

**ASSESSING THE ASSOCIATION BETWEEN DISCLOSURE OF HIV
SERO STATUS AND CONTRACEPTIVE UTILIZATION AMONG HIV
POSITIVE WOMEN AT AIDS INFORMATION CENTRE KAMPALA,
UGANDA**

BY

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Research of Makerere University**

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DECLARATION

I, Vivian Winnifred Zalwango, hereby declare that to the best of my knowledge, all the work presented in this study is entirely original and has never been presented either in part or in full to any institution for an academic award or publication except where otherwise acknowledged.

I therefore present it for the award of a Masters degree in Health Services Research of Makerere University, Kampala, Uganda.

Author: Vivian Winnifred Zalwango

Sign.....

Date.....

Supervisor: Dr. Fredrick Makumbi

Makerere University School of Public Health

Sign.....

Date.....

DEDICATION

I dedicate this book to my father Mr. John Baptist Kanakulya, my mother Mrs. Mary Kanakulya, my husband Mr. Henry Mubiru and all my siblings.

ACKNOWLEDGEMENTS

I thank the Lord my God who has seen me through the trials and tribulation. I also thank the numerous people who generously gave their time, money, energy and expertise to this study. I am grateful to my father Mr. John Baptist Kanakulya who sponsored my studies and my mother Mrs. Mary Kanakulya for the encouragement.

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I acknowledge AIC management and staff for granting me permission to conduct this study. Particular thanks to the team leader Mr. Mathias Lukwago and the research assistants for the job well done.

I also acknowledge the time offered to me by HIV positive women getting HIV services at AIDS Information Centre. It is my sincere hope that the stakeholders and institutions working towards there betterment will follow up on the recommendations that I believe will go a long way in improving the provision of contraceptives to the HIV positive women.

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ACRONYMS / ABBREVIATIONS

ABC	Abstinence, Be faithful and Condoms
AIC	AIDS Information Centre
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centers For Disease Control And Prevention
DFID	Department For International Development
FP	Family Planning
GOU	Government of Uganda
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
JCRC	Joint Clinical Research Centre
JSI	John Snow Inc
KDHS	Kenya Demographic Health Survey
KII	Key Informant Interview
NUMAT	The Northern Uganda Malaria, AIDS and Tuberculosis program
PLWHA	People living with HIV/AIDS
PMTCT	Prevention of Mother To Child Transmission
RH	Reproductive Health
UAC	Uganda AIDS Commission
UDHS	Uganda Demographic Health Survey
UHSBS	The Uganda HIV Sero Behavioral Survey
UHSP	Uganda HIV/AIDS Services Project

UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	The United Nations Children’s Fund
USAID	US Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Women of Reproductive age: Women between 15-49 years

Unmet need - refers to the number of women who want to limit having children and those wishing to wait for two or more years before having another child, but are not using modern contraceptives.

Disclosure – refers to a woman informing the marital partner of her HIV sero status after being tested or going together with the marital partner for testing.

Contraceptive utilization – is where HIV+ women in reproductive age group use modern contraceptive methods to control for unwanted pregnancies.

Married women – Women who are in any form of marital union including long term consensual relations, traditional, civil and religious marriages

Contraceptive prevalence - in the study refers to the proportion of married women of reproductive age using modern contraceptive methods

Family Planning – in the study refers to the use of modern contraceptives to regulate the number, timing and spacing of human births

ABSTRACT

Background

Disclosure of HIV sero status is associated with improved sexual behavior. However there is limited information on the association between HIV sero status disclosure and contraceptive utilization among HIV+ women.

Objective:

To assess the association between disclosure of HIV sero status to the marital partner and contraceptive utilization among HIV positive women

Methodology

A cross-sectional study was conducted among 373 HIV+ married women of reproductive age receiving HIV care services at AIC, who had tested for HIV status at least 4 weeks prior to the study. These were selected using systematic sampling using AIC post-test club register. Quantitative data was entered using Epi-Info version 3.5.1 and exported to STATA version 10 for analysis.

Results:

About three quarters (73%) had HIV sero status disclosed to their marital partners in the past six months prior to the study. Reported use of hormonal contraceptives was low (29%), although almost all women were users of condoms for both protection against unwanted pregnancies as well as prevention of re-infection from HIV and STIs. Women who disclosed their HIV sero status were significantly less likely to report use of hormonal contraceptive (adj.PRR=0.58; 0.45 – 0.76) compared to those who did not disclose.

Conclusion:

The prevalence of HIV sero status disclosure was high. Use of hormonal contraceptive was low, but use of condoms was nearly universal. Disclosure of HIV sero status was associated with lower use of hormonal contraceptive among HIV+ women attending care.

Recommendations:

Advocacy for disclosure should be increased to raise disclosure prevalence to 100%

AIC should sensitize HIV+ women who have disclosed sero status on hormonal contraceptive.

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND

Disclosure of HIV sero status to sexual partners is important for prevention of HIV/AIDS (WHO, 2004, CDC, 2002). Counseling and testing for HIV combined with disclosure of HIV sero status to sexual partners and others can enable persons living with HIV/AIDS (PLWHA) to seek appropriate care and treatment and can allow both PLWHA and uninfected persons to make informed choices about their sexual behavior (WHO, 2003). Disclosure is recommended during post-test counseling since it supports risk reduction behaviors and facilitates access to prevention, care and treatment services for PLWHA, their partner(s) or infant(s) (Kalichman and Nachimson, 1999, Gielen et al., 1997).

Although disclosure of HIV sero status is important and been recommended, women in urban areas compared to those in rural areas were more likely to disclose HIV sero status, 43% versus 14% (UNAIDS/WHO, 2002). Women of 24 years, with lower socio economic status in long-term relationship, with fewer sexual partners and with a higher level of education more likely disclose their HIV sero status to marital partners (Fanquhar et al., 2000, Galliard et al., 2000, Antelman et al., 2001), Issiaka et al., 2001). In some studies disclosure of HIV sero status to sexual partner was found to be associated with contraceptive use (Medley, 2004; Farquhar, 2004) whereas a study done in Kenya was not found to be associated with contraceptive use (Balkus, 2007).

Contraceptives allow women prevent pregnancies that are unintended which may lead to greater economic demands on families in resource-limited settings and increased maternal or infant mortality (MoH, 2005). Contraceptives are readily available and widely acceptable Uganda but there is high total fertility rate of 6.7 (UBOS and Macro, 2006). This has resulted

into a high contraceptive prevalence rate among the general population estimated at 24% (MoH and Macro, 2006). In addition to disclosure several other factors have been found to influence contraceptive use and these include marital status, being married, high education status, regular sexual partner, HAART and male acceptability (Tenywa, 2006, Balkus et al., 2007, Mutiso et al., 2008, Andia et al., 2009, Salter et al., 2008).

Although conflicting results have been reported about disclosure of HIV sero status to marital partner, disclosure can be an important starting point for HIV infected women to begin discussing the use of contraception with their partners and reduce the number of unintended or unwanted pregnancies and HIV infected women. Therefore this study sought to assess the association between disclosure of HIV sero status to marital partner and contraceptive use among HIV+ women receiving HIV care service at AIC in Kampala district. This information will address the challenges of unwanted or unintended pregnancies among HIV positive women; and increased mortality and morbidity among infants born to HIV women.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 HIV/AIDS in Uganda

The Uganda HIV sero Behavioral survey found an overall national HIV sero prevalence rate of 6.4% among men and women aged 15-49 years (UHSBS, 2004/2005) and HIV/AIDS in Uganda is heterogeneous by geographic location, age, sex, and marital status. By sex it showed that women are more affected than men; by location, it showed that 13% urban women have HIV/AIDS compared with 7% rural women and for men, urban men HIV prevalence is 7% and rural HIV prevalence is 5%. By geographic location; it showed that central region has HIV prevalence HIV prevalence HIV prevalence HIV prevalence 8.5% infected with HIV/AIDS. Prevalence is highest in urban areas compared with rural areas (10% and 6% respectively) (MoH and Macro, 2006)

UNAIDS (2008), estimated that 940,000 people were living with HIV in Uganda as of December 2007. This was broadly consistent with the estimate in a study by Hladik using the UHSBS data of 915,400 people with HIV by December 2005 of whom 530,932 were women and 109,000 were children under 15 years. An estimated total of 135,300 were newly infected with HIV and 76,400 deaths due to AIDS occurred in 2005 (Hladik et al., 2008).

2.2 Global picture of disclosure of HIV sero status among HIV+ women

In the developing world, disclosure of HIV sero status to sexual partners is recommended during post-test counseling since it supports risk reduction behaviors and facilitates access to prevention, care and treatment services for PLWHA, their partner(s) or infant(s) (Kalichman and Nachimson, 1999, Gielen et al., 1997).

