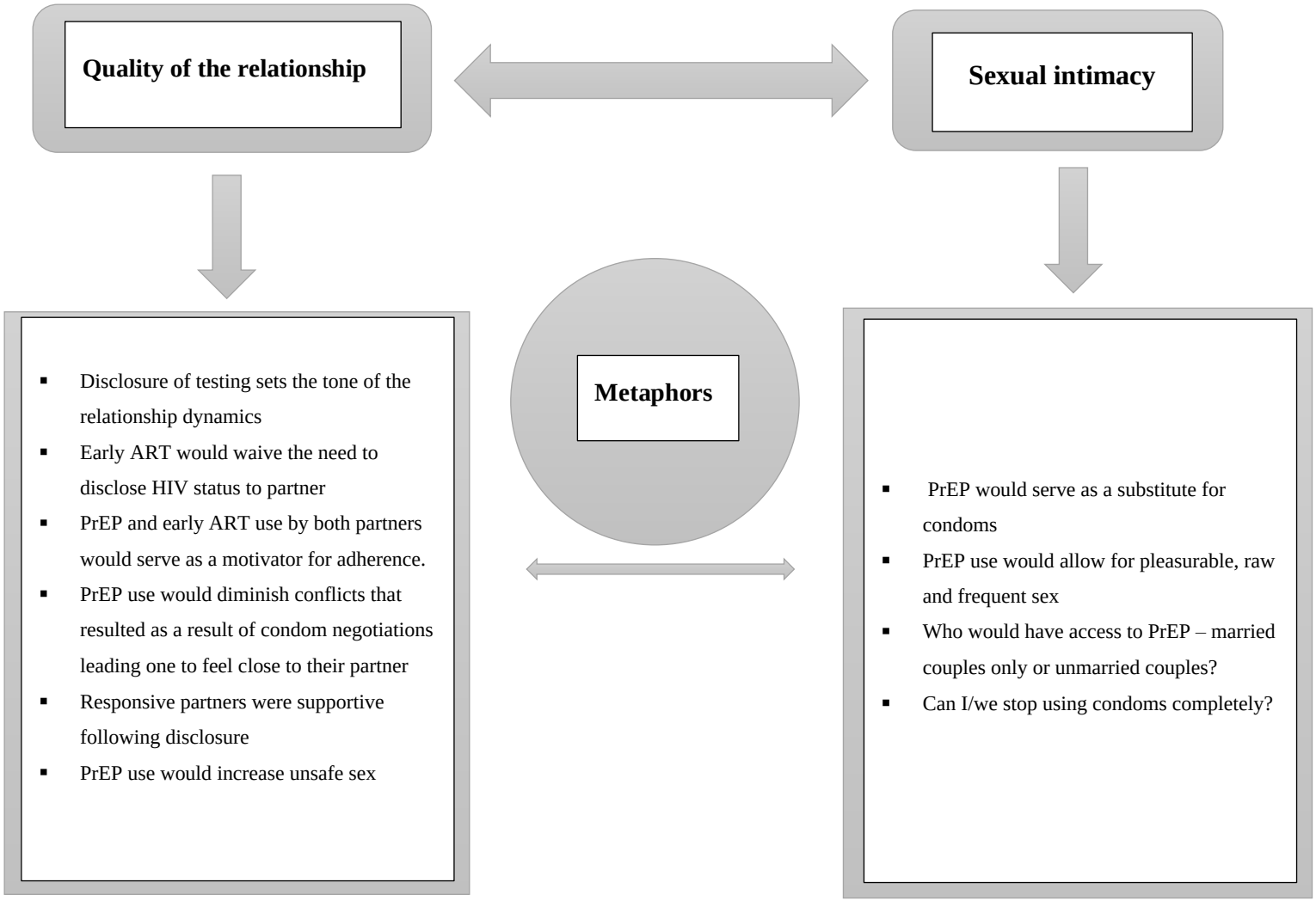
For some female participants, dealing with the infidelity and promiscuity of their partners took very different forms. There was a general acknowledgement by all female partners in the study that their partners or other married men in the society have extra-marital affairs. Despite being unfaithful, when some male partners became sick from HIV they often returned to their spouses to be catered to. Participant FN07, expressed these exact sentiments when their partner who was with another woman in a different house, chose to return to the participant's home because he was sick and could no longer afford to pay for the other house where he lived. Participant FP02 echoed the same sentiments where their partner had been rejected by his other woman due to the rashes covering his body, the participant states that "he is bringing all this trouble to me," Both participants received their partners and became their caretakers, despite their partners' transgressions. For participant FP02, the role of caretaker has its own troubles because "I sleep with my clothes on and he is saying that I'm discriminating him. So that's what I hate the most, I cook for him he just doesn't want to live the way I want." It highlights how women, though caring for their partner possibly at their personal expense are still made to feel at the mercy of the male partner. For other women, such as participant FP01, it may be beneficial to mete out threats when they stating the terms of their role as caretaker, "wash and cook for him but other things no more" they experienced some pushback from their partner. To shut this

down, the participant said "if he tries anything I will strangle his testicles … and I told him I don't need his money I rather go back home and then he agreed to sleep separately."

As female participants manoeuvre the dynamics within their relationships some participants shared some thoughts on PrEP and its advantages. Most female participants expressed that they would be open to using PrEP and would be open to their partners using it as well. Participant FN03 shared the following about their partner using PrEP: "I will feel happy because he says he is leaving me and he goes to Amina or Sophia, will he know their problems? The solution is not to run away from the problem rather to solve it." This highlights some of the themes raised in the study relating to fostering togetherness, it also shows the initiative some female participants are taking to deal with serodiscordance. Participant FP01, on the other hand, had a rare suggestion, "they should make a drug that will kill people with HIV within a month … Because the infect others (long silence)." When asked if the participant wished for their husband to die, their response was, "Aaaahh...(while throwing her hands in the air… we both laughed) they are infect[ing] others a lot." This intriguing statement depicts some of the deep-seated factors that may have plagued the participant's relationship or other relationships in the society. It also could be seen that the female participant may be looking for a way out of the current relationship, as the male partner could be a burden. Societal norms which task women with caring for their partner is one that the female participant cannot escape until death, which may explain the invocation of an 'extermination' of people who are HIV-infected. In a way, it also illustrates her agency in her way of thinking; many accept that PrEP and ART are medicines that will make things somewhat bearable, but she questions that premise. It goes back to the sentiments of HIV negative participants who felt that using PrEP was an inconvenience; the suggestion to kill people with HIV may be highlighting the inequalities that occur in

serodiscordant relationships – most women but not men remain in the relationships. These interventions could be seen as mediums that further reinforce gender norms, leaving women in these relationships to make decisions within their situated contexts.

Figure 5: Emergent Perceptions of Early ART/PrEP



4. Chapter FOUR: Discussion

4.1 Summary of Findings

This paper describes the perceptions of early ART/PrEP on facets of a relationship by serodiscordant couples in Kisarawe, Tanzania who participated in the Dyadic-Based Diagnosis, Care and Treatment (DDCP) study. Each participant shared their experiences as a member of a serodiscordant partnership and how their serostatus shaped partner interactions and daily living. For many participants, the road to a peaceful relationship began with testing and disclosure of one's HIV status. In accordance with WHO recommendations on couples testing, (107) majority of the participants indicated an interest in getting tested with their partner and finding out their HIV status together. Couples who test together are more likely to adopt HIV prevention strategies (108,109) , yet despite its importance in identifying HIV serodiscordant couples (110) its uptake has been low. (18) Our findings show that participants, though interested in couples testing, choose to first get tested alone before getting tested with their partner, highlighting the mistrust and fear that hinder couples testing. (71,111,112) The participants resorted to this testing strategy in some cases, because their partners initially refused to get tested together. For others, it was a means of mentally preparing themselves for their partner's response when they eventually tested together. Similar to the experiences of other HIV infected partners (67,70,113–115), there was a real reluctance amongst study participants to disclose their HIV status for fear of separation and rejection both by their family and partner. Studies have shown that infected partners felt more comfortable disclosing to their family or friends, rather than their partners. (116) However, study participants were particularly weary of disclosing to friends because they would "spread the news." To alleviate these fears, participants would use early ART because it would keep them healthy enough thereby waiving the need to disclose their HIV status to anyone.

A partner's reaction following disclosure had several outcomes in our study, with the most frequent being a responsiveness. Whilst some HIV-infected participants reported that their partners became more involved in their day-to-day activities in line with exiting literature (117,118), our findings show that for some uninfected participants, their infected partners did not believe their negative results. Such behaviour was solely exhibited by male infected partners, which can be attributed to gender and power dynamics that exist in serodiscordant heterosexual relationships. (119) Beyond unresponsiveness, gender inequalities permeated the sexual relations

of some participants. Just as most participants saw PrEP as a pathway to increased sexual intimacy with their partners, others raised some concerns of PrEP misuse leading to an increase in sexual activities by both married and unmarried individuals. This twofold perception of PrEP revealed the ambiguity many have expressed about the simultaneous use of PrEP and condom. (46,48,120) Despite guidelines on its joint use (WHO, 2012), studies have shown that serodiscordant couples still seek clarification on using condoms whilst on PrEP. In our study, participants often asked the interviewers to provide them with these answers, and at the same time, many participants sought to know to whom PrEP would be available – referring to the general public, unmarried serodiscordant couples or school children. Their concerns were centred on the perceived rise in unsafe sex and alcohol use.

