

**PREVALENCE AND FACTORS ASSOCIATED WITH HIV SERO-
DISCORDANCE AMONG COUPLES ATTENDING IGANGA
GENERAL HOSPITAL-IGANGA DISTRICT,
EASTERN UGANDA**

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Declaration

I, **Isiko Yasin**, hereby declare to the best of my knowledge that this research report is my original work and has never been submitted to any other university or institution of higher education for a similar or any other academic award. All the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Approval

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Dedication

This research report is dedicated to my beloved sister **Naigaga Hajjarah** in particular.

And to all my family members who never got tired of supporting me in terms of funds and morals.

Acknowledgement

I would like to give the glory to the Almighty **GOD** for He has been the source of my strength, knowledge and he has protected me.

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List of acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral therapy
ARVs	Anti-Retroviral Drugs
ANC	Antenatal care
CDC	Centre for Disease Control
GOPD	General out-patient department
HIV	Human Immunodeficiency Virus
HPTN	HIV Preventions Trials Network
IGH	Iganga General Hospital
MOH	Ministry of health
NIHZ	National institute of health in Zimbabwe
STIs	Sexually Transmitted Infections
UDHS	Uganda Demographic Health Survey
UNAID	United Nations Agency for International Development
USAID	United States Agency for International Development
WHO	World Health Organization
ZDHS	Zimbabwe Demographic Health Survey

Operational definitions

The following main concepts have been used in this write up:-

Prevalence:	This is the frequency of existing cases of a disease or health related condition in a given population over a certain period of time.
Factors:	A factor is a circumstance, a fact or influence that contributes to a result (Oxford Dictionary, 2002).
Cohabiting:	Living together as if a married couple.
Concordant:	Both members of a couple having the same HIV status.
Couple:	Two persons in an on-going sexual relationship, each of these persons is referred to as a “partner” in the relationship (WHO, 2012).
Discordant:	Two members of a couple having different HIV-status; one is HIV-positive while the other is HIV-negative.
Female discordant couple	A couple in which the woman is HIV-positive and the man is HIV-negative.
HIV infected partner	A member of the couple who is HIV-positive (HPTN 052 Protocol, 2006).
Male discordant couple	A couple in which the man is HIV-positive and the woman is HIV-negative.
Sero-discordance:	It refers to the situation where one partner is HIV positive and the other partner is HIV negative (WHO, 2012).

Abstract

Background: HIV sero-discordance refers to a situation where in a pair of long term sexual partners, one is HIV positive and the other is HIV negative. There is an increased risk of HIV transmission to the HIV negative partner in discordant couples which makes HIV sero-discordance a hindrance to HIV control and prevention strategies. Sero-discordance is one of the factors affecting the impact of HIV prevention strategies, therefore effective HIV prevention strategies must consider HIV discordance. Limited knowledge about prevalence of HIV sero-discordance in the community hinders formulation of appropriate strategies for effective control of HIV transmission. The study was aimed at determining the prevalence of HIV sero-discordance and its associated factors among couples attending Iganga General Hospital. The knowledge generated will guide the stakeholders in formulating HIV prevention and control strategies aimed at reducing HIV transmission.

Methods: A cross-sectional hospital-based study was carried out through conduction of guided interviews using a questionnaire to random-systematically selected 250 couples attending IGH. Data was analyzed and presented in tables with percentages comparing different factors.

Results: The HIV sero-prevalence was 6.8%. The prevalence of discordance was 4.8% among participant couples and 52.2% among the infected couples. HIV sero-discordance was associated with sexual practice (83.3%), circumcision status of the male partner in the couple (58.3%), condom use (58.3%), use of ARVs by the HIV infected partner (25%) and experience of STIs among partners (25%).

Conclusion: The prevalence of HIV sero-discordance among the participant couples was 4.8%, associated mainly with sexual practice, circumcision and condom use.

CHAPTER ONE

INTRODUCTION

1.1 Background

HIV sero-discordance refers to a situation where in a pair of long term sexual partners, one is HIV positive and the other is HIV negative (WHO, 2009). It may originate from a situation where one sexual partner comes into the sexual relationship already infected, or becomes infected later in life (Bishop, 2010). HIV sero-discordance is recognized as a priority for HIV prevention due to the risk of transmitting the virus to the HIV negative partner (Elizabeth, 2014). Improvements in the effectiveness and availability of HIV treatment in recent years has enabled HIV positive individuals to live longer and healthier (Rispel *et al.*, 2009). However, this treatment has also contributed to an increasing number of HIV sero-discordant couples and an increased rate of HIV transmission (Rispel *et al.*, 2009).