Disclosure has public health importance such as motivating sexual partners to seek testing, changing behavior, reducing HIV transmission risk, increasing social support, medical support and increasing opportunities to plan for the future. Women who disclose their HIV sero status to their partners may be more likely to participate in programs for prevention of HIV transmission to their infants. Through disclosure a woman may receive support from her family or others in her social network and may also be able to access available support services (WHO, 2002)

Along with disclosure benefits, there are potential risks for an individual who has disclosed such as loss of economic support, blame, abandonment, physical and emotional abuse, discrimination and disruption of family relationships (WHO, 2002). Barriers to disclosure faced by women in developing countries include; fear of abandonment, rejection and discrimination, violence and accusation of infidelity. Women's fear of abandonment was closely tied to fear of loss to economic support from a partner (Medley et al., 2004).

Various studies have established that women of particular characteristics are more likely to disclose than others. Young women aged of 24 years (Fanquhar et al., 2000, Galliard et al., 2000), women of lower socio economic status (Fanquhar et al., 2000), women who have been in a stable relationship for a long period of time, those with fewer sexual partners (Antelman et al., 2001) and women with a higher level of education (Issiaka et al., 2001) tend to more likely disclose HIV sero status.

In Tanzania, the rate of negative outcomes reported as a result of women's disclosure of HIV+ status to their partners ranged from 4% to 28% (Kilewo et al., 2001). These included blame, abandonment, violence which ranged from 3.5% to 15%; anger, stigmatization and depression. Forty six (46%) of women who did not disclose their HIV sero status to their

partners reported fear of divorce as a major barrier and only 8.3% of those who disclosed HIV sero status did not stay in the relationship afterwards (Kilewo et al., 2001).

2.3 Global picture of contraceptive prevalence and mix among women

Contraceptive preferences and the promotion of different methods vary by region and country, so does the contraceptive method mix. For example, female sterilization is the most widely employed method in low developed countries followed by IUDs, the pill and injectables (Lande and Richey, 2006). However female sterilization is little used in the Near East, North Africa and Sub Saharan Africa (Bureau, 2002).

One third of low developed countries have very skewed contraceptive method mix, in which a single method accounts for more than half of contraceptive use (Sullivan et al., 2006). Earlier studies have examined trends in contraceptive prevalence (Ross, 2002) and method mix (Johnson , 1996)

A study done in developing countries on contraceptive mix showed that contraceptive prevalence among married women had increased gradually in all regions of the developing world since 1980, rising to 60% for the period 2000-2005. Contraceptive prevalence is currently highest in Latin America and the Caribbean (73%) and Asia (66%) and these rates were followed by that of Sub Saharan Africa (22%) (Seiber et al., 2007). The rising use of modern methods suggests that FP programs have made significant progress in offering contraceptives that are both acceptable and accessible to users in developing countries and improved access to contraceptives can strongly increase their uptake (Ross, 2002).

A Study in Turkey (Aytekin et al., 2002) and rural Kenya (Magadi and Curtis, 2003) showed that Family Planning (FP) programs that improve the availability of contraceptives lead to increased use of modern methods at the expense of traditional methods. Condom use as a

proportion of contraceptive method mix remained almost unchanging in developing countries despite the global AIDS epidemic and efforts to promote ABC approach.

A remarkable increase in injectables use was seen in Sub Saharan Africa (SSA) and in lower income American countries. This dramatic rise showed a regional shift in the contraceptive method mix away from the pill and traditional methods. Injectables are highly effective, long lasting and reversible method that meets the needs of women who want to space rather than limit their births in SSA (Seiber et al., 2007).

2.4 Global picture of contraceptive use among HIV positive women

HIV- positive women have reproductive patterns similar to HIV- negative women, with most having borne children and many wanting children (Stanwood et al., 2007). There are multiple factors said to be influencing both reproductive health and HIV/AIDS. These include age, sex, contraceptive use, community beliefs and practices for Reproductive Health (RH) and HIV/AIDS. It is shown that among the age group 30-34 years, modern contraception is practised by 48% women. It shows that there are possible rising chances of HIV infected mothers who are still expecting to have a number of deliveries in their lives. Therefore more babies could be expected to be exposed to HIV infection from their mothers (MoH and Macro, 2006). Factors associated with contraceptive utilization are marital status; high education status, regular sexual partner, HAART (and male acceptability (Salter et al., 2008, Tenywa, 2006, Balkus et al., 2007, Mutiso et al., 2008 and Andia et al., 2009).

Research done showed that there are unwanted pregnancies averted by contraceptive utilization. The study that was done in PEPFAR countries showed that 178 unwanted

pregnancies in Guyana and 120,000 unwanted pregnancies in South Africa were averted by contraceptive utilization (Reynolds et al., 2008).

In Uganda, prevention of HIV infection among children could require a two way approach: either prevention of a pregnancy through use of contraceptive methods or prevention of the baby from HIV infection during child birth and weaning using ARVs and other supportive methods such as exclusive breast feeding for 6 months. In the same study, for an infected mother, HIV transmission from mother-to-child is estimated to be at 30% without intervention. Therefore increasing the number of parents on contraception especially those confirmed to have HIV, could reduce on the number of new infections. Uganda championed the ABC strategy and condom use is reported as one of the practices used among men and women in preventing HIV infection and as a contraceptive method hence double protection (Nalwadda and Were, 2008).

In Switzerland, condoms are positively perceived by HIV+ women to offer protection against re-infection and STIs as well as an unwanted pregnancy and they perceived to be safe, cheap and readily available (Rutenberg and Baek, 2004).

2.5 Contraceptive use in Uganda

Family Planning Association Uganda (now Reproductive Health Uganda) was the first organization to provide Family Planning (FP) services in the country since 1957. Contraceptive prevalence rate among all women age 15-49 increased from 15% in 1995 to current level of 24% in 2006.

Contraceptives are readily available and widely acceptable for use in Uganda. Uganda has taken steps to avail FP services in health centers with the aim of reducing mortality by 30% and increasing modern contraceptive prevalence to 30%. Despite these efforts however

contraceptive prevalence rate among the general population is estimated at 24% while among the 15-24 year age group is merely at 10% (MoH and Macro, 2006).

According to 2006 UDHS, the modern FP methods commonly used in Uganda are injectables, pills, male condoms and female sterilization. Less commonly used methods are male sterilization, implant, IUDs, diaphragm, spermicides and emergency contraception. A small percentage of women use natural FP methods like withdrawal and periodic abstinence.

The UDHS (2006) also shows that 35% of women using modern contraceptive methods get them from the public sector (for example government hospitals, health centres, FP clinics), 52% from the private sector (for example pharmacies, drug stores, private doctors/ nurse/ midwives), 16% got from friends, relatives or shops. Despite the increase in FP utilization, the total fertility rate (TFR) in Uganda remains high (6.7%) and has not changed much since 1996 (7%)

There are efforts to increase contraceptive prevalence in Uganda. The HSSP-11 FP target for Family planning is to increase the contraceptive prevalence rate (CPR) from 23% to 50% by 2010 and the FP policy goal is to provide information and services that will enable individuals and couples to decide freely and responsibly when, how often and how many children to have (MoH, 2005).

The Uganda Bureau Of Statistics, overall 1.4 million women in Uganda would like to delay pregnancy, space their children or stop child bearing altogether, but are not currently using any contraceptive methods. As a result, Uganda's total fertility rate of 6.7 is among the highest in the world yet the expected fertility rate is about 5 children for women (UBOS and Macro, 2006).

Currently in Uganda, 24% of married women aged 15-49 use contraceptives. Despite this percentage, the unmet need for FP is still high at 43%. Majority (10.2%) of the women in

Uganda use injectables, 5.8% traditional methods, 2.9% use pills, 2.4% use sterilization, 1.7% use condoms and 0.2% use IUDs of women in the reproductive age (Owomugisha, 2008). The reasons for high unmet need is that women in reproductive age 31% are living below poverty line that they can't afford to buy a pill which are accessible from the nearby health centers in urban centers or can't meet transport costs where they can access the other methods. Unwanted pregnancies are caused by lack of empowerment; men usually want to decide on reproductive issues, lack of accurate information about FP among women and adolescents in Uganda. They are not aware of the contraceptive options available while many hold misconceptions about contraceptives and its effects (Owomugisha, 2008).

According to the Uganda Bureau Of Statistics, in Kampala 89% of men knew that their married women were using contraceptives with the majority in the age group 15-19 (87%). The reasons for not intending to use contraceptives were that they wanted to continue having children and that their men could not accept. It was shown that 4.7% of the men opposed their women using contraceptives (UBOS and Macro, 2006).

