REPORTED SEXUAL RISKY BEHAVIOURS AMONG PEOPLE RECEIVING ANTIRETROVIRAL TREATMENT:

THE CASE STUDY OF KIGOMA/UJIJI MUNICIPALITY

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Master of Public Health Dissertation

Muhimbili University of Health and Allied Sciences

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By

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A Dissertation Submitted in Partial Fulfillment of the Requirement for the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences

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Certification

The undersigned certifies that he has read and hereby recommends this dissertation for acceptance by the Muhimbili University of Health and Allied Sciences, a dissertation titled **Reported Sexual Risky Behaviors Among People Receiving Antiretroviral Treatment: The Case Study of Kigoma/Ujiji Municipality** Presented in partial fulfillment of the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences.

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(Supervisor)

Date: _____

Declaration
and
Copyright

I **Heri Wilson Ntoke,** hereby declare that this dissertation is my original work, and that it has not been and will not be submitted for a diploma or degree in any other University.

Candidate's signature…….

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I thank all respondents, for their voluntary willingness to participate in this study, I wish them healthy life and may they be blessed abundantly.

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Dedication

This dissertation is dedicated to my beloved daughters.

Abstract

Background: A lot has been invested in HIV prevention programmes globally, yet HIV infection continues to spread, although more slowly than before. Antiretroviral treatment has led into declining of morbidity and mortality from HIV disease and to improved wellbeing. It is of concern to see people who are on ART, who have experienced the infection first hand to continue practicing risky sexual behaviors. It is important, to know the motivations and forces that govern the decision to practice these behaviors among people who are on ART, so that to design effective interventions to reduce HIV transmission.

Objectives: The main objective of this study was to explore, sexual risky behaviors among persons receiving ARVs in Kigoma/Ujiji municipality.

Materials and Methods: A descriptive exploratory study design that aimed at in-depth collection of information from sexually-active adults on ART, targeting those attending Kigoma regional Hospital CTC in Kigoma/Ujiji municipality was employed. The study was conducted from mid June to end of July 2012. A purposive sampling technique was used to select appropriate participants to meet the objectives of the study. In-depth interviews were held with 14 (8 females, 6 males) sexually-active adults receiving ART, to understand sexual risky behaviors after initiation of treatment.

Results: While almost all respondents except two, reported have managed to reduce sexual partners to maintain single sexual partner, more than a half of all respondents reported that they do not use condoms consistently. For both male and female respondents, a transition from multiple partners to a single regular partner began at the time of HIV testing and the resolve to stay with one partner was further strengthened by initiation of ART. A need for Materials support and inability to break the long standing relationship as claimed by some respondents seem to be a factor contributing to continue having multiple partners. This shows an existence of a gap in life skills experienced by these participants which need to be addressed by psycho-social counselors.

Conclusions: As reported by respondents, there is inconsistent condom use, especially in stable relationships, some of which contain HIV discordant couples. Religious and cultural

barriers to condom use, and misconceptions about the harmful effects of condoms hindered their use. Among those reported inconsistent non-condom use, a desire for children was an important reason for not using condoms.

The study suggests that there is a reported significant reduction in multiple concurrent sexual partners among people on ARVs, to a small extent, an increase in condom use around the time of HIV diagnosis.

While disclosure of HIV status appeared to support condom use, this does not always predict protected sex.

Recommendations: The study recommends that in-depth psycho-social long term client-or couple focused counseling should be used to identify, explore and address deep rooted psycho-social barriers to sexual risky behavioral change.