There is an increased risk of HIV transmission to the HIV negative partner in discordant couples. This makes HIV sero-discordance a hindrance to HIV control and prevention strategies and therefore a public health problem worldwide (Osinde *et al.*, 2011). Higher rates of HIV transmission occur among HIV sero-discordant partners unaware of their sero-status, than HIV negative concordant partners (Lingappa *et al.*, 2008).

HIV discordance has been reported to be 20-50% prevalent in the world (ZDHS, 2011). Most cases of HIV transmission occurs among HIV discordant couples who are unaware of their discordant HIV sero-status. HIV-negative individuals in HIV-discordant relationships are more likely to get infected with HIV than those in concordant HIV-negative relationships (Elizabeth, 2014).

In Africa the prevalence of HIV sero-discordant relationships ranges between 5-30% with more female than male discordant couples (De Walque, 2010). HIV transmission in discordant couples is mostly linked to high viral load, lack of male circumcision, extra marital sex, low literacy, ignorance of personal HIV status and limited understanding that HIV discordance can occur within couples (Were *et al.*, 2008). Despite its recognized importance in HIV transmission, the concept of HIV sero-discordance and associated factors are poorly understood, rendering HIV control and prevention strategies insufficient (WHO, 2012).

The national HIV sero discordance in Uganda has been reported to be 5% with HIV prevalence of 7.3% (UNAIDS, 2013). Whereas the HIV prevalence for Iganga district has been reported to be 7.0 % (Iganga District Health Office Report, 2009), information about the sero discordance in the district is not available. Therefore the need to determine the

prevalence and factors associated with HIV sero-discordant relationships which this study addressed.

1.2 Problem Statement

In eastern Uganda the prevalence of HIV is 6.5%, whereas in Iganga District the HIV prevalence is 7.0% slightly lower than the national prevalence of 7.3% (UHSBS, 2004/5; Iganga District Health Office Report, 2009; UNAIDS, 2013). With such slightly lower prevalence the HIV sero-discordance in the district is not known, yet HIV sero-discordance is known to hinder strategies aimed at effectively prevention and control of HIV transmission in the community (Rispel *et al.*, 2009). Therefore the need to determine the HIV sero-discordance status in the community for formulation of effective strategies aimed at reducing HIV transmission.

This study was intended to generate knowledge about the prevalence of sero-discordance its associated factors among couples attending IGH-Iganga District. This knowledge will be important in formulation of HIV control strategies.

1.3 Objectives of the Study

1.3.1 Main Objective

To determine the prevalence and factors associated with HIV sero-discordance among couples attending IGH-Iganga District.

1.3.2 Specific Objectives

1. To determine the prevalence of HIV discordant relationships among couples attending Iganga General Hospital (IGH) Iganga District.
2. To determine the factors associated with HIV sero-discordance among couples attending IGH- Iganga District.

1.4 Research Questions

1. What is the prevalence of HIV sero-discordance among couples attending Iganga General Hospital- Iganga District?
2. What are the factors associated with HIV sero-discordance among couples attending Iganga General Hospital- Iganga District?

1.5 Significance of the Study

There is limited knowledge about prevalence of HIV sero-discordance and associated factors in Iganga District, yet HIV sero-discordance is among the factors hindering the efficiency of HIV control programs. The study will provide knowledge about the prevalence of HIV discordance and its associated factors. The knowledge generated will guide the stakeholders in formulating HIV prevention strategies aimed at reducing HIV transmission.

1.6 Scope of the Study

1.6.1 Time Scope

The study was conducted during April, 2017.

1.6.2 Content Scope

The study involved determining the prevalence of HIV sero-discordance and its associated factors among couples attending Iganga General Hospital- Iganga District.

1.6.3 Geographical Scope

The study was carried out at Iganga General Hospital (IGH), in Iganga Municipal Council, Iganga District, Eastern Uganda.