In Rakai, 34% of HIV positive women use modern contraceptive methods, 33% abstained, 31% used nothing and 2% used traditional methods. It was also revealed that 58% of HIV positive women who conceived used no method. Thirty six (36%) used modern methods, 5% abstained and 1% used natural FP methods (Tenywa, 2006)

2.7 Disclosure of HIV positive status in Uganda

In Uganda, there is evidence showing that two thirds of women in urban areas have never discussed their HIV sero status with their partners (UNAIDS/WHO, 2002) compared with 86-87% of rural women. Four in five urban residents do not know the

HIV status of their partners compared with 91% of rural women (UBOS and Macro, 2006). According to the 2003-2006 HIV/AIDS records obtained from Mityana District in Uganda, only 43% of Persons Having HIV/AIDS (PLHAs) attending post-test care had disclosed their serostatus to sexual partners and or to close relatives and friends.

2.8 Factors associated with disclosure of HIV positive status

The independent factors that may influence disclosure of HIV sero status include; fear of negative outcomes, poor communication skills, initiation of antiretroviral therapy, not testing for HIV during ante-natal clinic, receiving ongoing counselling and seeing a PHAs publicly disclose their HIV status (Kadowa and Nuwaha, 2009).

Socio demographic factors

Young age (less than 25 years), not being married and fewer numbers of sexual partners (less than two in the last twelve months) were more likely to disclose their HIV sero status to their sexual partners. A study conducted in Burkina Faso in West Africa revealed that women with higher education were more likely to disclose their result to their sexual partner than women who were not schooled. Sex was also found to be one of the associated factors of HIV status disclosure (Issiaka et al., 2001). A study conducted in South Africa showed that males were found to disclose their result more often to partners than females (Skogmar et al., 2006). In contrast, another South African study (Olley et al., 2004) revealed that the male sex was associated with non-disclosure of HIV status. In Tanzania, a short duration of relationship, polygamous marriage, working out of home, not knowing someone with HIV and lower income were negatively associated with disclosure (Antelman et al., 2001a). In the same study it was found that women who had greater than 6-lifetime sexual partners were less likely to disclose their status.

Self-efficacy was found to be a determinant to disclosure of HIV sero status. Having not disclosed to sex partners was closely associated with lower self-efficacy for disclosing, with women who had not disclosed reporting the lowest disclosure self-efficacy (Kalichman and D., 1999). In a study conducted in Tanzania a very strong association was found between prior communication about HIV testing with a partner and HIV-sero status disclosure (Maman et al., 2003). A similar finding was obtained from an Ethiopian study (Kassaye et al., 2005)

Individual experiences

A study that was done by Kadowa, found out that persons with the following characteristics were more likely to disclose their HIV sero status: those who had tested more than 24 months ago, discussed with another person to undertake the HIV test, those who were ill at the time of testing, those accompanied by another person to the testing site, and those who perceived themselves to have communication skills to disclose, were more likely to disclose their HIV status (Kadowa and Nuwaha, 2009). On the other hand, participants who have multiple partners, HIV-negative partners, partners of unknown HIV status and unprotected intercourse with discordant sex partners were more likely not to disclose their HIV sero status (Simbayi et al., 2007)

Health facility factors

Those who had initiated ART, received post-test counselling and ongoing counselling at every clinic visit, tested at voluntary testing and counselling clinic (VCT) and those who were post-test counseled as a couple were more likely to disclose. Discussion of disclosure during

post-test counselling and having had pre-test counselling were not significantly associated with disclosure of sero status (Kadowa and Nuwaha, 2009)

Community factors

Respondents who had ever seen PHA publicly disclose, those who had never witnessed mistreatment of PHA were more likely to disclose their HIV status (Kadowa and Nuwaha, 2009). Individuals with high social support tend to disclose their result more often than those without such support (Degefa et al., 2003). PHA as mixing freely with other people, being discriminated, labeled or laughed at were not significantly associated with disclosure (Kadowa and Nuwaha, 2009).

Gender related factors

Cohabiting with partner is strongly associated with disclosure in both men and women. In men only, older age, literacy and having good communication with the treating doctor were significantly associated with disclosure. Among women, disclosure was associated with having children and high self-reported importance of religion (Ndiaye et al., 2009)

Partnership factors

Research on partnership variables shows that steady, close, regular partnerships are more likely to involve disclosure than other, casual, unfamiliar partnerships (Misovich et al., 1997 and Niccolai et al., 2006).

CHAPTER THREE

3.0 PROBLEM STATEMENT, JUSTIFICATION, CONCEPTUAL

FRAMEWORK

3.0 Problem Statement

Prevalence of unwanted pregnancies among HIV+ women is high. It has been showed in a study done in Tororo Uganda that 97%, of HIV positive women had unwanted pregnancies (Homsy et al., 2006) and 84% of HIV+ women on PMTCT in South Africa (Rochat et al., 2006) also had unwanted pregnancies. Unwanted pregnancies among HIV+ women can affect their quality of life, reduce their immunity, and increase the risk of maternal morbidity and mortality (WHO, 2005). Approximately 66% of HIV+ women aged 15-49 years in Uganda do not utilize contraceptives, Rakai (Tenywa, 2006) and from the literature, only 5.6% of HIV positive women access contraceptives at AIC (AIC, 2004). Women in Uganda who test for HIV are counseled to share their HIV sero status results with their partners and to encourage their partners to undertake HIV testing. It is also important to note that women who know their HIV status are in better position to make informed choices about their reproductive lives. However there is limited data on reasons for low use among HIV+ women. Based on the premise that disclosure of HIV sero status has been shown to be associated with reduced HIV transmission, it may be an important factor associated with contraceptive utilization

3.1 Justification

It was important to conduct this study because of the limited data on how HIV sero status disclosure to the marital partners may influence contraceptive utilization in an urban setting (including urban slum dwellers) of a developing country (Uganda) at AIC. Information will be used by policy makers and program managers in developing and strengthening strategies to address the low utilization of contraceptives among HIV+ women like emphasising disclosure of one's HIV status to the marital partner.

In Kampala, literature has not been come across on measuring contraceptive utilization among HIV+ women who have disclosed sero status to their marital partners and those who have not disclosed HIV sero status to their marital partner. The closest study that was done in a rural setting revealed that 34% HIV+ women who had conceived were not utilizing contraceptives (Tenywa 2006). The above study was conducted in a rural setting (Rakai, Uganda) but was not specific to HIV sero status disclosure which could be an important factor in influencing contraceptive utilization.

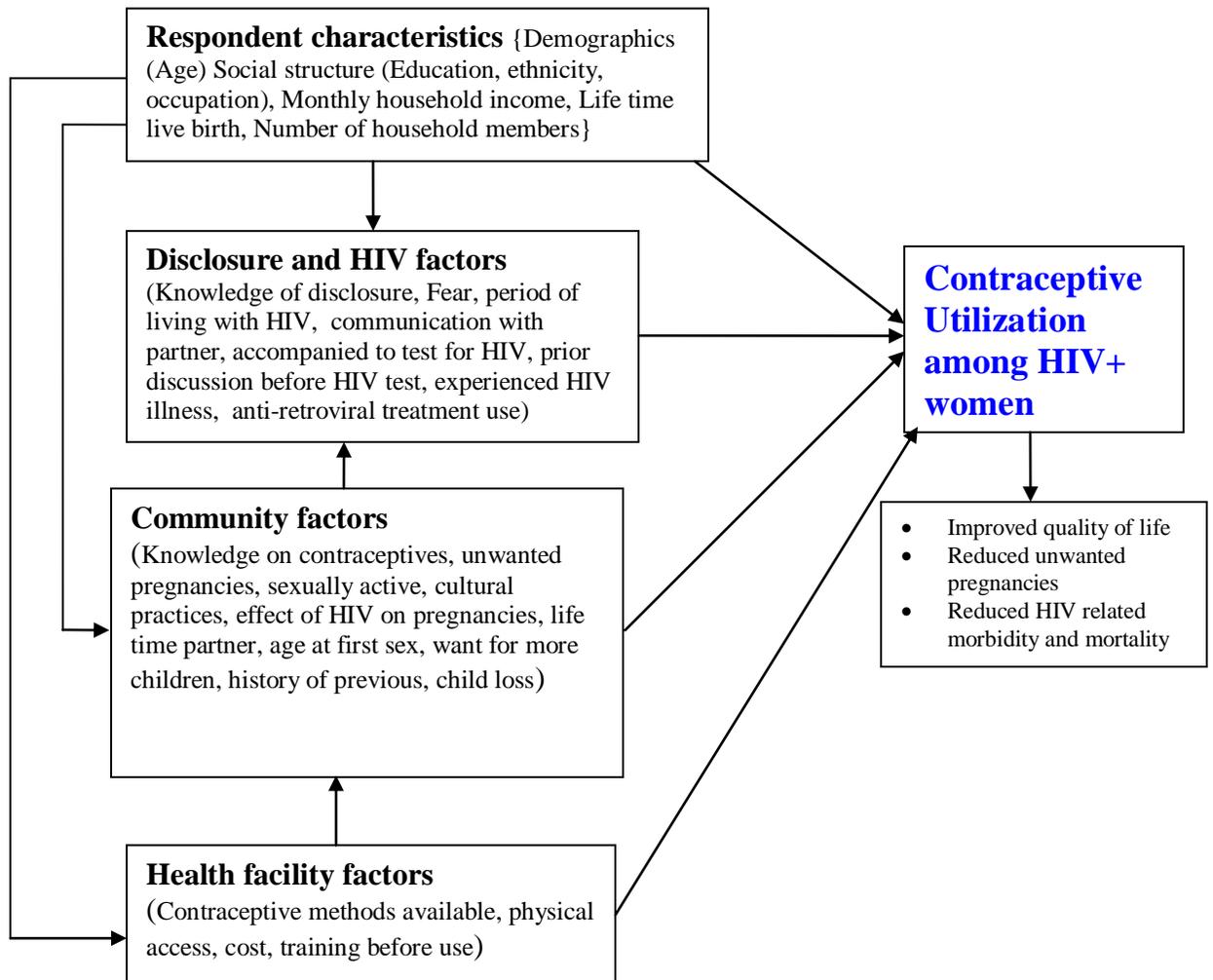
If more HIV+ women disclose their HIV sero status to their marital partners and utilize contraceptives, then reduced unwanted and unintended pregnancies among HIV+ women may be observed, resulting in lower pregnancy related morbidities, and better birth outcomes. Fewer children born to HIV+ mothers may also result into lower rates of child morbidity and mortality. Also, these findings will strengthen the integration of reproductive health and HIV/AIDS counselling.

