Addis Ababa University

School of Graduate Studies

Living in a serodiscordant Relationship: Knowledge, Challenges, and Coping Strategies among HIV Discordant Couples in Addis Ababa

By

Daniel Tadesse

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Approved by Board of Examiners

Name	Signature
Advisor	
Examiner	

List of Annexes

Acronyms

AIDS: Acquired Immune Deficiency Syndrome

ARD: Anti Retroviral Drug

ART: Antiretroviral Therapy

CSA: Central Statistical Authority

DHS: Demographic and Health Survey

GAMET: Global AIDS Monitoring and Evaluation Team

HAART: Highly Active Antiretroviral Therapy

HAPCO: HIV/IDS Prevention and Control Office

HIV: Human Immunodeficiency Virus

ICSI: Intra Cytoplasmic Sperm Injection

IUI: Intra Uterine Insemination

IVF: In Vitro Fertilization

MOH: Ministry Of Health

PLWHA: People Living with HIV/AIDS

SPM I: Ethiopian Strategic Plan for Intensifying Multi-Sectoral HIV/AIDS Response (2004 - 2008)

SPM II: The Strategic Plan for Intensifying Multisectoral HIV and AIDS response in Ethiopia II (2010-2014)

STD: Sexually Transmitted Disease

STI: Sexually Transmitted Infections

TB: Tuberculosis

VCT: Voluntary Counseling and Testing

UNAIDS: Joint United Nations Program on HIV/AIDS

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Abstract

Background: *HIV discordant couples, where the male and female have different HIV test results, are the largest at-risk group for transmission in sub-Saharan Africa. Research in 12 countries in eastern and southern Africa shows that prevalence of discordant couples is high, ranging between 36% and 85% (UNAIDS Report on the Global AIDS Epidemic: 2010).So far, most studies on discordant couples emphasized on the bio-medical aspect of the couples with only few of them concerned with how the couples managed the discordance. The present study shaded light on the psycho-social aspect of living in discordant relationship.*

Aims: *The major aim of this study was to explore the experiences of HIV discordant couples in a steady relationship.*

Methods: *A qualitative approach was utilized to achieve the objective of this study. Twenty two in-depth interviews were conducted with discordant couples and with an intention to elaborate in more detail the experiences of discordant couples; two oral history case studies were conducted. These two cases were selected from the in-depth interviews as they were found to be exemplary cases reflecting the communalities among discordant couples. Further, ten in-depth interviews were carried with key informants in order to assess health professionals' and counselors' explanation for HIV discordance and their experience with discordant couples. The samples were drawn using purposive sampling. The data were analyzed using the successive approximation approach.*

Findings: *The study revealed that there were widespread misconceptions about HIV discordance among both HIV discordant couples and key informants (health care providers and counselors). These misconceptions in turn made HIV discordant couples to engage in risky sexual behaviors. HIV discordant couples experienced varieties of psycho-social problems such as fear of infecting and being infected, blame, neglect, guilt, and uncertainty. The couples also faced challenges regarding their sexual life like exhaustion with condom use, reduction in sexual desire and pleasure, reduction in frequency of sex and alteration in reproductive plan. Safer sex, coitus interrupts, non-penetrative sex, abstinence, communication, disclosure, silence, secrecy, cooperation, and religion were found to be the coping strategies of the couples. Finally, it was found that for some couples the presence of HIV did not bring any change in their relationship.*

Conclusion: *Commonly, it might be assumed that at least the negative partner in HIV discordant relationship makes every effort to avoid infection. But, the findings of the present study confirmed that this is a mere speculation that significant number of informants failed to employ any preventive strategies and if any some of them were found to be ineffective like, coitus interrupts. Several factors which operate at different levels may contribute to such risk taking behavior indicating the utility of an integrated model to understand individuals' health behavior. The extensive misconceptions about HIV discordance and ineffective coping strategies utilized by the informants suggest the need for micro, mezzo, and macro level interventions.*

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

UNAIDS estimates that there were 33.3 million [31.4 million–35.3 million] people in the world living with HIV at the end of 2009. Sub-Saharan Africa still bears an inordinate share of the global HIV burden. In 2009, the number of people living with HIV in Sub-Saharan Africa reached 22.5 million [20.9 million–24.2 million], 68% of the global total. Ethiopia is one of the top five nations which were regarded as having the biggest prevalence; the other four being Nigeria, South Africa, Zambia, and Zimbabwe (UNAIDS Report on the Global AIDS Epidemic: 2010). The Strategic Plan for Intensifying Multisectoral HIV and AIDS Response in Ethiopia II (SPM II) 2010 – 2014 reported that since the detection of the first two reported AIDS cases in 1986 in Ethiopia, the epidemic has rapidly spread throughout the country. According to the single point estimate, the national adult HIV prevalence is 2.3% in 2009 with an estimated 1,116,216 people living with HIV in the country (SPM II, 2010).

Currently, no vaccine to prevent HIV exists and it is unlikely that one will be developed during the next few years. Accordingly, a series of other preventive measures embracing a combination of biological and behavioral approaches have been and are being explored, with some demonstrable positive results (Cohen, M., Gay, C., Kashuba, A., Blower, S., & Paxton, L., 2007).

The behavioral approach mainly focused on preventing new infections and demands the identification of groups which are at high risk so that priority will be rendered to them in intervention programs. Delor and Hubert (2000) stated that identifying and describing the situation of vulnerable group provides the base to tackle the problem. It is thus, imperative to see the historical changes observed in identifying groups deemed vulnerable to HIV since the first appearance of HIV. By doing so, one can understand the groups that were given priority and those neglected in the prevention and treatment programs and research activities.

The groups that were identified as vulnerable to HIV have shown considerable change throughout the history of the pandemic. Delor and Hubert (2000) discussed three stages in the evolution of people classified as vulnerable to HIV. According to them the first stage was that of the early 1980s in which HIV was deemed as being the result of group characteristics (gays, Haitians, etc). Tacit to this assumption was that the general population would be protected at the cost of these specific groups by excluding them. The second stage emerged with the scientific identification of the disease as caused by viral agent called HIV. This led to a shift from viewing HIV as a group behavior to that of individual behavior (like anal penetration). At this stage the individual was assumed as a rational actor who can avoid individual behaviors that brings risk of infection with no attention to factors beyond individual control like societal influence.

The third stage is the recent one in which the vulnerability to HIV is viewed as being the result of factors that operate at several levels that is macro (cultural norms), mezzo (membership to IV drug users group), and micro (perception of future). Such a view acknowledges the importance of individual behavior, group membership and cultural values as contributing factors to

vulnerability. Intervention programs during this period emphasized on tackling those predisposing factors at various level (Delor & Hubert, 2000).

In this third stage the intervention programs largely focused on HIV negative individuals. As Rispel, Metcalf, Moody, and Cloete (2009) noted "globally, HIV prevention and treatment programs tend to focus on individuals, with the majority of HIV prevention programs directed at HIV-negative individuals." Until recently one can rarely find programs directed toward serodiscordant couples. Serodiscordant couples are married or cohabiting couples in which one partner is HIV positive and the other is HIV negative. Researches and intervention programs were lacking in this area partly because they were not recognized as vulnerable groups so far. Furthermore, laden in the principle of "Be Faithful", as Bishop & Foreit (2010) posited is the "messages that promote fidelity (loyalty) within marriage as a way to reduce risk of HIV transmission and assume that couples know their status and that both are HIV negative." Since, it has been believed that people in a marriage or cohabitation are at lower risk of being infected that there were few prevention programs in the area.

A position paper by the United Nations agency for AIDS (UNAIDS 2005), mentions the following groups as being "key populations" to whom prevention programs should be targeted: women and girls, youth, men who have sex with men, injecting and other drug users, sex workers, people living in poverty, prisoners, migrant laborers, people in conflict and post-conflict situations, and refugees and internally displaced persons. This is a very broad list, but it omits HIV-negative cohabiting partners of HIV-positive individuals (De Walque, 2007). This omission may stem from misperceptions about the extent of serodiscordancy and failure to understand that it is possible to prevent transmission within a stable union once one partner has become infected.

Recently, however, in response to growing evidence that married or cohabitating serodiscordant couples are an important source of new HIV infections in sub-Saharan Africa, programs are being urged to target prevention efforts to married or cohabitating serodiscordant couples (Bishop & Foreit: 2010). With an intention to shade light on the psycho-social aspect of serodiscordant couples in Ethiopia and particularly in Addis Ababa, this paper, using qualitative approach has investigated the experiences of serodiscordant couples to understand their own and key informants' (health care providers' and counselors') explanation for discordance, challenges brought by the different test result and coping strategies.

1.2. Statement of the Problem

Prevalence of HIV-discordance among couples in sub-Saharan Africa is high. Bishop and Foreit (2010) cited the works of Chomba et al. (2008) which state that in Lusaka, Zambia, "an estimated two thirds of new infections occur in cohabiting couples." Allen et al. (2007), write that HIV transmission in sub-Saharan Africa occurs "predominantly between cohabiting partners." Although there is considerable variation across countries, recent study in African countries conducted by De Walque (2007) indicated that at least two-thirds of the infected couples in five countries (Kenya, Tanzania, Burkina Faso, Ghana, and Cameroon) are discordant. Such figures clearly indicate that negative partners are at high risk of HIV infection resulting in an increase in the overall prevalence of the disease in the general population. Furthermore, the figures imply that couples are no less vulnerable to HIV than other groups identified as vulnerable.

The situation is grimmer in Ethiopia as compared to other African countries. According to the 2005 Ethiopian demographic and health survey 85 percent of infected couples were discordant. In fact, this figure is estimated based on a very small sample and it might be somewhat exaggerated. A report by Ethiopian HIV/AIDS Prevention & Control Office (HAPCO) and Global AIDS Monitoring & Evaluation Team (GAMET) (2008) regarded discordant couples as *a high-risk group not being served yet.*

It is recently that HIV discordant couples were identified as vulnerable groups and made part of the concern of prevention programs. Programs in developing countries aimed at reducing transmission of HIV in discordant couples are too new. The effort to reduce the transmission of HIV in discordant couples requires the understanding of their living condition. To date, most studies on serodiscordant couples were dominated by biomedical sciences which are concerned with the biological aspects of preventing the transmission of the virus to uninfected spouse and in developing techniques of assisted reproduction (Rispel et al. 2009). According to Rispel et al. (2009) what is scanty about serodiscordant couples is research on the psycho-social aspect of living in HIV discordant union.

As to the knowledge of the researcher there were no published studies conducted in Ethiopia with the intension of examining the psycho-social dimension of living in discordant relationship. Hence, the present study has attempted to study the experiences of serodiscordant couples with the aim of bridging the gap observed regarding knowledge about the management of HIV among discordant couples. The study was specifically targeted to explore explanations for discordance, challenges of living with discordance, and coping strategies.

1.3. Conceptual Framework: Social Ecological Model (SEM)

The present study used as its theoretical underpinning the Social Ecological Model (SEM). The field of social ecology which emerged during the mid 1960s and 1970s gives greater attention to the social, institutional, and cultural contexts of people-environment relations than did earlier versions of human ecology, which focused primarily biologic processes and the geographic environment (Stokols, 1996). The model acknowledges the interaction of individual, interpersonal, organizational, community, and social structural factors in determining individuals' health behavior.

Individual

The SEM can be represented by an onion, with one level wrapping around another. At the center of the model is the individual. At this level, we consider the internal determinants of behavior, such as knowledge, attitudes, beliefs, and skills. This is the foundational level, but the model recognizes that many external forces influence these individual determinants (Setswe, 2009). At this level the present study has attempted to assess the beliefs and knowledge of participants about HIV discordance. As these variables are influenced by factors beyond the individual according to ecological model, the study has also tried to investigate these external forces.

Interpersonal

The next level of SEM considers the first of these external forces, interpersonal processes. We all can appreciate how the influence of people close to us affects our behavior. In this level, we consider primary groups of social interaction such as family and friends. This is the level where social norms operate, although they are generated at the institutional and community levels. These primary interactions represent the associations that provide social identity and role definition. In many interpersonal relationships there are some individuals in social roles, which are seen as key decision makers (Greene, Frey, & Derlega. 2002). For example, at this level one

can explore partners and significant others role in shaping how discordant couples manage their relationship.

Institutional/Organizational

Institutions and organizations are composed of assemblies of primary interpersonal associations. Workplace, church, or volunteer organizations are examples of this level. There often are small groups or cliques that develop, however, all operate under a common set of rules and policies that guide behavior. The **institutional/organization** level of SEM considers these rules and policies. Interventions at this level can have tremendous influence over individuals. Workplace interventions, faith-based programs, and school-based programs are examples of programming at this level. While this level certainly includes policy, this is different from the social structure, public policy level of the model (Greene et al. 2002). Based on SEM one can consider, for instance, the role religious organizations, self help groups, and health facilities play in the management of HIV discordance.

Community

The next level of SEM to consider is the **community**. This level includes all those individuals, businesses, institutions and organizations, which collectively comprise the larger societal fabric. These larger social constructs can be defined in many ways, such as by geographic location, membership in a particular group, or possession of certain beliefs that produce affiliations. For instance, there can be a community defined by a neighborhood. It is at this level that many social norms and standards are generated (Greene et al. 2002).

Social Structure/Public Policy

Finally, the outermost level of SEM is the **social structure/ public policy** level. Public policy is defined as an authoritative decision made by a local, state, or federal governing body.

Environmental change would be included in this level, as it is often achieved through policy decisions. Environmental change often involves a tangible change in a community or organization, whereas, social structural changes involve more normative or conceptual changes. This is the broadest level of the model and can influence all the other levels (Setswe, 2009). It is possible to investigate at this level for instance, how public policies regarding HIV/AIDS in general influence discordant couples. Identifying the negative partners in discordant relationship as a high risk group and targeting interventions towards them might be one factor that influences HIV discordant couples' preventive measures. See the following figure for a diagrammatic representation of the SEM.

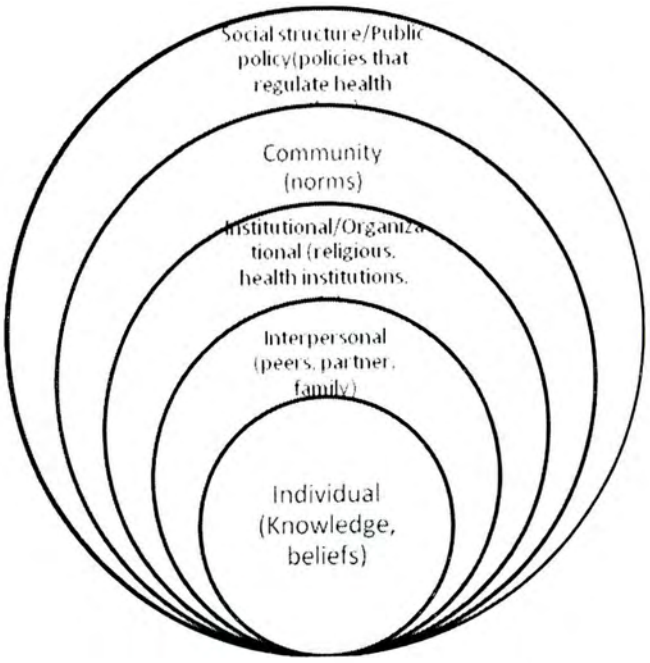

Figure: 1 Social Ecological Model for analyzing HIV discordant couples' experience

1.4. Research Questions

The study has attempted to answer the following questions:

- How do discordant couples and key informants (health care providers) explain HIV discordance?
- What are the challenges of living in HIV discordant relationship?
- What are the coping strategies of HIV discordant couples?

1.5. Methods and Methodology

In order to answer the above stated research questions the present study utilized the following research methods.

1.5.1. Research Methods

A *qualitative approach* was utilized in this study. As discussed by Bryman (2004) "the epistemological position in qualitative research is the stress on the understanding of the social world through an examination of the interpretation of the world by its participants (P. 266)." Since qualitative strategy allows us to understand the meanings actors attach to their actions and experiences, it is the most appropriate approach in investigating the life experiences of discordant couples. As the study has aimed to explore what HIV discordant couples have been through after the knowledge of the different test result, the participants were asked to narrate these experiences.

The study combined the methods of *in-depth interview, key informant interview and case study of a person.* The participants were interviewed to gain an in-depth understanding of their life. This method can give a greater insight and more in-depth understanding of the topic researched.

So that in order to investigate the explanations, challenges, and coping strategies of HIV discordant couples the in-depth interview method was utilized.

The in-depth interview method was backed-up by key informant interview to increase the credibility of the information. A key informant interview was conducted with counselors and health care providers. These key informants were interviewed for dual purposes. First, to investigate their explanation (knowledge) for HIV discordance as this can have a direct or indirect impact on the couples' explanation. Second, to learn from their experiences as the couples are more likely to share their experiences and challenges of living in discordant union to these professionals than any others. Hence, the data collected through an in-depth interview with HIV discordant couples was triangulated with that of key informant interview.

Further, case study was conducted to enhance the descriptive capacity of the information gathered through the above two methods. Bryman (2004) stated that "case study of a person is characterized as using the life history or biographical approach (p. 49)." It is important to outline here two interrelated but different approaches used in case study of a person. The first is a *life history interview* which invites the subject to look back in detail across his or her entire life course. The second and the one used in this study is an *oral history interview*. This technique is usually somewhat more specific in tone in that the subject is asked to reflect upon specific events or periods in the past. The emphasis is less upon the individual and his/her life than on the particular events in the past (Bryman, 2004). It is futile to use the life history interview approach since this study is not specifically interested with the whole life history of individuals. Rather, the study was aimed at studying specifically the life condition of HIV discordant couples since

they began to live in a serodiscordant relationship than their life history from birth to present. Therefore, employing the oral history approach was found to be the appropriate one.