1.7 Conceptual Framework

INDEPENDENT VARIABLES

Socio-demographic factors

Gender of the HIV positive partner
Type of marriage (monogamous versus polygamous)
Education level of both partners

Clinical factors

Male circumcision
ARV use by positive partner
Viral load of the positive partner
Other Sexually Transmitted Infections in either partner

DEPENDENT VARIABLE

HIV SERO-DISCORDANCE

INTERVENING VARIABLES

Sexual history

Sexual practice
Condom use with spouse
Duration of relationship
Frequency of sexual action

CHAPTER TWO

LITERATURE REVIEW

2.1 HIV Sero Discordance Phenomenon

A discordant couple is a pair of long-term sexual partnership in which one partner is HIV positive and the other is negative (Damien, 2006). HIV transmission between partners does not occur simultaneously rather in discordance (Johwa, 2010). The virus is not transmitted at each and every sexual encounter thus enhancing discordance (Alexander, 2009).

Research studies and people living in sero discordant relationship give different possible explanations for sero-discordance worldwide. Most explanations focus on characteristics of the HIV-negative couple member, rather than on varying infectiousness of the HIV-positive couple member (Bunnell *et al.*, 2005). The majority of explanations are; - that HIV- negative discordant couple member is actually infected but is not yet detectable by available tests. Some people say that there are individuals who are immune from HIV infection and others believe that it's a protection from God. Several HIV-positive couple members of sero-discordant partners attribute their discordant status to the fact that they only had "gentle" sex with their partners (Bunnell *et al.*, 2005). From (Walque, 2007) report, some couples describe the phenomenon as a situation which results from the effective HIV transmission prevention strategies among couples, once a partner is infected with the virus. According to Bunnell *et al* (2005) explanations given by sero-discordant couples about their own HIV status appeared to affect their risk behavior(Bunnell *et al.*, 2005). There is still little information that exists to give reasons why some people become infected with HIV and others remain uninfected in a relationship (Beyeza *et al.*, 2009).

2.2 Prevalence of HIV Sero-discordance

HIV is still a serious health threat worldwide affecting about 33million people of which Sub-Saharan Africa accounts for 60% (WHO, 2009). Global HIV discordance prevalence has been reported to be 20-50% (ZDHS, 2011). HIV-negative individuals in HIV-discordant relationships are more likely to get infected with HIV than those in concordant HIV-negative relationships (Elizabeth, 2014). In Africa the prevalence of HIV sero-discordant relationships ranges between 5-30% with more female than male discordant couples (De Walque,

2010). In several sub-Saharan African countries, 67% of infected couples are sero discordant (De Walque, 2007). The prevalence of HIV sero-discordance in Uganda is 5% (UDHS, 2006). There is no published information about the prevalence of couple discordance in Iganga district and Eastern Uganda at large thus the need for this study.

2.3 Factors Associated with Sero Discordance among Couples

Several factors have been reported to enhance HIV sero-discordance among couples. Among these include gender of the HIV positive partner, viral load, ARV use, presence of other sexually transmitted diseases, male circumcision, sexual practice, length of relationship and frequency of sexual encounters among others (CDC, 2011).

2.3.1 Gender of the HIV positive partner

There is a higher rate of male to female (MTF) transmission of HIV than from female to male (FTM) transmission (De Walque, 2010). Through fulfilling their expected gender roles, men increase risk of transfer of HIV to women in the couple as they are encouraged to have multiple partners, while women are expected to abstain or be faithful by most cultures (UNAIDS, 2004).

2.3.2 HIV viral load of the HIV positive partner

The median viral load has been found higher among HIV positive individuals whose partners sero convert compared with HIV positive individuals whose partners remain HIV negative (Quinn *et al.*, 2000). The rate of sero conversion among couples of HIV positive individuals with a viral load of less than 3,500copies/ ml is minimal compared to a very high incidence of sero conversion among HIV positive individuals with a viral load of 50,000copies/ml or more, with rare cases observed among couples in which the HIV positive partner's viral load is less than 1,500copies/ml, (Glass, 2012).

2.3.3 Use of ARV by the HIV positive partner

Use of ARV by the HIV positive partner has been reported (Attia *et al.* , 2009) to reduce the risk of HIV transmission by 92% as it is associated with reduction in viral load. And with a lower viral load, chances of transmission are lower.