3.2 Research Question

Does disclosure of one's HIV+ sero status to their marital partner affect their contraceptive utilization?

3.3 Conceptual Framework

HIV Sero status disclosure to the partner and utilization of contraceptives among HIV positive women at AIDS Information Centre, Kampala district



Narrative

Contraceptive utilization can be influenced by several factors which for purposes of this study are categorized into respondent characteristics, disclosure and HIV factors, community factors and health facility factors.

Some of the factors are intertwined, for instance education may be linked to knowledge attainment about disclosure in that through education, an individual can be equipped with knowledge seeking skills. Monthly income may be directly linked to contraceptive use in that when an individual has some monthly income and contraceptives are at a certain fee then it becomes easy.

Number of household members may be linked to privacy in that if there are many household members, there may be no privacy for one to disclose sero status to the partner that is if their communication is not good.

Knowledge about contraceptives may directly influence contraceptive utilization in that if an individual knows her HIV sero status and gets knowledge about the advantages and risks then may influence contraceptive use. The study will only include disclosure of HIV sero status, and not any of the other factors.

CHAPTER FOUR

4.0 STUDY OBJECTIVES

4.1 General objective

To assess the effect of disclosure of HIV sero status to marital partner on contraceptive utilization among HIV+ women receiving HIV care service at AIC in Kampala district in order to address the challenges of unwanted or unintended pregnancies among HIV positive women; and increased mortality and morbidity among infants born to HIV women.

4.2 Specific Objectives

1. To determine the prevalence of HIV sero status disclosure among HIV+ women to their marital partners
2. To determine the contraceptive mix (hormonal and barrier methods) among HIV+ women utilizing the contraceptives at AIC
3. To determine the association between HIV sero status disclosure and contraceptive utilization among HIV+ women attending an HIV care service facility, AIC

CHAPTER FIVE

5.0 METHODOLOGY

5.1 Study area and site

AIC is non-government organization that is located in Mengo, Kampala district which depends on donors like USAIDS, Population Services International (PSI) and Plan International. The mission is to prevent the spread of HIV; provision, expansion of HIV counseling and Testing (HCT) information and education; and the promotion of care and support. It provides services like birth control or family planning services (condoms, pills, injectables, spermicides and the diaphragm), post test club services; education and counseling for sexual and reproductive health. AIC HIV prevalence among AIC clients is 6.9% and females are affected 7.6% versus 6% (AIC, 2008).

5.2 Study population

Study population was composed of currently married HIV+ women, aged 15-49 years and attending AIC for HIV care services, at least four weeks after HIV testing prior to the study. They all consented and completed a quantitative questionnaire.

5.3 Study Design

Using a cross sectional study design with analytical component that compared HIV positive women who had disclosed HIV sero status to their marital partners to those who had not disclose

5.4 Sample size Estimation

The sample size was determined using a formula that was proposed by Lemeshow et al (1990). This formula was preferred because the study was a group comparison (two groups). This cross sectional study looked at two independent samples and with a primary outcome (utilization of contraceptives) which is binary.

$$N = \frac{\left[z_{1-\alpha/2} \sqrt{2\bar{P}(1-\bar{P})} + z_{1-\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)} \right]^2}{(P_1 - P_2)^2}$$

Where:

P_1 is the approximated proportion of HIV+ women utilizing contraceptives among those who disclose HIV sero status to their marital partners (approximately 40% Tenywa, 2006)

P_0 is the proportion of HIV+ women utilizing contraceptives who do not disclose HIV sero status to their marital partners [25% CPR (Contraceptive Prevalence Rate)]

$Z_{1-\alpha}$ is the standard normal value at 95% confidence interval (0.05)

$Z_{1-\beta}$ is the Z value corresponding to the power of 80% (0.842)

\bar{P} is the average contraceptive utilization among HIV+ women who disclosed HIV sero status to their marital partners

$$\bar{p} = \frac{p_1 + p_2}{2} = \frac{0.40 + 0.25}{2} = 0.325$$

Substitution

$$N = \frac{\left[1.96\sqrt{2 * 0.325(1 - 0.325)} + 0.842\sqrt{0.40(1 - 0.40) + 0.25(1 - 0.25)}\right]^2}{(0.40 - 0.25)^2}$$
$$= \frac{3.778}{0.0225} = 168$$

N = 168 participants per group (in each group without considering non response rate). By assuming a non-response rate of 10%, the sample size for this study was calculated to be {336/1-10%} \approx 373. This non-response rate was established from previous studies that have been done like Tenywa, 2006.

Eligibility Criteria

HIV+ women, aged 15 to 49 years, in marital union, tested HIV+ at least four weeks prior to the study, attending AIC for HIV services, competent to provide voluntary informed consent and eligible to participate were included. Unable to respond to the interviewer, the very sick or ill and those who could not communicate in the study languages were excluded.

Inclusion criteria

All HIV+ women aged 15 – 49 years receiving HIV services from AIC

HIV+ women in marital union

A woman who had tested HIV+ at-least four weeks prior to the study

Exclusion criteria

Unable to respond to the interviewer

A very sick or ill woman

Pregnant women

A woman who could not communicate in the languages used in the study (English and Luganda)

5.5 Sampling procedure

AIC was purposively chosen because it provides HIV care services (septrin, TB medication) and family planning services. Using Lemeshow et al (1990) formula, 373 participants were required to be interviewed. Post -test club (PTC) record was used because it registers those who have tested HIV positive and continue going to AIC for HIV services. To avoid issues of many deaths and being out of the reproductive age group, data for years 2007 and 2009 was used to identify the eligible participants. The period of two years was used because a woman may be married in the records and after a short period of time the husband dies and does not get another husband. So limiting the time helped reduce such cases. Eight hundred fifty (850) eligible participants were identified for inclusion. Using systematic sampling, every 2nd individual was chosen until 373 participants were obtained. Those who were no longer married were replaced with participants who were left out because of the limited number that was needed. Participants were contacted on telephone and were invited to participate. Telephone invitation was used because clients go for HIV services at their own convenient time. A long period time would be needed to get the required number of participants given the limited period of time and resources. After the

interview, those who had disclosed and not disclosed were identified using item 32 in the questionnaire.

5.6 Study variables

5.6.1 Dependent variable

The outcome of interest was utilization of contraceptives

5.6.2 Independent variables

1. Individual characteristics: Socio-demographic characteristics (Age, education, ethnicity, occupation, religion, monthly household income, children, number of household members, other sexual partners, lifetime live births, desire for more children)
2. Disclosure prevalence and HIV factors (disclosure knowledge, fear, period of living with HIV, communication with the partner, accompanied to test, prior discussion before testing, experienced illness, disclosure importance, marital status at time of testing, HIV treatment, length of time for treatment, reason for testing, awareness of HIV sero status by marital partner, how marital partner got to know HIV sero status)
3. Community factors (Knowledge on contraceptives, unwanted pregnancies, sexually active, cultural practices, effect of HIV on pregnancies, life time partner, age at first sex, want for more children, history of previous, child loss)
4. Health facility factors (Contraceptive methods available, physical access, cost, training before use)

5.7 Data collection

5.7.1 Training of research assistants

The principal investigator (PI) identified five research assistants based on education attainment and fluency in local languages. The training focused on interviewing skills, correct recording of responses, data collection methods and the ethical values necessary during the execution of the study to minimize non-responses.