1.5.2. Study setting

This study was conducted in Addis Ababa, the capital city of Ethiopia. According to SPM II 2010-2014 report in the year 2009, Addis Ababa leads every other region in the country with an adult HIV prevalence rate of 8.5%, followed by Dire Dawa (4.6), Harari (3.5), and Tigray region (2.9). Though, it was originally proposed to draw samples from the five government hospitals which are under the administration of Addis Ababa city Health Bureau, the informants were drawn from three of them (Zewditu memorial hospital, Ras Desta Damtew memorial hospital, and Yekatit 12 hospital), one private hospital, and one national PLWHA association (Mekdim Ethiopia). As the two government hospitals namely; Mahathama Ghandi memorial hospital and Menelik II Hospital have fewer HIV patients, the researcher was not able to find informants in a short period of time in these hospitals.

When it became difficult to access sufficient number of informants within short period of time in the hospitals, the researcher turned to PLWHA associations in search of more informants. The only association which has initiated intervention program on discordant couples was Mekdim Ethiopia. Mekdim Ethiopia is one of the earliest PLWHA associations in Ethiopia. It was founded in 1993 in Addis Ababa. Currently, it has branches in Adama, Bahr Dar, Dessie, Jimma, and Shashemene. This association has been organizing a monthly meeting and counseling program for 33 HIV discordant couples since 2002. However, according to workers in the association this program was interrupted by the end of last year as a result of budget constraint.

Finally, the researcher visited one of the private hospitals in Addis Ababa based on the request from a doctor who was informed of this study. This doctor provided two informants.

1.5.3. Participants

The participants[1] of this study were informants from HIV discordant relationship and key informants from health care providers and counselors. Thirty two in-depth interviews were conducted overall. Twenty two of the in-depth interviews were with informants from HIV discordant couples and the rest with key informants. Fourteen of the twenty two informants were selected from the three government hospitals. Eight of them were from Zewditu memorial hospital; four of them from Ras Desta Damtew memorial hospital and two of them from Yekatit 12 hospital. Two informants were recruited from the private hospital (Zembaba General Hospital).

As mentioned earlier, informants were not only drawn from the health facilities but also from one national PLWHA association. Though the monthly meeting was interrupted, the address of HIV discordant couples who were members of the association was available in the association's information desk office. The association gave its kind cooperation by giving a call to couples who fulfilled eligibility criteria. Those who indicated their willingness to participate were asked the place they would like the interview to be carried out. All of them revealed that they would like it to be at the association's office.

Eight key informants were drawn based on the selection criteria from the three government hospitals and the remaining two were from the private hospital.

[1] The term participants refers to both informants and key informants in this paper.

1.5.6. Methods of Data Analysis

The data analysis technique specifically used in this study was the *successive approximation* technique. Successive approximation involves repeated iterations or cycling through steps, moving toward a final analysis. Over time, or after several iterations, a researcher moves from vague ideas and concrete details in the data toward a comprehensive analysis with generalizations (Neauman, 2007: 337). Successive approximation entails the need for the common three step coding. Even though, these coding are common to other qualitative data analysis, they form the backbone of successive approximation technique of qualitative data analysis. Hence, the data analysis passed through three steps of coding namely; open coding, axial coding, and selective coding.

The interview transcripts were repeatedly and thoroughly read so as to gain the major ideas of the informants soon after the first interview was carried out. It was found imperative to code the major themes as a first attempt to condense a mass of data in order to change it into a manageable form. This task began early as the first interview was conducted and transcribed. This first pass to data analysis is called *open coding*. During the open coding stage according to Neauman L. (2007) the researcher locates themes and assigns initial codes or labels. The labels or the codes at this point were not the final one. Rather, the researcher is open to creating new themes and to changing these initial codes in subsequent analysis. In the present study the initial labels or codes came from the previously set research questions. A memo or note was written on each code as it helped in elaborating what the code refers to in later analysis.

The second stage in the data analysis has been the so called *axial coding*. At the open coding stage the emphasis has been on the interview transcripts. Where as the axial coding was made by

reviewing the previous codes so as to see the relationship between concepts and labels. Some labels were split, others were merged together and some others emerged. Sub dimensions, sequences, and relationships between concepts emerged at this stage.

The final stage involved selecting appropriate cases for each code label from the interview transcripts. Selective coding involved scanning data and previous codes. The researcher looked selectively for cases that illustrate themes and made comparisons and contrasts after most or all data collection was completed.

1.5.7. Ethical considerations

An ethical clearance[2] was received from Addis Ababa Health Bureau ethical clearance committee. The Addis Ababa Health Bureau provided an approval to conduct the study in five public hospitals found in Addis Ababa which are under its administration. After a thorough investigation of the research proposal the Ethical Clearance Committee provided permission letters which were written to the five hospitals. The medical directors of each hospital directed the letters to their own respective ART case team leaders. The purpose of the study and the plan how to meet the informants was explained to each team leaders of the ART case team. The team leaders were informed the criteria of recruiting the informants. Furthermore, the researcher requested the cooperation of the ART case team members working at OPD in supplying participants based on the eligibility criteria. The participants were not supposed to tell their interest to participate or not to participate to the professional who recruited them. This was done to avoid informants' fear that if professionals were aware of their decision not to participate, it will jeopardize their relationship with the professionals. This fear might make them feel obliged

[2] See the annex to find the ethical clearance letter received from Addis Ababa health bureau and the consent forms

to participate on the study. The professionals who recruited the participants were just supposed to inform the clients to meet the researcher. It is the researcher then who asked their consent.

As stated earlier samples were not only drawn from the health facilities but, also from one national PLWHA association. Informants from both settings (Hospitals and the association) were informed about the purpose of the study and they provided their written consent indicating their participation is based on their own will. They were not also supposed to disclose their name and they were assured the confidentiality of the information they provided. As the translation and the transcription of the interview were carried out by the researcher no other party has got access to the informants' personal details.

Similarly, the professional participants were primarily informed the purpose of the study orally. Then they were given a written consent form to confirm that their participation was based on their personal interest.

1.5.8. Limitations of the study

As this study is based on a conceptual framework that gives more emphasis for sociological (external) factors, it should be noted that the study did not cover all aspects of the couples' experiences. Further, as student of sociology the researcher may have rendered special attention to sociological phenomena while giving less concern to psychological and other variables which are parts of the couples experience.

Since the present study is a qualitative investigation based on small sample of informants, readers should be cautious not to generalize its findings.

CHAPTER TWO

LITERATURE REVIEW

2.1. Why Some Individuals with Repeated Exposure to HIV Remain Uninfected?

People recurrently ask why some individuals with repeated exposure to HIV remain uninfected. There is no a clear cut answer to this question. Rather the reason for not being infected may differ from situation to situation. Furthermore, answering this question can also help to understand why there is large number of serodiscordant couples.

Many research studies have looked at the positive partner while others have tried to uncover reasons for one partner remaining negative in the face of recurrent exposure from the HIV positive partner. These studies have come up with various possible reasons like resistance to infection due to "major histocompatibility complexes", cellular immunity and viral characteristics that are responsible for non-transmission of the HIV. Factors that have been found to increase risk of transmission to partners include anal intercourse, genital ulceration, advanced AIDS, elevated viral loads and repeated exposure. However, the unknown factor that protects some people still remains a mystery (Alexander, Churchura, Simpson, & Andiman, 2006; Louisinrotchanakul, et al. 2001). It is known that the HIV uses receptors to enter CD4 cells. Some individuals have been shown to lack cellular co-receptors and this seems to be a mechanism whereby they resist HIV infection (Pastori, Weiser, Barassi, Uberti-foppa, Ghezzi, Longhi, Calori, Burger, Poli, Lazzarin, & Lopalco, 2006).

Bienzle, MacDonald, Smaill, Kovacs, Baqi, Courssaris, Luscher, Walmsley, & Rosenthal (2000) looked at possible reason for persistent non-transmission of HIV and concluded that it was a combination of factors including cellular immunity, viral characteristics and co-receptor integrity. What is known is that there are different receptors and co-receptors that are used by the HIV to enter cells before it integrates into the host cells nuclear material. The co-receptors that are thought to play a role in viral entry are CCR5 and CXCR4, which are both found on CD4 T cells. These co-receptors are used by the HIV to enter cells. Some individuals have been found to have an inherited mutation called Delta 32 CCR5. This mutation changes the co-receptor so that this co-receptor can no longer be used by the HIV to enter cells, and it thus seems to offer the person protection from infection (Agrawal, Lu, Qingwen, Vanhorn-Ali, Nicolescu, Mc Dermott, Murphy, & Alkhatib, 2004).

Delta 32 CCR5 mutation is associated with HIV resistance (Bernard, Yannakis, Lee, & Tsoukas, 1999). This study also looked at the cytotoxic T Lymphocyte activity in seronegative partners from HIV discordant couples and found that they had an increased Cytotoxic T lymphocyte activity compared to their positive partners and this may be due to HI Virus exposure that activates and increases this cytotoxic T Lymphocyte activity which in turn protects from HIV infection and thus seroconversion.

What has been discovered so far is that protection from HIV infection is either due to acquired host immunity or inherited genetic mutations. This acquired host immunity may be activated by HIV infection that then results in immunity preventing the HIV from establishing itself in the

body. The inherited genetic mutation results in dysfunctional co-receptors, which then prevents the HIV from entering the cells (Ateka, 2006)

There are also other co-receptors that are currently being evaluated. Whether cellular immunity or the inherited genetic mutation is more protective is currently unknown. Some studies have suggested that acquired cellular immunity was more important (Goh, Makee, Akridge, Meldorf, Musey, Karchmer, Krone, Collier, Corey, Emerman, & McElrath, 1999). The acquired cellular immunity is extremely important as it is hoped that it will assist us in creating a vaccine. If a vaccine can be developed to stimulate a person's immunity, this will help the person fight of any HIV that is trying to enter his/her cells. Current research is trying to determine why some people mount a favorable response to the invading virus and how this happens. If we can answer these questions, it will provide us with a vaccine that can potentially save millions of lives by stimulating an immune response in recipients.

2.2. Explanations for large proportion of discordant couples in Sub-Saharan Africa

One hypothesis why at least two-thirds of the infected couples are discordant might be that once one of the partners is infected, the couple uses effective strategies to prevent the infection of the HIV-negative partner. If this were the case, there would be no need to target specific prevention efforts toward HIV-negative partners of HIV-positive individuals. But unfortunately, self-reported behaviors recorded in the study conducted by Walque (2007) cast serious doubts on this optimistic hypothesis. Among the five countries in which Walque (2007) studied, at least 88.9 percent of all cohabiting couples (in Burkina Faso) agree that they did not use a condom at their last sexual intercourse. This suggests that preventive behavior among couples is not widespread. In the same study it is mentioned that in at least 71.5 percent of couples (in Cameroon), neither

of the partners had a voluntary HIV test before the survey. If most of the couples are not aware of their respective HIV status, it is unlikely that the large proportion of discordant couples is attributable to an effective prevention effort by the couple.

A more likely explanation for the large fraction of discordant couples is that once the first partner is infected, the other partner is not automatically infected rapidly. As cited in Walque (2007), Quinn et al. (2000) estimate, in the Rakai study in Uganda, that the HIV incidence rate among 415 initially HIV-negative partners of HIV-positive individuals was 11.8 per 100 person years. At that rate, it takes several years for a discordant couple to become concordant positive. Using data from the same study, Gray et al. (2001) estimate that the average probability of HIV transmission per coital act is 0.0011. This low transmission probability implies that it takes several years for a discordant couple to become concordant positive. For example, a partner infected prior to marriage to an uninfected spouse may die before the spouse becomes infected. This epidemiological factor is likely to be the main explanation for the large proportion of discordant couples (Walque, 2007).

2.3. Risk of sexual transmission of HIV

Semen contains the male reproductive cell, the spermatozoa, and other cells including macrophages, lymphocytes, and neutrophils suspended in a fluid, the seminal plasma. HIV has been found to be present in the nonspermatozoa cells and as free virus in the seminal plasma (Quayle, Xu, Mayer, & Anderson, (1997). The spermatozoa can also be infected with HIV but whether the virus remains alive in these cells and therefore contributes to sexual transmission has still to be clarified (Baccetti, Benedetto, & Burrini, 1994; Bagasra, Farzadegan, Seshamma, Oakes, Saah, & Pomerantz, 1994; Nuovo, Becker, & Simir, 1994). As the spermatozoa

contribute only around 10% of the total volume of semen, even if these cells contain active HIV they contribute only a small part to the overall 'risk' of sexual transmission by semen.

It has been estimated that the female partner of an HIV positive man has a 0.1 to 0.2% risk of becoming infected with HIV as a consequence of a single act of unprotected intercourse (Mastro & De Vincenzi, 1996). In a further study, the risk of HIV transmission through sexual intercourse from an HIV-positive male to an HIV-negative female was estimated as being around 1 in 10 for less than 10 unprotected contacts and around 1in 4 after 2000 contacts (Downs & De Vincenzi, 1996). Although, as would be expected, this study reports a higher risk of HIV transmission the higher the number of unprotected contacts, the actual risk of infection in individual couples was quite variable. Risk variability can be explained by a number of factors such as the total number of HIV viral particles in the blood of the infected male, the presence of co-existing sexual infection in either partner, and individual susceptibility to HIV infection. In a study of 198 female sexual partners of HIV infected hemophilic German men carried out in the mid-1980s prior to the introduction of widespread safe sexual practice, a 10% transmission rate of HIV was reported (Rockstroh, Ewig, Bauer, Luchters, Oldenburg, Bailly, Kaiser, Scheweis, Brackmann, Dengler, & Sauerbruch, 1995).

Three studies report on the risk of HIV acquisition in couples attempting conception by unprotected intercourse at ovulation (the release of an egg from the female ovary) with protected intercourse using condoms at other times. In a prospective observational study of 92 HIV discordant couples (males HIV positive), 4 females seroconverted, 2 in the third trimester of pregnancy and 2 in the period following delivery (Mandelbrot, Heard, Henrion-Geant, &

Henrion, 1997). It has been suggested that in this study advice concerning safe sexual practice was disregarded in some couples once the female had become pregnant.

The other two studies assessed the risk of HIV transmission from HIV-positive haemophilic men to their female partners. In both these studies the couples were counseled and advised to have sexual intercourse only around the time of ovulation as indicated by the use of an ovulation detection urine testing kit. In the first report from Cardiff, U.K., 26 children were born to 18 discordant couples over a 15-year period and none of the female partners contracted HIV (Ramsahoye, Collins, Davies, Walker, Dasani, 1998). In the other study from the Royal Free Hospital, London, U.K., out of 14 couples with a total of 19 children between them, 1 female partner was found to be HIV positive (Yee, Goldman, Devereux, Sabin, & Lee 1999). None of the children became infected. It would therefore appear that unprotected sex for the purposes of conception in couples with the HIV-infected man not taking HAART carries a risk of HIV transmission to the female of not more than 8%.

2.3.1. Does Antiretroviral Therapy decrease Sexual Transmission?

Even though evidence suggests that highly active antiretroviral therapy (HAART) reduces HIV transmission, HIV is still present in blood plasma and the genital tract of men and women living with HIV (Cohen, Gay, Kashuba, Blower, & Paxton, 2007; Lalani & Hicks. 2008).

Reviews of observational studies reported reduced sexual transmission in discordant couples when the person with HIV was taking HAART (Highly Active Antiretroviral Therapy). In a Spanish study by Castilla, Del Romero, Hernando, Marincovich, García, and Rodríguez (2005), 49% of discordant heterosexual couples were being treated with HAART between 1999 and

2003 (N = 393) (14). The seroconversion rate of partners of people living with HIV not on HAART was 9%, compared to 0% in couples taking HAART (p = 0.01), and this was maintained after adjusting for unprotected coital acts. In another study of 93 discordant heterosexual couples, six seroconversions occurred, all when the person with HIV was not taking HAART (Melo, Varella, Lira, Nielsen, Turella, & Santos, 2006).

A study of 62 discordant pregnant couples reported one case of vertical transmission (transmission of mother to unborn child) and no cases of horizontal transmission (transmission from infected individual to an uninfected individual) when the person with HIV was on HAART (Barreiro, Romero, Leal, Hernando, Asencio, & de Mendoza, 2006). In a Ugandan prospective study of people living with HIV initiating HAART, analysis of a subset of 49 HIV-positive participants, who were sexually active with their cohabitating HIV-negative partners, showed that HAART in conjunction with prevention counseling and partner voluntary counseling (VCT) and testing reduced HIV transmission risk. When VCT was conducted after one year on HAART, only one HIV-negative spouse of an HIV positive index participant had seroconverted (Bunnell, Ekwaru, Solberg, Wamai, Bikaako-Kajura, & Were, 2006). However, caution should be exercised when interpreting this finding, as this subset of 49 study subjects represented only 5% of the initial cohort (N = 926).

2.4. The Issue of Gender in Serodiscordance

The common perception is that unfaithful males are the "bridging" population between high-risk groups and the general population (Walque, 2007). In HIV discordant heterosexual couples in Africa, men are generally regarded as the source of HIV in the relationship, and are commonly

referred to as an *index case* (in serodiscordant couples the index case is the person infected and the partner is not).