2.3.4 Other Sexually transmitted infections (STIs)

A biological link between HIV infection and the presence of other STIs has been confirmed (Wawer *et al.*, 2005), including ; increased shedding of the HIV virus in genital secretions and semen and presence of the virus in genital ulcers that can come into contact with mucosa during sex thus enhancing transmission. Having an STI increases the risk of HIV transmission irrespective of whether it is the HIV positive or HIV negative partner with the sexually transmitted infections.

2.3.5 Male circumcision

Male circumcision has been effective in reducing the men's risk of contracting HIV by 60% (Bailey *et al.*, 2007). However it has been shown (Weiss, 2009) that there remains a high risk of circumcised men transmitting to their negative sexual partners. Circumcision can reduce the likelihood of genital ulcers that increases HIV risk. Any tear in the fore skin during sex makes it easier for virus to enter the body.

2.3.6 Sexual Practice

Some HIV-positive couple members have attributed their discordance to the fact that they only play "gentle" sex with their partners (Bunnell *et al.*, 2005). Gentle sex varies from "readiness" for sexual activity to the amount of genital fluid present at the time of sexual contact and also the length of time involved in the sexual act.

However, the above findings are not conclusive and there are several research studies needed to understand the causes of HIV discordance.

CHAPTER THREE METHODOLOGY

3.1 Study Design

This was a cross-sectional study that obtained quantitative data using a structured questionnaire.

3.2 Study Area

The study was carried out at Iganga General Hospital (IGH), in Iganga Municipal Council, Iganga District, Eastern Uganda.

3.3 Study Population

The study included all married and cohabiting adult couples attending IGH.

3.4 Sample Size Determination

IGH received a total number of 762 Married and cohabiting Couples per month on average in the year 2016. This was calculated from the total number of women aged 18-64 years determined by the Hospital records department (IGH Records department, 2017). The total number of married and cohabiting women was considered to be equal to the total number of couples because each woman usually has exactly one husband at a time (but men may have more than one wife). The sample size of the study was obtained using the formula below;

$$n = \frac{N}{1 + N(e^2)} \text{ (Yamane, 1967)}$$

Where

n = the expected sample size

N = the total number of couples attending the Hospital per month

e = the sampling error (0.05)

Therefore applying the above formula,

$$\begin{aligned} n &= 762 / 1 + 762(0.05)^2 \\ &= 762 / 1 + (762 * 0.0025) \\ &= 762 / 1 + 1.905 \\ &= 762 / 2.905 \\ &= 262 \text{ couples} \end{aligned}$$

3.5 Sampling Technique

Systematic sampling method was used to select the participants regardless of tribe or religion to represent the whole population.

3.6 Selection Criteria

3.6.1 Inclusion Criteria

Married and cohabiting patients who knew both their HIV status and that of their spouses, attended IGH during the study period and consented to participate in the study.

3.6.2 Exclusion Criteria

Patients who were in critical condition

Mentally ill patients

Patients who could neither see nor hear.

3.7 Data Collection Methods

Interviews with patients were conducted using a questionnaire with the guidance of the researcher or the research assistant for interpretation where necessary.

3.8 Data Analysis

The obtained data was tallied, computed using a calculator and analyzed. Association of different factors with discordance was considered.

3.9 Data Quality Control

The questionnaire was pre-tested first in IGH- Postnatal ward to ensure relevant information is included before data collection.

All the questionnaires were checked for completeness after the interviews with every participant.

3.10 Data Presentation

Results were presented in form of tables for easier interpretation

3.11 Study Limitations and Delimitations

Hesitance of some participants to provide personal information and disclosing their sero status was overcome by confidentiality guarantee since codes were used instead of patients' names.

Language barrier was addressed by translating and explaining clearly to the respondents. The questionnaires were filled by the researcher with participant's responses.

3.12 Ethical Considerations

An introductory letter was obtained from the Administrator, Faculty of Allied Health Sciences.

Permission was sought from the Iganga General Hospital-Medical Superintendent through presenting the introductory letter from the school.

Informed consent was asked from all the research participants using an informed consent form signed by every participant.

Participants who felt uncomfortable were allowed to withdraw at any moment in the data collection process without any penalty.

Data was handled with utmost confidentiality through use of numbers instead of names and limited access to data by non-researchers.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristic of participants

A total of 250 couples (representing 500 individuals) were interviewed, of which 57.6% were from ART Clinic, 40% from ANC clinic and 2.4% from GOPD.