5.7.2 Data collection tools

HIV positive women attending AIC were approached by research assistants to assess their eligibility and interest before requesting them to consent. After determining eligibility and attaining their consent, participants received 15 to 20 minute interviewer administered questionnaire in either English or Luganda. The Luganda questionnaire was translated from the original English version into Luganda and then back translated into English to ensure consistency between the two versions.

Semi-structured interviewer administered questionnaires were used to obtain information from the respondents in line with the study objectives.

Quantitative data was collected in February 2010 using a semi-structured interviewer administered questionnaire. The PI and five research assistants administered the questionnaires.

Approximately 25 HIV+ women were interviewed daily by five research assistants over three weeks.

5.7.3 Pre-testing

The tool was pre-tested one week before actual data collection to establish its ability to elicit relevant responses in different communities from where the study was conducted. During the pre-test, I looked at whether the tools provided the required information and are reliable, the time needed for administering each of the data collection tools, presentation of questions and format of the questionnaire, accuracy of the translation, handling and administering the tools.

5.7.4 Field editing of data and Supervision

Filled questionnaires were checked and edited daily for accuracy and completeness, and research assistants were observed periodically to ensure quality of the data is maintained throughout.

5.7.5 Measurement of contraceptive utilization

The primary outcome was self reported use of contraceptives in the previous six (6) months to the study (to limit recall bias). Stratified analysis investigated differences in the types of contraceptives used and distinguishing between barrier and hormonal methods to address effect modification and reduce confounding. The key explanatory variable was disclosure of HIV status to marital partner (confirmed via self reporting). Disclosure was defined as a woman informing the marital partner of her HIV sero status after being tested or going together with the marital partner for testing.

5.8 Data management & analysis

5.8.1 Data management

Quantitative data was entered into the computer using EPI info version 3.5.1 and later exported to Access for storage. The data was then exported to STATA/SE 10 statistical software for analysis.

5.8.2 Data analysis

At analysis, Group 1 (HIV+ women who had disclosed HIV sero status to their marital partners) and group 2 (HIV+ women who had not) were compared by contraceptive use using STATA 10. The primary outcome (Contraceptive use) was labeled yes (coded 1) and no (coded 0). The prevalence of contraceptive use was then computed. Uni-variate analysis was used on participants' social, economic and demographic characteristics. Differences in contraceptive use between groups were reported with the Pearson χ^2 test for categorical variables. The association between contraceptive use and disclosure of HIV sero status was reported with adjusted Prevalence Risk Ratio (PRR) and a 95% confidence interval (CI).

Bi-variate analysis examined the association between contraceptive use (binary) and all other variables including disclose of HIV sero status, social, economic and demographics and education. Chi-square was used to compare proportions for categorical variables.

Multivariable log-binomial regression was used to assess the independent effect of disclosure status to the partner on utilizing contraceptives after adjusting/controlling for the effect of other covariates. The measure of association was the Prevalence Risk Ratios

All covariates with nearly $p < 0.15$ in the bi-variable analysis or potential confounder were included in the final model to obtain adjusted PRR and their 95% CIs. All statistical tests were 2 sided and were considered significant at $\alpha = 0.05$.

5.9 Ethical Considerations

Ethical approval to carryout the study was sought from Uganda National Council for Science and Technology (UNCST) through the Makerere University School of Public Health (MUSPH) - Higher degrees and ethics committee and. Permission to conduct study was sought from AIDS Information Centre (AIC). The research caused negligible risk, because there was no foreseeable risk of harm to the participants other than the time used.

Informed consent was sought from the respondents before participation. Participation was voluntary and participants were free to withdrawal at any time they wished. Confidentiality was assured throughout the study by use of code numbers instead of individual names for identification. Access to data was restricted to only the principal investigator.

Dissemination Plan

The report was submitted to Makerere University School of Graduate Studies and Makerere University School of Public Health in partial fulfillment of the requirement for the award of Masters of Health Services Research Degree of Makerere University. Copies of the findings will also be distributed to AIDS Information Centre, Ministry of Health and articles to peer review journals.

CHAPTER SIX

6.0 RESULTS

6.1 Respondent's Characteristics

Table 1 shows the distribution of respondent's characteristics according to disclosure status. Overall, majority of those who had disclosed HIV sero status to the marital partners and those who had not disclosed were aged 30-34 years (43.9%), they were from the Ganda tribe (65.9%), were Christians (83.9%) and had at least primary level of education 52.8%. Sixty one (61%) were in business and about three quarters (76.4%) had a monthly household income of less than one hundred thirty six US dollars (\$136). Sixty three (63%) of the women had 5 or more co-residents, (79%) of the women had their marital spouses as their sexual partners. About half of the women (50.7%) had 1-4 lifetime live births and 71.6% of these women did not want to have more children.

Table 1: Distribution of social, economic and demographic characteristics

Characteristics	DISCLOSURE STATUS				Total (No)	
	DISCLOSED n/N	(%)	NOT DISCLOSE n/N	(%)	n/N	(%)
Age group						
15-29	62/79	(78.5)	17/79	(21.5)	79	(21.2)
30-34	108/164	(65.9)	56/164	(34.1)	164	(43.9)
35+	101/130	(77.7)	29/130	(22.3)	130	(34.8)
Ethnicity/ Tribe						
None Ganda	93/127	(73.2)	34/127	(26.8)	127	(34.1)
Ganda	178/246	(72.4)	68/246	(27.6)	246	(65.9)
Religion						
None Christians	47/60	(78.3)	13/60	(26.7)	60	(16.1)
Christians	224/313	(71.6)	89/313	(28.4)	313	(83.9)
Education Level						
None	18/26	(69.2)	8/26	(30.8)	26	(6.9)
Primary	140/197	(71.1)	57/197	(28.9)	197	(52.8)
Post-primary	113/150	(75.3)	37/150	(24.7)	150	(40.2)
Occupation						
Not in business	159/229	(69.4)	70/229	(30.6)	229	(61.4)
Business	112/144	(77.8)	32/144	(22.2)	144	(38.4)

Characteristics	DISCLOSURE STATUS					
	DISCLOSED		NOT DISCLOSE		Total (No)	
	n/N	(%)	n/N	(%)	n/N	(%)
Household income(in US Dollars)						
<\$136	205/285	(71.9)	80/285	(28.1)	285	(76.4)
>\$136	66/88	(75)	22/88	(25.0)	88	(23.6)
Number of co-residents						
0-4	167/234	(71.4)	67/234	(28.6)	234	(62.7)
5+	104/139	(74.8)	35/139	(25.2)	139	(37.3)
Current non-marital sexual partners						
No	228/295	(77.3)	67/295	(22.7)	295	(79.1)
Yes	43/78	(55.1)	35/78	(44.9)	78	(20.9)
Lifetime live births						
0	72/93	(77.4)	21/93	(22.6)	93	(24.9)
1-4	138/189	(73.0)	51/189	(27.0)	189	(50.7)
5+	61/91	(67.0)	30/91	(33.0)	91	(24.4)
Trying Pregnancy						
No	252/331	(76.1)	79/331	(23.9)	331	(88.7)
Yes	19/42	(45.2)	23/42	(54.8)	42	(11.3)
Want more children						
No	200/267	(74.9)	67/267	(25.1)	267	(71.6)
Yes	71/106	(67.0)	35/106	(33.0)	106	(28.4)

**The indicated percentages are column percentages*

**Uganda Shillings converted using 2200 Shs per US Dollar*

6.2 Disclosure prevalence

Table 2 shows the prevalence and prevalence risk ratios of HIV sero status disclosure by respondent's characteristics. The overall rate of disclosure was high (73%). At bi-variate analysis, women who were initiated on ART drugs were significantly associated with higher prevalence of disclosure compared with women were not initiated on ART drugs (PRR=1.35; 95% CI = 1.13 - 1.59). Women who did not want more children were significantly associated with lower prevalence of disclosure compared with women who wanted more children (PRR=0.84; 95% CI = 0.72 - 0.92) and also women with current non-marital sexual partners

were significantly associated with lower prevalence of disclosure compared with women who did not have other non-marital sexual partners.

Women who reported that disclosure of sero status to the marital partner was important, those age 30-34 years and 35+ years, those with primary and post-primary level of education, those in business, those with more than \$136 and those who mentioned disclosure fears had high prevalence of disclosure but were not statistically significant.