The expectation that men rather than women are the index cases has been widely promoted by evidence of low condom use by men, a greater burden of sexually transmitted infections, male dominance in sex-related negotiations, greater number of sexual partners (including polygamous marriages), more frequent alcohol misuse, and greater likelihood of transactional (when a client exchanges money or gifts for sex) or intergenerational sex. Much of the social marketing aimed at reduction of concurrency has therefore been informed by a perspective of addressing male domination and women's empowerment (Eyawo, Walque, Ford, Gakii, Lester, & Mill, 2010). However, a more recent study by Eyawo and his colleagues indicate that such a presumption is far from reality.

After analyzing studies conducted in different African countries Eyawo et al. (2010) concluded that women and men are equally likely to be an index partner in an HIV discordant couple. The proportion of HIV-positive women (F+/M-) in stable heterosexual serodiscordant relationships was 47% (95% CI 43–52) in sub-Saharan Africa. These results have important implications for prevention strategies. Although most social marketing aimed at reducing extramarital relationships is targeted at men, efforts should also take into account the role of women. Similarly, both men and women in relationships should be informed about the need for condom use when HIV status is unknown. Finally, although the man's role in infecting the female partner has been the dominant focus in prevention strategies, the emphasis should be revised in the context of stable couples, since uninfected men and women seem to have an equal chance of having a stable partner who has HIV. The researchers also mentioned that the findings might seem counterintuitive to the large amount of evidence showing male sexual behaviors and risk

taking. However, they believe that this evidence partly reflects a research bias, because substantially fewer studies have examined sexual risk taking in women in stable relationships. This study will stimulate a more gender-balanced approach in the orientation of behavioral research and prevention interventions. The following table shows the proportion of male and female discordants and concordant couples in some African countries (Walque, 2007).

Table 2.1. **Findings from demographic and health surveys by country and year**

Country	Sample couples	Concordant Negative (%)	Concordant positive (%)	Discordant M+/F-(%)	Discordant F+/M-(%)
BurkinaFaso,2003	2157	96 · 90	0 · 45	1 · 69	0 · 93
Cameroon,2004	2105	92 · 57	2 · 35	2 · 42	2 · 65
Ethiopia,2005	2480	97 · 97	0 · 28	0 · 76	0 · 97
Ghana, 2003	1825	95 · 84	0 · 91	1 · 67	1 · 56
Guinea, 2005	1851	98 · 09	0 · 35	0 · 92	0 · 62
COted'Ivoire,2005	1250	93 · 26	1 · 21	2 · 07	3 · 44
Kenya, 2003	1086	89 · 06	3 · 64	2 · 84	4 · 44
Lesotho, 2004	652	66 · 90	19 · 53	8 · 96	4 · 62
Malawi, 2004	1297	83 · 17	7 · 07	5 · 63	4 · 11
Niger, 2006	2035	98 · 87	0 · 17	0 · 57	0 · 37
Rwanda, 2005	2140	96 · 12	1 · 69	1 · 38	0 · 79
Senegal, 2005	1197	98 · 72	0 · 45	0 · 44	0 · 37
Tanzania,200304	2214	89 · 52	2 · 59	4 · 39	3 · 48
Zimbabwe,2005-06	1847	72 · 51	14 · 59	7 · 62	5 · 25

Source: Eyawo et al, (2010)

As the above table summarizes the proportion of positive males and females in discordant relationship is almost equal in sub-Saharan Africa. In Ethiopia women positive discordant couples (F+/M-) constitute more than half of discordant couples (56%).

There are different explanations for such high contribution of positive women in a discordant relationship. Though there is some disagreement among scholars in the field, there are commonly mentioned reasons. Women are biologically more prone to infection than men, per sexual act. Higher prevalence of other STIs among women can make them more vulnerable to HIV infection. Male-to-female HIV transmission rate is greater than female-to-male rate. Female-to-male transmission risk may be lower among couples where the male partner is circumcised. Women whose spouses are more mobile or live away are more likely to engage in extramarital sex. Women in polygynous unions are more likely to engage in extramarital sex. Discordant couples with female partners infected (F+/M-) are more likely take preventive action (use condom) than M+/F- couples. Discordant couples where the male partner is infected are less likely to be included in the surveys, either due to higher rates of absence or refusal by such males (Mishra, 2007).

2.5. The need for children among HIV discordant couples

People infected with human immunodeficiency virus (HIV) are living longer and experiencing improved health. Substantial advancements in treatment mean that from the time of diagnosis, an adult infected with HIV who has access to treatment, can expect to live for at least 20 years. The prospect of better health and increased life expectancy means that the idea of becoming a parent is not out of the question and some people with HIV want children (Spriggs & Charles, 2003).

Various studies have tried to assess factors which are correlated with the desire for children among discordant couples. A study conducted in Uganda reported five reasons behind the desire for children among HIV discordant couples. These are: ensuring linage and posterity, concurrent relationships for childbearing, pressure from relatives to reproduce, securing the relationship through children, and availability of antiretroviral therapy (Beyeza-Kashesya, Kaharuzal, Mirembe1, Neema, Ekstrom, & Kulane, 2009).

Many heterosexual couples are interested in having families, but for those couples who are serodiscordant (one partner is HIV+ and the other is HIV–), there are specific challenges to be faced. The same study in Uganda summarized the challenges faced by discordant couples who are in search of children as: the fear of transmitting HIV infection to partner and child, the negative (more often the females) partner's lack of negotiating power for safer sex, failure of health systems to offer safe methods of reproduction, and whether to search for alternative sero concordant partners, or concurrent partnerships (Beyeza-Kashesya et al., 2009).

Despite the availability of alternative insemination technologies, HIV discordant couples in developing countries fulfill their desire for a child by boldly engaging in unsafe sex. This can be attributed to the accessibility of alternative insemination, the high cost of these technologies (Beyeza-Kashesya et al., 2009), and the ethical dilemmas that may arise as a result of using them (Spriggs and Charles, 2003). The other option for discordant couples in high need of children is adoption. Although, there are some conceivable challenges in using it, this option seems better as compared to assisted reproductive technologies.

2.5.1. Reproductive options for serodiscordant couples

HIV discordant couples in a steady relationship may have a desire to have children. Fulfilling this desire is not as easy as other couples in that discordant couples should avoid the risk of affecting their own health or their family. However, the profound advancement of medical technology has rendered them different options in which they can fulfill their dream of having their own children without risking their health.

2.5.1.1. Assisted reproduction

One consequence of desire for children and the achievements of HAART (Highly Active Antiretroviral Therapy) is that HIV-positive persons may be now considered for assisted reproductive technology (ART). In one study, the proportion of specialists ready to offer these techniques to HIV-positive women with fertility problems increased from 3 to 47% between 1993 and 2000 (Englert, van Vooren, Place, Liesard, & Delbaere, 2001). There is growing consensus to assist HIV-infected women in reproduction programs, given that the risk of HIV vertical transmission along pregnancy is still a major concern (Savulescu, 2003; Zutlevics, 2006). If the male partner is the one infected, assisted reproduction is generally more readily accepted as a way to further minimize the chance of HIV sexual transmission which, even without any medical intervention, is still lower than the risk for vertical transmission..

There is wide experience with 'sperm washing' prior to intrauterine insemination (IUI), invitro fertilization (IVF) or intracytoplasmic sperm injection (ICSI). The main location of the HIV inoculate in the male genital tract is seminal plasma (as free virions) or non-spermatic cells (epithelial cells or lymphocytes) (Mermin, Holodniy, Katzenstein, & Merigan, 1991; Pudney &

Anderson, 1991), so that use of a spermatozoa concentrate for subsequent assisted reproductive techniques would be safe in terms of HIV transmission.

The results from two large series of HIV-serodiscordant couples undergoing 'sperm washing' procedures have been released. As cited by Barriero, Castilla, Labarga, and Soriano (2007) the one by Sauer (2005) comprises 1111 and 352 women undergoing IUI and IVF/ICSI. The rate of successful pregnancies, according to total number of newborn babies, was 12% per cycle and 32% per couple after IUI; the percentages were 24% per cycle and 37% per couple for IVF/ICSI. The other study cited by the same authors is that reproductive outcomes in the study by Savasi et al. (2007), in which 741 couples were analyzed, were fairly similar; the pregnancy rates for IUI were 19% per cycle and 78% per couple, and for IVF/ICSI were 23% per cycle and 41% per couple.

Similar results have been reported by others as cited by Barriero et al. 2007 (Marina et al., 1998; Sauer and Chang, 2002; Ohl et al., 2003; Bujan et al., 2004b; Semprini et al., 2004; Vernazza et al., 2006). The reproductive efficacy of assisted reproductive technology after 'sperm washing' does not seem to be significantly affected by the additional manipulation of the semen. Thus, initial reports on IUI with donor sperm to avoid HIV transmission attained a 25% pregnancy rate per cycle (Garrido, Zuzuarregui, Meseguer, Simon, Remohi, & Pellicer, 2002). Also, the 2003 results from the Canadian ART register show a rate of clinical pregnancy per IVF/ICSI cycles of 31.2% in seronegative individuals (Gunby et al., 2007 cited in Barriero, et al. 2007).

Usually, more than one reproductive procedures are needed to attain pregnancy (Gilling-Smith, Nicopoullos, Semprini, & Frodsham, 2006), which increases the final cost of assisted

reproductive technology. In general, the substantial expenses per procedure make these methods not affordable for a significant proportion of HIV-infected persons, or hinder the public health system coverage in many countries. Some technical constraints also contribute to limit the implementation of this technology for HIV-infected individuals, as separate laboratory facilities are required to avoid cross-contamination to uninfected patients (Englert et al. 2001; Gilling-Smith, Smith, & Semprini, 2001).

Furthermore, natural conception is frequently pursued in couples following assisted reproduction programs. In one Italian study, up to one-third of couples did not start the insemination process and another third withdrew after a number of failed attempts. Half of couples failing assisted reproductive technology in a Milan center attempted natural conception by practicing unprotected sex without medical control (Vernazza, Hollander, Semprini, Anderson, & Duerr, 2006). Aware of these conflicts, it is crucial that medical advice is offered before reproductive attempts of any nature are made by the uninformed patient (Barreiro, Romero, Leal, Hernando, Asencio, & de Mendoza, 2006). As it is the case for other chronic illnesses, clinicians caring for HIV-infected patients under HAART should be ready to discuss issues regarding reproductive health and family planning whenever requested. Reproductive health in HIV has been recognized as a priority by the World Health Organization (2006). It is stated that HIV-infected individuals 'should be able to have a satisfying, responsible and safe sex life, and that they should be able to reproduce and freely decide whether, when and how often to do so.

When taking care of HIV-serodiscordant couples, healthcare professionals should provide reproductive counseling, taking into consideration the following aspects: (i) need to minimize the risk of transmission to the uninfected partner and/or offspring; (ii) enabling informed

reproductive choices; (iii) informing couples about the risks of HIV transmission and chances of pregnancy, in both natural and medically assisted conception; (iv) preparing couples for the psychological impact of assisted conception (availability, duration of treatment, failure and logistics); (v) discussing the possibility of foster or adoptive parenting and (vi) informing and advising couples about the risks of sexual and vertical transmission of other frequently associated agents, such as hepatitis B or C viruses (Barriero, et al., 2007).

2.5.1.2. Natural pregnancy

As a crucial point in reproductive counseling, HIV serodiscordan couples should be informed of all reproductive options available. The discussion needs to include their feelings about natural conception, assisted reproduction, adoption or even the acceptance of not having children. The very low risk of HIV transmission to the negative partner and to the baby if HIV-positive individuals have undetectable viremia under HAART is the basis for accepting natural pregnancy as an alternative option, while this possibility should be strongly discouraged outside these two sine qua non criteria. In the case of HIV-positive men, the demonstration of negative HIV-RNA in semen may be valuable information, since it correlates well with lack of HIV transmission.

There are no comparison data on the safety and efficacy of assisted reproduction versus natural conception under effective HAART in HIV infected individuals. The couple should also know that there is much ample controlled experience with 'sperm washing' procedures, as natural conception is still registered in small series (Barreiro et al., 2006). From our point of view 'sperm washing' is the only alternative for HIV-infected men in whom undetectable viremia is unattainable due to antiretroviral drug resistance (Barriero et al., 2007).

Restriction of unprotected sexual intercourse to woman's fertile days is of major importance to minimize the risk of HIV transmission and to maximize the chances of natural pregnancy. Attempts of natural pregnancy should not be done for .6–12 pinpointed ovulations; if pregnancy has not been achieved along this period the couple should be considered for further fertility studies and assisted reproduction (Barriero et al., 2007).

The outcome of natural pregnancies in HIV-serodiscordant couples receiving conceptional advice in three Spanish HIV clinics has been published (Barreiro et al., 2006). In this report, all HIV-infected persons had undetectable plasma viremia under HAART for .6 months before attempting natural pregnancy. A total of 62 HIV-serodiscordant couples attained natural pregnancies. In 22 instances the female partner was HIV-positive and in 40 it was the male partner. Overall, 76 natural pregnancies occurred and 68 children were born. There were no cases of HIV seroconversion in uninfected partners. Unfortunately, one newborn acquired vertical HIV transmission. Of note, 55% of women and 75% of men had chronic hepatitis C, and there were no cases of sexual or vertical HCV transmission. This small experience should be taken for the moment as the poof-of-concept that risk of HIV transmission can be minimized, but never eliminated, in couples seeking a baby by natural means. Given that the average risk for heterosexual HIV transmission has been estimated to be 0.001–0.0001 per sexual contact in theory, a series of 3000–30 000 natural pregnancies would be needed to truly establish the safety of such an approach (Englert et al., 2004 cited in Barriero et al., 2007).

It is clear, however, that experience with natural conception outside the framework of effective HAART, and confirmed undetectable HIV-RNA in plasma, has not been satisfactory and should be strongly discouraged. Thus, Mandelbrot et al. (1997) found a 4.3% rate of seroconversion in

92 HIV-negative women attaining natural pregnancy with their HIV-positive partners, of whom only 21% were under antiretrovirals. A survey in an Italian center showed that nearly half of the 500 HIV-discordant couples evaluated for assisted reproduction attempted at natural conception on their own, one HIV seroconversion being registered among them (Vernazza et al., 2006).

2.6. The State of Serodiscordant Couples in Ethiopia

As it is the case for other countries it is only recently that serodiscordant couples were identified as a high-risk group in Ethiopia. For instance, Ethiopian Strategic Plan for Intensifying Multi-Sectoral HIV/AIDS Response (2004 - 2008), mentioned special target groups that includes 'youths between 15-29, long distance truck drivers, migrant laborers, uniformed people, orphans and other vulnerable children.' As can be seen from the list discordant couples were not viewed as target population despite the fact that they contribute significantly to new HIV infections. A report by Ethiopian HIV/AIDS Prevention & Control Office (HAPCO) and Global AIDS Monitoring & Evaluation Team (GAMET) (2008) regarded discordant couples as *a high-risk group not being served yet.*

Over 2,674 cohabiting couples were tested for HIV in the 2005 Demographic and Health Survey (DHS) of Ethiopia. In 97.9 per cent of the cases, both partners tested negative for HIV. Of the remainder, 85% (1.8 percent of the total) were discordant, where one partner is infected and the other is not. HIV prevalence among cohabiting individuals is notably high in urban areas (10.9%); of whom about 72% (i.e. 7.8% of the total) of the cohabiting couples are discordant. The observed high discordance in the DHS sample may be a result of several factors, including: the stage of infection, coital frequency, the absence of STIs and differing levels of susceptibility between partners. This remains to be investigated in future studies (Report by HAPCO and

GAMET, 2008). This report can be summarized as, in total 1% of HIV-negative married men are living with infected wives. 0.8% of HIV-negative married women are living with infected husbands. When we see the spatial distribution of serodiscordants most of the discordant couples are found in urban areas. In urban 5.6% of HIV-negative married men are living with infected wives and 2.2% of HIV-negative married women are living with infected husbands. In rural areas 0.6% of HIV-negative married men are living with infected wives and 0.7% of HIV-negative married women are living with infected husbands. Of course the observed urban-rural difference is no surprise given that there is a similar difference in the general population. As posited by Bishop and Foreit (2010) "findings from the cross-country comparisons are overwhelmingly consistent—that except for their HIV status, serodiscordant couples are no different from the general population." These data appears to indicate that a significant percentage of urban married men are at high risk of contracting HIV from their already-infected wives. A smaller but still significant percentage of urban married women carry a similar high risk of HIV acquisition from their already-infected husbands.

There is evidently a level of risk of HIV transmission within marriage that can only be averted through education and behavior change and effected through couple HIV counseling and testing. Nevertheless, the availability of couple HIV counseling in the country is extremely limited. Hand-in-hand with the development of couple counseling should be increased efforts to reduce stigma and encourage disclosure. This, however, is also dependent on changes in attitudes and behavior. Long-standing imbalances in gender relationships, power dynamics and the status of women in and out of marriage are issues not to be easily resolved simply by initiating couple counseling services (HAPCO and GAMET, 2008).

As well, the evidence in this document indicates that a focus on sex workers as the primary high risk group, while necessary, may lead to a lack of program focus on other identified groups at risk, including young and unmarried women, discordant couples and students. Prevention programs targeting these groups need to be initiated with some urgency (HAPCO and GAMET, 2008).

FINDINGS

CHAPTER THREE

KNOWLEDGE ABOUT HIV DISCORDANCE

This chapter and the forthcoming two chapters will present the findings and discussions of the study in a juxtaposed manner. The chapters were categorized in such a way that each chapter answers one research question. As there are three major questions that this study has attempted to answer, the chapters were classified into three. The present chapter deals with the demographic characteristics of the participants and their explanations for HIV discordance.