46.4% of the participants presented alone but with the health details indicating HIV sero-status of their spouses, while 53.6% presented with their partners (Table 1)

Table 1 Socio-demographic characteristics of study respondents in discordant couples.

Characteristics	Number of partners in discordant couples	
	Frequency	Percentage (%)
Age (years)		
18-24	08	33.3
25-34	13	54.2
≥35	03	12.5
Marital status		
Married	10	41.7
Cohabiting	14	58.3
Type of marriage		
Polygamy	08	33.3
Monogamy	16	66.7
Religion		
Catholic	02	8.3
Moslem	08	33.3
Protestant	04	16.7
Born-again	09	37.5
Others	01	4.2
Education level		
Illiterate	02	8.3
Primary	06	25
Secondary	07	29.2
Institution/university	09	37.5

4.2 Prevalence of HIV among participants

The results show that 6.8% individuals were HIV sero-positive, and 93.2% were HIV sero-negative (Table 2).

Table 2 HIV sero-status among participants

HIV status of individual partners	Frequency	Percentage (%)
Positive	34	6.8
Negative	466	93.2
Total	500	100

4.3 Prevalence of HIV sero-discordance among participant couples

There were 9.2% HIV infected couples observed in the current study with 4.8% discordant couples and 4.4% concordant positive couples (Table 3).

Table 3 Cordance status of participant couples

Couple status	Frequency	Percentage (%)
Discordant	12	4.8
Concordant positive	11	4.4
Concordant negative	227	90.8
Total	250	100

4.4 Discordance among infected couples

The results show that 52.2% of infected couples were discordant, while 47.8% couples were concordant positive (Table 4).

Table 4 Discordance among infected couples

Infected couples	Frequency	Prevalence (%)
Discordant	12	52.2
Concordant positive	11	47.8
Total	23	100

4.5 Factors associated with HIV sero- discordance among participants

4.5.1 Gender and HIV discordance

Among the discordant couples, 58.3% HIV sero-negative partners were females, and 41.7 % male HIV sero-negative partners (Table 5).

Table 5 Gender of the HIV negative partner in a discordant couple

Gender of the HIV negative partner in a discordant couple	Frequency	Percentage (%)
Male	7	58.3
Female	5	41.7
Total	12	100

4.5.2 Sexual practice and HIV sero-discordance

Among the discordant couples, 58.3% reported having had sex in the last three months and 83.3% practice gentle sex (Table 6).

Table 6 Sex history of participant couples

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Had sex in the last 3months		
YES	7	58.3
NO	5	41.7
Practice “gentle sex”		
YES	10	83.3
NO	2	16.7

4.5.3 Type of marriage and HIV sero discordance

The prevalence of sero discordant was higher (66.7%) among those who were in monogamous marriage than those in polygamous (33.3%) (Table 7).

Table 7 Type of marriage of participants

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Type of marriage		
Polygamy	4	33.3
Monogamy	8	66.7

4.5.4 Condom use and discordance

The current study shows that 58.3% of discordant couples used condom on the last sex, while 41.7% not reported having used condom on last sex (Table 8).

Table 8 Condom use among participants

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Used condom on last sex		
Yes	7	58.3
NO	5	41.7

4.5.5 History of other STIs and HIV sero-discordance

The results indicate that 75% of the discordant couples had never experienced other STIs in the last three months before the study (Table 9).

Table 9 History of STIs among participants

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Had STI in the last 3 months		
YES	3	25
NO	9	75

4.5.6 ARV use and discordance

Of the discordant couples, 25% of the HIV positive partners were using ARVs (Table 10).

Table 10 ARV use among study participants

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Use ARVs by positive partner		
YES	3	25
NO	9	75

4.5.7 Viral load and discordance

In 25% of the discordant couples, the HIV infected partner had a viral load of less than 1500copies/ml as per the last tested value and the rest had their viral load not tested (Table 11).

Table 11 Viral loads of HIV infected partners among the participant couples

Characteristics	Number of couples with one negative partner	
	Frequency	Percentage (%)
Viral load of HIV positive partner on the last test		
<1500	3	25
1500-50,000	0	00
>50,000	0	00

4.5.8 Male circumcision and discordance

58.3% of the participant couples had the male partner circumcised and 41.7% of the discordant couples had their male partner not circumcised (Table 11).