At multivariate analysis, adjusting for other factors, the prevalence of disclosure remained significantly higher for women who were initiated on ART drugs compared with those who were not initiated on ART drugs (Adjusted PRR=1.20; 95% CI = 1.02, 1.42). Women who were involved in sexual intercourse in at-least past six months prior to the study were statistically associated with higher prevalence of disclosure compared with women who were not involved in sexual intercourse (Adjusted PRR=1.77; 95% CI = 1.09, 2.85). However significantly, lower prevalence of disclosure was observed among women who wanted more children compared with those who did not want more children (Adjusted PRR=0.84; 95% CI = 0.73, 0.98).

Table 2: Prevalence and Prevalence Risk Ratio (PRR) of sero status disclosure by respondent's characteristics

	Disclosure/Tot al population	Proportion (%ge)	Crude PRR 95% CI	Adjusted PRR 95% CI	P-Value
Overall	271/373	72.7			
Age Group (Years)					
15-29	62/79	78.5	1.00	1.00	
30-34	108/164	65.8	1.58(0.99,2.54)	0.98(0.84,1.14)	P=0.76
35+	101/130	77.7	1.04(0.61,1.76)	0.94(0.82,1.09)	P=0.43
Ethnicity/Tribe					
None Ganda	93/127	73.2	1.00	1.00	
Ganda	178/246	72.4	0.99(0.87,1.13)	0.97(0.86,1.09)	P=0.67
Religion					
Not Christians	47/60	78.3	1.00	1.00	
Christians	224/313	71.6	0.91(0.78,1.06)	0.91(0.77,1.06)	P=0.24
Education level					
None	18/26	69.2	1.00	1.00	
Primary	140/197	71.1	1.03(0.78,1.35)	0.98(0.78,1.24)	P=0.89
Occupation					
Not in business	159/229	69.4	1.00	1.00	
Business	112/144	77.8	1.12(0.99,1.27)	1.04(0.92,1.17)	P=0.53
Household income (in US Dollars)					
<\$136	205/285	71.9	1.00	1.00	
>=\$136	66/88	75	1.04(0.91,1.20)	0.99(0.87,1.14)	P=0.92
Current non marital sexual partners					
No	228/295	77.3	1.00	1.00	
Yes	43/78	55.1	0.71(0.58,0.88)	0.88(0.74,1.45)	
Sexually Active (sexual intercourse)					
No	10/21	47.6	1.00	1.00	
Yes	261/352	74.2	1.56(0.99,2.45)	1.77(1.09,2.85)	P=0.02

	Disclosure/Tot al population	Proportion (%ge)	Crude PRR 95% CI	Adjusted PRR 95% CI	P-Value
Want more children					
No	186/232	80.2	1.00	1.00	
Yes	71/106	66.9	0.84(0.72,0.92)	0.84(0.73,0.98)	P= 0.03
Initiated on ART drugs					
No	63/108	78.5	1.00	1.00	
Yes	208/265	58.3	1.35(1.13,1.59)	1.20(1.02,1.42)	P=0.03
Considered disclosure as important					
No	3/10	30	1.00		
Yes	265/357	74.2	2.47(0.96,6.39)	3.05(0.93,10.00	P=0.07
Disclosure fears					
No	7/10	70	1.00		
Yes	264/363	72.7	1.04(0.69,1.57)	0.69(0.40,1.18)	

**The indicated percentages are column percentages*

6.3 Contraceptive methods used and mix

Table 3 shows type of contraceptive methods used by the HIV+ women. Data on contraceptive use were provided by 9 in 10 HIV+ women (90%). Overall, use of condom alone or in combination with another method was the most common contraceptive method, (65%). About 57% reported use of condoms only, 20% Depo-Provera only, 9% pills only and only one woman reported use of Norplant alone but use of IUDs was not reported.

Use of more than one method was reported by 14% of women with data on contraceptive use; condoms and Depo-Provera (6.4%); condoms with pills (6.4%) were most commonly used in combination with condoms but only 4 women reported condoms with norplant.

Table 3: Types of contraceptive methods used by HIV+ women

Method	Frequency, N	Percentage, %
Overall	<u>*357</u>	<u>100</u>
One method only		
Total	<u>307</u>	<u>86</u>
Condoms	204	57.1
Depo-Provera	70	19.6
Pills	32	9.0
Norplant	1	0.3
More than one method		
Total	<u>50</u>	<u>14</u>
Condoms and Depo-Provera	23	6.4
Condoms and pills	23	6.4
Condoms and Norplant	4	1.1

** 357/373 provided data on contraceptive use*

6.4 Association between sero status disclosure and contraceptive utilization

Table 4 shows the Prevalence Risk Ratios (PRR) of sero status disclosure and other variables associated with contraceptive use among HIV+ women. The analysis considered use of only modern hormonal contraceptive methods (Depo-Provera, pills, Norplant and IUD) irrespective of whether condoms were used or not.

Univariate analysis shows the unadjusted associations between social, economic and demographic characteristics and contraceptive utilization among HIV positive women. As shown, HIV+ women who had disclosed HIV sero status to their marital partners were significantly associated with lower prevalence of hormonal contraceptive use compared with HIV+ women who had not disclosed HIV sero status to their marital partners (PRR= 0.59; 95% CI = 0.47 - 0.76). Women who reported being aware of contraceptive dangers were also

significantly associated with lower prevalence of contraceptive use (PRR= 0.62 95% CI = 0.41, 0.94).

Factors that were statistically associated with higher prevalence of contraceptive use were; women who reported having current non marital sexual partners compared with women who did not have current non marital sexual partners (PRR= 1.78; 95% CI = 1.41, 2.24), women who did not want other children compared with women who wanted other children (PRR= 1.52; 95% CI = 1.18, 1.95) and women who were initiated on ART drugs compared with women who were not initiated on ART drugs (PRR= 1.34; 95% CI = 1.05, 1.71). None of the other covariates showed a significant association with contraceptive use.

In the multivariate analysis, disclosure of HIV sero status to marital partner remained significantly associated with lower prevalence of contraceptive use compared with women who had not disclosed HIV sero status to the marital partner (Adjusted PRR= 0.58; 95% CI = 0.45 - 0.76). Similarly a woman being aware of contraceptive use dangers remained statistically associated with contraceptive use compared with a woman who was not aware of contraceptive use dangers. (Adjusted PRR= 0.57; 95% CI = 0.35, 0.96; p-value=0.04).

A woman had non-marital sexual partners is statistically associated with higher prevalence of contraceptive use compared with a woman who did not have non-marital sexual partners. There were factors that were not statistically associated with contraceptive use but had a higher prevalence of hormonal contraceptive use and these were considering disclosure as important, education level, having non marital sexual partners and being involved in sexual intercourse at-least six months prior to the study.

Table 4- Prevalence Risk Ratios (PRR) of Variables Associated With Contraceptive Use Among HIV+ Women (N = 373) At AIC.

	Contraceptive use/ population	Proportion (%ge)	Crude PRR 95% CI	Adjusted PRR 95% CI	P-Value
Overall	153/373	41			
Sero status					
Disclosure					
No	59/102	57.8	1.00	1.0	
Yes	94/271	34.7	0.59(0.47,0.76)	0.58(0.45,0.76)	P=0.000
Age group (years)					
15-29	28/79	35.4	1.00	1.0	
30-34	78/164	47.6	1.34(0.96,1.88)	1.09(0.78,1.53)	
35+	47/139	36.2	1.02(0.70,1.48)	0.85(0.57,1.27)	
Ethnicity					
None Ganda	45/127	35.4	1.00	1.0	
Ganda	108/246	43.9	1.24(0.94,1.63)	1.09(0.84,1.43)	
Religion					
Not Christians	24/60	40	1.00	1.0	
Christians	129/313	41.2	1.03(0.74,1.44)	0.99(0.69,1.43)	P=0.97
Education level					
None	8/26	30.7	1.00	1.0	
Primary	78/197	39.6	1.28(0.70,2.35)	1.60(0.71,3.62)	
Post primary	67/150	44.7	1.45(0.79,2.66)	1.89(0.84,4.29)	
Occupation					
Not business	73/173	42.2	1.00	1.0	
Business	80/200	40	0.94(0.73,1.22)	0.92(0.70,1.21)	P= 0.55
HH income (in US Dollars)					
<\$136	111/285	38.9	1.00	1.0	
Current non marital sexual partners					
No	104/295	35.3	1.00	1.00	
Yes	49/78	62.8	1.78(1.41,2.24)	1.42(1.10,1.84)	P=0.01