Alcohol consumption has been described as influencing ART adherence particularly amongst serodiscordant couples in South Africa (121,122), Botswana (123) and Malawi. (124) In most cases the concern has been male drinking, and although our findings suggest the same concern, study participants were more focused on the general public. This focus may be attributed to the collectivistic nature of African cultures, whereby rather than referring to a person, 'people' is used instead, suggesting a different priority. (125) The culture of alcohol use in Tanzania is alarming, as boys and men experience greater pressure to drink than girls and women (126) demonstrating participants' interest in people's habits as opposed to simply their partner. With problematic alcohol use persists, study participants worried that there would be an increase in reckless and unsafe sex, due to a lack of self-control and lucidity. This absence of mind most participants reported, would also result in a decrease in condom use and as a participant put it "can get one into temptations that can lead into infections" (Male, C03). Projecting an increase in such risky behaviour, many participants suggested that efforts be put into mass education of the public regarding early ART/PrEP use, condom use and alcohol use. Conroy and colleagues (127) suggested that to address problematic alcohol use, a couple-based approach should be taken as it has been successful in other areas including reducing sexual risk and improving ART adherence, however, their study findings show that participants sought assistance from their relatives to help address their partner's drinking. Family is an important support network for people living with HIV and can be quite influential in serodiscordant relationships. (116,128) Our study findings show that participants often involved their family in their decisions to get tested and eventually in their HIV care and treatment. For some

participants, family members cared for their children and made suggestions on how best to handle having an infected partner.

Infidelity is often gendered, where men are likely to repeatedly engage in such behaviour than women (129) and is perceived to be the mode through which a partner becomes infected resulting in serodiscordance or seroconcordance. (58,130,131) Our findings suggest that serodiscordance is often perceived as a result of infidelity and raises questions about trust, which is similar to other findings (120) and this influenced how participants viewed dyadic testing, early ART and PrEP; where they chose to test alone and then together to make disclosure easier and for some, to begin early ART in secret. Some male partners were described as moving out of the home to live with other women and eventually returned once they became HIV-infected and fell ill. Female participants approached the infidelity in different ways and had various justifications for their decisions; some participants took their male partners in and cared for them, whilst setting strict boundaries as terms for the caretaking role. However, female participants typically emphasised the gendered nature of responses to infidelity and serodiscordance. As infidelity signals inequities in a relationship (132), it comes as no surprise that female participants explicitly stated that if the roles were reversed, their partners would no longer be with them. The decision to remain in the relationship despite the infidelity was explored in the case study analysis and our findings suggest that similar experiences do not produce similar reactions: where some HIV-infected female participants sought God and religion as a basis for taking their partners back, others welcomed their partners back because they have children together. Although some female participants expressed displeasure in their partner's actions, a handful showed disdain for their partner – to the extent that one participant suggested that a drug be produced to kill people with HIV infection. Choosing to take on a caretaker role or welcoming the partner back into the home, female participants made it clear that their partners' infidelity and risky behaviour puts them at risk, and they would take PrEP as protection. Family suggestions to leave infected male partners were dismissed by negative female participants, further demonstrating their decision-making.

4.2 Study Implications

Our study shows that PrEP is perceived as the sole protector from HIV infection, and these sentiments are shared by other serodiscordant couples (33,50) thus calling attention to the

ambiguity of PrEP guidelines. Recommendations actually suggest PrEP use in addition to other HIV prevention options like condoms, and yet despite this, there is evidence of increased risky sexual behaviour associated with PrEP use. (57,133) Serodiscordant couples often described and perceived PrEP as a gateway to improved sexual intimacy which they defined as frequent sex and sex without condoms. (45) Patient-provider communication around PrEP and condom use is integral to equipping serodiscordant couples with knowledge to make informed decisions to protect themselves and each other. (46,51,134,135) Understanding that PrEP use is reported to salvage relationship – or perceived to do so like in our study – it then becomes imperative to address the concerns of serodiscordant couples. As a unique population that contribute a substantial proportion of new HIV infections (18), a more patient-centred guideline needs to be developed that will address concerns of partner infidelity, condomless and frequent sex, and alcohol use. A thorough and well-versed guideline will aid serodiscordant couples to make well informed decisions and create a less hierarchical dynamic between health care providers and clients, making for a safer space for discussions and counselling.

Disclosure begins with testing and has a snowball effect on early ART/PrEP adherence and the nature of the relationship post-testing. As participants expressed a desire to test with their partners and as other studies have mentioned the benefits of testing together (71,111), couples-based testing would not only prompt disclosure but also encourage better partner dynamics. Couples HIV testing and counselling (HTC) though groundbreaking, may fail to acknowledge the distinct nature of each serodiscordant relationship and exacerbate existing inequalities and violence. A study in Uganda found that women in serodiscordant relationships experienced sexual violence at the hands of their male partners when they insisted on condom use. (136) Counselling approaches emphasise condom use to both infected and uninfected partners; however, the concern is if these approaches are effective in mitigating negative outcomes such as violence. (137) Hence, by focusing more efforts on effective and competent dyadic-based interventions – pre- and post-testing - a cascade of strategies can be launched that will tackle the fears of rejection and separation that push couples to get tested individually. It will also present an opportunity for couples to start early ART/PrEP and begin the journey together serving as motivation for each other, as our findings show. Importantly, we can develop and implement thorough counselling approaches that will allow couples jointly and individually speak with a health care provider or counsellor who will help manage their reactions to test results and help

them understand that co-habitation is not obligatory but feasible if they are interested. Additionally, for many participants when counselling together was not an option, God and religion served as strong supports and motivators for getting through each day.

The emphasis of routine antenatal HIV testing in SSA accentuates the potential for women to infect their young (138), but unfortunately limits women to a single identity – mother. African women possess intersecting identities that not only put them in a unique position but allows for multiple perspectives when developing health initiatives, specifically for HIV. Young girls in Tanzania are married as early as 15years old, putting them at increased risk for HIV-infection. (139) For many of these young women, specifically in urban slums, poverty is a main driver of early marriage, as they wish to generate income and fund their primary and secondary education. (140) Intersecting identities and socio-cultural environmental factors such as age, education, income and location cannot be viewed separate from serostatus, instead acknowledging their interrelationship with gender and health will ensure more inclusive and sensitive interventions specifically for this population. Female partners with a HIV positive status are at risk of being divorced by their male partners (70) and are more likely to report violence in the relationship.(141) They also negotiate condom use (73), but are not in a social position to do so due to gender norms (62), and either experience violence for insisting on condom use or are limited in their ability to negotiate safer sexual behaviour for fear of violence. (142) These experiences are not prevalent in men, which demonstrates how HIV infection is gendered and who bears the brunt of the infection.

Our findings show that a large proportion of women get tested first and then encourage their partners to get tested. By testing first, we see how gender is emergent in health doings (61), whereby like study participants mentioned, women are doing gender by being nurturing and caring for their health and that of their family. This activity termed health behaviour work by sociologists is typically performed by heterosexual women over the course of a relationship and is an extension of the unpaid work Hochschild (143) described women do in the home which reinforces inequalities in the household and workforce. (144) This was reiterated by female participants who stressed that it was the woman's job to discuss health matters in the family. Current couples HTC will not truly benefit female partners if it is not focused on addressing gender inequalities and stereotypes; as ignoring these key issues will only exacerbate gendered

power dynamics like a female partner remaining in an unstable serodiscordant relationship (119) (Bott & Obemeyer, 2013), further putting female partners at increased risk.

Additionally, more efforts need to be directed at encouraging men to get tested, as this may ease ongoing dynamics in the relationship where the man may interfere with his wife/partner's HIV treatment. (145) Studies have shown that gender norms and hegemonic masculinity may be contributing factors to men's fear of HIV and low uptake of testing (146,147), in addition to the neglect of men in HIV prevention and treatment campaigns. (148) By developing initiatives focused on increasing testing uptake by men, we could alleviate the vulnerability of women, particularly within relationships, that occurs due to the focus of HIV testing during antenatal visits. Increased testing by men could also result in a shift in gender and power dynamics within heterosexual relationships, creating an opportunity for more equal and equitable relations. Mobile testing at venues frequented by men including barbing shops, local soccer stadiums and car shops would aid in increasing male engagement in HIV testing, prevention and treatment. Studies have shown that community-based testing interventions compared to standard clinical testing is effective in increasing testing rate and detecting HIV cases (84,149), particularly in men. (83)

A recurring theme across HIV related studies is stigma and its effects on ART adherence and daily living. (150–157) Stigma is said to be due to lack of knowledge or misperceptions of HIV (158–160) Yet despite advancements in HIV research, it does not appear to have subsided. Our findings show that stigma affects participants' inclination to use PrEP, as they fear that they would be perceived as being infected. Also, participants shared that the daily dosage of PrEP makes them similar to those on ART and insisted that there should be a difference between those infected and not. This stigma by association would not only affect PrEP uptake but also its adherence. (45,46,52,161) Although much work has been channelled into educating the general public and health care providers on HIV, specific strategies and campaigns addressing PrEP and testing need to be implemented. As recommended by study participants, the use of media outlets and radio jingles can assist in disseminating information about PrEP and its uses; in addition to new interventions like self-testing that are convenient and produce quick results. As Tanzania proceeds with its PrEP scale up, there is ample opportunity to revisit HIV stigma campaigns and include information on PrEP, specifically directed at families, friends and communities of serodiscordant couples. By tackling PrEP related stigma, we can inadvertently address ART

related stigma thus mitigating its effects on serodiscordant relationships and stimulating a safe space for independent decision-making, partner and family support, and overall improved well-being.

4.3 Study Limitations

The data analysed were secondary data, meaning I was not involved in the research design or data collection phases, which are fundamental to the qualitative process. The use of secondary data has its limitations including not interacting with the participants to co-create knowledge, as well as a disengagement from the iterative processes that guide qualitative studies. The absence of these aspects, however, did not reduce the quality and rigour of the analysis nor make it based on "thin foundations" (162); instead, we took on a role as interviewer and viewed the data as an interviewee. In doing this, we established a context that allows for more interactions between the data and researchers, further situating the data. One concern of secondary data analysis is the discrepancies in the methodological approach of the original study and the current study. (162–164) Although both studies employed grounded theory, the differing ontological and epistemological traditions of the theory may pose a challenge in assuming their similarity. However, given that the original study is informed by and grounded in findings from the authors' previous studies in the same region, this approach is more in line with constructivist grounded theory as opposed to classic grounded theory.