Table 12 Circumcision status of the male partners of the participant couples.

Characteristics	Number of discordant couples	
	Frequency	Percentage (%)
Male partner circumcised		
YES	7	58.3
NO	5	41.7

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

5.1.1 Prevalence of HIV sero discordance among participant couples

The prevalence of HIV infection among couples was 6.8%, very close to the district HIV prevalence of 7.0% (Iganga district health office report 2009). The current findings are also close to the national HIV prevalence of 7.3% (UNAIDS, 2013).

Findings of this study showed that 4.8% of the couples were HIV discordant. This is slightly less than the national HIV sero-discordance prevalence of 5% (MoH-Uganda, 2006). The findings in this are also slightly less than the sub-Saharan prevalence of 5-30% (De Walque, 2010). This may be because of a big difference between the sub-Saharan HIV prevalence (60%) (WHO, 2009), and that of Iganga district (7.0%) (Iganga district health office report 2009)

The result of this study is also relatively lower than that obtained at VCT Centers in Ethiopia (Asefa, 2006).

5.1.2 Factors associated with HIV sero-discordance among participant couples

5.1.2.1 Gender of the positive partner and HIV sero-discordance

In this study, there were more discordant couples with HIV infected female partner (58.3%) than HIV infected male partners (41.7%). This is similar to Walque (2010) who found out that there was a higher rate of male to female transfer of HIV than female in discordant couples thus a reduced risk of male sero conversion in a female discordant couple. This was due to the fact in Africa, male partners usually have extra marital partners unlike female partners.

5.1.2.2 Presence of other STIs and HIV sero-discordance

There was a higher prevalence of HIV discordance among couples in which no partner had STIs in the last 12months (75%), than those in which a partner had STI (25%). This finding is in line with results by Wawer *et al.*, 2005, who reported a biological link between HIV infection and the presence of STIs. They stated that the increased shedding of HIV virus in genital secretions and semen and the presence of HIV virus in genital ulcers that can come into contact with mucus during sex enhance the transmission of HIV.

5.1.2.3 Sexual practice and HIV sero-discordance

In this study, there was a higher prevalence of HIV discordance among couples who practiced gentle sex (83.3%) compared with those who did not (16.7%). Bunnell *et al.*, (2005) also found out that most discordant couples practiced gentle sex (Bunnell *et al.*, 2005). Gentle

sexual practice involves “readiness” for sexual activity, adequate amount of genital fluid present at the time of sexual contact and the length of time taken in the sexual act. This reduces the risk of abrasion during sex that would promote transmission of HIV to the negative partner (Bunnell *et al.*, 2005).

5.1.2.4 Male circumcision and HIV sero-discordance

This study showed more discordant couples (58.3%) with male partner circumcised, and 41.7% of the couples had the male partner not circumcised. However 45.5% of the concordant positive couples had circumcised male partners while 54.5% positive couples had uncircumcised male partners. The results agree with findings of Bailey *et al* (2007) who reported a 60% reduced risk of HIV transmission to circumcised men and an unchanged trend of HIV infection of the female partner by circumcised men. Circumcision reduces the likelihood of genital ulcers and abrasion that eases HIV transmission. Tears in the fore skin during sex make it easier for virus to enter the body (Bailey *et al.*, 2007).

5.1.2.5 Use of ARVs by the partner and HIV sero-discordance

In this study, 25% of discordant couples, the positive partners were using ARVs while in 90.9% the concordant positive couple partners were on ART. This is different from a study carried out in Mozambique (Joy *et al.*, 2011) that revealed more discordance among couples where the HIV positive partner was on ART and a few couples where the HIV positive partner was either not using ARVs or using them but with poor adherence. The above findings were due to the fact that good adherence to the use of ARVs by the HIV positive partner reduces viral load. Low viral load reduces the risk of HIV transmission by 92% (Attia *et al.*, 2009). However the current study did not establish the clients adherence to art therefore they might have been on ARVs but with poor adherence that enhance sero-conversion thus reducing number of discordance couple on ART.

5.1.2.6 Condom use and HIV sero-discordance

Results in this study show that 58.3% discordant couples used condom while 9.1% concordant positive couples used condom. This is similar to results of Joy *et al.*, (2011) showed that condom use prevented sexual transmission of HIV in their study in Mozambique.