	Contraceptive use/ population	Proportion (%ge)	Crude PRR 95% CI	Adjusted PRR 95% CI	P-Value
Want more children					
Yes	57/106	53.7	1.00	1.00	
No	82/232	35.3	1.52(1.18,1.95)	1.29(0.98,1.68)	P=0.06
Lifetime live births					
0	40/93	43.0	1.00	1.00	
1-4	75/189	39.7	0.92(0.69,1.24)	0.88(0.67,1.17)	
5+	38/91	41.7	0.97(0.69,1.36)	1.29(0.83,2.00)	
Initiated on ART drugs					
Yes	99/265	37.6	1.00	1.00	
No	54/108	50	1.34(1.05,1.71)	1.12(0.86,1.47)	P=0.40
Sexually active (sexual intercourse)					
No	8/21	38.1	1.00	1.00	
Yes	145/352	41.2	1.08(0.62,1.89)	1.33(0.70,2.51)	
Being aware of contraceptive dangers					
No	9/14	64.3	1.00	1.00	
Yes	144/359	40.1	0.62(0.41,0.94)	0.57(0.35,0.96)	P=0.04

CHAPTER SEVEN

7.0 DISCUSSION

In this study of the HIV+ women attending HIV care services at AIC-Kampala, about three quarters (73%) disclosed their HIV sero status to their marital partners in the past six months prior to the study. Reported use of hormonal contraceptives was low (29%), although majority of women (71%). Disclosure of HIV sero status was significantly associated with lower prevalence of hormonal contraceptive use; about 42% lower prevalence risk of hormonal contraceptive use among HIV+ women disclosing compared to those not disclosing. Having non-marital sexual partners, being initiated on ART and not wanting more children tended to be associated with higher use of hormonal contraceptives.

The high rate of HIV sero status disclosure was consistent with other studies, although this study found the disclosure prevalence to be higher (73%) compared to some studies, like Tenywa (2006) found a 58%. However, other studies like one by Andia (2009) found disclosure prevalence of 82% which was higher than what this study found. Disclosure prevalence was high because in this setting (AIC), disclosure of HIV sero status is part of counseling guide and is highly recommended during post-test counseling since it supports risk reduction behaviors.

A high rate of contraceptive use (96%) was found among these HIV+ women obtaining HIV care. This rate was higher than the Uganda national level contraceptive prevalence rate, 24% (UBOS and Macro, 2006). The difference may be explained by the high use of condoms; 71% reported using condoms as a family planning (FP) method, as well as prevention of re-infection with HIV. This was consistent with findings from other studies; Mutiso (2008) found 82% condom use for FP among HIV+ women attending a comprehensive care centre in Voi-Kenya. Such high rates of reported use of condoms for FP may be explained by having no side

effects, free provision of condoms at AIC, primarily used for both protection against unwanted pregnancies as well as prevention of HIV re-infection (Fatima et al., 2009) and also they are perceived to be safe, cheap and readily available (Rutenberg et al. 2004). A study in Soweto-South Africa found that HIV-infected couples on ART are advised to use condoms for prevention of HIV re-infection with possibly drug-resistant strains of HIV that may adversely affect ART drug efficacy (Fatima et al., 2009). It was observed that 265/373 (71%) of those interviewed at AIC were on ART, which possibly explains the high use of condoms.

Hormonal contraceptive use was found to be low (29%). The most commonly used method was depo provera (20%) followed by pills (9%) and only 0.3% reported use of Norplant. IUDs were not reported by any respondent. Two studies conducted in West Africa, showed similar level of low hormonal contraceptive use; Desgrees-du-Lou (2002) reported (26%) and (Nebie et al., 2001) reported (39%). The low rate of hormonal contraceptives could be explained by such factors as; burden of taking a daily pill bearing in mind that these women are already taking drugs while in HIV care, the side effects like changing physical appearance and disorganizing menstrual bleeding, as well as a need to closely follow up on usage of these methods to avoid miscalculation that may lead to unwanted pregnancy (Fatima et al., 2009). Although hormonal contraceptive use was low, those who use them mentioned reasons for use like their convenience and their secrecy. Depo provera was the most commonly used hormonal contraceptive method. Reasons for its higher use compared to other hormonal methods include convenience because its half life is about three months before getting another doze thus giving a long duration of protection against unwanted pregnancies (Lande and Richey, 2006). Depo provera is the most popular and widely available form of contraception (Kenya Demographic Health Survey, 2003). These could be the similar reasons as to why depo provera is the most

commonly used hormonal method in Uganda. Non use of IUDs may be explained by the fact that AIC does not provide them and also the UDHS (2006) showed less use of IUDs among women generally.

HIV+ women who disclosed their sero status had a significantly lower prevalence of hormonal contraceptive use compared to those who had not disclosed. However this finding is not consistent with a study done in Kenya by Balkus (2007), which showed no association between partner disclosure and hormonal contraceptive use during postpartum follow-up among HIV+ women. Balkus (2007) noted that among hormonal contraceptive users, 35% had disclosed sero status to marital partner. The observed low hormonal contraceptive use in this study could be because HIV+ women who have disclosed may find it easy to use condoms compared to women who have not disclosed. They find it easy because they do not need to defend condom use as the marital partner is aware why they are controlling unwanted pregnancies. Those who have not disclosed find it hard to use condoms as the marital partner may question why she wants to use a condom. That is why they may opt for hormonal methods that are female controlled so as to control for unwanted pregnancies. Because 27% had not disclosed to their marital partners, it could be a reason for the low use of hormonal contraceptives.

High disclosure of HIV sero status to marital partners was seen among HIV+ women aged 30-34 years compared to other age groups. However this was not consistent with findings from other studies. For example Fanquhar et al (2000) and Galliard et al (2000) observed that contraceptive use was highest among HIV+ women under the age of 24 years. The reason for high disclosure rate among women aged 30-34 years in this setting could be because in Uganda, HIV/AIDS is highest in this age group and many of them in this age group are in marital union with high fertility rates.

Being initiated on ART drugs was significantly associated with disclosure compared to not being initiated on ART drugs. This was also noted in a study by Andia (2009). The reason for the finding in this study could be that it is a requirement of taking ART drugs for HIV+ persons to disclose their sero status to companions close to them. Respondents on ART drugs may recognize the value of their health and well-being, thus choosing to limit childbearing (Maier 2008). This was supported by our finding that 28% of the respondents wanted more children. The reason for this finding is that women are educated about HIV transmission and are counseled to avoid pregnancy. Condoms are also provided for free at AIC and condom distribution is more likely to HIV infected because they visit the AIC more often than respondents not on ART (Andia, 2009).

Primary and post-primary levels of education being associated with higher contraceptive use were supported by a finding in a study by Tenywa (2006). The study noted that women with higher level of education were associated with higher contraceptive use. Education plays an important role in contraceptive use. The higher the level of education, the more you appreciate the advantages of contraceptive use compared to those without education. Given that most of the respondents were educated, it could be a reason for the high contraceptive use prevalence among those particular levels of education (40%) primary and (45%) post-primary. The educated women usually go for seminars and conferences where ideas are shared about contraception. Also some of these women end up participating in reproductive health research. In this way they continue advocating for their use hence increased use.

The higher association between contraceptive use and having non marital sexual partners noted in this study was because women fear to having children from different men other than their marital partner. Non use of hormonal contraceptives with a non marital sexual partner could

lead to unwanted pregnancies which could affect their marriages, weaken their immune system and give birth to HIV infected children hence increasing infant mortality most especially if PMTCT is not considered.

The high association between contraceptive use and not wanting more children was supported by a finding in a study by Andia et al. (2009). Although not wanting more children was not statistically associated with contraceptive use, it is an important factor in determining contraceptive use. If a woman does not want more children she uses contraceptives to prevent the unwanted pregnancies. Since majority of the respondents reported not wanting more children, there were higher chances for hormonal contraceptive use. Eighty percent of the respondents who did not want more children had not disclosed sero status to their marital partners. This could explain the high chance of hormonal contraceptive use.

Being aware of contraceptive dangers had a strong relation with lower hormonal contraceptive use. HIV+ women with information about the dangers had 56% lower prevalence of contraceptive use compared to HIV+ women who were not aware of contraceptive dangers. The reason for this could be that they were aware of the consequences of using contraceptives. If a woman is aware of the risks and benefits of the different methods, there are high chances making a better choice which may not be the case for a woman who does not know.

Study Limitations

Reporting bias was possible as women may have falsely reported using contraceptives. Reporting bias might have been experienced on HIV sero status disclosure to marital partner because these women were sensitized about HIV transmission and counseled to avoid unwanted pregnancies.

There was selection bias because participants were not randomly selected.

The study only looked at those in any form of marital union yet also those not in any form of marital union are at risk.

Only quantitative technique for data collection was used yet also qualitative methods would have provided important information.

CHAPTER EIGHT

8.0 CONCLUSION AND RECOMMENDATIONS

CONCLUSION

The prevalence of HIV sero status disclosure and use of condoms were high. However, hormonal contraceptive use and contraceptive mix were low among HIV+ women under the HIV care program. Hormonal contraceptive use was significantly lower among HIV+ women who disclosed their sero status. Disclosure of HIV sero status to marital partner affects contraceptive utilization among HIV positive women.