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List of Abbreviations

ART	Antiretroviral Therapy
CTC	Care and Treatment Center
IDU	Injecting Drug Users
MARP	Most At Risk Populations
MSM	Men who have Sex with Men
MUHAS	Muhimbili University of Health and Allied Science.
PLWHIV	People Living With HIV
SW	Sex Workers
TDHS	Tanzania Demographic Health Survey
UNAIDS	Joint United Nations Programme on HIV/AIDS

CHAPTER ONE: INTRODUCTION

Background

1.1. The Global overview of the HIV epidemic.

The overall growth of the global AIDS epidemic appears to have stabilized. [1].UNAIDS estimates that there were 33.3 million people living with HIV at the end of 2009 compared with 26.2 million in 1999, a 27 percent increase globally. At the same time, in 2009, there were an estimated 2.6 million people who became newly infected with HIV. Although, this is 19 percent less than the 3.1 million people newly infected in 1999, and 21 percent less than the 3.2 million new infections in 1997, when the annual number of new infections peaked, it remains a significantly large number of new HIV infections. The decline in new infections is offset by the reduction in AIDS related mortality as a result of improved availability of antiretroviral medications contributing to an overall increase in numbers of PLWHIV. The number of annual AIDS related deaths declined from a peak of 2.1 million deaths in 2004 to 1.8 million in 2009. [1]

The majority of new infections still occur in Sub-Saharan Africa, estimated 1.8 million people became infected with HIV in Sub-Saharan Africa, in 2009. The majority of newly infected people are due to unprotected sex and onward transmission of HIV to newborns and breastfed babies.

1.2 HIV/AIDS in Tanzania

Following the global trend, HIV prevalence in Tanzania has been declining and there is evidence that the epidemic may have stabilized. [2]The prevalence of HIV infection among the sexually active population of 15-49 years old was estimated at 5.7% [3] in 2008, down from 7% in 2003-04. The number of people living with HIV is estimated at 1,434,003 (Year 2012), which is a small increase from the estimated 1,428,512 in 2010 [2].