3.1. Demographic Characteristics of participants

Half (11) of the twenty two informants were male and the remaining half were females. Most that is 13 of them were from +M/-F and the rest 9 were from -M/+F relationships. The average year that the informants stayed in marriage was 8.2 years and after the knowledge of HIV discordance was 3 years. The maximum year in marriage was 20 years and the minimum was 2 years. All informants reported that they didn't get tested for HIV before marriage. They have been asked the reason for not being tested and most of them justified that HIV has not been a widespread phenomenon that there has not been such a need for test during the time of their marriage.

Nine informants reported the discordance came from previous relationship; the rest 12 believed it happened in the present relationship. Out of the 12 informants that reported their partners or they were infected in the present relationship, 8 of them believed the cause for infection was not

extramarital sex. Only 4 of them reported extramarital sexual affair as a cause. Informants who didn't believe extramarital sex as a cause frequently posited contact with infected blood due to medical mistakes, abortion and taking care of infected person as possible reasons for infection. Only one informant indicated 'do not know' how and when the infection occurred.

The average number of children that informants have was 2.5. Fourteen of the informants stated that they do not have a plan to have more child/children. The frequently mentioned reasons for lacking a need were; already having enough children and economic reasons. Only four of them mentioned HIV discordance as a primary reason for lacking a plan to have more child/children. More than half (12) informants reported consistent condom use. Less than half (9) of them indicated inconsistent condom use. Here it should be noted that a single instance of failure to use condom or complete avoidance of it after the knowledge of HIV discordance was considered as inconsistent condom use in this study. Only one female negative informant reported abstinence.

Although, the study has aimed to involve cohabiting couples, it was found impossible to access them during the data collection. See the table on the next page for a diagrammatic presentation of the demographic characteristics.

Table 1: Demographic characteristics of informants

No.	Characteristics	Frequency	Percentage
	Sex		
	Male	11	50
	Female	11	50
1	**Total**	22	100
	Type of discordance		
	+M/-F	13	59
	-M/+F	9	41
2	**Total**	22	100
	Believed cause for HIV infection		
	Extramarital sex	4	18.2
	Sex in previous relationship	9	40.9
	Blood-to-blood transmission (via, medical mistakes, abortion, contact with infected person)	8	36.4
	Do not know	1	4.5
	Others	-	-
3	**Total**	22	100
	Plan for child		
	Yes	4	18.2
	No	14	63.6
	Undecided	4	18.2
4	**Total**	22	100
	Primary reason for 'no'		
	Already have enough children	6	42.9
	Economic reason	4	28.6
	HIV discordance	4	28.6
	Others	-	-
4.1.	**Total**	14	100
	Consistency of condom use		
	Yes	12	54.5
	No	9	41
	Abstinence	1	4.5
5	**Total**	22	100

The total number of key informants involved in this study was 10. Five nurses, four counselors, one specialist doctor were interviewed. Six of them were females and the rest were males.

The forthcoming sections of this chapter presents how the couples got tested for HIV, whether they expected to have a different HIV status before going through the test, and the various explanations that the couples and health care providers provided for HIV discordance.

3.2. HIV test

Under the major theme of knowledge the study has tried to assess the awareness of informants about HIV discordance. The analysis of data collected to achieve this objective revealed that informants never expected and knew the possibility of HIV discordance before it happened to them and they provided differing explanations for discordance. Before looking at the details of these issues let's see how the informants got tested for HIV.

It was found that the couples do not have the tendency to get tested for HIV till the positive partner displays severe health deterioration. Furthermore, even if they realized that they have severe health problem they need a push from some one else to get tested. A man from +M/-F relationship narrates as follows how he was tested for HIV:

> *My physic has been deteriorating from time to time. My facial color has completely turned into dark. I lost much weight. I became physically weak. Once, while I was talking with my brother-in-law in a cafeteria, I suddenly felt dizzy and when I stand up to leave the cafeteria I collapsed and fell on the ground. My brother-in-law who is a physician realizing some of the symptoms I displayed suggested for HIV test. He further explained that high HIV viral load has the nature of putting people into coma. He was very much shocked when I told him*

that my weight has significantly decreased from 63 to 39 KGs. Then, he immediately took me to hospital for HIV test. That is how I came to know my positive status.

Another woman who was tested HIV positive explained how she got tested as follows:

I used to have a recurrent health problem and .... I was almost near to death when an old woman who is my neighbor advised me for HIV test.... I give the greatest credit to this woman for my survival.

Some informants revealed that they came to know their discordance upon the test made during pregnancy. This is a phenomenon observed in a female positive type of discordance. One important point that should be raised is that negative results of females during pregnancy, has misled their partners about their HIV status. A man (+M/-F) stated as follows when he explained how his wife's negative status deceived him about his own HIV status:

I have been extremely sick three years ago and when I visited a doctor he suggested for HIV test. I didn't hesitate for a moment to reveal my consent because my wife was already tested before few weeks and found negative. She was pregnant at that time;...I was stunned when the doctor told me that I am Positive...

Erroneously, the male partners believed that their partners' test result reflects their status which in turn made them utterly unprepared for HIV. For that matter, as we will see later, a separate test by any of the partners is potentially dangerous in that it may result in misinterpretation of the test result among discordant couples.

3.3. HIV discordance as impossibility

The informants have been asked if they expected to have a different test result before knowing their status. The answer was that all informants never thought that HIV discordance is possible

before it happened to them. If one partner is infected they used to believe that the other partner was automatically infected.

> One man (+M/-F) stated that: *I never knew the possibility of having different HIV test result before I personally experienced. I think ours is the first case in Ethiopia.* Another woman (+M/-F) said: *I never heard about HIV discordance before it happened to me. I didn't believe when the doctor told me I am negative.* Another man (-M/+F) revealed that: *I never expected couples like us could have different HIV test result, I used to believe that if one partner is infected, it is inevitable that the other will also be infected.*

The belief in the impossibility of HIV discordance was found to have a negative consequence that it hampered some couples from taking the necessary precautions in protecting the negative partners. This is particularly evident among couples where the positive partner was the first to know his/her positive status by making test without the presence of the negative one. Since they believed that the other partner was already infected such couples were unlikely to take the necessary preventive measures and have been disinterested to go for test. A woman from +M/-F relationship epitomized this when she stated:

> *...he asked me to have sex with condom. I was very much disappointed for I thought that he was suspecting me for HIV. He repeatedly tried to convince me to use condom. When he realized that I'm not going to change my mind, he told me that he was tested HIV positive. I replied it is too late and meaningless to have protection because I believed that I'm was already infected. Then we continued to have unsafe sex till I was tested after two years.* Another woman (-M/+F) said: *I knew my positive status before six years when I was pregnant of my second child. I immediately told him. Yet, he has not been interested to go for test. He only made test last year that means after five years...*

Here it is worthwhile to note that the discussion presented under this sub-topic refers to whether informants expected to have a discordant test result before both partners went through HIV test. As we will see later, belief in the impossibility of HIV discordance was articulated as one way of explaining HIV discordance even after the laboratory test indicated that the couples have different result. Let's see now the explanations that the participants provided for discordance.

3.4. Explaining HIV discordance

The participants have been asked to explain how they believe HIV discordance happened. The explanations provided by participants include purely religious explanation, evidence-based explanations, mixed explanation (both religious and evidence-based explanations jumbled together), personal immunity, having a non-infecting HIV, and hidden infection. However, it should be noted that some participants have pointed out that they do not have any possible explanation that can fall in any of these categories. Such participants indicated that they don't know how the discordance happened. Surprisingly, the 'don't know' option was not only mentioned by discordant couples but also by professional participants.

One informant who stated that he doesn't know how discordance happened went to the extent that he doesn't even think there is such explanation from science. He stated that he didn't know that doctors have any kind of explanation and he added he is eager to learn if there is one. He (-M/+F) expressed his belief as follows:

> *They* (physicians) *simply told me that discordance is not something special rather there are many couples who were HIV discordant. They didn't tell me the reason why it* (HIV discordance) *occurred. That is why I said there is no explanation for it from science. I only came to doubt there might be one when you asked me.*

This person revealed this idea when he was asked what health care providers told him about the reasons for HIV discordance. This question was asked because it was assumed that professionals' explanation plays a pivotal role in raising the awareness of their clients which in turn will have a significant role in determining the protective measures that they will take. It is conceivable to think that someone who was not appropriately informed of the reason why he/she was not infected is likely to act based on his/her personal belief.

Moreover, professional participants themselves stated that they were confused how HIV discordance was possible. Some them depicted that they came across discordant results but, they have the difficulty to explain to their clients. A nurse who serves in ART case team expressed the difficulty she faced when discordant couples asked her the reasons for the different test result as follows:

> *I my self do not understand why some people remain uninfected in the face of their repeated exposure.* This nurse added: *I was not able to get sufficient answer even if I tried to learn from people whom I think are experts in the area. These experts just tell me that there is nothing known about it to date. ....*

It appeared that professionals working in the area of HIV were not able to provide the existing evidence-based explanations about serodiscordance. Furthermore, as it can be understood from the above quote there was a tendency to shift the responsibility of knowing and explaining discordance to highly qualified experts. Such approach may lead to lose of trust on medical system by patients. Some counselors also considered that it is not their responsibility to inform patients how HIV discordance happened. A counselor said:

Science may provide various explanations for HIV discordance but, a counselor is not expected to tell these for clients. What the counselor should do is to tell clients that discordance is something that can happen to some people and that they are not alone .... Another community counselor said: *how could you be bold enough to provide an explanation for a situation about which even scientists were not able to put a clear statement?*

In fact, it is understandable that some professionals may fear that informing the clients may encourage them not to follow the guides of safer sex which may in turn increase the susceptibility of the negative partners. For instance, telling the negative partner that he/she was not infected because he/she lacks a co-receptor might be a misleading one since it may cause the person to think that he/she will not be infected forever. However, the other side might be more dangerous that clients who were not informed the reality may resort to their own realm of supernatural or experiential explanations to find answer for their question. Partly, as a result of professionals' failure to accurately inform them, the couples provided a range of explanations which reflected their misconception about HIV discordance. The following section will throw light on the various explanations provided by participants for HIV discordance.

3.4.1. Protection from supernatural power

Most participants stated that the reason why the negative partner was not infected is the will of God. One male (-M/+F) informant explained the reason why he remained uninfected as follows:

Well, this is a miracle that God has revealed upon me. I can't say it is my own protective measures because I didn't do anything to protect my self before we made HIV test. It is God who has done everything.

Explaining discordance through religion is common among most informants especially the negative partners repeatedly mentioned God as the one who saved them. A woman from +M/-F relationship unequivocally expressed why she was not infected as follows:

> *That is the will of God. No one can change His decision. The doctors claim this and that is the reason for discordance but this is solely God's will. You know if you are a believer God can show you a number of miracles like being cured from HIV. Don't you know people who were cured from HIV after visiting holy water? Therefore, I personally think it is the will and grace of God that saved me.*

A religious explanation was not common among professionals. However, one nurse working in ART case team said: *"I don't want to interfere in God's will."* when she was asked to explain how HIV discordance happens.

3.4.2. Evidence-based explanations

Though the bio-medical science did not provide a conclusive explanation for HIV discordance, there are various hypothetical explanations. What has been discovered so far is that protection from HIV infection is either due to acquired host immunity or inherited genetic mutations. This acquired host immunity may be activated by HIV infection that then results in immunity preventing the HI virus from establishing itself in the body. The inherited genetic mutation results in dysfunctional co-receptors, which then prevents the HI Virus from entering the cells (Goh et al., 1999; Ateka, 2006). Most informants in this study provided the biomedical explanation by mixing it with the religious one. As compared to the religious and mixed explanations the purely evidence-based explanation was found to be a kind of rarity in this study. One informant (-M/+F) who provided this sort of explanation for her husband's HIV negative status said:

It is said that some people do not have a receptor...and I think his blood is not a kind of receptor. If not, he couldn't be negative given that we had unprotected sex for some months after we knew our discordance.

3.4.3. Mixed explanation

Some others have the tendency to explain HIV discordance in both religious and evidence-based ways. This issue was bluntly reflected by one man (+M/-F) when he tried to explain why he was infected and how his wife was saved:

I already knew that it is my own fault. I have been cheating on her and used to go out with different ladies. When I knew that we have a different test result, I realized it is God's punishment for my unfaithfulness. I committed sin disregarding the biblical command that prohibits promiscuity. I also understood that her (his wife's) *religiosity, regular church attendance, and visit to holy water have saved her.*

This same person at another time during the interview justified the discordant test result in somewhat convincing manner by stating:

She remained uninfected probably because her blood does not receive the virus. Or else, it might be for the reason that she didn't have other sexually transmitted diseases.

Another man living in +M/-F relationship expressed his confusion in understanding why his wife remained HIV negative by saying:

Well, it is very difficult to say exactly this is the reason.... I'm on medication (ART) perhaps that may have its own contribution to make her remain uninfected. But, in general, I think it's the will of Allah. We humans have nothing to say about this thing.

From the bio-medical point of view, the informants put lack of co-receptors, lack of other STDs, and being on ART as the explanatory variables for non-transmission in the face of repeated

exposure. These variables were mentioned in various scientific journals. A Chinese study by Li et al. (2003) as cited by Naran (2007) found a transmission rate of 11.1 % among HIV discordant couples. The study concluded that there was an increased transmission rate with increased vaginal intercourse as well as increased viral load and decreased CD4 count. Untreated Sexually transmitted infections were also found to be a major contributor to increased HIV transmission. Even though, informants have stated these variables, they were not confident enough to limit their explanation within the bio-medical domain. They rather added religious explanation to it. Such a mixed explanation may have stemmed out of the discontent with the biomedical explanations that they have heard from professionals. Some informants complain that the physicians do not exactly tell them the reasons for HIV discordance. One man (-M/+F) said:

They (physicians) didn't clearly tell me the reason why it (HIV discordance) occurred.

A study conducted by Bunnell et al. (2006) in Uganda concluded that it is very understandable that patients and their family members will get confused, mislead, and disheartened with medical system and seek answers from traditional healers and witchcraft. And the findings of the present study revealed a similar situation.

3.4.4. Belief in personal Immunity

Personal immunity to HIV was mentioned by informants as the reason for HIV discordance. One female informant (-M/+F) mentioned what her husband told her after the disclosure of HIV discordance to explain his personal immunity to HIV as follows:

...he used to ask me to have sex without protection and that is why we used to have unprotected sex. He used to think that he can't be infected. He reasoned that he would have been infected earlier if he had been a kind of person that can be infected.

At face value such explanation may sound scientific. However, it was labeled as different from the evidence-based explanations due to the fact that informants who mentioned it did not attribute the HIV resistance to any of the factors stated in the scientific view. Instead they associated HIV resistance to physical strength. As one (-M/+F) said: *...do you think we have equal strength?...*

The health care providers also pointed out that their clients display this kind of understanding. An Internist stated:

> *...some say we have been having unprotected sex for many years that doesn't change our test result and how could it will change now?* The doctor went on further and said: *Some women from discordant union get pregnant and come to us for prenatal care. This is really shocking one for me.*

Informants who were not satisfied with the professionals' explanation might resort to their own experience. Their experience taught them that even though they were repeatedly exposed, they were not infected. They might be repeatedly tested after several exposures and confirmed that their test result was not changed. This might have given them the courage to engage in unsafe sex as the doctor said *'Some women from discordant union get pregnant and come to us for prenatal care.'* However, current state of evidence shows that being uninfected at certain exposures doesn't necessarily guarantee there will be no probability of contracting the disease at all. As mentioned earlier, a study conducted in China has shown that couples who had been discordant have changed to positive concordant after some time with a transmission rate of 11.1% (Li et al. 2003 cited in Naran, 2007).

3.4.5. Non-infecting HIV

Others believed that their partner or they have HIV virus that do not pass to others in any of the traditionally known modes of transmission. One male participant stated:

> *...I think I contracted the virus when I was taking treatment for TB through injection. I used to have sexual affair with three ladies before I got married to my current wife. All the three ladies are HIV negative. I think because I was infected through needle my type of HIV does not pass to others...*

Up to date, there is no evidence that claimed the existence of non-infecting HIV. However, this informant believed that his HIV do not transmit to others which reflects the fact that he will not take any preventive measure if he get the consent from his wife to have unprotected sex.

3.4.6. Hidden infection

Even some couples indicated their disbelief of the laboratory test result. This as already stated may have stemmed out of their deep rooted belief that HIV discordance is impossible. A woman (+M/-F) expressed how she reacted when she was told her negative HIV status as follows:

> *...when they* (physicians) *told me I have no the virus, I told them by no means this could be possible. I was very much upset for I thought it was a fake result to separate me from him. .... I didn't believe the test result, yet they are still telling me I'm negative.* Another man (-M/+F) who is skeptic of the test result said: *I am experiencing some of the symptoms that she used to have before starting the treatment. I frequently requested the professionals to scrutinize the test result since the virus may have hidden that they were not able to detect it.* This informant shared his experience which leads to his skepticism as: *there was a friend of mine who was originally found negative when his wife was tested positive. He ceased his relationship with her immediately. But after a year he began to show certain symptoms.*

Unfortunately, when he went through the test he was found positive. Then, he rebuilt his relationship with his wife and now they are living together and have given birth to two children. ...