RECOMMENDATIONS

Much as the proportion of condom users and HIV sero status disclosure were high, advocacy needs to be done to further increase the proportion of condom use and HIV sero status disclosure to 100% to ensure that all HIV+ women disclose and use condoms.

HIV+ women should be sensitized on hormonal contraceptive use and introduce them to more types of hormonal contraceptive methods in addition to what they provide to further increase uptake.

They should provide information to HIV+ women who have disclosed sero status to their marital partners on benefits of using hormonal contraceptives to control for unwanted pregnancies in addition to condoms.

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APPENDICES

Appendix 1: Consent Form

Introduction

This study is about assessing contraceptive utilization and HIV status disclosure among HIV+ women attending AIC HIV care services. After you have heard the study explained and your questions answered and you have decided to participate, you will be asked to sign a consent form and you will be given a copy to keep. It should be remembered that participation is voluntary and you can withdraw if you wish to.

Purpose of the study

The ultimate goal of this study is to assess the effect of disclosure of HIV sero status to the partner on contraceptive utilization among HIV+ women receiving HIV care service at AIC in Kampala district so that we can better understand how to address the challenges of unwanted pregnancies among HIV positive women; and consequently address the increased mortality and morbidity among infants born to HIV women. This study seeks to measure contraceptive utilization among HIV+ women in Kampala, as away of increasing contraceptive provision by HIV services providers (AIC). It will also help AIC improve more on quality of life of HIV+ women by increasing contraceptive utilization among HIV+ women who receive services at AIC. The study will help in the completion of my Masters Degree in Health Services research of Makerere University.

Risks

This research may cause negligible risk which will not be more than inconvenience in terms of time spent. No risk of harm or discomfort that will impact on the participant is fore seen like getting a specimen for the analysis except the questions that will be asked.

Benefits

There are no tangible benefits from the study but the information given will help to improve the planning activities by the policy makers, providers of contraceptives and providers of HIV care services.

Alternatives to participation

In case you are not interested in the study, you do not have to participate, no benefits will be lost and you will get all the HIV care services from this centre. Your mere participation in this study will not affect the HIV care and services that you receive from the center.

Summary of your rights to participate in this study

You can withdraw from this study at anytime

Confidentiality

The answers you give us will only be known to us and will be kept confidential. The information you give us will only be used for this study. You do not need to give us your name; we shall use the number of the questionnaire

Authorization to use and disclosure of your information

Signature

Signing below indicates that you have been informed about the research study in which you volunteer to participate; that you have asked the questions about the study and that information given to you has permitted you to make a fully informed decision about the participation in the study.

By signing this consent form, you, do not waive any legal rights. A copy of this consent form will be provided to you

Respondent sign..... Date.....

Name of principal investigator/..... Signature..... Date.....

Research Assistant

Telephone Contact.....

During or after the interview you can contact Ms Vivian Zalwango the principal investigator Telephone contact 0772416488 or email address zalvivian@yahoo.com

Thank you

Appendix 11: Questionnaire

Identifiers

Name of research assistant.....
Questionnaire Number |__|__|__| County.....
Sub-county.....Parish.....
Date...../...../.....

Circle the right choice where applicable or fill in the response

Individual characteristics of HIV+ women at AIC

Age of respondent (in complete years) |__|__|.

What is your ethnicity? |__|

1. Ganda
2. Nyarwanda
3. Nyoro
4. Mukiga
5. Nkole
6. Others (specify)

What is your religion/ faith? |__|

1. Catholic
2. Protestant
3. Muslim
4. Others (Specify).....

What is the highest education level attained? |__|

1. None
2. Primary
3. Secondary ('O' level) ('A' level)
4. Tertiary

What is your occupation? |__|

1. Business person
2. Civil servant
3. Subsistence farmer
4. Not employed
5. Others (Specify)

What is your monthly household income, UGX |__|__|__|__|__|__|__|

How many household members do you have excluding respondent?.....

Are you currently married?

1. Yes
2. No

Do you have any other sexual partners other than those mentioned above?

1. Yes
2. No

If yes, how many other partners do you have? |__|__| code actual number

Do you have children?

1. Yes
2. No

If yes, how many children have you ever delivered alive or dead? |__|__|.....

How many lifetime live births have you delivered?.....

How many children (below 18 years) are you looking after?.....

How many of your own children are still alive?.....

When did your last pregnancy end?.....

Do you want more children?

1. Yes
2. No

If yes, have you been trying to become pregnant in the last six months?.....

Disclosure prevalence

Do you have knowledge on disclosure of HIV sero status?

1. Yes
2. No

If yes, do you think HIV+ women should disclose HIV sero status to their spouses?

1. Yes
2. No

If yes, why is it important for them to disclose to their spouses?

1. To get support
2. To get treatment
3. So that partner can also test
4. To avoid unwanted pregnancies
5. Others (specify).....

If no, why not? (Record verbatim)

.....
.....

Do HIV+ women face any fears for disclosing HIV sero status to their spouses?

1. Yes
2. No

If yes, which fears do they experience?

1. Divorce
2. Violence
3. Loss of support
4. Stigmatization and discrimination
5. Others (specify).....

HIV SECTION

For how long have you known that you are HIV+?

- 1. Days
- 2. Weeks
- 3. Months
- 4. Years

What was your marital status at the time you were diagnosed with HIV

- 1. Married (Living together)
- 2. Widowed
- 3. Single

If 1 or 2, by the time you got to know of your HIV status, for how long had you been married (lived with a man).....

Why did you take HIV test?

.....
.....
.....

Did you discuss with your sexual partner before taking the HIV test?

- 1. Yes
- 2. No

What was the state of your health at the time you took the HIV test?

- 1. Very ill (admitted in hospital)
- 2. Ill (Not admitted)
- 3. Had no sickness

Were you accompanied by your sexual partner when you went for the test?

- 1. Yes
- 2. No

If no, is your partner aware about your HIV sero status?

- 1. Yes
- 2. No

If yes, how did he get to know?

- 1. Discussed
- 2. Went together for a test
- 3. Other (Specify).....

Are you taking drugs that help to reduce HIV virus (ART)?

- 1. Yes
- 2. No

How long have you been taking these drugs?

- 1. Days
- 2. Weeks
- 3. Months
- 4. Years

Community and Health facility factors

What was your age at first sex.....

Have you been sexually active in the previous 6 months?

- 1. Yes
- 2. No

I would like to know if you have conceived since you tested HIV positive

- 1. Yes
- 2. No

If yes what was the outcome?

- 1. Delivered
- 2. Aborted
- 3. Had an ectopic
- 4. Still birth
- 5. Miscourage

Do you have any knowledge about contraceptives?

- 1. Yes
- 2. No

Have you been using anything or tried in any way to avoid unwanted pregnancies?

- 1. Yes
- 2. No

If yes, what have you been using to avoid unwanted pregnancies?

- 1. Modern contraceptives
- 2. Not sexually active (Abstinence)

What methods do you use for family planning?

- 1. Depo provera
- 2. Pills
- 3. Norplant
- 4. Condoms
- 5. IUD
- 6. Others (Specify).....

Which one do you use most often?

- 1. Depo provera
- 2. Pills
- 3. Norplant
- 4. Condoms
- 5. IUD
- 6. Others (Specify).....

Which one is your most preferred?

- 1. Depo provera
- 2. Pills
- 3. Norplant
- 4. Condoms
- 5. IUD

6. Others (Specify).....

If disclosed to your marital partner, were you using modern contraceptives before disclosure in the past six months?

- 1. Yes
- 2. No

If yes, which modern methods were you using?

- 1. Depo provera
- 2. Pills
- 3. Norplant
- 4. Condoms
- 5. IUD
- 6. Others (Specify).....

Are you aware of the dangers of HIV+ women not utilizing contraceptives?

- 1. Yes
- 2. No

If yes, what are the dangers for an HIV+ woman not utilizing contraceptives?

- 1. Unwanted pregnancies
- 2. Others (specify).....

Does AIC provide you with contraceptives?

- 1. Yes
- 2. No

If yes, what types of modern contraceptives do they give you?

- 1. Depo provera
- 2. Pills
- 3. Norplant
- 4. Condoms
- 5. IUD
- 6. Others (Specify).....

When you ask for them, are you directed on how to use them before giving them to you?

- 1. Yes
- 2. No

Do you have physical access to contraceptives?

- 1. Yes
- 2. No

Do you pay money for the contraceptives provided at AIC?

- 1. Yes
- 2. No

Are there any cultural practices that block you from utilizing contraceptives?

- 1. Yes
- 2. No

If yes, what are the cultural practices?

.....
.....