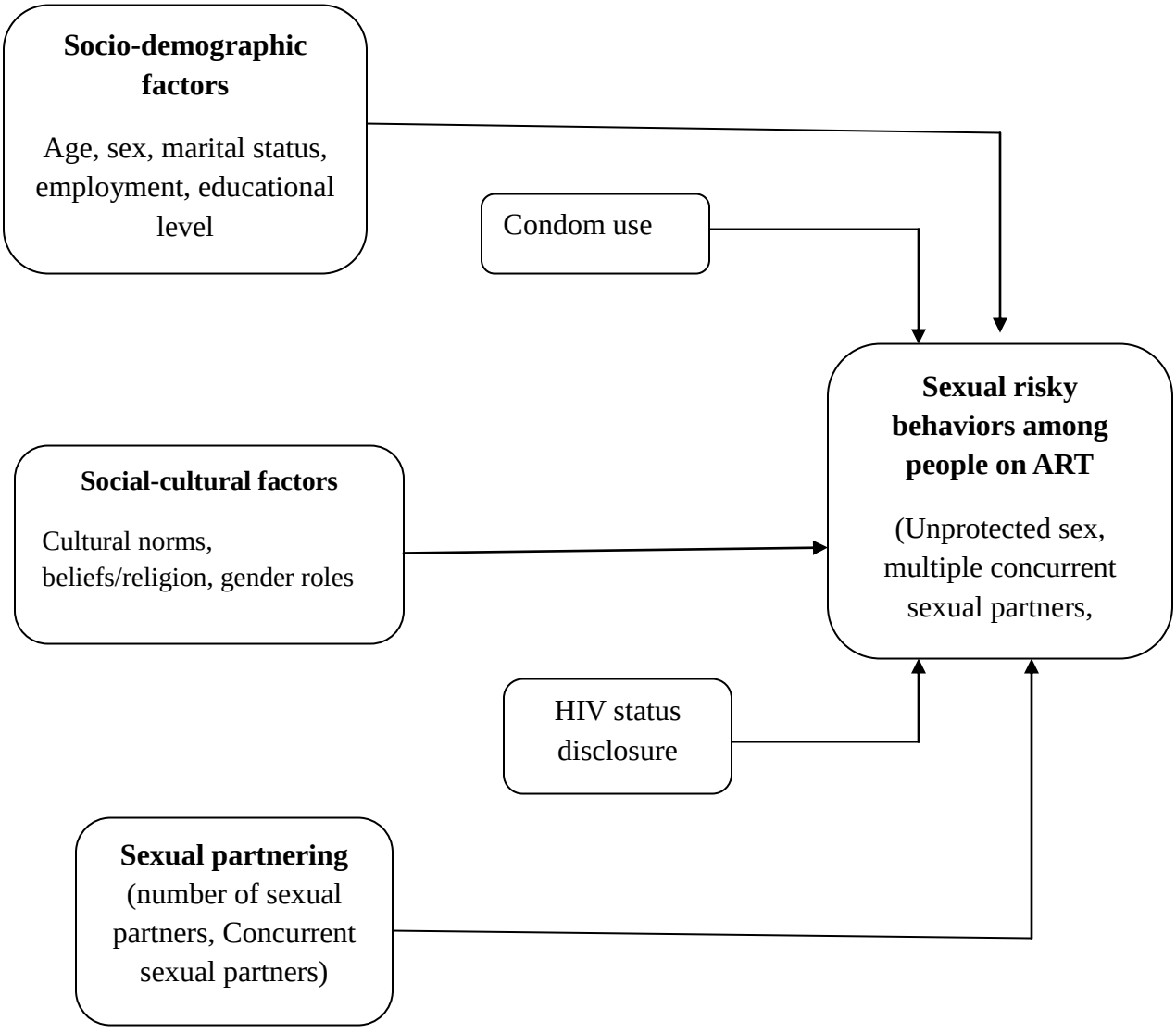
1.3 HIV/AIDS Prevention in Tanzania

The first priority among others for HIV prevention programmes in Tanzania is to focus on the drivers of the epidemic. Right now, in Tanzania Mainland, approximately 80% of HIV infections arise from sexual contact between HIV-infected and uninfected individuals. Vertical infections from mothers to newborns represent 18% of HIV infections, and medical transmission for 1.8%. Less than 1% of infections might be due to IDU, homosexual, or anal transmissions, although there are no data on these forms of transmission.[2] The priority interventions are reducing multiple and concurrent sexual partnerships in order to reduce "unsafe sex" (i.e. multiple partnerships, early debut especially for young girls, cross-generational sex and transactional sex). In addition, making "unsafe sex" safer through condom promotion/distribution and increased male circumcision should be prioritized. Furthermore, gender/social-cultural/structural constructs that facilitate sexual transmission of HIV in Tanzania should be concurrently addressed. [5]

1.4 Human sexual behaviors and social-cultural factors in HIV prevention

The Tanzania national HIV/AIDS policy emphasize on wider access to HIV testing and free ART services; prohibition of discrimination on the basis of HIV status; and social support from non-governmental or community-based organizations. Socio-cultural and structural factors influence human sexual behaviors to the extent that, people's intentions may be defeated by lack of behavioral control. As a result policies on themselves may be insufficient to bring changes on human sexual behavior. Due to culturally approved gender roles in sexual relationships, it may be difficult for women to propose Safer sex practices to protect herself because of fear of reduced intimacy, experience of abusive partners, economic constraints or the existence of social norms which calls for women to be passive in sexual relationships. This kind of environment may hinder safer sex. [11], Therefore, there are many factors that influence sexual behaviors, such as social-demographic factors, and social-cultural factors, as demonstrated by the conceptual framework (Figure. 1)

Figure 1: Conceptual framework of sexual risky behaviours among people receiving ART



1.5 Sexual Risky Behaviors and HIV prevention

HIV can only be transmitted from an HIV infected person to an uninfected person and in some cases to an already infected person with a new or different viral strain. [6] This makes people living with HIV among the key target group for prevention programmes. For several years, the HIV prevention programme in the country focused largely on the general population with the goal of protecting people from getting infected with HIV, thus placing the load on the HIV-negative population. The focus has shifted to MARPs (MSM, IDU and SW) and to PLWHIV only as recently.