The disbelief of test result was also raised by health care providers. Here is a quote from a nurse working in ART case team:

The issue of HIV discordance creates enormous questions to me. For instance, sometimes a man may come to us with a severe health problem and when we persuade to test for HIV he might be found negative whereas, when his healthy wife tests she might be diagnosed positive. I think there is undetected infection whereby the virus hides. Still another nurse supported this idea when he said: *I think there are people who can transmit the virus to others but you can't find the virus in them with laboratory test.*

Such participants believed that the negative partners were infected but the laboratory machine was unable to read correctly their status. In fact, it is true that the virus may reach to undetectable level under highly active antiretroviral therapy (HAART) (Barriero, et al. 2007). However, the participants never mentioned of this precondition for the undetectable infection. Instead, they believed a person without treatment can have a hidden infection.

In this chapter I have tried to shade light on how the couples got tested for HIV and how they and professionals explain HIV discordance. The analysis of data collected for this purpose indicated that the couples got tested only after a sever health problem or during pregnancy. This was partly associated with the belief that the negative partner's test result reflects his/her partner's status which in turn made the positive partner unprepared for HIV. Further, in this chapter I have tried to present the various explanations for HIV discordance. With an intention to

elaborate in more detail the findings of this chapter I will present one case study and wined up the chapter.

'A' is a 28 years old, HIV positive woman. She met her husband before 10 years, they stayed in courtship for five years and cohabited for 2 years after which they concluded a legal marriage. They were not tested before marriage. She admitted that she had a boy friend before she met her present husband. She has one child and at the time of the interview she was six months pregnant. She is not certain when she contracted the virus. But, she suspects she was either infected in her present relationship as a result of abortion or as a result of unprotected sex in her previous relationship. She narrated as follows how she got tested for HIV and her lack of preparation for the positive status:

> *My husband was tested two or three times alone and he showed me the paper that confirms his negative status. So, I was confident that I will also be negative. I gave my blood for test up on my doctor's request when I visited him for prenatal follow up. At that time I was pregnant of my first child. Before I received the test result I gave a call to my husband and told him that I am waiting the test result. Assuredly, he told me that there will be nothing new. Yet, it turned out to be what we didn't expect. I was not ready to shoulder the unexpected test result. I gave him* (her husband) *a call once again after I received the result but I was not able to talk to him. Instead, I cried on the phone. Ah,... I don't want to remember those messy days. Even worse I was pregnant of my first child. It was really difficult to bear the difficulties that the unexpected HIV status and pregnancy brought to me. I was so confused and do not know what to do. I lost my appetite. The doctor told me I have to start the life long tablets immediately after I knew my HIV status.*

That was really shocking for me. I refused to start the medication. However, thanks to my husband who is always with me, I initiated the drugs after his intensive advice.

I asked what she thinks protected her husband and she replied as follows:

I think he have resistance to the virus. I don't think we have equal resistance. Do you think we have equal strength?

This explanation can be subsumed under the category of 'personal immunity to virus' which was discussed earlier. One important thing to be asked here is that how long this immunity will last? Probably as a result of the belief that her husband is immune to HIV forever, she revealed that they continued their sexual life as well as their reproductive plan as usual. She said:

We have tried condom. But, sometimes there might be no condom at home that we do it without condom. What we (discordant couples) *often tell to our doctors is that we are consistently using condom but, I don't think we all actually do that. For instance, when the doctor asked me how I conceived this baby, I lied that it happened accidentally as a result of condom breakage. You know why? Because he will be very much disappointed if I told him I did it deliberately. ..., when you are too close to each other, you do not bother about the disease. Rather, you are concerned with how to nurture your intimacy. In fact, I'm not happy with the unsafe sex. I wish he stop that but, it is difficult to halt him. Men are blind when it comes to sex, we women are better in that sense. I repeatedly tried to persuade him to use condom, but he wanted me to give him another child. Beside the risk of infecting him, there is also another issue that makes me worry, i.e. raising a child. I know the challenges of raising a child born from a positive mother. I experienced that when I raised my first child. The child should take medication for a very long period of time. Further, after taking all preventive measures you are not certain whether your child is negative or not. You have to wait with*

great fear for the test result. However, without my intention I became pregnant for my second baby. I visited my doctor after I realized that I am pregnant. My intention was to abort the fetus. But, the doctor told me that I can give birth to a healthy child after he measured viral load. My husband has been so enthusiastic to see another child that he convinced me not to commit abortion. He is careless about protecting himself. He believed that he would have been infected long ago if he had been a kind of person who contracts the virus. I am quit aware of the challenges that I will crop up in raising the baby I am expecting."

As A's experience shows her husband had the final say in negotiating sexual affairs. Whatever the HIV status of men (negative or positive), women have little power on decisions regarding sexual relationship. Further, she didn't consult a doctor before conception at least to reduce the risk of vertical transmission. People like her husband believed their resistance is a lasting one.

In general, the various explanations discussed in this chapter imply the extensive misconceptions both among the couples and health care providers about HIV discordance. These misconceptions may have a paramount effect on HIV management among the couples. Apparently, living with discordance could not be equated with either positive or negative concordance. Discordance brings certain challenges some of which are common to everyone with HIV and some unique to discordant couples. The subsequent chapter will try to illuminate the challenges that discordant couples face as a result of having different HIV status.

CHAPTER FOUR

CHALLENGES OF LIVING IN DISCORDANT RELATIONSHIP

One of the central aims of the study was to explore the challenges that couples in a serodiscordant relationship face. The assumption behind treatment has been that only the positive partner is under pressure in such type of relationship. As Naran (2007), stated most doctors focus on the seropositive partner and only involve the negative partner in enquiries about some or other aspect of the positive partner's management. This needs to change since the negative partner is a hidden patient who has been ignored for too long (P. 5). The findings of the present study is in concordance with this view that it was found both the negative and positive partners faced certain challenges as a result of having different HIV test result. It was also found that these challenges differ in their intensity based on which gender is HIV positive. There are also studies that have looked at discordant couples where the male is HIV negative and the female HIV positive and they have been compared to discordant couples where the female is HIV negative and the male partner HIV positive. One of such studies conducted by Were et al. (2006) found that the couples where the male was negative were more likely to use condoms than the couples where the female partners were negative (17% versus 9.5%).

When asked to describe the challenges of living in a serodiscordant relationship informants have mentioned different problems. This present chapter was invested to present these challenges and their respective discussions.

4.1. Disclosure

4.1.1. Disclosure to spouse

The positive informants who came to know their positive status without the presence of their partners have been asked how they disclosed their positive status to their partners. They were also asked the potential threats to disclose to their spouses if they asserted disclosing has been burdensome. Significant minority of informants stated that they came to know their discordance by the test made with their partners. In majority of the cases the positive partner was the first to know his/her HIV status. These positive informants who knew their status prior to their partners reported that they were worried because they assumed that they have infected their partners. One informant narrated how much he was troubled to disclose his positive status to his partner as follows:

> *...it has been very difficult to disclose this to her. Immediately, after I knew my status I stopped to have sexual intercourse with her. Even though she was very much disturbed with this, I returned back to the military camp* (where he used to serve) *as if nothing has happened. Up on my arrival to the camp there had been an occasion on which a film about HIV was displayed to the residents of the camp. The film has been touching one for me. What disturbed me more has been that I felt I infected my innocent wife. When my friends observed my frustration they attempted to comfort me and they advised me to disclose to her. I returned to Addis Ababa and suggested that we made test. She was some what confused and asked if any thing special has happened. I was not still bold enough to disclose. Then having the paper that confirms my HIV status, I went to Mekdim Ethiopia* (National PLWHA association) *and became member of the association. I wanted to become a member for I thought it will help my wife and make it easy to disclose to her. But, this all*

attempts failed and again I went back to the military. Once, she came to visit me at the military camp. On the night she came to visit me I suggested that we use condom. Before that time we never had even thought of condom. She was very much annoyed... . I tried a lot to convince her to use condom but she didn't accept. Finally, I told her that I am HIV positive.

This case clearly demonstrated the deep rooted frustration and guilt that the positive partners felt to disclose their HIV positive status to their partners. Some others even have tried to conceal their status forever. One woman (+M/-F) whose husband concealed his positive status expressed how she came to know the discordance as follows:

I see him every morning opening his closet and picking up medication. His closet is always locked and no one has access to it except him. I frequently asked what the medication is for. He roughly says it is for something else. My suspicion mounted very high as he continues to take those medications daily. Then, I became watchful to access those medications. One day he forgot the key at home and I opened the closet. I found a pack of tablets and I write their names on a piece of paper. After that I searched on the internet what they are for. I was so much shocked when I read that they are antiretroviral drugs.

This woman was only able to find out her partner's status due to her relentless effort. In addition to that her educational status has helped her to identify what the medications are for by browsing the internet.

Although the positive partners have the fear to disclose to their partners, it was found that the negative partners' reaction was not as much as feared by the positive ones. Unexpectedly, the negative partners were found to display a comforter role upon disclosure. A woman from +M/-F

relationship expressed how much her husband was frustrated to disclose to her and how she reacted as follows:

> *When he came home in the evening he came up with small bag. He was very much distressed and started to sob uncontrollably. I asked why he was sobbing. He just simply continued to cry. He drove me crazy when I realized that he was not interested to talk to me. I just grabbed the bag that he brought and checked what was inside. I was stunned by what I saw in the bag for a while. I immediately tried to control myself and told him that it is not a big deal. I explained to him that HIV is not a big deal... rather it has become a common place every where.*

Another informant explained his acceptance of his wife's HIV status as:

> *There are more serious diseases than HIV that makes me worry like hypertension, diabetes, and so forth. With adherence to treatment HIV is a minor one as compared to these diseases.*

The informants indicated that fear of violence, neglect, shame, and guilt were the potential threats of disclosure to one's spouse.

4.1.2. Disclosure to Others

Informants were asked if they have revealed their discordance to others. Most informants outlined that they do not want to disclose to others. When both the negative and the positive partners were asked the potential dangers of disclosing to others, they repeatedly raised fear of stigma and discrimination as factors hindering them to disclose their status. A man (-M/+F) supported this idea when he said:

> *If people know you are in such relationship, they will not act in the way they would act under normal condition. It is obvious that they will stigmatize you. People who don't know*

my status for instance, gossip to me about others in unkind manner. Therefore why should I disclose to them while knowing what the consequences will be.

Another man (+M/-F) expressed that if people knew that he is in a discordant relationship the rumor will spread that his children will be troubled. He stated that:

Disclosing to others may be dangerous especially if you have children. You know, nowadays, there is an extensive campaign to teach children about HIV at schools and even at kindergartens. What children conjure is that HIV is a deadly disease. Then, if these children were told that their parents are living with HIV, it is easy to imagine what the impact will be on them.

An HIV specialist nurse revealed that both the negative and positive partners have enough reasons not to disclose to others. She asserted:

Both will be stigmatized in their social activities. The negative partners were not believed to be negative once their partners were known to be positive. Given the level of public awareness about discordance, the negative partners will be seen as lying. No one would believe them.

Common sense may dictate that the positive partner is more serious about keeping the discordance secretive. However, the finding of the present study is in contrary to this belief in that the negative partners were no less secretive of the issue than their partners. They associated their fear of disclosure with different factors. Here is a quote from a negative woman:

The most serious frustration I have is that if people in the neighborhood knew our status, it is likely that they stigmatize my children. He is not careful about this thing; he takes the drugs carelessly at public places. I usually try to hide this. I give him the drugs secretly when it is time to take it. But, he didn't understand my fear. Another negative woman

explained why she failed to disclose to her parents as: *I know what my parents will do if they are aware of our different test result. They will immediately separate us even though I don't want to leave him.* A man (-M/+F) said: *For me it does mean nothing but, I have to keep her secret confidential.*

As the above quotes imply, the negative partners associate their lack of interest to disclose to others with various factors. First, they thought that people would never believe that they can be negative if their partner is known to be HIV positive. Second, they justified that their children may be affected by the stigma more than themselves. Third, they feared that others, primarily parents, may interfere in their relationship and force them to dissolve their marriage which they don't want to happen. Finally, others indicated that their partner would be affected by the disclosure.

Failure to disclose at least to family members might be so dangerous in that members who participate in HIV management within the family might be exposed to the virus. Some informants for instance, were too secretive that they didn't even disclose to their children who were above minority age. One informant (-M/+F) whose youngest child and wife were on ART stated that:

My wife is a kind of forgetful that I am supposed to remind her to take the medication. As far as my child is concerned, my oldest child knew that he (the youngest child) *take medication that she handles his case. Yet, she didn't know what the medication is for.*

Apparently, this much secrecy may have a devastating consequence. The person who takes care of a patient must be informed the type of affliction the person is suffering from especially, for diseases like HIV that can be transmitted if the necessary care is not taken. Otherwise, it is less

likely that the patient attendant makes precautions to avoid the transmission of the disease that the patient has. It is known that one of the modes of HIV transmission is sharing sharp materials like blade with infected person. When we come to our case, as the above quote indicated the care giver for the child was not informed of the child's problem and hence, she is less likely to avoid exposing factors given she might not suspect that little kid for HIV. Therefore, under such circumstances family members of serodiscordant couples were at risk of HIV infection.

4.2. The quest for children

I have mentioned earlier while describing the demographic characteristics of informants that most of them do not have an intention to have more children. This was most of the time justified by factors including: already having enough children, economic problem of raising children, and HIV discordance. HIV discordance was not mentioned for lack of interest in having a child as frequently as expected by the researcher. This might an evidence for the pervasiveness of unprotected sex among the couples. One woman (+M/-F) stated: *"Had we been economically fit, I would never hesitated to have another child. His HIV positive status could not stop us."*

However, the interview with health care providers and some couples revealed that the quest for baby was one of the major challenges that serodiscordant couples face. The interest to have a child may emanate either from one's personal desire or from significant others. The subsequent section provides a thorough discussion of the quest for children based on different sources of motivations expressed by participants.

4.2.1. *Personal interest for children*

People infected with human immunodeficiency virus (HIV) are living longer and experiencing improved health. Substantial advancements in treatment mean that from the time of diagnosis, an

adult infected with HIV who has access to treatment, can expect to live for at least 20 years. The prospect of better health and increased life expectancy means that the idea of becoming a parent is not out of the question and some people with HIV want children (Spriggs and Charles, 2003). One man (+M/-F) expressed his interest for a baby and his lack of knowledge about how discordant couples can have a child without risking infection as follows:

I heard that people in a discordant relationship can bear a child without risking infection. I came across a positive woman last time whose husband is negative. She told me that she never used condom with her husband. They were able to have children after they knew their different HIV result. ...I wish I learn how discordant couples where able to have a child without risk of infection.

An internist explained her experience as:

One special challenge that serodiscordant couples face is that they do not have the freedom that other couples have when the quest for baby comes. Another counselor said:

...the other problem comes when they want to have a child. A client of mine for instance, came last time and told me that his positive wife wanted to have a child.

Key informants have been asked what they advice discordant couples who are in need of a child. Significant majority of them stated that they will try to change their clients' decision by telling them the risks of going for a child. If the clients' desire is too high that they do not change their mind, some professional revealed that they will advice natural pregnancy during ovulation period and others indicated that they will not let natural pregnancy under any circumstances. A nurse serving in ART case team stated:

"As the primary mission of the Hospital is prevention we don't advice them to risk infection for the sake of children. ... . We inform them what the consequences will be but if they refuse to change their mind it is up to them to decide."

It seems that the only option that some professionals render for discordant couples with strong desire for a child is natural pregnancy. A female (+M/-F) informant pointed out that she was advised by professionals to have unsafe sex during ovulation period. She said:

..., I wanted to have a child... Then we went to health center to consult them. They told us that we can have a child by having unsafe sex at particular time in a month (ovulation period). *We used that period to have our child.*

In fact, in a country where there are no assisted reproductive technologies for discordant couples, it is understandable why the professionals render natural pregnancy as the only option. However, the interesting finding is that most key informants (i.e. 7 (70%) of them) do not even know the availability of alternative reproductive technology for HIV discordant couples at least at theoretical level. Yet, the availability of the technology does not necessarily ensure its utilization. Its sky rocketing cost and some of the ethical issues about it might be obstacles to use it. An HIV specialist nurse put:

As to my knowledge, there is no alternative reproductive technology for discordant couples. I think even our norm would not accept, if there had been one.

After reviewing the findings of different studies Barriero et al. (2007) concluded that discordant couples should not be denied of the right for natural pregnancy. However, he mentioned that natural pregnancy should be attempted only under certain circumstances. For instance, a positive partner having undetectable viremia under HAART is one of the necessary preconditions to

attempt natural pregnancy. What is important here is that the professional participants didn't mention of such prerequisites before letting their clients for natural pregnancy.

4.2.2. Societal expectation of children

The normative family life cycle expects children out of marriage. Couples who failed to fulfill such societal expectation were likely to face informal social sanction. Informants who reported such informal sanction were those who were not able to bread a child out of their relationship. Such societal expectation is usually associated with those couples who knew their discordance soon after their marriage. A man from +M/-F marriage explained how others' influence forced him to bear a child as follows:

> *We stayed for long time with no child. However, it has been very difficult to bear family members and others quest for a child. Especially, my wife's mother has been so enthusiastic to see a grand child that she has been requesting her day and night. As this request mounted high...we decided to have a child to escape from such pressure. Then she gave birth to our child.* Another woman (+M/-F) pointed out that: *My parents expect a child from me. I don't know what to do about that. I love him and that is why I'm living with him regardless of his HIV positive status.*

Such kind of pressure would have been avoided if the couples have disclosed their HIV discordance to those people who influenced them to bear a child. As discussed earlier informants do not have the tendency to disclose to others. Hence, if someone fears to disclose the discordance, it is more likely that he/she would take risks to give cover for his/her secret. Because such people would like to live up to the expectation of the society, they will make all the necessary effort to display normative behavior which may in turn expose them to the risk of infection as they try to fulfill this expectation.