Additional contexts from the original study were missing in this analysis because I was only privy to the de-identified datasets and not audio interviews and interviewer notes. Access to these items would have positioned me in close proximity with the interviewers and participants. However, with interviews conducted in Kiswahili, it would have been impossible to be further immersed in the data, as I am unfamiliar with the language. There is also no apparent evidence that states primary researchers have a "uniquely privileged awareness of the situatedness of the research endeavour." (162) In other words, my distance to the data collection poses an analytical benefit as it allows me ask new research questions and detect narratives that may have been missed by the original researchers. (162)

Working with translated data is another limitation of the study, especially when unconversant with the language. Although interviews were transcribed by study team members who conducted the interviews to ensure trustworthiness of the data, there is the chance that some

meanings were lost in translation. Language is an important part of conceptualisation and as meanings of words or concepts "vanish into the space between spoken otherness and written sameness" (165) during translation, I made a conscious effort to incorporate tacit knowledge in the study analysis. The evaluation of organic metaphors in the data provided an opportunity to co-create knowledge directly with study team members, as they provided subjective and contextual understanding of these metaphors. It also provided an appreciation of natural, precisely translated phrases that participants employed to better express themselves. Another strength of the study was utilising my identity as a West African woman to provide an additional lens through which to view and understand the data, despite being unfamiliar with Tanzanian culture. My identity helped me appreciate and interpret the experiences of the participants from a less *othered* point of view. Additionally, correspondence with the study team members resulted in the relabelling of a participant, from MN06 to FN09 as it was a female participant.

There is the possibility of social desirability bias associated with exploring beliefs about sensitive topics such as sexual intimacy, condom use and quality of the relationship. The framing of interview questions enabled participants to provide answers either referencing themselves or others, i.e., speaking in the first-person or third person. This flexibility would encourage participants to speak freely and be less likely to provide socially desirable answers. Interviews also discussed PrEP which was novel to the participants, and requested their suggestions for its implementation, thus providing a motive for honest discussions. Additionally, unlike interviews that enquire about current health practices, this original study was centred on the perceptions of different new interventions – self-testing kits, early ART and PrEP – which would reduce the likelihood of tainted responses. It is important to note, however, that despite the benefits of investigating participant perceptions there is a difference between reality and perception. In other words, a limitation of the study is that when these interventions are implemented based on the perceptions of the participants, their actual experiences may be different. Yet, there is still a necessity to gather this information as it creates a foundation on which to expand.

4.4 Conclusion

Dyadic-based interventions are important in creating a safer space for serodiscordant relationships to thrive. Testing together – or alone – typically sets the tone for future interactions between members of serodiscordant relationships. Despite the excitement that many feel about the emergence of early ART/PrEP, there is a valid fear that infidelity would increase, but at the same time, there is excitement at the prospects of having more intimate and raw sexual interactions. Our findings show the exigency for revised guidelines on the use of PrEP and condoms by serodiscordant couples to better inform patient-centred care. It also highlights the neglect of gendered dynamics that keep female partners in unstable relationships, as well as the structures that perpetuate their high risk of HIV infection in serodiscordant relationships. (166) Furthermore, stigma still plays a pernicious role in adherence to HIV treatment and prevention interventions, and adversely influences support networks such as family and the community. Since our findings show that some participants relied on God and their religion when other support networks lacked, it may be of value to explore the roles of religion and spirituality as motivators of adherence. Additionally, our findings relating to questions about PrEP for the general public, can aid the current implementation efforts of the Tanzanian government and inform their policies and campaigns for education and information dissemination.

References

1. HIV/AIDS [Internet]. [cited 2021 Apr 1]. Available from: https://www.who.int/news-room/fact-sheets/detail/hiv-aids. Retrieved April 1 2021.

2. 2019-UNAIDS-data_en.pdf [Internet]. [cited 2021 Apr 1]. Available from: https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf. Retrieved April 1 2021.

3. UNAIDS_Gap_report_en.pdf [Internet]. [cited 2021 Apr 1]. Available from: https://www.unaids.org/sites/default/files/media_asset/UNAIDS_Gap_report_en.pdf. Retrieved April 1 2021.

4. Region profiles – AIDS 2020 [Internet]. [cited 2021 Apr 1]. Available from: https://aids2020.unaids.org/chapter/region-profiles/. Retrieved April 1 2021.

5. JC2686_WAD2014report_en.pdf [Internet]. [cited 2021 Apr 1]. Available from: https://www.unaids.org/sites/default/files/media_asset/JC2686_WAD2014report_en.pdf. Retrieved April 1 2021.

6. World Health Organization - 2017 - Guidelines for managing advanced HIV disease and r.pdf [Internet]. [cited 2020 Apr 2]. Available from: https://apps.who.int/iris/bitstream/handle/10665/255884/9789241550062-eng.pdf?sequence=1. Retrieved April 1 2021.

7. World Health Organization et al. - 2015 - Guideline on when to start antiretroviral therapy .pdf [Internet]. [cited 2020 Apr 2]. Available from: https://apps.who.int/iris/bitstream/handle/10665/186275/9789241509565_eng.pdf;jsessionid=B74F7D03A543B5D7C30A67A0B34985EC?sequence=1. Retrieved April 1 2021.

8. Hoenigl M, Chaillon A, Moore DJ, Morris SR, Mehta SR, Gianella S, et al. Rapid HIV Viral Load Suppression in those Initiating Antiretroviral Therapy at First Visit after HIV Diagnosis. Scientific Reports. 2016 Sep 6;6(1):32947.

9. Ford N, Migone C, Calmy A, Kerschberger B, Kanters S, Nsanzimana S, et al. Benefits and risks of rapid initiation of antiretroviral therapy. AIDS. 2018 Jan 2;32(1):17–23.

10. Pilcher CD, Ospina-Norvell C, Dasgupta A, Jones D, Hartogensis W, Torres S, et al. The Effect of Same-Day Observed Initiation of Antiretroviral Therapy on HIV Viral Load and Treatment Outcomes in a U.S. Public Health Setting. J Acquir Immune Defic Syndr. 2017 Jan 1;74(1):44–51.

11. Colasanti J, Sumitani J, Mehta CC, Zhang Y, Nguyen ML, del Rio C, et al. Implementation of a Rapid Entry Program Decreases Time to Viral Suppression Among Vulnerable Persons Living With HIV in the Southern United States. Open Forum Infectious Diseases [Internet].

2018 Jun 1 [cited 2021 Mar 18];5(ofy104). Available from: https://doi.org/10.1093/ofid/ofy104

12. Coffey S, Bacchetti P, Sachdev D, Bacon O, Jones D, Ospina-Norvell C, et al. RAPID antiretroviral therapy: high virologic suppression rates with immediate antiretroviral therapy initiation in a vulnerable urban clinic population. AIDS. 2019 Apr 1;33(5):825–32.

13. Rosen S, Maskew M, Fox MP, Nyoni C, Mongwenyana C, Malete G, et al. Initiating Antiretroviral Therapy for HIV at a Patient's First Clinic Visit: The RapIT Randomized Controlled Trial. PLoS Med [Internet]. 2016 May 10 [cited 2019 Nov 27];13(5). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4862681/

14. Martin TCS, Abrams M, Anderson C, Little SJ. Rapid Antiretroviral Therapy Among Individuals With Acute and Early HIV. Clinical Infectious Diseases [Internet]. 2020 Aug 10 [cited 2021 Apr 1];(ciaa1174). Available from: https://doi.org/10.1093/cid/ciaa1174

15. Macdonald V, Verster A, Baggaley R. A call for differentiated approaches to delivering HIV services to key populations. Journal of the International AIDS Society. 2017;20(S4):21658.

16. UNAIDS_FactSheet_en.pdf [Internet]. [cited 2021 Apr 1]. Available from: https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf. Retrieved April 1 2021.

17. World Health Organization, World Health Organization, Department of HIV/AIDS. Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV. [Internet]. 2015 [cited 2020 Apr 2]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK327115/

18. Muessig KE, Cohen MS. Advances in HIV Prevention for Serodiscordant Couples. Curr HIV/AIDS Rep. 2014 Dec;11(4):434–46.

19. 2008 report on the global AIDS epidemic. [Internet]. Geneva: Joint United Nations Programme on HIV/AIDS; 2008 [cited 2021 Apr 1]. Available from: http://www.myilibrary.com?id=205808. Retrieved April 1 2021.

20. Baeten JM, Donnell D, Ndase P, Mugo NR, Campbell JD, Wangisi J, et al. Antiretroviral Prophylaxis for HIV-1 Prevention among Heterosexual Men and Women. N Engl J Med. 2012 Aug 2;367(5):399–410.

21. Baeten J, Donnell D, Ndase P, Mugo N, Celum C. Single-agent TDF versus combination FTC/TDF prep among heterosexual men and women. Topics in Antiviral Medicine. 2014;22:23.

22. Taylor SE. Social Support: A Review [Internet]. Oxford University Press; 2011 [cited 2021 Apr 1]. Available from:

http://oxfordhandbooks.com/view/10.1093/oxfordhb/9780195342819.001.0001/oxfordhb-9780195342819-e-009

23. schwarzer_knoll_rieckmann2004.pdf [Internet]. [cited 2021 Apr 1]. Available from: http://userpage.fu-berlin.de/~health/support/schwarzer_knoll_rieckmann2004.pdf. Retrieved April 1 2021.