Sexual risky behaviors such as unprotected sex, multiple concurrent sexual partners, religious and cultural norms such as widow inheritance, polygamy and female genital mutilation to mention a few, among HIV infected persons is of concern because of the risk of transmission to sero-discordant partners, or the risk of re-infection with new and/or drug resistant viral strains.

With increased availability of ART in Tanzania more PLWHIV are receiving ART and as a result of this treatment are experiencing lower HIV related morbidity and mortality. Thus PLWHIV on ART are living longer, healthier and possibly have more sexually active lives.[6] Treatment with antiretroviral medications may suppress viral loads to undetectable level but not necessarily eliminate the risk of sexual transmission of HIV infection.

Understanding risky sexual behaviors and factors influencing these behaviors among people receiving ARVs is crucial so as to design interventions based on theories of behavioral changes such as theory of planned behavior.

1.6 Theory of Planned Behavior (TPB)

The theory of planned behavior, which is a modification of the theory of reasoned action, assumes that human beings are usually quite rational and make systematic use of the information available for them. The theory argues that people estimate consequences of actions before deciding to engage or not engage. According to the theory of planned

behavior, intention, devoid of unforeseen circumstances that limit individual control, will help predict future behavior. [33] According to the TPB, behavioral intention is a function of attitude, reflecting a favorable or unfavorable evaluation of the particular behavior and subjective norm. The subjective norm here is referring the perceived social pressure to perform the behavior. Perceived behavioral control reflects the ease or difficulty associated with performance. Attitudes, subjective norms and perceived behavioral control are underpinned by behavioral, normative and control beliefs, respectively.

1.7 Problem Statement

There is a concern that PLWHIV on ART may continue or resume high risk behaviors when their health improves with treatment. Sexual risky behaviors among HIV infected persons is of concern because of the risk of transmission to sero-discordant partners, or the risk of re-infection with new drug resistant viral strains [7, 8]. There is evidence of a resurgence of unsafe sex among high risk groups, such as MSM, emerging from western countries. [10] Studies among men who have sex with men in Australia, the Netherlands, the United Kingdom and the United States found that unprotected sex increased in those populations after antiretroviral therapy became widely available.[19] The study conducted in Mombasa, Kenya, found that, there is a reduction in the number of sexual partners and, to a lesser extent, an increase in condom use around the time of HIV diagnosis and that these behavior changes are facilitated by partner disclosure and further supported by ART programmes and related interaction with health providers. Despite this, however, some patients continue to have unprotected sex. [11] Further more studies from Côte d'Ivoire, South Africa and Uganda have generally failed to find significant increases in high-risk sexual behavior among individuals receiving antiretroviral therapy. There is limited evidence from low- and middle-income countries, to support those findings. More studies are needed to document sexual risk behaviors among HIV-positive individuals receiving health services. [19]

In Tanzania Mainland, approximately 80% of HIV infections arise from sexual contact between HIV-infected and uninfected individuals. [2]. The TDHS (2010) reveals that 4% of

women and 21% of men report that they had sex with two or more partners in the past 12 months. Among those men, 24% used a condom during their last sexual intercourse. Among those who have ever had sexual intercourse, women have an average of 2 sexual partners in their lifetime, compared to men who have an average of more than 6 partners. [12] While this information is available at a national level for the general population participating in demographic health surveys, there is little or no information regarding high risk behaviors among HIV-positive persons on ART and their partners in the community. Even though the prevalence of HIV infection among the sexually active population of 15-49 years old, in Tanzania declined from 7% in 2003 to 5.7% in 2008[3], The number of people living with HIV is estimated at 1,434,003 (Year 2012), which is a small increase from the estimated 1,428,512 in 2010 [2]. This signifies that still there are new HIV infections, which are largely contributed by sexual contact between HIV infected people with those who not HIV infected. Even though the subject is relatively wide researched in sub-Saharan Africa, but still little is known about sexual risky behaviors among people who are on ART, especially in Kigoma/Ujiji Municipality.