4.3. Blame

Among couples in a steady relationship it might be natural to expect some sort of blame if one partner was found to have the virus while the other not. Since, it is believed that the main mode of HIV transmission is unprotected sexual intercourse with infected person, it is likely that the negative partner blame the positive one for infidelity. A woman (+M/-F) participant expressed her rag as follows:

> *"Indeed, men do not confine themselves in a marriage. I wish he had kept his promise to remain faithful. He used to stay out of home for a week or more. I know he had multiple sexual partners but I was not able to stop him. I used to advice him that it was not good. Finally, he ended up like this. Now he is not the only victim rather the whole family was affected.* Another man revealed: *Sometimes we went to picnics just to relax. But, after she had some beer she starts to insult, degrade,...me. It is true that people reveal their real feeling when they get drunk. I return home crying even though I went out hoping to have a joyful moment.*

Though I expected grievances from many negative partners, it was expressed by a very few of them. Since this study was conducted on couples who agreed to stay together, it might be very difficult to conclude that there is no the tendency of blaming the positive partner. At least, it is possible to assume that relationships in which there had been a strong blame have ended up with separation. The extent of blame can only be exactly understood by investigating the issue at hand immediately after the couples knew the different test result.

Surprisingly enough, the negative partners were not only blaming but also under certain circumstances found to be blamed. In this case the blame does not come from one's partner

rather it was from the relatives of the positive partner. This was typically experienced by a man who reported that his close relatives were blaming his wife for his infection. He stated:

When I disclosed my HIV status as positive and my wife's as negative, my relatives posed the question 'how she remained uninfected?' They believed that we both should be infected if one of us was positive. ... Thinking that she had done something behind my infection they developed a hatred for her. They believed as if she has maliciously done something to infect me.

This case is a blunt indication of the very low level of public awareness about HIV discordance. The relatives of this informant preferred to believe that his wife deliberately infected him (probably through HIV injection) rather than accepting the possibility of discordance. A study by Bunnell et al. (2005) found that the issue of discordance has created confusion in the community and the above case is a reflection of such confusions.

Another woman pointed out that:

...his relatives came home and asked me in outrageous manner how it happened. I have already heard a rumor that they have suspected me for infecting him deliberately. I was very much disappointed with the way they behaved....

The general public has been preached that a single unprotected sexual act with infected person can cause HIV transmission. This teaching has made it very difficult to the general public to accept the fact that a person with frequent exposure can have the probability to escape contracting the virus. Hence, the violent reaction may be blameless given the fact that what members of society knew and taken for granted is that each unprotected sex with infected person will necessarily lead to infection.

Finally, the issue of blame was viewed by health care providers as dependent on the gender of the positive partner. They stated that if it is the female who is positive the blame will be high. In contrary to this belief, they provided exemplary cases for peaceful relationship from male negative and female positive types of relationships. A statement from one nurse is a good example for this. She said:

> *...especially, if it is the male who was found negative he accuses his wife for infidelity and initiates separation.* This nurse provided as a role model a man from –M/+F type of relationship: *There are of course, some committed husbands. I can give you one exemplary case that I experienced. There are couples who have a follow-up in this hospital. The wife is seropositive and the husband is negative. The husband feels as if he is responsible for her infection. We told him to use condom but, he refused that he said 'I have to share her suffering'. You see there are such men who went to the extent of sacrificing their life to their partners.* Another nurse supported this: *Especially, if the male is positive let alone to give support, he doesn't even want to see her again. ...actually, there are also good men. For instance, I know a couple where the male is negative and his spouse positive. They are too young and newlywed. The man expressed that he also wanted to be infected. He justified that his wife married him against her parents' will... . I told him at least to use condom when I realized his risky behavior but, he refused to. He said 'if I use condom, she will lose her trust on me: she may feel that I will leave her one day.' He feels as if it is better if they have similar status.*

It can be understood that the professionals believed that men are more likely to blame their partners and have less interest to maintain the relationship. However, they mentioned men as the one who displayed a strong commitment to their partners. Indeed, the belief that men are more

likely to blame their partners might be the result of the professionals' personal belief about gender difference. A study conducted by Naran (2007) found that the male respondents all had agreed to support their partners while the female partners were divided on the issue. The present study also found that all informants who revealed a sort of blame were females. However, providing a conclusive statement on this issue is beyond the scope of the present study. In general, men were conceived by health care providers as both role models and deserters.

4.4. Exhaustion with Condom

The primary protective measure that serodiscordant couples are advised to take is to have a safer sex. Having safer sex implies that the partners were expected to take very strict precautions during the intercourse. The couples are supposed to use condom through out their relationship. As we all know, the relationship between serodiscordant couples in regular union at least theoretically, is a life long one. Hence, they are supposed to use condom consistently in their relationship as far as they remained sexually active. Some informants, however, revealed sexual impotency as a result of using condom. A man from +M/-F marriage stated that:

> *When I use condom I have to stay longer on sexual intercourse. Sometimes I interrupt the intercourse for I will be tired. This affects not only me but also my wife because there will be longer and repeated intrusion during the intercourse. At this moment it becomes very difficult to control my self that I put off the condom and continue the intercourse without it...*

Some others also mentioned that they don't like condom. A women in +M/-F union said:

> *Well, I wish we use condom all the time. But, I don't like condom that sometimes we do it without condom.* Another man (+M/-F) added: *She doesn't like condom that she wants me to avoid condom. I have tried a lot to stop her from that because she has to be there for our child. We are having unprotected sex and she is now pregnant.*

Of course, it is a demanding one for couples in a regular relationship to abide by the principles of safer sex. Even though that is the case for some informants, others have reported consistent condom use. A man in - M/+F relationship said:

It is unthinkable to have sex with out protection. Failure to use condom is dice with death. How could I put myself into a burning fire consciously?

Others explained that though they were tired of condom, they use it for they realized that it is the only option that they can resort to. A man from +M/-F union stated that:

Our sexual life has been so special. But, that has become history that now we have to have a safe sex. There is no such kind of having sex in different positions. Now I have to be careful to make sure there is no condom breakage. Even though, I am a bit dissatisfied with that kind of sex, I can't help it.

4.5. Fear of infecting or being infected

The positive informants in this study stated that they were preoccupied by frustration of infecting their spouses. They expressed that they experience sense of guilt every time their partner went for HIV test check up. They underscored that they get peace of mind only after they realized that their partners were still negative. A man (+M/-F) said:

There is no big problem than the frustration I have about the possibility of infecting her. In fact, HIV does not mean death but, I know what it means to live with HIV. My regrets will be a lot if I infect her.

Others depicted that they were frustrated about infecting their partner because they thought that it will create a great problem on their children. For them the infection of the negative partner mean additional burden to their children. These informants were comforted by the hope that at least the

negative partner is there to give support for their children. A woman from –M/+F relationship explained the reasons for her frustration as:

Well, as I told you we have four children. They all are dependent on his earnings. Imagine, what will happen to them if he is also infected. I have been worrying about infecting him because we used to have unprotected sex during the first few months after we knew our different HIV status. I got relief only after he made test and found negative.

Negative partners also indicated their fear of being infected. A man from –M/+F relationship stated that:

I don't know how long I will be careful? My trust is in God and I pray that He save me from making a mistake.

One may think that this frustration could not stem out of a vacuum rather there must be something that the couples done which they suspected can expose the negative partners to the virus.

4.6. Uncertainty

Some informants expressed that their certainty about the continuity of their relationship has eroded after the disclosure of their discordance. A woman from –M/+F type of discordance succinctly put that:

After the disclosure of our different HIV test result, I became so doubtful about his intention to remain with me. I have been very much skeptic. My fear has not yet completely gone even though it is not as deep as it had been during the initial period. Hearing rumors like couples were divorced for they have different HIV result increases my fear. I am still doubtful about the future. This woman went further to state: *...he got job and I don't. We all are dependent*

on his income. I am not bold enough to ask his financial support that I have to wait till he renders it with his own will.

The doubt about the future may be attributed to this woman's economic dependence on her husband, indicating that economic dependence as one explanatory variable for such uncertainty. Nevertheless, this is not the kind of conclusion that the researcher wants to provide as this study is a qualitative study with small number of samples that it is difficult to ascertain such relationship between uncertainty and economic dependence.

A male informant living in male positive and female negative marriage indicated that his wife's love for him has reduced after their different HIV status. He depicted that:

Her love for me has reduced after we knew that we have different HIV status. Now, she has turned all her attention to our children. Another man (-M/+F) admitted that he has separated his bed from his wife: *...we sleep on a separate bed. I sleep with my children and she sleep alone.*

A woman who was in need of a child and who was in nagging doubt about how she could realize her dream expressed her uncertainty as follows:

My parents expect a child from me. ...I don't know what to do about that...

The opposite trend was reported by some other informants. These informants indicated that their trust on their partners has even increased after they knew their HIV test result. One woman stated that:

Our intimacy has even increased than it was before we knew our different HIV result. It has brought us much closer in an attempt to deal with some of the challenges.

In general, positive partners in both types of relationship that is positive male and negative female or the vise versa may lose their trust in their partners. However, as mentioned earlier there are informants who asserted that their intimacy has even increased after the disclosure of the discordance.

4.7. Reduction in sexual desire and frequency

It was stated earlier that the couples have the fear of infecting or being infected. This fear in turn, has reduced their sexual desire. One woman (+M/-F) explained the changes she experienced after the disclosure of the different status as follows:

> *Of course, during sex you can't have as much body contact and closeness as you used to have. You have the fear not to contract the virus; you lose the freedom that you used to have. Yes, sex is not as interesting as it had been. Yet, whatever happened to your sexual life, there is more important thing that you should worry about that is your children. You can't leave home for you are unhappy with your sexual life because you have to take care of your children.*

Some others complain of reduction in frequency of sex. A man from –M/+F exemplified this as follows:

> *Actually, discordance put some pressure on your life. One difficulty is related to sexual life. For instance, the interval between intercourses is increasing from time to time. We used to have sex at least once a week; this was changed to once within two weeks,...eventually, sex became so rare. She has a recurrent illness* (he mentioned that his wife has refused to initiate the treatment even though the doctors have told her to)*...it is going to be a year since we had our last sex.*

As we will discuss later reducing the frequency of sex was mentioned by the participants as a mechanism to lead a healthy life style. On the other hand, the reduced sexual act as the above quote indicated has repressed the negative partner's desire.

4.8. Lack of dependable source of information

The informants pointed out that they are keen to learn every detail about serodiscordance. A male (+M/-F) informant who is in bad need of having a child said:

> *I heard that people in a discordant relationship can bear a child without risking infection. Last time, I came across one woman who lives in a discordant marriage and she told me that she never used condom with her husband. They were able to have children after they knew their different HIV result. This is something that I listened from a lay person. I was not able to find trustworthy information from a credible source. I wish I learn how discordant couples where able to have a child without risk.*

Despite their interest to learn more about discordance they revealed that they do not have a readily available regular source of information about it. Almost all of them specially the negative partners stated that they get information informally from people around them. They also revealed that they casually have listened about it from radio. The statement from a male (-M/+F) informant summarizes the information sources mentioned by most informants:

> *I have no such special source of information even though I'm eager to learn about it. I occasionally listen from radio like everyone. In fact, the physician has given me a piece of information on the day we knew our different HIV result.*

Most negative partners complained for lack of regular source of information. This may partly be the result of their tendency not to participate in some counseling programs that the positive partners partake in like participating in discussions prepared by PLWHA association for HIV

discordant couples. Furthermore, the positive ones are more likely to have contact with professionals, for instance, while visiting health facilities to pick medications (ART) or for any related health problems.

All key informants from both public and private health facilities confirmed that there is no such program specifically tailored to serodiscordant couples in their health facilities. Serodiscordant couples were served like any other people living with HIV. An HIV specialist nurse said:

> *There is no such special consideration to discordant couples. It would have been so great if there had been a stage on which we can discuss with them.*

In the previous two chapters we have seen that some couples continued their life as usual after the disclosure of the different HIV status and others stated that the presence of HIV in their family has induced a formidable challenge to their relationship. The present chapter has shaded light on the challenges that those couples who were disturbed by the discordant test result faced. As I did in the last chapter, in order to enhance our understanding of discordant couples, now I will present one exemplary case for the couples whose relationship was distorted with the different test result.

E is a 31 years old HIV positive man. He met his wife before 2 years and never been tested for HIV before marriage. They made civil marriage after staying for six moths in courtship. He has no child. He believed that he was infected as a result of medical error while taking treatment for TB. Let's see how he contracted the virus and how he explained the discordance.

It was long ago that I suffered from TB and took treatment through injection. I took more than 300 injections. A single needle has been used for many patients. I never had any sexual affair before this time. ...I think I contracted the virus when I was taking this treatment. I used to have sexual affair with three ladies before I got married to my current wife. All the three ladies are HIV negative. I think because I was infected through needle my type of HIV does not pass to others...

He was asked what his relationship with his partner looks like after the discordance. He answered as follows:

Now, she is a different person. She is not the one whom I know previously. She keeps silent. I don't know what her intention is. Her silence really disturbs me and even I don't think she considers me as her husband. Whether you believe or not we had sex only once after we knew the discordance. She doesn't want sex with me but she wants a child. I don't know how she planned to deal with that. For me it would have been better if she clearly told me that she doesn't want me any more. She doesn't want to talk with me and if she talks it will be something that degrades me. Our life has been full of joy and happiness. I tried a lot to regain that but,... For instance, sometimes we went to picnics just to relax. Yet, after she had some beer she starts to insult, degrade,...me. It is true that people reveal their real feeling when they get drunk. I return home crying even though I went out hoping to have a joyful moment.

We both used to have a plan for a child. In fact, we have tried many times to bear a child before we knew the discordance. When we failed after repeated trials, we both went through fertility test. They told us that the problem is with me. I think it is the result of my HIV infection which has weakened me and impaired the sperm not to fertilize. But, now I have

started the medication that I am strong enough to do that. However, the problem is that she is not ok let alone to have unprotected sex but also with condom. Indeed, I don't want to use condom with my wife. How do you use condom with a person whom you think is your wife? I think she would not have let me down this much, if we had a child. I heard that people in a discordant relationship can bear a child without risking infection. Last time, I came across one woman who lives in a discordant marriage and she told me that she never used condom with her husband. They were able to have a child after they knew their different HIV result. This is something that I listened from a lay person. I was not able to find trustworthy information from a credible source. I wish I learn how discordant couples where able to have a child without risk.

...our home is now so cold and I am not certain about the future. The only hope I have is my wife and if she abandon me it will be the end of the vey little hope I have in my life.

E's case is a clear evidence for the multidimensional challenges that some couples in discordant relationship face. The challenges he raised include problem with reproduction, sexual life, uncertainty, lack of communication, hopelessness, and feeling of neglect by his partner.

In general, it was found that the challenges discordant couples face revolve around psycho-social problems (like blame, guilt, uncertainty, stigma and discrimination), sexual life (reduction in sexual desire, fear during intercourse), and reproductive area. Yet, it is important to note that these all challenges were not part of experience for all couples. Some couples do not allow HIV to distort their daily routine and have tried to normalize it.

The forth coming chapter will be about the coping strategies that couples in discordant relationship used to manage HIV.

CHAPTER FIVE

COPING STRATEGIES

Studies conducted so far on serodiscordant couples have pointed out that couples who realized that they have different HIV status may either choose to cease the relationship or stick together by making some sort of adjustment to their new status. As this study was conducted among discordant couples in a steady relationship, the present chapter will shade light on how these couples manage to live with discordance. Before delving deep into the coping strategies of the couples let's see separation as viewed by participants.

5.1. Separation

The present study has shown that those serodiscordant couples who have children were less likely to opt for separation. Informants have been asked to mention the main reasons to maintain their relationship after the disclosure of the different HIV status. Most informants particularly the negative ones mentioned their children to be the major reasons to stay in their current relationship. A woman from +M/-F marriage disclosed the reason why she stayed in her current relationship as follows:

Imagine, what would have happened to our children if I had run away? I would not have stayed if my children were not there. Leaving home alone would not be as such difficult. But, if I have to leave home, I have to do it with my children .Of course, leaving with my children has its own immense repercussions for I have to pay for house rent, their schooling, food and other stuffs. This option was very difficult for me than staying home. If I leave lonely it means my children will go out to the street and become beggars. Till my children become self-dependent, I have to live in any condition. So the saying goes 'mother dies for her children'. When it comes to children there is no life that you don't live.

Another male informant (-M/+F) supported this idea when he said:

Whatever happened there is something strong that binds us together. That is our children. I have to be there for our children. I am the only one that supports them.

Here it is important to remember George Simmel's classic work on interaction. Simmel in his analysis of the impact of numbers of people on the quality of interaction stated that the change of dyad into triad has a paramount effect on the relationship. He stated the addition of the third party into a dyad for instance, married couples who bread a child, makes a relationship more stable. As stated by Macionis (1995) Simmel argued that the third person, should the relationship between the other two members become strained, can act as a mediator.