24. Berscheid E. Interpersonal relationships. Annual Review of Psychology. 1994 Jan 1;45:79–130.

25. Reis HT, Shaver P, Shaver P. Intimacy as an interpersonal process [Internet]. Relationships, Well-Being and Behaviour. Routledge; 2018 [cited 2020 Jun 11]. p. 113–43. Available from: https://www-taylorfrancis-com.ezproxy.library.ubc.ca/

26. Laurenceau J-P, Rivera LM, Schaffer AR, Pietromonaco PR. Intimacy as an Interpersonal Process: Current Status and Future Directions [Internet]. Handbook of Closeness and Intimacy. Psychology Press; 2004 [cited 2021 Apr 1]. Available from: https://www-taylorfrancis-com.ezproxy.library.ubc.ca/https://www-taylorfrancis-com.ezproxy.library.ubc.ca/chapters/edit/10.4324/9781410610010-10/intimacy-interpersonal-process-current-status-future-directions-jean-philippe-laurenceau-luis-rivera-amy-schaffer-paula-pietromonaco

27. Gottman JM. The Couple's Perception of Their Interaction. In: Marital Interaction [Internet]. Elsevier; 1979 [cited 2021 Apr 1]. p. 215–36. Available from: https://linkinghub.elsevier.com/retrieve/pii/B9780122931505500171

28. Reis HT, Clark MS, Holmes JG. Perceived Partner Responsiveness as an Organizing Construct in the Study of Intimacy and Closeness [Internet]. Handbook of Closeness and Intimacy. Psychology Press; 2004 [cited 2021 Apr 1]. Available from: https://www-taylorfrancis-com.ezproxy.library.ubc.ca/https://www-taylorfrancis-com.ezproxy.library.ubc.ca/chapters/edit/10.4324/9781410610010-19/perceived-partner-responsiveness-organizing-construct-study-intimacy-closeness-harry-reis-margaret-clark-john-holmes

29. Reis HT. Responsiveness: Affective interdependence in close relationships. In: Mechanisms of social connection: From brain to group [Internet]. Washington, DC: American Psychological Association; 2014 [cited 2021 Apr 1]. p. 255–71. (The Herzliya series on personality and social psychology). Available from: http://ezproxy.library.ubc.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=pzh&AN=2013-06636-015&site=ehost-live&scope=site

30. Derlega et al. Self-disclosure and starting a close relationship.pdf [Internet]. [cited 2021 Apr 1]. Available from: http://wp.comminfo.rutgers.edu/kgreene/wp-content/uploads/sites/51/2014/pdf/Derlega%20et%20al.%20Self-disclosure%20and%20starting%20a%20close%20relationship.PDF

31. McKenna KYA, Green AS, Gleason MEJ. Relationship Formation on the Internet: What's the Big Attraction? Journal of Social Issues. 2002;58(1):9–31.

32. Patel RC, Leddy AM, Odoyo J, Anand K, Stanford-Moore G, Wakhungu I, et al. What motivates serodiscordant couples to prevent HIV transmission within their relationships: findings from a PrEP implementation study in Kenya. Cult Health Sex. 2018 Jun;20(6):625–39.

33. Falcão JRSP, Bradshaw CC, Garrett CC, Bilardi JE, Chen MY, Zablotska I, et al. Views of HIV-negative partners in heterosexual serodiscordant relationships regarding HIV pre-exposure prophylaxis: a qualitative study. Sex Health. 2016 May 26;

34. Farber B, Sohn A. Patterns of self-disclosure in psychotherapy and marriage. Psychotherapy (Chicago, Ill). 2007 Jun 1;44:226–31.

35. Laurenceau J-P, Barrett LF, Pietromonaco PR. Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. Journal of Personality and Social Psychology. 1998 May;74(5):1238–51.

36. Prager KJ, Roberts LJ. Deep Intimate Connection: Self and Intimacy in Couple Relationships [Internet]. Handbook of Closeness and Intimacy. Psychology Press; 2004 [cited 2021 Apr 1]. Available from: https://www-taylorfrancis-com.ezproxy.library.ubc.ca/https://www-taylorfrancis-com.ezproxy.library.ubc.ca/chapters/edit/10.4324/9781410610010-9/deep-intimate-connection-self-intimacy-couple-relationships-karen-prager-linda-roberts

37. Reis HT. The Role of Intimacy in Interpersonal Relations. Journal of Social and Clinical Psychology. 1990 Mar;9(1):15–30.

38. P. Greeff, Hildegarde L. Malherbe A. Intimacy and Marital Satisfaction in Spouses. Journal of Sex & Marital Therapy. 2001 May;27(3):247–57.

39. Dandurand C, Lafontaine M-F. Intimacy and Couple Satisfaction: The Moderating Role of Romantic Attachment. IJPS. 2013 Feb 20;5(1):p74.

40. HIV Country Profiles [Internet]. [cited 2021 Apr 1]. Available from: https://cfs.hivci.org/country-factsheet.html

41. Tanzania Commission for AIDS (TACAIDS) Annual Report 2017/2018.

42. Higgins JA, Hoffman S, Dworkin SL. Rethinking Gender, Heterosexual Men, and Women's Vulnerability to HIV/AIDS. Am J Public Health. 2010 Mar;100(3):435–45.

43. Pullum T, Staveteig S. HIV Status and Cohabitation in Sub-Saharan Africa. 2013.

44. Tanzania_COP19-Strategic-directional-Summary_public.pdf [Internet]. [cited 2020 Oct 24]. Available from: https://www.state.gov/wp-content/uploads/2019/09/Tanzania_COP19-Strategic-directional-Summary_public.pdf

45. Ngure K, Heffron R, Curran K, Vusha S, Ngutu M, Mugo N, et al. I Knew I Would Be Safer. Experiences of Kenyan HIV Serodiscordant Couples Soon After Pre-Exposure Prophylaxis (PrEP) Initiation. AIDS Patient Care STDS. 2016 Feb 1;30(2):78–83.

46. Patel RC, Stanford-Moore G, Odoyo J, Pyra M, Wakhungu I, Anand K, et al. "Since both of us are using antiretrovirals, we have been supportive to each other": facilitators and barriers of pre-exposure prophylaxis use in heterosexual HIV serodiscordant couples in Kisumu, Kenya. J Int AIDS Soc [Internet]. 2016 Dec 12 [cited 2018 Jul 31];19(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5155127/

47. Franks J, Hirsch-Moverman Y, Loquere AS, Amico KR, Grant RM, Dye BJ, et al. Sex, PrEP, and Stigma: Experiences with HIV Pre-exposure Prophylaxis Among New York City MSM Participating in the HPTN 067/ADAPT Study. AIDS Behav. 2018 Apr 1;22(4):1139–49.

48. Irungu EM, Ngure K, Mugwanya KK, Awuor M, Dollah A, Ongolly F, et al. "Now that PrEP is reducing the risk of transmission of HIV, why then do you still insist that we use condoms?" the condom quandary among PrEP users and health care providers in Kenya. AIDS Care. 2020 Mar 24;0(0):1–9.

49. Grant RM, Koester KA. What People Want From Sex and PrEP. Curr Opin HIV AIDS. 2016 Jan;11(1):3–9.

50. Bazzi AR, Leech AA, Biancarelli DL, Sullivan M, Drainoni M-L. Experiences Using Pre-Exposure Prophylaxis for Safer Conception Among HIV Serodiscordant Heterosexual Couples in the United States. AIDS Patient Care STDS. 2017 Aug 1;31(8):348–55.

51. McMahon JM, Myers JE, Kurth AE, Cohen SE, Mannheimer SB, Simmons J, et al. Oral Pre-Exposure Prophylaxis (PrEP) for Prevention of HIV in Serodiscordant Heterosexual Couples in the United States: Opportunities and Challenges. AIDS Patient Care STDS. 2014 Sep 1;28(9):462–74.

52. Golub SA. PrEP Stigma: Implicit and Explicit Drivers of Disparity. Curr HIV/AIDS Rep. 2018 Apr 1;15(2):190–7.

53. Calabrese SK, Underhill K. How Stigma Surrounding the Use of HIV Preexposure Prophylaxis Undermines Prevention and Pleasure: A Call to Destigmatize "Truvada Whores". Am J Public Health. 2015 Oct;105(10):1960–4.

54. Goparaju L, Praschan NC, Warren-Jeanpiere L, Experton LS, Young MA, Kassaye S. Stigma, Partners, Providers and Costs: Potential Barriers to PrEP Uptake among US Women. J AIDS Clin Res [Internet]. 2017 Sep [cited 2021 Apr 1];8(9). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708581/

55. Eaton LA, Kalichman SC. Risk compensation in HIV prevention: Implications for vaccines, microbicides, and other biomedical HIV prevention technologies. Curr HIV/AIDS Rep. 2007 Nov;4(4):165–72.

56. Bouhnik A-D, Préau M, Lert F, Peretti-Watel P, Schiltz M-A, Obadia Y, et al. Unsafe sex in regular partnerships among heterosexual persons living with HIV: evidence from a large representative sample of individuals attending outpatients services in France (ANRS-EN12-VESPA Study). AIDS. 2007 Jan;21 Suppl 1:S57-62.

57. Traeger MW, Schroeder SE, Wright EJ, Hellard ME, Cornelisse VJ, Doyle JS, et al. Effects of Pre-exposure Prophylaxis for the Prevention of Human Immunodeficiency Virus Infection on Sexual Risk Behavior in Men Who Have Sex With Men: A Systematic Review and Meta-analysis. Clin Infect Dis. 2018 16;67(5):676–86.

58. Joint United Nations Programme on HIV/AIDS, United Nations Fund for Population Activities, United Nations Development Fund for Women, editors. Women and HIV/AIDS: confronting the crisis: a joint report. Geneva : New York: UNAIDS ; UNFPA : UNIFEM; 2004. 64 p.

59. Camlin CS, Koss CA, Getahun M, Owino L, Itiakorit H, Akatukwasa C, et al. Understanding Demand for PrEP and Early Experiences of PrEP Use Among Young Adults in Rural Kenya and Uganda: A Qualitative Study. AIDS Behav. 2020 Jul;24(7):2149–62.