Kigoma is among the region with relatively very low prevalence (1.8%) in Tanzania, [3] but health facility based data show that Kigoma/Ujiji municipal has a prevalence of 3.5% [13], the highest among the four districts of Kigoma region. The geographical location of the municipal, along Lake Tanganyika and the historical background of refugee influx, make Kigoma the destination of many people from neighboring countries of D.R.Congo, Zambia and Burundi. The fishing industry also attracts neighboring districts' residents to seasonal fishing. Many of these fishermen live in crowded, low income neighborhoods without families. This environment has expanded the transactional sex existed before.

To design effective prevention programmes that can bring about reduction in HIV prevalence and prevent onward transmission of HIV infection, an understanding of sexual risky behaviors among PLWHIV who are on ART is crucial.

This study explored sexual risky behaviors among persons receiving ART in Kigoma/Ujiji municipality.

1.8 Rationale of the study.

The population of PLWHIV is the key in preventing the spread of HIV. While targeting the entire population, more effort should be directed to PLWHIV for the sake of protecting them from being re-infected with probable resistant HIV strain at the same time halt transmission of HIV to others.

Taking into consideration that there no research conducted in Kigoma/Ujiji municipality on the subject since the roll out of CTC services, an understanding of sexual risky behaviors among PLWHIV who are on ART is crucial. The results of this study and the recommendations will contribute toward designing HIV prevention interventions incorporating specific needs of PLWHIV.

1.9 Key research questions

1. Do people receiving ARVs continue to practice sexual risky behaviors after their sexual health improved?
2. How has sexual function changed after initiation ART?
3. How has sexual partnering changed after initiation ART?
4. How has condom use changed after initiation ART?
5. How has HIV status disclosure influenced change in sexual risky behavior?

1.10 Objectives

1.10.1 Main objective.

The main objective of this study was to explore, sexual risky behaviors among persons receiving ARVs in Kigoma/Ujiji municipality.

1.10.2 Specific objectives.

1. To describe sexual function (desire and activity) among the people on ART.
2. To describe sexual partnering among the people on ART.

3. To explore condom use among the people on ART.
4. To explore the influence of HIV status disclosure on sexual risk behavior of people who are on ART.
5. To describe the influence of contextual factors on sexual risk behavior of people who are on ART. (social and economic: role of local beliefs and attitudes, condom use and cultural norms around fertility)

CHAPTER TWO: LITERATURE REVIEW

Introduction

A review of Literature was done on the sexual risky behaviors in relation to this study. As introduced in the previous chapter, sexual risky behaviors such as unprotected sex, multiple concurrent sexual partners, religious and cultural norms such as widow inheritance, polygamy and female genital mutilation, resistance of condom use due to religious or cultural belief to mention a few, among HIV infected persons is of concern because of the risk of transmission to sero-discordant partners, or the risk of re-infection with new and/or drug resistant viral strains.

2.1 Focus of HIV prevention programmes

HIV prevention programmes focus mainly on safe sex behaviors, such as protected sex, HIV status disclosure and partner reduction interventions delivered through counseling. A meta-analytic review of 12 intervention studies, conducted in the USA, concluded that HIV prevention interventions significantly reduce unprotected sex (OR 0.57; 95% CI 0.40-0.82) and decrease the acquisition of sexually transmitted infections (OR 0.20; 95% CI 0.05-0.82). [6] As a whole, interventions with the following characteristics significantly reduced sexual risk behaviours: (1) based on behavioural theory; (2) designed to change specifically HIV transmission risk behaviours; (3) delivered by health-care providers or counsellors; (4) delivered to individuals; (5) delivered in an intensive manner; (6) delivered in settings where PLWHIV receive routine services or medical care; and (7) provided skills building. [6]

2.2 Human sexual behaviors and HIV prevention

Social-cultural and structural factors influence Human sexual behaviors to the extent that, people's intentions may be defeated by lack of behavioral control. In Tanzania as it is in some other sub-Saharan countries, there is a national policy on wider access to HIV testing and free ART services; prohibition of discrimination on the basis of HIV status; and social support from non-governmental or community-based organizations.