For some others children are not the only reasons to maintain their relationship. Informants who do not have children at the time they knew their discordance explained that their emotional attachment to their partners is the reason for not ceasing their relationship. A woman (+M/-F) expressed why she remained intact with her husband as follows:

He is a kind of person whom I owe a lot. We met at the time when I was in a big mess due to my mother's death. He is the one who took me out of that desperation. I don't want to let him down; I want to be with him as far as he is alive. Another woman (+M/-F) said: *Yes, the only reason that made me to stick with him is love.*

Furthermore, it was found that the discordant relationship is more likely to be maintained if the negative partners believed that the cause for their partners' infection was not extramarital sexual affair. A male (-M/+F) informant said:

There is no a kind of dispute between us. You know why? My wife is not a kind of person that I suspect for sexual scandal. She was infected while giving care to someone who was infected through blood-to-blood transmission.

An Internist explained her experience with –M/+F type of discordance as:

I have one patient whose husband is helpful to her. He believes that his wife never went for promiscuity rather he thinks that she was infected when she gives care for their infected maid. One male (-M/+F) participant expressed that: *My greatest doubt is that she might have been infected during delivery in the hospital. She gave birth with surgery and accidentally the doctor got a finger cut. It might be the blood contamination at that moment that exposed her.*

Most key informants indicated that the probability of separation is high in positive woman type of discordance. One HIV specialist nurse put that:

If it is the male who is negative he either run away or makes a legal separation. ... . If it is the woman who is negative there will be high probability of maintaining the relationship. This might be as a result of her economic dependence or lack of a better option than the present relationship...

The probability of separation does not only seem to depend on the availability of children, emotional attachment, and on the negative partners' view of the cause of their partners' infection but also, it depends on significant others' reaction to the discordance. The present study revealed that the reaction of people around the negative partners plays a paramount role in determining the decision for separation. An Internist doctor stated her experience as:

Last year, there was this patient taking treatment in this hospital. His wife has been taking care of him; she has been so supportive. Unfortunately, he came last time and told me that

she had left him. I asked why? He replied that her parents compelled her not live with him.

A woman (+M/-F) who feared to disclose the discordance for her parents stated her justification as: *I know what my parents will do if they are aware of our different test result. They will immediately separate us even though I don't want to leave him.*

The professional participants expressed that coming across HIV discordant couples brings additional task to them. They stated that they have to resolve the dispute between partners that comes as a result of having different HIV status. The task of mediation according to them becomes more difficult when they face with negative male and positive female type of discordance. One nurse said:

My frustration is high when I face discordant test results. The task of mediating couples who fall into dispute is not an easy one. I personally prefer they have the same result. A community counselor stated: *"I feel some frustration when I come across with –M/+F type of discordance. In such cases I will try to give an intensive counseling for the man.*

Such frustration among professionals may have stemmed out of their fear that the probability of separation will be high in –M/+F type of discordance.

It may seem that the negative partners are the one who initiate separation. But, interestingly this study found that the positive partners can also initiate separation. A man from +M/-F relationship expressed his failed attempt of separation as:

I left home and started to live alone after we knew our discordance even though she was unhappy. She has been asking for reunion. As it is difficult to take care of children properly while the parents live separately, I decided to get back to home. One case raised by a nurse exemplifies the issue. She said: *For instance, once I came across a couple in which the male*

is positive and the female negative. When they knew their different test result, the man indicated his intention for separation. He told her to live her own life. He expressed that he is not a kind of person who deserves her. Interestingly, he provided financial support to make her economically self dependent.

Another positive male informant stated that it had not been his intention to continue the relationship. Rather, it was his wife's persistence that made him to change his mind. He stated:

Initially it has not been my intention to remain with her. At the moment we knew our different HIV test result, the doctors asked my plan and I explained to them that we should be separated. Surprisingly, her choice has been the opposite one. It has been a great dilemma for me to decide. But after I pondered the issue I decided that rejecting her idea is a kind of insensitivity. How could I refrain while she is ready to sacrifice herself for me?

Once after serodiscordant couples decided to stay together, there are certain unique affairs that they should deal with in order to lead a healthy life style. It is obvious that the situation of HIV discordant couples is by far different from either negative or positive concordant couples. The positive concordant couples for instance, were likely to go together through their common problem of the illness process. As I have tried to describe in the previous chapter, there are multifaceted challenges that serodiscordant couples have to deal with. HIV discordant couples have developed their own ways of dealing with the challenges. Various categories of strategies were mentioned by the couples. But, all coping strategies that will be discussed in the forth coming sections should not be understood as effective. Some of them might be risky and ineffective.

5.2. Safer sex

Though the terms safe and safer sex have been used interchangeably, nowadays this usage is deemed as erroneous. According to Compact Oxford English Dictionary (2009) safe sex is defined as "Sexual activity engaged in by people who have taken precautions to protect themselves against sexually transmitted diseases such as AIDS. Some sources prefer the term safer sex to more precisely reflect the fact that these practices reduce, but do not completely eliminate, the risk of disease transmission (The American Heritage Dictionary of English Language, 2009). The term safer sex seems pleading one when applied to the present case in that condom can break or fall off during sex presenting the risk of infection.

First and foremost discordant couples are expected to avoid the transmission of the virus from the infected partner to uninfected one. This expectation primarily demands an alteration in their sexual life. Their sexual practice should be redirected in such a way that it can be labeled safer one. Inherent in the principle of safer sex is the assumption that the condom should be in place from the beginning to end of sexual activity and should be used every time during sex. Informants indicated that the first time they knew their discordance; they were informed by professionals (physicians or counselors) to engage in safer sex. A male informant (-M/+F) accentuated his consistent condom use as:

> *Earlier God protected me for my ignorance of our different HIV status. Now, how could I dare to think of sex without condom? God has revealed for me our discordance when the time comes to make precaution. I think attempting unprotected sex is to disregard His credit.*

Here it is important to quote once again what a man from -M/+F union suggested indicating how much he was serious about using condom when he said:

It is unthinkable to have sex with out protection. Failure to use condom is dice with death. How could I put myself into a burning fire consciously?

As I have tried to show earlier, such consistency in condom use was not a common place because significant number of informants reported inconsistent condom use. Some informants pointed out that sometimes they fail to control their sexual desire in a place where condom was unavailable that they were impelled to have sexual intercourse without condom. Others even have completely avoided condom use.

5.3. Coitus interrupts

Some others indicated coitus interrupts as one way of dealing exhaustion with condom use. A man (+M/-F) lucidly exemplified this when he stated:

As we all know, the primary mode of transmission for the virus is unsafe sex. Even though that is the case.... it is sometimes difficult to bear the difficulties I face when I use condom. It takes me very long time to ejaculate when I use condom. At times, I interrupt the intercourse for I will be tired or else I put off the condom and continue the intercourse. When my orgasm gets closer, I take out my organ and spill the semen out side her body.

This informant indicted that unsafe sex is the primary mode of HIV transmission. Hence, in order to avoid the risk of transmission he revealed that he spill the sperm out side his wife's body. However, coitus interrupts is one of the dangerous coping strategies as it cannot prevent the transmission of the virus. The couple is not protected from sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV). As Pudney et al., 1992 stated surface lesions, such as those from herpes genitalis or human papillomavirus, may be infective. Not only does unintentional ejaculation pose a risk for infection, but so does the pre-ejaculate fluid.

5.4. Non-penetrative sex

Those informants who reported discomfort with condom were more likely to report some other mechanism of enhancing their sexual gratification. In addition to penetrative sex participants revealed that they use non-penetrative sex like caressing sexual organs. Non-penetrative sex is sexual activity without vaginal, anal, or oral penetration as opposed to penetrative aspects of vaginal intercourse, anal sex, or oral sex (http://en.wikipedia.org/wiki/Non-penetrative_sex). Non-penetrative sex here was not used to mean as alternative to penetrative sex rather as complementary to it. These supportive sexual practices were suggested by male informants. None of the female informants mentioned these alternatives. A male informant (+M/-F) who expressed his wife's discomfort with condom explained how he handled it as follows:

> *Of course, the first few periods have been difficult after we started to use condom. Its lack of natural body contact and its lubricant are some what disgusting. She also told me her discomfort with condom. That is why I use complementary mechanisms like, caressing the genitalia.* Another man who was unhappy with using condom stated that: *...now, I have to use condom. That one has significantly reduced our satisfaction with our sexual life. I feel sex with condom is somewhat unnatural. The discomfort will be worse if you don't use some other ways to fill the gap, like intensive foreplay. If you fail to make your sexual life pleasurable, your relationship will be highly affected.*

As it can be inferred from such cases some informants believed that sexual compatibility is an important source of love and intimacy. They felt that sexual incompatibility will put danger on the stability of their relationship so that they strived to make it as interesting as it had been..

5.5. Abstinence

Abstinence in the field of HIV campaign commonly refers to a plan to avoid sexual intercourse before marriage. Abstinence here was used to refer to the decision to avoid sexual intercourse with one's partner because of the different HIV test result. Here it is important to note that abstinence from sexual intercourse with one's partner does not necessarily guarantee avoiding sex with someone else. This was confirmed by one of the study conducted on discordant couples which concluded some discordant couples agree not to have sex with their partners but rather with others outside their relationship (Bunnell et al., 2005).

Some of the informants reported that they have initially planned to abstain from having sex with their partners. Indeed, they have avoided sexual intercourse with their partners during the first few periods after the disclosure of their HIV discordance. A male (+M/-F) informant revealed that:

We never had sex for the first one year after we knew our different HIV status. But, the avoidance of sexual intercourse did not last more than a year. As I became physically strong after I started to take the medication (ART)..., *my desire for sex has grown. I revealed my interest to have sex to her but she refused. I explained to her this will be dangerous that I will be forced to look for other ladies like I had been doing previously. ...as I'm still the one who makes the living for the family, I was able to influence her. ..., we can only maintain our relationship if she can keep my interest. That is why she ended-up to accept my idea.*

Another woman (+M/-F) added that:

Initially, I decided to refrain from sexual intercourse. However, it has not been as easy as I thought it would be. ... . How long could I repress his interest? It is very difficult to refuse

while you are living together in a single house. Eventually, I realized that abstinence is not the way out and I agreed to have a safe sex.

As the above quotes indicated some informants have tried to abstain from sexual intercourse soon after the disclosure of the discordance. Here it might be possible to think that during the first few periods (crisis period) serodiscordant couples were preoccupied with other issues like the health of the positive partner (as in the above quote *'As I become physically strong...'*) than sexual intercourse. However, informants disclosed that abstinence was unbearable. They reasoned that it may ultimately distort their relationship when they stated for instance, *"How long could I repress his interest?* And *".... we can only maintain our relationship if she can keep my interest."*

However, one informant revealed that she never had sexual intercourse with her husband since the disclosure of HIV discordance. She (+M/-F) said:

It is going to be two years since we knew the discordance. We have abstained from having sex since that time. He doesn't want even to make it with condom. He feared that there will be no one for our daughter if we both were infected.

From this case we can understand that the positive partner can be the one who opts for abstinence. In the above quote even though the negative woman has tried to convince him to use condom, her husband insisted not to engage in any kind of sexual intercourse. Probably, this may indicate the amount of power men have in negotiating sexual relationship.

5.6. Reducing frequency of sex

According to some informants increasing the gap between intercourses will allow one's sexual arousal to get high which in turn solves the problem of sexual impotency as a result of condom

use. A man (+M/-F) exemplified this when he explained how he deals with the problem he have in using condom as follows:

When I use condom I have to stay for long on sexual intercourse. ... .In order to ejaculate quickly we agreed to have sex with longer interval. Now, we engage in sex with 15 or20 days gap once after my sexual desire gets high.

Furthermore, others have mentioned that reducing the frequency of sexual intercourse is important for their health. They expressed that frequent sexual intercourse can affect their health by reducing their resistance. Here is how a man (+M/-F) stated the issue:

We used to have sex frequently but, now we do it with longer gap like once a month. Previously, it had been at least once a week. Reducing the frequency of sexual intercourse has helped me to increase my resistance.

According to some key informants reducing the frequency of sex is something advisable to serodiscordant couples. An HIV specialist nurse said:

We advice them to have a safer sex... Besides, we tell them it should be done occasionally. Lessening the frequency of intercourse can help to reduce the probability of infecting the other partner.

The professionalss justified that the more frequent the intercourse means the higher probability of transmission in case if condom fail. The other reason is that frequent sexual act is dangerous to the health of the positive partner.

5.7. Silence

Some couples in HIV discordant relationship do not want HIV to invade their daily life. They want to put it at the backside so that they feel state of normalcy. A female (-M/+F) informant said:

I don't want to talk about HIV and my husband too. He doesn't try to investigate how I contracted the virus. I don't want to think about it for a moment; it pisses me off (selam yinesagnal). The silence about the different test result is great for us because it makes us feel state of normalcy.

This way of managing HIV discordant marriage may result in normalization of the different test result. It can make them feel as if nothing new has happened which in turn may affect the couple's preventive precautions. Such couples were found less interested to participate in any sort of HIV discussion. This in turn, helps them avoid the tension that might be resulted by giving attention to it. A woman from –M/+F marriage revealed that she never attended any counseling program and do not want to participate in things like that. She stated:

I don't want to talk about HIV with any one including my husband. Thinking about it (HIV) totally takes me out of mood. I know how much I am disturbed when I come to this hospital to take the drugs. In this hospital, for instance, they have coffee ceremony (yebuna tetu program) for HIV positive pregnant mothers to teach how to prevent the transmission of the virus from the mother and I never attended that.

5.8. Communication

In contrary to those couples who preferred putting HIV at the background, some others revealed that they put HIV at the forefront. A man from +M/-F relationship stated:

She is more concerned about my health than me. She is my time keeper that she gives me a call if I'm not with her to remind me to take medication. She is always interested to learn my CD4 count. It gives me great pleasure to inform her about my progress. Another woman (+M/-F) supported this when she said: *He has been suffering a lot and was near to death.*

But, Alham Dulilah he survived and his progress is incredible under the drug... It (discordance) *has brought us much closer in an attempt to deal with some of the challenges.*

Some informants do not want to confine the communication only with their partners. Instead, they like to extend it to others as it can help them learn more about it. One of the participants (+M/-F) said:

It is going to be nine years since we knew our HIV discordance. It can be roughly said that we didn't use any protection during the first six years. It is only after we started to partake in the monthly counseling and training program organized by Mekdim Ethiopia that we began to have safe sex.

The effect of such voluntary counseling on the behavior of couples was investigated in Uganda and it was found that before voluntary counseling and testing, less than three percent of couples reported condom use but that after voluntary counseling and testing, more than eighty percent of couples reported condom use (Allen, Meinzen-Derra, Kautzmana, Zulud, Traske, Fidelia, Musondag, Kasolod, Gaoe, & Haworthh, 2003).

5.9. Hope

Some informants believed that the best is yet to come which in turn made them feel optimistic about the future. An informant from +M/-F explained his hope as follows:

I used to look like a bag of bones when I knew my HIV status. I have been always stressed with fear of death. I saw many of my friends died of AIDS. I was in general hopeless and never thought I would recover. I lost my motivation for work and gave up my job. However, thanks to the treatment I received and my wife's care...I recovered in a short period of time. Now I am normal. For instance, my CD-4 count is 778 and my weight has returned where it had been. Now I am hopeful that a cure will be found for HIV in the future. I realized that

*HIV is a minor problem as compared to more serious diseases like cancer, heart failure....*Another man (-M/-F) said: *Originally. She has refused to take medication. Sometimes she takes it and at times she interrupts. She has been worried about taking drugs for life long. But, after she narrowly escaped death last year, she strictly adhered to the drug. Really, her progress is extraordinary; she is regaining her previous beauty every morning...*

With the introduction of ART, HIV has changed to a chronic illness. This progress in HIV treatment has significantly increased the hope of people living with HIV.

5.10. Disclosure

In the preceding chapter I mentioned that disclosure was one of the challenges the couples faced. Despite the frustration they originally experienced in revealing their status, informants have indicated that it has helped them avoid the fear that they had for they believed that they have infected their partners. Disclosing one's status is an important strategy for the prevention of transmission. A study conducted in southern India reported that HIV infected patients who did not disclose their HIV status were 5.5 times more likely to transmit than their counter parts (95% CI: 4.3–6.2) (Kumarasamy, Venkatesh, Srikrishnan, Prasad, Balakrishnan, Thamburaj, Sharma, Solomon, & Mayer, 2009).

Some others expressed that their disclosure has won them support from others. A male (+M/-F) informant indicated as follows how his disclosure helped him:

I disclosed to close relatives immediately after I knew my HIV status hoping that they will help my family. Had it not been for my two brothers who live abroad I would not have

raised my children. The food support from World Food Program and the financial support from 'Mekdim Ethiopia' (A National PLWHA Association) *have helped me a lot.*

5.11. Religion

Functionalist sociologists state that religion has the function of providing sense of purpose and meaning to life to its adherents. They also argue that religion can serve as functional equivalent of psychotherapy (Cragun and Cragun, 2006). A man (+M/-F) explained as follows how religion has helped him to cope with his situation:

Allham du Lilah…I am a believer and have attended religious teachings. …the biggest fear that humans have in their life is fear of death. However, my religion has taught me that the cause of man's death is not known to anyone except the creator. I never worried I will die of AIDS because the creator has already set the time and causes of my death which I can't change.

A counselor who was mesmerized by one of his clients trust in God said that:

His wife was negative but he is positive. I always tell him to start the medication (ART) *but, he refuses believing that God will cure him. He comes monthly to have HIV test at this hospital. Before making each test he tells me that he has been in one of the holly waters or a religious leader has prayed for him that he is hoping for cure.*

A man from –M/+F type of discordance explained that his wife resisted to start medication in the face of her recurrent health problem. She preferred to solely rely on religious treatment for many years. He stated:

*She has refused to start the medication. She doesn't even want to visit health centers. Her trust was in religious healings like, visiting holly waters. She reasoned that God is omnipotent; He is the one who made this (*the discordance*) and He is the only one who can*

solve it. I tried a lot to convince her but... . She has been solely using religious healings for three years after we knew the test result. Finally, when she became extremely ill, I brought her to Hospital and she has been treated for the last couple of days. For your wonder, she was not even interested to take medication in the middle of the treatment. Thanks to God, now she is in a good health status. She has agreed to take the medication when she observed her quick recovery. She is so glad that she survived for her children.