60. Leclerc-Madlala S. Age-disparate and intergenerational sex in southern Africa: the dynamics of hypervulnerability. AIDS. 2008 Dec;22:S17.

61. Wyrod R. Dialectics of gender and health: the case of HIV serodiscordance. Sociology of Health & Illness. 2013;35(8):1260–74.

62. Hoosen S, Collins A. Sex, Sexuality and Sickness: Discourses of Gender and HIV/AIDS among Kwazulu-Natal Women. South African Journal of Psychology. 2004 Sep 1;34(3):487–505.

63. Conroy AA. Gender, Power, and Intimate Partner Violence: A Study on Couples From Rural Malawi. J Interpers Violence. 2014 Mar 1;29(5):866–88.

64. McCloskey LA, Williams C, Larsen U. Gender Inequality and Intimate Partner Violence among Women in Moshi, Tanzania. International Family Planning Perspectives. 2005;31(3):124–30.

65. Collins PH. Black Feminist Thought : Knowledge, Consciousness, and the Politics of Empowerment [Internet]. Routledge; 2002 [cited 2020 Apr 19]. Available from: https://www-taylorfrancis-com.ezproxy.library.ubc.ca/books/9780203900055

66. World Health Organization. Addressing violence against women and HIV: what works?. Geneva: World Health Organization (WHO);

67. Bhatia DS, Harrison AD, Kubeka M, Milford C, Kaida A, Bajunirwe F, et al. The Role of Relationship Dynamics and Gender Inequalities As Barriers to HIV-Serostatus Disclosure: Qualitative Study among Women and Men Living with HIV in Durban, South Africa. Front Public Health [Internet]. 2017 [cited 2021 Mar 4];5. Available from: https://www.frontiersin.org/articles/10.3389/fpubh.2017.00188/full

68. Maman S, Mbwambo JK, Hogan NM, Kilonzo GP, Campbell JC, Weiss E, et al. HIV-Positive Women Report More Lifetime Partner Violence: Findings From a Voluntary Counseling and Testing Clinic in Dar es Salaam, Tanzania. Am J Public Health. 2002 Aug;92(8):1331–7.

69. Gielen AC, McDonnell KA, Burke JG. Women's Lives After an HIV-Positive Diagnosis: Disclosure and Violence. :10.

70. Maman S, Medley A, World Health Organization, Department of Gender W and H. Gender dimensions of HIV status disclosure to sexual partners: rates, barriers, and outcomes : a review paper. Geneva, Switzerland: Dept. of Gender and Women's Health (GWH), Family and Community Health (FCH), World Health Organization; 2003.

71. Matovu JK, Wanyenze RK, Wabwire-Mangen F, Nakubulwa R, Sekamwa R, Masika A, et al. "Men are always scared to test with their partners … it is like taking them to the Police": Motivations for and barriers to couples' HIV counselling and testing in Rakai, Uganda: a qualitative study. Journal of the International AIDS Society. 2014;17(1):19160.

72. Parker L, Pettifor A, Maman S, Sibeko J, MacPhail C. Concerns about partner infidelity are a barrier to adoption of HIV-prevention strategies among young South African couples. Culture, Health & Sexuality. 2014 Aug 9;16(7):792–805.

73. Stevens PE, Galvao L. 'He won't use condoms': HIV-infected women's struggles in primary relationships with serodiscordant partners. American journal of public health. 2007 Jun;97(6):1015–22.

74. Bank W. Gender and economic growth in Tanzania: Creating opportunities for women. The World Bank; 2007.

75. Tarimo EAM, Kohi TW, Outwater A, Blystad A. Gender Roles and Informal Care for Patients With AIDS: A Qualitative Study From an Urban Area in Tanzania. J Transcult Nurs. 2009 Jan 1;20(1):61–8.

76. Blair-Loy M, Hochschild A, Pugh AJ, Williams JC, Hartmann H. Stability and transformation in gender, work, and family: insights from *the second shift* for the next quarter century. Community, Work & Family. 2015 Oct 2;18(4):435–54.

77. Leavens MK, Anderson PCL. Gender and Agriculture in Tanzania. :14.

78. Feinstein S, Feinstein R, Sabrow S. Gender inequality in the division of household labour in Tanzania. African Sociological Review/Revue Africaine de Sociologie. 2010;14(2):98–109.

79. Mosha I, Ruben R, Kakoko D. Family planning decisions, perceptions and gender dynamics among couples in Mwanza, Tanzania: a qualitative study. BMC Public Health. 2013 May 30;13(1):523.

80. Schuler SR, Rottach E, Mukiri P. Gender norms and family planning decision-making in Tanzania: a qualitative study. J Public Health Africa [Internet]. 2011 Sep 5 [cited 2021 Apr 1];2(2). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5345498/

81. Nnaemeka O. Nego-Feminism: Theorizing, Practicing, and Pruning Africa's Way. Signs. 2004;29(2):357–85.

82. Sweat M, Gregorich S, Sangiwa G, Furlonge C, Balmer D, Kamenga C, et al. Cost-effectiveness of voluntary HIV-1 counselling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. The Lancet. 2000 Jul 8;356(9224):113–21.

83. Coates TJ, Kulich M, Celentano DD, Zelaya CE, Chariyalertsak S, Chingono A, et al. Effect of community-based voluntary counselling and testing on HIV incidence and social and behavioural outcomes (NIMH Project Accept; HPTN 043): a cluster-randomised trial. The Lancet Global Health. 2014 May 1;2(5):e267–77.

84. Sweat M, Morin S, Celentano D, Mulawa M, Singh B, Mbwambo J, et al. Community-based intervention to increase HIV testing and case detection in people aged 16–32 years in Tanzania, Zimbabwe, and Thailand (NIMH Project Accept, HPTN 043): a randomised study. The Lancet Infectious Diseases. 2011 Jul 1;11(7):525–32.

85. Reynolds EK, Magidson JF, Bornovalova MA, Gwadz M, Ewart CK, Daughters SB, et al. Application of the Social Action Theory to Understand Factors Associated with Risky Sexual Behavior among Individuals in Residential Substance Abuse Treatment. Psychol Addict Behav. 2010 Jun;24(2):311–21.

86. Ewart CK. Social action theory for a public health psychology. American Psychologist. 1991 Sep;46(9):931–46.

87. Golden SD, Earp JAL. Social Ecological Approaches to Individuals and Their Contexts: Twenty Years of Health Education & Behavior Health Promotion Interventions. Health Educ Behav. 2012 Jun 1;39(3):364–72.

88. Sweat MD, Denison JA. Reducing HIV incidence in developing countries with structural and environmental interventions. AIDS (London, England). 1995;9:S251-7.

89. Sumartojo E. Structural factors in HIV prevention: concepts, examples, and implications for research. AIDS. 2000 Jun;14:S3.

90. Alemu G, Stevens B, Ross P, Chandler J. The Use of a Constructivist Grounded Theory Method to Explore the Role of Socially-Constructed Metadata (Web 2.0) Approaches. Qualitative and Quantitative Methods in Libraries. 2017 Jun 6;4(3):517–40.

91. Creswell, Kasmad R. Second Edition QUALITATIVE INQUIRY& RESEARCH DESIGN Choosing Among Five Approaches. 2020.

92. Ramalho R, Adama P, Huggard P, Hoare K. View of Literature Review and Constructivist Grounded Theory Methodology | Forum Qualitative Sozialforschung / Forum: Qualitative Social Research [Internet]. 2015 [cited 2021 Feb 1]. Available from: https://www.qualitative-research.net/index.php/fqs/article/view/2313/3876

93. Charmaz K. Grounded Theory: Objectivist and Constructivist Methods. Handbook of Qualitative Research. NK Denzin and YS Lincoln. Thousand Oaks, Sage Publications; 2000.

94. Glaser BG. The grounded theory perspective: Conceptualization contrasted with description. sociology press; 2001.

95. Mills J, Bonner A, Francis K. The Development of Constructivist Grounded Theory. International Journal of Qualitative Methods. 2006 Mar 1;5(1):25–35.

96. Charmaz K, Belgrave LL. Thinking About Data With Grounded Theory. Qualitative Inquiry. 2019 Oct;25(8):743–53.

97. Corbin J, Strauss A. Basics of Qualitative Research (3rd ed.): Techniques and Procedures for Developing Grounded Theory [Internet]. 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc.; 2008 [cited 2021 Apr 1]. Available from: http://methods.sagepub.com/book/basics-of-qualitative-research

98. Creswell JW, Tashakkori A. Editorial: Differing Perspectives on Mixed Methods Research. Journal of Mixed Methods Research. 2007 Oct 1;1(4):303–8.

99. Kivunja C, Kuyini AB. Understanding and Applying Research Paradigms in Educational Contexts. IJHE. 2017 Sep 5;6(5):26.

100. Kyngäs H. Inductive Content Analysis. In: Kyngäs H, Mikkonen K, Kääriäinen M, editors. The Application of Content Analysis in Nursing Science Research [Internet]. Cham: Springer International Publishing; 2020 [cited 2020 Jun 10]. p. 13–21. Available from: https://doi.org/10.1007/978-3-030-30199-6_2

101. Hsieh H-F, Shannon SE. Three Approaches to Qualitative Content Analysis. Qual Health Res. 2005 Nov 1;15(9):1277–88.

102. Graneheim UH, Lindgren B-M, Lundman B. Methodological challenges in qualitative content analysis: A discussion paper. Nurse Education Today. 2017 Sep 1;56:29–34.