5.2 Conclusions

In the current study the prevalence of HIV among participants was 6.8%.

Prevalence of HIV sero-discordance among infected couples was 4.8%, slightly lower than the 5% national discordance rate.

HIV sero-discordance observed in the current study was associated with sexual practice (83.3%), the circumcision status of the male partner in the couple (58.3%), condom use

(58.3%), use of ARVs by the HIV infected partner (25%) and experience of STIs among partners (25%).

5.3 Recommendations

The current study included only couples visiting the hospital. A further study with a wider coverage is crucial to establish a more accurate and updated level of HIV prevalence and sero-discordance in the district.

There should be sensitization of the public about the existence of HIV sero-discordance, promoting practices and the required behavioral changes to live in a discordant couple without sero conversion of the HIV negative partner.

Results of the current study on effect of viral load on sero-discordance status are not conclusive as viral load details of most participant discordant couples were not available for comparison. There is therefore, the need for further researches to explore viral load of the HIV positive partner of a discordant couple as a factor associated with discordance.

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APPENDICES

Appendix I: Consent Form

My name is **Isiko Yasin** a student at Kampala International University, pursuing a Diploma in Clinical Medicine and Community health in my third year.

I am here to conduct a research study to assess the prevalence and factors associate with HIV sero discordance among couples attending IGH. The information you give is very important in achieving the objectives of this study.

Your participation is highly appreciated.

Total confidentiality to the information that you are going to give is guaranteed.

It will require sparing sometime in the process of answering the questionnaires however there are no payments in return for participation. Some questions may be challenging while others are personal.

I humbly request for your participation and co-operation. Thank you.

Declaration by the respondents

I have read this consent form or it has been read to me. I have understood the purpose of this study and I have had the opportunity to ask questions and any questions asked have been answered to my satisfaction. I voluntarily consent to participate in this study and I understand that I have the right to withdraw from the study at any time without any penalty.

Respondent's signature -----

Date: -----

Witness' Signature-----

Date: -----

Appendix II: Questionnaire

This questionnaire guide is intended to assess the prevalence and factors associated with HIV sero discordant relationships among patients attending IGH.

INSTRUCTIONS

For confidentiality guarantee, your name shall not appear anywhere.

Answer all the questions by either: Ticking the alternatives that apply to you OR filling the appropriate information in the provided space or box.

IDENTIFICATION

District..... County.....

Sub county/Division.....Town/village.....

SECTION A: COUPLE’S DEMOGRAPHIC DATA

1. Age

a. Manyrs

b. Woman.....yrs

2. Marital status a) Married b) Cohabiting c) others specify.....

3. Type of marriage

a) Monogamy

b) Polygamy

4. Religion

a) Catholic

b) Moslem

c) Protestant

d) Born-again Christian

Others specify.....

Man.....

Woman.....

5. Highest Education level attained.

Man.....

Woman.....

1- None

2- Primary

3-Secondary

4- Tertiary/University

5. Tribe

A-Musoga

B-Muganda

C- Mugwere

D- Musamya

E- karamojong

F-other specify.....

Man.....

Woman.....

SECTION B: PREVALENCE OF HIV AND SERO-DISCORDANCE.

6. HIV status

a) Man→ Positive Negative

b) Woman→ Positive Negative

SECTION C: FACTORS ASSOCIATED WITH HIV SERO DISCORDANCE.

FOR COUPLES IN WHICH THERE IS ATLEAST AN INFECTED PARTNER ONLY

7. In the last 3months, have you had sexual intercourse with your partner (s)?

a) Yes b) No

8. Did you use condom on last sex with your partner?

a) Yes b) No

9. How do you prepare yourselves for sexual intercourse?

a) By practicing gentle sex

b) Not practicing gentle sex

10. .Has anyone of you ever had any STI in the last 12months?

a) Yes b) No

Man..... Woman.....

FOR HIV POSITIVE PARTNER

11. What was your viral load the last time you tested? (in copies per

ml).....

12. Do you take ARVs?

a) Yes b) No

FOR MALES ONLY

13. Are you circumcised?

a) Yes

b) No

**THANK YOU FOR YOUR TIME AND CO-ORPERATION, MAY GOD
REWARD YOU ABANDUNTLY.**

Appendix III: A map of Iganga District showing Iganga municipal council where Iganga general hospital is located.