Still these changes may be insufficient to make a difference on themselves. Importantly, culturally approved gender roles influence sexual relationships. It may be difficult for women to propose safer sex practices to protect herself because of fear of reduced intimacy, experience of abusive partners, economic constraints or the existence of social norms which calls for women to be passive in sexual relationships. Gender attitudes and sexual power differences also manifest as gender-based violence, which in turn may be fueled by unemployment, poverty and alcohol. Further, disclosure of HIV status is often associated with a marked anxiety and fears of rejection, which hinders safe sex. [11] Overall, however, there is little information on how the above considerations impact on people receiving ART in sub-Saharan Africa.

2.3 Sexual risky behaviors among those receiving antiretroviral therapy

A cross sectional design, study conducted in India to HIV-infected persons receiving ART, found some evidence of risky behaviors among respondents on ART (eg. unprotected sex, multiple partners and sex with sex workers).[18] leading to— a phenomenon sometimes called "behavioral dis-inhibition". Tun W.[20] Observed that many studies from Europe and the United States have examined whether HIV treatment leads to increased sexual risk behaviors among individuals receiving antiretroviral therapy. Among those studies, few have reported an association between immunological or virological improvements and sexual risky behaviors, [20]. There is limited evidence from low- and middle-income countries, to support resurgence of sexual risky behaviors among people on ARVs. Studies from Côte d'Ivoire, Kenya, South Africa and Uganda have generally failed to find significant increases in high-risk sexual behaviors among individuals receiving antiretroviral therapy [19]. Therefore, while existing study does not support the notion of dis-inhibition, the limited evidence suggests that measuring behaviors change and HIV prevention efforts among those receiving treatment remains a high priority, hence the study of sexual risky behaviors among people on ART, in Kigoma/Ujiji municipality is rational.

2.4 The influence of treatment availability on risk perceptions and sexual behaviors

Expanding treatment availability may increase knowledge and awareness of HIV At the community or population level, and give people a greater sense of control over their lives, resulting in risk avoidance and reduced HIV transmission. On the other hand, increased access to treatment may reduce concerns about unprotected sex, if people believe that treatment lowers the risk of transmission or the negative consequences of HIV infection [23]. For example, rates of multiple partners, unprotected sex and inconsistent condom use were found to be significantly higher among those who believed that antiretroviral therapy lowers infectivity. [24]. Similarly, a meta-analysis study found that rates of unprotected sex were significantly higher among respondents who believed that treatment availability had reduced the risk of HIV transmission or the seriousness of contracting the virus — regardless of their treatment or serostatus. [25]

2.5 Sexual partnering and condom use

HIV prevention programmes have considered sex workers and casual partnerships to be higher risk than regular partnerships. In the context of HIV prevention among people living with HIV, however, regular partnerships pose a particular risk when the regular partner is HIV-negative and when condom use is low. Evidence from sub- Saharan Africa suggests that many HIV-positive individuals are married to or living with HIV-negative partners [26]. In addition, unprotected sex is common in regular partnerships, even when couples are serodiscordant or the partner's serostatus is unknown [9] Concurrency (having more than one sexual relationship at the same time) is an important predictor of STI transmission. Partner serostatus also influences sexual risky behavior. For example protected sex is more likely to be practiced by known discordant couple than in a known concordant couple. HIV-positive men and women were significantly more likely to engage in unprotected sex with sero-concordant partners in study from Uganda [19]. Another study done by Bunnell, showed that, sub-Saharan Africa a substantial proportion of patients receiving treatment does not know the sero-status of their partners [19].

Unprotected sex and multiple concurrent sexual partnering are risky behaviors which need to be studied among people receiving ARVs in Kigoma/Ujiji municipality.