103. Lakoff G, Johnson M. Metaphors We Live By. 1980;37.

104. Moser KS. Metaphor Analysis in Psychology—Method, Theory, and Fields of Application. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research [Internet]. 2000 Jun 30 [cited 2020 Jun 29];1(2). Available from: http://www.qualitative-research.net/index.php/fqs/article/view/1090

105. Baxter P, Jack S. Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. Qualitative Report. 2010 Jan 1;13.

106. Yin RK. Case study research: design and methods. 4th ed. Los Angeles: Sage; 2009. 219 p. (Applied social research methods series).

107. Guidance on Couples HIV Testing and Counselling Including Antiretroviral Therapy for Treatment and Prevention in Serodiscordant Couples: Recommendations for a Public Health Approach. World Health Organization; 2012.

108. Allen S, Meinzen-Derr J, Kautzman M, Zulu I, Trask S, Fideli U, et al. Sexual behavior of HIV discordant couples after HIV counseling and testing. AIDS. 2003 Mar 28;17(5):733–40.

109. Rosenberg NE, Graybill LA, Wesevich A, McGrath N, Golin CE, Maman S, et al. The Impact of Couple HIV Testing and Counseling on Consistent Condom Use among Pregnant Women and their Male Partners: An Observational Study. J Acquir Immune Defic Syndr. 2017 Aug 1;75(4):417–25.

110. Medley A, Baggaley R, Bachanas P, Cohen M, Shaffer N, Lo Y-R. Maximizing the impact of HIV prevention efforts: Interventions for couples. AIDS Care. 2013 May 7;25(12):1569–80.

111. Nannozi V, Wobudeya E, Gahagan J. Fear of an HIV positive test result: an exploration of the low uptake of couples HIV counselling and testing (CHCT) in a rural setting in Mukono district, Uganda. Glob Health Promot. 2017 Dec 1;24(4):33–42.

112. Larsson EC, Thorson A, Nsabagasani X, Namusoko S, Popenoe R, Ekström AM. Mistrust in marriage-Reasons why men do not accept couple HIV testing during antenatal care- a qualitative study in eastern Uganda. BMC Public Health. 2010 Dec 17;10(1):769.

113. Bohle LF, Dilger H, Groß U. HIV-serostatus disclosure in the context of free antiretroviral therapy and socio-economic dependency: experiences among women living with HIV in Tanzania. African Journal of AIDS Research. 2014 Jul 3;13(3):215–27.

114. Medley A, Garcia-Moreno C, McGill S, Maman S. Rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries: implications for prevention of mother-to-child transmission programmes. Bull World Health Organ. 2004 Apr;82(4):299–307.

115. Maman S, Mbwambo J, Hogan NM, Kilonzo GP, Sweat M. Women's barriers to HIV-1 testing and disclosure: Challenges for HIV-1 voluntary counselling and testing. AIDS Care. 2001 Oct;13(5):595–603.

116. Maman S, van Rooyen H, Groves AK. HIV status disclosure to families for social support in South Africa (NIMH Project Accept/HPTN 043). AIDS Care. 2014 Feb;26(2):226–32.

117. Yonah G, Fredrick F, Leyna G. HIV serostatus disclosure among people living with HIV/AIDS in Mwanza, Tanzania. AIDS Research and Therapy. 2014 Jan 22;11(1):5.

118. King R, Katuntu D, Lifshay J, Packel L, Batamwita R, Nakayiwa S, et al. Processes and Outcomes of HIV Serostatus Disclosure to Sexual Partners among People Living with HIV in Uganda. AIDS Behav. 2008 Mar 1;12(2):232–43.

119. Bott S, Obermeyer CM. The social and gender context of HIV disclosure in sub-Saharan Africa: A review of policies and practices. SAHARA-J: Journal of Social Aspects of HIV/AIDS. 2013 Jul;10(sup1):S5–16.

120. Nakku-Joloba E, Pisarski EE, Wyatt MA, Muwonge TR, Asiimwe S, Celum CL, et al. Beyond HIV prevention: everyday life priorities and demand for PrEP among Ugandan HIV serodiscordant couples. J Int AIDS Soc [Internet]. 2019 Jan 18 [cited 2020 Mar 28];22(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6338102/

121. Conroy A, Leddy A, Johnson M, Ngubane T, van Rooyen H, Darbes L. "I told her this is your life": Relationship Dynamics, Partner Support, and Adherence to Antiretroviral Therapy among South African Couples. Cult Health Sex. 2017 Nov;19(11):1239–53.

122. Kader R, Govender R, Seedat S, Koch JR, Parry C. Understanding the Impact of Hazardous and Harmful Use of Alcohol and/or Other Drugs on ARV Adherence and Disease Progression. PLOS ONE. 2015 May 1;10(5):e0125088.

123. Do NT, Phiri K, Bussmann H, Gaolathe T, Marlink RG, Wester CW. Psychosocial Factors Affecting Medication Adherence Among HIV-1 Infected Adults Receiving Combination Antiretroviral Therapy (cART) in Botswana. AIDS Res Hum Retroviruses. 2010 Jun;26(6):685–91.

124. Conroy AA, Ruark A, McKenna SA, Tan JY, Darbes LA, Hahn JA, et al. The Unaddressed Needs of Alcohol-Using Couples on Antiretroviral Therapy in Malawi: Formative Research on Multilevel Interventions. AIDS Behav. 2020 Jun 1;24(6):1599–611.

125. Ma V, Schoeneman TJ. Individualism Versus Collectivism: A Comparison of Kenyan and American Self-Concepts. Basic and Applied Social Psychology. 1997 Jun;19(2):261–73.

126. Sommer M, Ibitoye M, Likindikoki S, Parker R. Participatory Methodologies With Adolescents: A Research Approach Used to Explore Structural Factors Affecting Alcohol

Use and Related Unsafe Sex in Tanzania. J Primary Prevent [Internet]. 2020 Mar 23 [cited 2021 Mar 31]; Available from: http://link.springer.com/10.1007/s10935-020-00586-0

127. Conroy AA, McKenna SA, Ruark A. Couple Interdependence Impacts Alcohol Use and Adherence to Antiretroviral Therapy in Malawi. AIDS Behav. 2019 Jan 1;23(1):201–10.

128. Curran K, Baeten JM, Coates TJ, Kurth A, Mugo NR, Celum C. HIV-1 Prevention for HIV-1 Serodiscordant Couples. Curr HIV/AIDS Rep. 2012 Jun;9(2):160–70.

129. Fincham FD, May RW. Infidelity in romantic relationships. Current Opinion in Psychology. 2017 Feb 1;13:70–4.

130. Hebling EM, Guimarães IRF. Women and AIDS: gender relations and condom use with steady partners. Cadernos de Saúde Pública. 2004 Oct;20(5):1211–8.

131. Straten A van der, Stadler J, Montgomery E, Hartmann M, Magazi B, Mathebula F, et al. Women's Experiences with Oral and Vaginal Pre-Exposure Prophylaxis: The VOICE-C Qualitative Study in Johannesburg, South Africa. PLoS One; San Francisco. 2014 Feb;9(2):e89118.

132. Shackelford TK, LeBlanc GJ, Drass E. Emotional reactions to infidelity. Cognition & Emotion. 2000 Sep;14(5):643–59.

133. Holt M, Murphy DA. Individual Versus Community-Level Risk Compensation Following Preexposure Prophylaxis of HIV. Am J Public Health. 2017 Aug 17;107(10):1568–71.

134. Irungu EM, Ngure K, Mugwanya KK, Awuor M, Dollah A, Ongolly F, et al. "Now that PrEP is reducing the risk of transmission of HIV, why then do you still insist that we use condoms?" the condom quandary among PrEP users and health care providers in Kenya. AIDS Care. 2020 Mar 24;0(0):1–9.

135. Bunnell RE, Nassozi J, Marum E, Mubangizi J, Malamba S, Dillon B, et al. Living with discordance: knowledge, challenges, and prevention strategies of HIV-discordant couples in Uganda. AIDS care. 2005 Nov;17(8):999–1012.

136. Emusu D, Ivankova N, Jolly P, Kirby R, Foushee H, Wabwire-Mangen F, et al. Experience of sexual violence among women in HIV discordant unions after voluntary HIV counselling and testing: a qualitative critical incident study in Uganda. AIDS care. 2009 Nov;21(11):1363–70.

137. Addressing violence against women in HIV testing and counselling: a meeting report, geneva, 16-18 january 2006. Genève (Suisse): World Health Organization; 2007.

138. De Cock KM, Mbori-Ngacha D, Marum E. Shadow on the continent: public health and HIV/AIDS in Africa in the 21st century. The Lancet. 2002 Jul 6;360(9326):67–72.

139. Schaffnit SB, Urassa M, Lawson DW. “Child marriage” in context: exploring local attitudes towards early marriage in rural Tanzania. Sexual and Reproductive Health Matters. 2019 Jan 1;27(1):93–105.

140. Stark L. Poverty, Consent, and Choice in Early Marriage: Ethnographic Perspectives from Urban Tanzania. Marriage & Family Review. 2018 Aug 18;54(6):565–81.

141. van der Straten A, King R, Grinstead O, Serufilira A, Allen S. Couple communication, sexual coercion, and HIV risk reduction in Kigali, Rwanda. AIDS. 1995 Aug;9(8):935–44.

142. SA Z, LARSEN U. Gender Inequality Increases Women’s Risk of Hiv Infection in Moshi, Tanzania. Journal of Biosocial Science. 2008 Jul;40(4):505–25.

143. Hochschild A, Machung A. The second shift: Working families and the revolution at home. Penguin; 2012.

144. Reczek C, Umberson D. Gender, Health Behavior, and Intimate Relationships: Lesbian, Gay, and Straight Contexts. Soc Sci Med. 2012 Jun;74(11):1783–90.

145. Skovdal M, Campbell C, Nyamukapa C, Gregson S. When masculinity interferes with women’s treatment of HIV infection: a qualitative study about adherence to antiretroviral therapy in Zimbabwe. J Int AIDS Soc. 2011 Jun 9;14:29.