As discussed earlier, religion was mentioned as major way of explaining HIV discordance. They believed that it is God's will and grace that saved the negative partners. Hence, it is highly probable that one may expect they were more likely to rely on God to deal with the problem. However, the reality is that most informants do not solely depend on religion. Rather, they have the tendency to combine religion with pragmatic (medical treatment) ways. A female (+M/-F) informant explained her belief to use both strategies when she said:

The most vital thing is to believe in God. Secondary to that it is also important to use the condom properly.

One informant (-M/+F) explained how religion played a role in maintaining his trust in his wife. He said:

...we both were brought up in a church and got married though religious marriage (teklil). I don't feel that she was infected as a result of promiscuity; I know she is not that kind of person...we trust each other...

Even though, religion was expected to play a pivotal role in dealing with discordance it was discovered that only few of the informants mentioned religion as one way of going through their problem. Most informants either mentioned scientific mechanisms like proper condom use, ART or mixed ways that is both scientific and religious coping strategies (praying and holly water).

Since the study was conducted on those couples who avail themselves at health facilities, it might be unrealistic to conclude that religion plays a minor role to deal with their situation. There might be a number of people who have not brought themselves to the attention of medical treatment by resorting to other healing options including religious or faith healings.

5.12. Support from one's partner

By definition marriage implies the cooperation of the two partners. Once after marriage was concluded the partners share rights and responsibilities and they are dependent on one another. In a serodiscordant relationship the positive partner is dependent on the negative one for his/her health at least for their psychological and social well-being if we agree on World Health Organization's definition of health as complete state of physical, social, mental, and spiritual well-being. As one woman (-M/+F) stated:

It is painful for me to see my husband and other family members troubled with me when I get sick. Sometimes I feel that God is so unfair; why it happened to me? ...

As this informant succinctly put she is no less troubled socially, mentally, and spiritually than her physical infirmity. Socially, she felt that she is hurting people around her. Mentally, she pointed out that it was painful for her to trouble others. Spiritually, she indicated that she is blaming God for putting her in such condition. The participants indicated that the negative partner plays a significant role in managing these inextricably interwoven problems. Most positive informants depicted the role of the negative partners when they said for instance, *'thanks to him'*, *'She is the pillar'* and the like. A man (+M/-F) explained his partner's support as:

I have no words to explain her support. She is the pillar of my life

Another person (+M/-F) expressed his wife's support to recover from the traumatic event of knowing HIV positive status as follows:

I have been so desperate that I never thought of recovery. My motivation for work has been so demolished... . However, thanks to her...I recovered in a short period of time.

The positive partners repeatedly suggested acceptance from their partners was the most important thing they need. One woman (-M/+F) suggested that:

Once HIV discordance happened, couples should believe in the possibility of living together. Even in a relationship where there are no children, the negative one should not leave his/her partner... . Separation makes the positive one a fish out of water. The negative one should remember the past...

This woman has clearly put the importance of the negative partner as a resource for the well-being of the positive one in serodiscordant relationship.

The positive partners highly rely on their partners in one or another way for their well-being. On the other side of the coin, there were instances whereby the negative partners consider their partners as the one on whom they depend for their health. These informants were those who have chronic diseases other than HIV. They indicated that their partners were their care takers as there are some chronic illnesses that require close follow-up than HIV. A woman (+M/-F) specified how her role as a caregiver has changed after she became a chronic patient when she said:

...now, it's not me who gives help rather he is the one who takes care of me for I have an asthma.

Another woman reported that her self esteem has improved after her husband was diagnosed diabetic. She stated:

Previously I thought that I am dependent on him. I felt I was subordinate (Yebetachnet yisemagnal) to him. After he was found diabetic he started to feel as if he is more

dependent on me. He tells me that his is more serious than mine. Indeed, he is selective in his diet and he needs closer attention than me. This has helped me to avoid my sense of inferiority.

This implies that positive partners in discordant relationship face the challenges of psychological disturbance. However, as a matter of coincidence the negative partner's chronic ailment helped the positive partners to regain their self image.

5.13. Support from others

The type of support that the positive partner derives from his/her partner, as indicated above, was basically emotional and economic support. Informants have also outlined that they need others primarily for the sake of economic support that they may get from them. The generic term others was used here to refer to a range of support centers that extend in the continuum from the support provided by close relatives to institutional supports given to HIV discordant couples. In this continuum one can find relatives, friends, neighbors, and professionals (counselors and health care providers).

Informants have underpinned that the type of support they received from others was typically an economic support. Let's take a look at the following quote from a man (+M/-F) to understand the support informants got from others:

I disclosed to close relatives immediately after I knew my HIV status hoping that they will support my family. Had it not been for my two brothers who live abroad I would not have raised my children. Food support from World Food Program and the financial support from 'Mekdim Ethiopia' (A National PLWHA Association) *have helped me a lot.*

A woman (-M/+F) added to that when she stated how her neighbor helped her to go through her problems as follows:

I give the greatest credit for my survival to an old woman who is my neighbor. She is the one who put me in touch with the organization from which I received milk and other food support for one year and half. She is always there to provide me with everything I wanted.

The other type of support that informants mentioned to come from others can be classified as *instrumental support*. Instrumental support here was used to refer to the role that people play in creating a link between support centers and HIV discordant couples. One sort of instrumental support that has been already mentioned in this paper was the role others play in pushing the positive partners to bring their condition to the attention of professionals. This can be labeled as instrumental support in that others have played a pivotal role in linking the person with health care providers.

Some informants praised more frequently their counselors than health professionals in helping them deal with their psych-social problems. A man from +M/-F relationship expressed his gratitude to his counselor as follows:

My counselor is really a special person. I have been in a great desperation; he has sawn the seeds of hope to my life. His encouragement has changed my life greatly.

The classification of support types that informants get from partners and others should not be taken as mutually exclusive. The classification was made rather to show that certain types of support were viewed as support derived from particular source. As discussed above for instance, partners primarily provide emotional and economic security. However, this kind of support may also come from counselors as it was lucidly forwarded in the above case. The economic support

from one's partner may not be considered as support rather it may be considered as their prerogative.

In a relationship where the breadwinner was negative, usually in a male negative type of discordance, there was a lesser tendency to disclose to others. This may partly explain the fact that couples were motivated to disclose to others to cope with their economic problem.

CHAPTER SIX

CONCLUSIONS

Patients' understanding about a particular disease largely depends on the information they gain from health professionals. In a situation where these professionals fail to provide accurate information, it is apparent that the community at large will also be disoriented and misinformed about health issues. The present study has revealed that there was an extensive misconception both among the couples and service providers about HIV discordance. This can be attributed to professionals' (health institutions') failure to accurately explain discordance to their clients. On the other hand, such failure of professionals (health institutions) could be the result of lack of policy level concern for HIV discordant couples who were not viewed as a high risk group. For instance, nearly all key informants believed HIV discordance is a kind of rarity. However, the fact is that two-third of infected couples in Sub-Saharan Africa were discordant (De Walque, 2007)

The other factor that contributes for the spread of the misconceptions, as the findings of this study and its theoretical model suggests, was the interpersonal communication among people in discordant relationship. This operates when some discordant couples share to others in similar situation, their success story of remaining uninfected despite repeated exposures.

These findings suggest the need for raising the awareness of both the couples and service providers about HIV discordance. Reducing the confusions around HIV discordance can only be

achieved if at least the health professionals and other people in the area were able to avoid their own misunderstanding as they are the primary source of information for the general public.

The other important finding is that those couples who didn't attend and who are not interested to participate in counseling programs were more likely to engage in risky sexual behavior. Such couples tended to rely on their own personal belief and experience in managing their relationship including their sexual life and reproductive plan whereas, those informants who have attended counseling programs were found to exhibit a lesser risk taking behaviors. Therefore, as there were very limited or no efforts aimed at preventing HIV infection among discordant couples it is imperative to give attention to counseling programs which are targeted to discordant couples.

Discordant couples have strong desire to have a child (Spriggs and Charles, 2003). Especially, those who never bread a child out of their relationship faced pressure from relatives and significant others to reproduce. Such influences are important indicators of the role of interpersonal and social structural level factors in determining the couples' decision. At interpersonal level one's partner, parents and significant others may have strong desire to see their generation being replaced. This can be attributed to societal value of seeing children as insurance during old age and societal need to replace dying members. The pressure from significant others forced some discordant couples to go for a child through natural pregnancy (unsafe sex). Using this method is unadvisable and is deemed as risky especially for horizontal transmission. However, recent findings indicated that with the advancement of HIV treatment this natural conception is one option for discordant couples under certain preconditions (Barriero et al., 2007). These preconditions include; the positive person having undetectable viremia under

HAART, lack of other STDs and so forth. However, what was found in the present study is that these measures were largely neglected among the couples who gave birth after the disclosure of the discordance and the professionals.

Even though assisted reproductive technologies are available for HIV discordant couples in the developed world, it is not easily accessible in Ethiopia. Though very difficult given its sky rocketing cost, enhancing access to these assisted reproductive technologies might be one way of alleviating the problem. Natural pregnancy can also be viewed as another alternative given all the necessary preconditions were fulfilled. Or else the couples can also be advised to use mechanisms like adoption to fulfill their dream for a child. However, what was found in this study is that service providers expressly forbid any attempt for conception which in turn, discouraged couples in discordant relationship from seeking professional advice before conception. Service providers should discuss in detail with discordant couples about reproductive plan because the desire for a child was one factor that encourages unsafe sex.

Discordant couples vary in their HIV management. Some couples utilize effective strategies like safer sex, smooth communication, and cooperation. For some others the presence of HIV did not affect their relationship. Such couples continued to have unsafe sex and the discordance did not interfere in their reproductive decision. Even some others seem to be aware of the need for precaution but, failed to know how they can do it. For instance, couples who indicated coitus interrupts as a preventive mechanism were disoriented in that they believed it can protect the transmission of the virus. Hence, some of the coping strategies like coitus interrupts, silence, and sole reliance on religion can be regarded as ineffective coping strategies. For instance, coitus

interrupts could not prevent the transmission of HIV; silence about HIV, even though, it avoided for some couples the tension that could be created as a result of thinking about HIV, for others it resulted in a sense of neglect among the positive partners and complete reliance on religion may constrain the search for treatment from other options.

The negative partners were found to play a decisive role in the management of HIV among discordant couples both positively as well as negatively. Some of them played an important role by remaining committed and cooperative to their partners. Surprisingly enough, some others have contributed significantly for the inconsistency of condom use among the couples. This suggests the need to make the negative partners part of any future interventions targeted to discordant couples.

In general, we need to address the knowledge gap that service providers have about HIV discordance which in turn helps to avoid the clients' confusion. Further, enhancing reproductive health services for HIV discordant couples is a timely issue. Detailed guidelines on how to educate and counsel HIV-discordant couples are urgently needed.

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ANNEX A

An interview guide for informants

Demographic characteristics of participants

1. Sex _____
2. Age _____
3. Educational level _____
4. Occupation _____
5. Do you have children? _____
   5.1. If yes what is the number of your children? _____
6. Do you want to have children? _____
7. HIV status _____
   7.1. If positive are you on ART? _____
8. What is the total number of years stayed in the current relationship? _____
9. What is the total number of years after the disclosure of HIV status? _____
10. Have you and your partner been tested for HIV before starting your relationship? ___

Questions related to knowledge about serodiscordance

11. How did you know your discordant status?
    11.1. If you or your partner or both of you went for testing, what was the reason for testing at that time?
12. What do you think is the reason for discordance?
13. What is your source of information about discordance?

Questions related to changes in life

14. What changes you observed in sexual relations after the disclosure of HIV status?
15. Do you think that the discordant status has forced you to change your plan of having child/children?
16. Would you explain the overall changes in life you experienced after the disclosure of HIV sero status?
17. What do you feel about living in a discordant relationship?

Questions related to management and challenges of living in serodiscordant relationship

18. Is it your interest to maintain your current relationship?
19. Could you tell the reasons for maintaining your discordant relationship?
20. How do you protect the transmission of the virus from infected to uninfected partner?
21. What challenges you faced because of your discordant union?
22. What do you think should be done to improve the condition of discordant couples?

Questions related to the role of social support

23. Have you disclosed your discordance status to anyone else?
    - 23.1. If yes, to whom?
    - 23.2. If no, why not?
    - 23.3. What are the advantages and disadvantages of telling to others?
24. What is the contribution of the negative partner in coping with the discordance? (only for HIV positive partner)
25. How do you see others perception about your relationship especially family members (father, mother, sisters, and brothers) and friends?

26. What social services are available specifically to HIV discordant couples?

27. Do you think it will help if there is an association specifically for serodiscordant couples which is the case for other people living with HIV?

28. You can tell if you have any thing else you want to tell me.

ANNEX B

An interview guide for an in-depth interview with key-informants

1. How do you think some people remain uninfected while they were repeatedly exposed to HIV? (Or this may be asked as 'what are the possible reasons for serodiscordance?')
2. What are the challenges raised by serodiscordant couples?
3. How should serodiscordant couples manage their life, particularly, sexual life?
4. What would you advice to those serodiscordant couples who are in need of child?
5. What typical difference you observed between serodiscordant couples and other people living with HIV?

ANNEX C

R.No A/A/H/5160/227

Date 10/5/2003.

To

Ghandi Hospital

Yekatit 12 Hospital

Zewditu Hospital

Menilik 2nd Hospital

Ras Desta Hospital

Addis Ababa

Subject; A request to allow research work at the health center

This letter is to support Daniel Tadesse to conduct **his research, which is titled as "HIV serodiscordant couples in Addis Ababa; An Exploratory Study."**

The study proposal was duly reviewed and approved by Addis Ababa Health Bureau IRB, the Principal investigator is informed with a copy of this letter to report any changes in the study procedures and submit an activity progress report to the Ethical committee as required.

Therefore we request the Health facilities to provide support to the principal investigator.

With Regard

Alemu H/Mariam

Head, Ethical Clearance Committee

Cc

To:-

Daniel Tadesse

Addis Ababa

Ethical clearance committee

Health Bureau

ETHICAL REVIEW COMMITTEE

ETHICAL REVIEW FORM

Tel: +251 115 513911 P.O. Box 30738 Fax No. +251 115 515689

Directed study Project:. **"HIV Sero-discordant couples in Addis Ababa; an Exploratory Study"**

Principal Investigator Daniel Tadesse

CRITERIA/ITEM	RATING
consent form 1. Does the consent contain all the necessary information that the subject should be aware of?	√Yes -------Requires revision -------No _____Not applicable -------Not attached
2. Are the objectives of the study clearly stated?	√ Yes -------No
3. Are provisions to overcome risks well described and accepted? a. Justice b. Beneficence c. Respect for a person	-------Yes -------Not well described -------No √Not applicable
4. Are the safety procedures in the use of vaccines, drugs and other biological products acceptable?	-------Yes -------No √Not applicable
5. Are the procedures to keep confidentiality well described?	√Yes -------No -------Not applicable
6. Are the proposed researchers competent to carry out the study in a scientifically sound way?	√Yes -------No -------Not applicable -------Unable to assess
7. Does it have material transfer agreement?	____Yes -------No √Not applicable
8. Recommendation	√ Approved on condition
9. Remarks	

Ethical Clearance Committee Members:

Name	Signature
1. Ato Alemu Haile mariam	
2. Dr. Addis Akalu	
3. Ato Ezra Muluneh	

ANNEX D

Consent Form For informants

I _____ hereby agree to participate in an interview carried out by Daniel Tadesse for the purpose of research.

I agree that my participation in this research project is voluntary but not binding and that I may withdraw from the project at any time if I wish to do so without any penalty and this will not jeopardize my future treatment by my doctor or counselor who will not be informed of my decision.

I have been informed of the purpose of the study and have received information. I have been informed that participation in the study is voluntary and every attempt will be made to keep my details confidential.

I agree that my interview will be recorded onto an audio tape and this will later be transcribed to paper, after which the tapes will be destroyed. I have been informed that my responses will only be used for this research project.

I have been informed and assured that whether I choose to participate or not in the research, my doctor or counselor will not be informed of my decision.

Signed at _____ on _____ day of _____ (Month) _____ Year

For queries or information call me

Daniel Tadesse

0912259659

ANNEX-E

Consent form for key informants

I _____ hereby agree to participate in an interview carried out by Daniel Tadesse for the purpose of research.

I agree that my participation in this research project is voluntary but not binding and that I may withdraw from the project at any time if I wish to do so without any penalty.

I have been informed of the purpose of the study and have received information. I have been informed that participation in the study is voluntary and every attempt will be made to keep my details confidential.

I agree that my interview will be recorded onto an audio tape and this will later be transcribed to paper, after which the tapes will be destroyed. I have been informed that my responses will only be used for this research project.

Signed at _____ on _____ day of _____ (Month) _____ Year

For queries or information call me

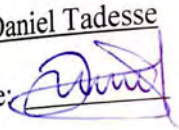
Daniel Tadesse

0912259659

Declaration

I the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of information used for the thesis have been duly acknowledged.

Name: Daniel Tadesse

Signature: 

Date: May 2011