146. Dzinamarira T. The Call to Get More Men Tested for HIV: A Perspective on What Policy Makers Need to Know for Implementing and Scaling up HIV Self-Testing in Rwanda. GJHS. 2019 Jul 29;11(10):29.

147. Quinn C, Kadengye DT, Johnson CC, Baggaley R, Dalal S. Who are the missing men? Characterising men who never tested for HIV from population-based surveys in six sub-Saharan African countries. Journal of the International AIDS Society. 2019;22(10):e25398.

148. Mills EJ, Beyrer C, Birungi J, Dybul MR. Engaging Men in Prevention and Care for HIV/AIDS in Africa. PLOS Medicine. 2012 Feb 7;9(2):e1001167.

149. Suthar AB, Ford N, Bachanas PJ, Wong VJ, Rajan JS, Saltzman AK, et al. Towards Universal Voluntary HIV Testing and Counselling: A Systematic Review and Meta-Analysis of Community-Based Approaches. PLOS Medicine. 2013 Aug 13;10(8):e1001496.

150. Ware NC, Wyatt MA, Tugenberg T. Social relationships, stigma and adherence to antiretroviral therapy for HIV/AIDS. AIDS Care. 2006 Nov;18(8):904–10.

151. Omosanya OE, Elegbede OT, Agboola SM, Isinkaye AO, Omopariola OA. Effects of Stigmatization/Discrimination on Antiretroviral Therapy Adherence among HIV-Infected Patients in a Rural Tertiary Medical Center in Nigeria. J Int Assoc Provid AIDS Care. 2014 May 1;13(3):260–3.

152. Croome N, Ahluwalia M, Hughes LD, Abas M. Patient-reported barriers and facilitators to antiretroviral adherence in sub-Saharan Africa. AIDS. 2017 Apr 24;31(7):995–1007.

153. Bukenya D, Mayanja BN, Nakamanya S, Muhumuza R, Seeley J. What causes non-adherence among some individuals on long term antiretroviral therapy? Experiences of individuals with poor viral suppression in Uganda. AIDS Res Ther [Internet]. 2019 Jan 21 [cited 2019 Nov 27];16. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6340167/

154. Achappa B, Madi D, Bhaskaran U, Ramapuram JT, Rao S, Mahalingam S. Adherence to Antiretroviral Therapy Among People Living with HIV. N Am J Med Sci. 2013 Mar;5(3):220–3.

155. Boyer S, Clerc I, Bonono C-R, Marcellin F, Bilé P-C, Ventelou B. Non-adherence to antiretroviral treatment and unplanned treatment interruption among people living with HIV/AIDS in Cameroon: Individual and healthcare supply-related factors. Social Science & Medicine. 2011 Apr;72(8):1383–92.

156. Negash T, Ehlers V. Personal Factors Influencing Patients' Adherence to ART in Addis Ababa, Ethiopia. Journal of the Association of Nurses in AIDS Care. 2013 Dec;24(6):530–8.

157. Peretti-Watel P, Spire B, Pierret J, Lert F, Obadia Y, The VESPA Group. Management of HIV-related stigma and adherence to HAART: Evidence from a large representative sample of outpatients attending French hospitals (ANRS-EN12-VESPA 2003). AIDS Care. 2006 Apr;18(3):254–61.

158. Herek GM, Capitanio JP, Widaman KF. HIV-Related Stigma and Knowledge in the United States: Prevalence and Trends, 1991–1999. Am J Public Health. 2002 Mar;92(3):371–7.

159. Kalichman SC, Simbayi L. Traditional beliefs about the cause of AIDS and AIDS-related stigma in South Africa. AIDS Care. 2004 Jul;16(5):572–80.

160. Nyblade LC. Measuring HIV stigma: Existing knowledge and gaps. Psychology, Health & Medicine. 2006 Aug;11(3):335–45.

161. Liu A, Cohen S, Follansbee S, Cohan D, Weber S, Sachdev D, et al. Early Experiences Implementing Pre-exposure Prophylaxis (PrEP) for HIV Prevention in San Francisco. PLOS Medicine. 2014 Mar 4;11(3):e1001613.

162. Irwin S. Qualitative secondary data analysis: Ethics, epistemology and context. Progress in Development Studies. 2013 Oct 1;13(4):295–306.

163. Mauthner NS, Parry O, Backett-Milburn K. The Data are Out there, or are They? Implications for Archiving and Revisiting Qualitative Data. Sociology. 1998 Nov 1;32(4):733–45.

164. Redman-MacLaren M, Mills J, Tommbe R. Interpretive focus groups: a participatory method for interpreting and extending secondary analysis of qualitative data. Global Health Action. 2014 Dec;7(1):25214.

165. Temple B. Crossed Wires: Interpreters, Translators, and Bilingual Workers in Cross-Language Research. Qual Health Res. 2002 Jul 1;12(6):844–54.

166. Siegel K, Raveis VH, Gorey E. Barriers and Pathways to Testing among HIV-Infected Women. AIDS education and prevention. 1998 Apr 1;10(2):114–27.

Appendix A: Participant Contact Summary Form

IDI# _____ Date _____ Researcher Initials _____

Gender: M | F Group: 1 = On treatment | 2 = In care/not on treatment | 3 = Seronegative partner

Audio file # _____ Today's Date _____

1. How would you describe the atmosphere and context of the interview?

2. What were the main points made by the respondent during this interview?

3. What new information did you gain through this interview compared with previous interviews?

4. Was there anything surprising to you personally? Or that made you think differently?

5. What messages did you take from this interview for intervention design?

6. What, if any, problems with the field guide (e.g. wording, order of topics, missing topics) did you experience in this interview?

Appendix B: Written Permission from Dr Sweat

Psychiatry and Behavioral Sciences
Division of Global and Community Health
176 Croghan Spur, suite 104
Charleston, SC 29407
Phone: 843-876-1800

Fax : 843- 876-1808

March 5, 2020

To Whom It May Concern:

Ms. Kaosisochukwu Onochie has my permission to use qualitative research collected as part of the Dyadic-based Diagnosis, Care, and Prevention Study for her thesis project. I serve as the Principal Investigator for this study (NIH/NIMH R01MH106369), and Dr. Fonner, who supervised the collection of the qualitative data, is a co-Investigator.

Please let me know if you need any additional information.

Sincerely,

Michael D. Sweat, PhD
Professor
Director, Division of Global and Community Health
Director, Center for Global Health
The Medical University of South Carolina Department of Psychiatry and Behavioral Sciences Family Services Research Center
SWEATM@MUSC.EDU

Appendix C: Tanzanian Team Members' Interpretation of Kiswahili Sayings/Metaphors

Interview quotes	Interpretation
"You know a lot of people don't like to use condoms, so when you tell them about condoms you must have a quarrel, **how can you sell me a goat in the sack?" (**Female, C08)	*This was a very direct translation - this comes from the swahili wording "kuniuzia mbuzi kwenye gunia" simply meaning is that - deceiving /delude. Participant meant that most males do not want to use condoms, males feel like when you tell them to use a condom you deceive them.*
"Yes he was raping me… (Both of them are laughing) **you know soldiers can't die alone that's why I was afraid." (**Female, P01)	*Our understanding is that - Participant believed her husband could not die of HIV alone - as she thought the soldiers could not die alone, meaning that he probably planned to infect his wife (participant) deliberately.*
"mmh, why would I forget? **You know when you have been bitten by the snake you must jump when the leaf touches you**." (Female, P04)	*This comes from swahili wording "Uking'atwa na nyoka, hata ukiguswa na jani unaogopa" which been translated directly. The meaning of this saying is - when it happens something bad happened to you, then whenever again it happens something related to that happened before you may feel afraid, the same thing could happen. In other words - "Once hurt, one is doubly cautious in the future....."*
"Our former president once said **that "the sugar is poisoned"**, so you never know I may have got the infection from helping a person out or from having sex with a different person, since the disease can be transmitted through various ways." (Male, C03)	*'The sugar is poisoned" - we are not sure if this was a right translation from swahili wording, but this saying has been said by our former President when addressing HIV infection issues, like 25 years ago. He's was saying "This disease is a good place where everyone likes, it means sex" it means it's really hard to avoid from HIV infection since many people are having sex.*
"**Everything you get you save for the stomach** and we had some grand children at our place." (Male, N05)	*It means - everything you get then you save for food only. So, the word stomach meant "food"*
There will be advantage since you will be making sure that you are safe that having sex without protection, **it's like getting into big hole while knowing there is a lion in it**." (Male, P05)	*The meaning is that - to put yourself in risk. Like better safe than sorry!*

Appendix D: Data Excerpts Illustrating Content of Case Study Analysis

HIV testing	HIV-infected female participants	HIV negative female participants
Using self-testing kits	*I: Who will start conversation about testing between you and your husband? R: Me I: Why you and not him? R: Because I would be the one to receive them and teach him how to use them.* (Female, N01)	*R: do you mean when I test with my husband? I: mmmh R: when we are together? I: eehe R: it is good since we are told if we get sick together we should die together.* (Female, P04)
Women have to take charge in getting their partner to test	*I: What do you think will be the challenges from the society? R: They will receive it happily because assume that you have a partner who is not ready to have the test while you have had the test already, so you can use this to test him without telling him, you can tell him this is a medicine for teeth and you can use the stick to take saliva sample from his mouth and put it in its bottle and tell him that this bottle has some medicine and will show us if there are bacteria. Since he doesn't know the test is all about, from there you can be open to him after having the results*. (Female, N03)	*I: So what do you think about testing for HIV using this new method together with your husband? R: I think I will have to test myself first after knowing my status then I will convince him to test too. I: Why? R: Because women are more understanding than man, if the results will be different.* (Female, P08)
Women are more likely to test	*I: Okay. Between you and your husband, who is in the position of telling the other to start using these kits? R: I I: Why do you see that? R: {laughing} I will just motivate him. I: What do you think it will be you? R: You know sometimes men are afraid because they mostly have unsafe sex. So, they will be hesitant on knowing their health status.* (Female, N08)	*I: How long would it take for you to convince your partner to accept to use it? R: For now it won't take long, but if I could be the one he could refuse I: Why do you think if it were you he could refuse? R: I know he will accept so that he may get to know my health status if I am infected, but if I were infected and he is not, he couldn't be ready to have frequent tests or we could have separated already.* (Female, P05)

Appendix D: Data Excerpts Illustrating Content of Case Study Analysis

Relationship post-testing	**HIV-infected female participants**	**HIV negative female participants**
Choosing to protect oneself	*You just have to love yourself first and you will find peace. So if your partner refuses to use condom, then you have no option rather than protecting yourself by refusing to have sex with him. Some women can't tell their partners to use condoms, so can they be safe?* (Female, C01)	*I: Do you think you will be able to discuss with your husband about these pills? R: Yes because I've already told him before I live life the way I like it, he was with other woman now he is sick, he come back to me. (Female, P02)*
Choosing to stop using early ART/PrEP	*I: Would you be free to discuss with your husband about you starting using these pills? R: Yes… so as to let him know what is going on. I: What if he tells you not to use them? R: I won't use them; I would listen to my husband. I: So you can't convince your husband? R: No… I can, but if he refuses I will have to stop using them.* (Female, N06)	*I: What do you think will stop you from using this medicine? R: I will stop using it if he thinks that I am segregating him. I: Will you use any other prevention or will you stop permanently? R: I will do what he loves* (Female, P05)
Handling sex with a partner	*We are advised to help out our partners if they are in need and not to deny them simply because we do not feel well although we are being advised to check our health status and not just to help out the partner while the body is weak. I: …Laughing R: There is time that you are not in moody of having sex but not because you are on medications, you need to follow doctor's advice as well.* (Female, C03)	*I: When you separate beds did you agree on that with your husband? R: I told him since he has got HIV from other women; I will wash and cook for him but other things no more. I: Other things like what? R: To sleep together. I: At that time he was weak and you were stronger why you were afraid? R: Aaaah... they are strong!!* (Female, P01)

Appendix E: Study Interview Guide

IDI# _____ Date _____ Researcher Initials _____

Gender: M | F Group: 1 = On treatment | 2 = In care/not on treatment | 3 = Seronegative partner

INTRODUCTION AND INFORMED CONSENT

I am (insert your name here) from the Dyadic-Based Diagnosis, Care and Prevention study.

(Now get informed consent, using form (Appendix B) as a script.)

Thank you for talking with me today. We appreciate your time in helping us understand the experiences of people who interact with the Care and Treatment Center. The information you provide today will remain completely confidential and will be helpful to design future programs to identify and support people affected by HIV.

WARM UP [SOCIO-DEMOGRAPHICS]

First, may I ask some details about you?

Age: _____

Marital status: Single | Married | Separated | Widowed

Highest level of school completed: no school | less than primary | primary | secondary | tertiary

Employment: _____

INTERVIEW GUIDE

[self-testing] *Now, I would like to talk about how people learn whether or not they have HIV.*

1. Can you tell me about a time you were tested for HIV, starting with the reason why you decided to get tested? (*If you have never tested for HIV, tell me why you haven't.)*

Probes: Who is involved in your choice to get tested, or how to get tested? What conversations did you have with your partner prior to testing? Who else did you talk to about getting tested? How do you decide who to talk to about getting tested?

2. How did your partner feel about you getting tested? *([or if someone has never tested:] How would your partner feel about you getting tested?)*

3. How do you feel about testing with a partner?

Probes: Would you rather get tested with your partner – at the same time, in the same place, with the same counselor – or on your own, and why?

In Tanzania people learn their HIV status by going to the clinic, where a counselor or healthcare worker will counsel you, draw a small amount of blood, and run a test on your blood to see if you have HIV. Now, a new way to find out if you have HIV is being developed, called self-testing. A self-testing kit for HIV is designed for people to use by themselves in the comfort and privacy of their own homes at whatever time is convenient for them. An HIV self-testing kit contains a test stick, which you use to take a sample of saliva from your mouth, and a tube, which you insert the test stick into to run the test. The results will be ready 20 minutes later. No blood is needed. There are instructions included in the kit in Kiswahili and you can interpret the results yourself.

4. What do you think about this new way of testing for HIV?

5. Based on what I have told you, what else would you like to know about self-testing?

6. What do you like about this way to test? What do you not like about it?

7. What challenges do you foresee with this testing method?

8. How would you feel about self-testing with your partner?

9. What would help you to use this kit (i.e. more information, a guide, a helper, safeguards)?

Potential areas for further probing: Emotional? Social? Financial? Process? Time? Logistical?

10. If someone came to your house with these self-testing kits and left some with you or with your partner, what would you do?

Probes: Would you want to take these kits? Who – you or your partner – would bring up talking about using these kits? Would you use it? How long would it take for you to decide to use it? What would make you decide to use it or not? How about your partner?
If one of you used it, would you let your partner know that you did, and what your result was, or encourage them to use it too?

11. What worries (concerns, fears) do you have about having this kit in your home?

Probes: What would people think or do if they found this (unused) kit in your home – your family, your kids, your friends?

12. Self-testing involves testing at home without a counselor present, although you could follow-up with a counselor at a health center after the test. How do you feel about this?

[PrEP] *Now I would like change topics. Say you have already been tested for HIV, and you know that you are NOT infected with HIV. There is a medication called Truvada – also known as pre-*

exposure prophylaxis or PrEP – that prevents you from getting HIV if you take the pill once a day every day. Many studies have shown that it works if you take it regularly. Using PrEP would require you to pick up a monthly supply from the clinic and undergo HIV testing every 3 months.

1. What do you think about this drug?

2. What else would you want to know about PrEP? What questions do you have? Who would you ask to find out more?

3. What benefits do you see about this drug? What concerns do you have about this drug?

4. How would using PrEP affect your everyday life?

[communication]:

5. If this drug were available for free for you, would you consider using it? Why or why not?

6. Would you feel comfortable discussing PrEP with your partner? Why or why not?

Probes: How would your partner react? Would you keep it (using it, thinking about it) a secret?

[hypothetical use]:

7. Would you use PrEP at certain times and not others? What would prompt you to start/stop?

8. How would you remember to take your medicine every day? Who would help you? What strategies would you use?

9. What challenges might you have using PrEP?

10. How do you think using PrEP would change your behavior? – e.g. sexual frequency, condom use, partner communication, negotiation, disclosure, etc?

11. If you were living with HIV but your partner was HIV-negative, how would you feel about your partner using PrEP?

[early ART] *I have one more topic I would like to ask you about. As you probably know, treatment exists for HIV. It is called antiretroviral therapy or ART for short. Right now, this treatment is available only for HIV positive people whose CD4 count is below a certain threshold. However, studies have shown that getting on ART early can not only help people living with HIV stay healthy, but taking ART can also help prevent a person living with HIV from transmitting HIV to his/her sexual partners.*

(Group 1 ONLY; SKIP THIS SECTION otherwise)

1. How would you feel about using ART if you did not feel sick?

Probes: Would you use ART if you did feel sick? Why or why not? Pros, cons. What would encourage you to use ART?

[treatment as prevention; use provided TasP diagram]: *If you take ART every day, then the amount of HIV in you decreases and decreases. Getting and staying on ART may stop you from transmitting HIV to your partner(s).*

2. Knowing that being on treatment helps prevent transmitting HIV, how would you feel about using ART? Why or why not? Pros, cons.

3. 3. How do you think using ART might change behaviors – e.g. sexual frequency, condom use, partner communication, negotiation, disclosure, etc?

(Group 2 ONLY; SKIP THIS SECTION otherwise)

1. How would you feel about using ART if you did not feel sick?

Probes: Would you use ART if you did feel sick? Why or why not? Pros, cons. What would encourage you to use ART?

[treatment as prevention; use provided TasP diagram]: *If you take ART every day, then the amount of HIV in you decreases and decreases. Getting and staying on ART may stop you from transmitting HIV to your partner(s).*

2. Knowing that being on treatment helps prevent transmitting HIV, how would you feel about using ART? Why or why not? Pros, cons.

3. How do you think using ART might change behaviors – e.g. sexual frequency, condom use, partner communication, negotiation, disclosure, etc?

4. If you were given a choice, would you want to start using ART as soon as possible or would you want to wait until your CD4 count was low? What would encourage you to starting using ART early?

(Group 3 ONLY; SKIP THIS SECTION OTHERWISE)

1. Knowing you are HIV-negative and your partner has HIV, how would you feel about your sexual partner being on ART?

2. When would you want him/her to use ART (or start using ART)? (e.g. as early as possible, when feeling sick)

3. How would you encourage/support your partner to start and continue using ART?

4. Recall earlier we talked about a drug called PrEP that you, as someone who does not have HIV, can take to stop you from getting HIV. Would you take PrEP to protect yourself if your partner was on ART? What if s/he was not on ART? Why?

5. How do you think using ART might change behaviors – e.g. sexual frequency, condom use, partner communication, negotiation, disclosure, etc?

6. If both ART and PrEP were available for free at the CTC in Kisarawe, what would you and your partner decide to do (note: options include both taking the medication, only the HIV-positive partner taking ART, only the HIV-negative partner taking ART, or both partners doing nothing)? How would you talk about this, and how would you decide?

CLOSING

Is there anything else you think is important that we have not talked about?

Do you have any questions for me?

*If earlier during the interview participants had had informational questions about self-testing, PrEP, and early ART, NOW is the time to answer them. Use intervention info sheet for reference (Appendix L).

Thank you for taking the time to speak with me today. Here is 7500 in Tsh to compensate you for your time.