2.6 Knowledge and attitudes about HIV and AIDS

Unprotected sex among HIV-positive individuals has been found to be associated with less knowledge about HIV and transmission, with beliefs that condoms decrease sexual pleasure, with little commitment to self or others, and with perceived lack of control and lower confidence in one's ability to negotiate condom use. Living with a sexual partner and a male partner's desire for children were found to be factors that increased the likelihood of unprotected sex among HIV-positive women. [19]

2.7 Disclosure of HIV status.

While Crepaz, [27] did not find an association between disclosing HIV status and lower condom use, recent studies have found an association between nondisclosure and rates of multiple partners and unprotected sex in some settings. More research may be needed to sort out these inconsistent findings.[19] Other studies show that, disclosure of HIV status is often associated with a marked anxiety and fears of rejection, which hinders safe sex.[11]

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Study Area

The study was conducted at Kigoma regional hospital CTC, in Kigoma/Ujiji municipality. The Municipal located along Lake Tanganyika hosts the headquarters of Kigoma region, in western Tanzania. The existence of a port makes Kigoma a destination of people from neighbouring countries of D.R.Congo, Zambia and Burundi. Kigoma also harbors refugees and illegal migrants due to civil wars in D.R.Congo and Burundi. Fishing activities along Lake Tanganyika also attracts neighbouring districts' residents to seasonal fishing. Many of these fishermen live in crowded, low income neighborhoods without families. As the result the Municipal's population is made up of diverse people following various faiths. This environment has expanded the transactional sex existed before. Kigoma is among the region with relatively very low prevalence (1.8%) in Tanzania, [3] but health facility based data show that Kigoma/Ujiji municipal has a prevalence of 3.5% [13], the highest among the four districts of Kigoma region. Even though the subject is relatively wide researched in sub-Saharan Africa, but still little is known about sexual risky behaviors among people who are on ART, especially in Kigoma/Ujiji Municipality, whereby similar study has not been conducted. To design effective prevention programmes that can bring about reduction in HIV prevalence and prevent onward transmission of HIV infection, an understanding of sexual risky behaviors among PLWHIV who are on ART is crucial.

3.2 Study population

The study population was sexually-active adults on ART, targeting those attending Kigoma regional Hospital CTC in Kigoma/Ujiji municipality. The decision to target clients attending Kigoma regional Hospital CTC was made, due to the fact that, according to the Regional HIV/AIDS coordinator, about 70% of who are on ART in Kigoma/Ujiji Municipality, receive services from that particular CTC.

3.3 Inclusion criteria

The study included people receiving ARVs for more than 12 months, who consider themselves healthy, meaning that currently they do not complain of any illness; those who are sexually-active adults,(reported currently engage in sexual intercourse) and those with recent CD4 count above 350 cells/mm cube, taken within 6 months. Health care workers and peer educators who are on ART were excluded, due to their role in providing counseling and HIV prevention education to PLWHIV, therefore their responses to the study may not be credible.

3.4 Study design

A descriptive exploratory study design that aimed at in-depth collection of information from respondents about sexual risky behaviors was used. This is because descriptive studies are not only restricted to fact findings, but may result in the formulation of the important principles of knowledge and solution to significant problems. They are more than just a collection of data. A qualitative research method was used to explore sexual risky behaviors among people on ART in Kigoma/Ujiji Municipality. Qualitative method seeks in-depth understanding of human behaviors and the reasons behind the behaviors.

3.5 Sampling techniques and Sample size

It is important to recognize that the essence of the qualitative approach is that it is naturalistic, studying real people in natural settings rather than in artificial isolation. Sampling therefore has to take account not only of the individual's characteristics but also temporal, spatial and situational influences, that is, the context of the study. In this study, a purposive sampling technique was used. The researcher selected participants who best met the study inclusion criteria and were willing to share their sexual behaviors. An appropriate sample size for a qualitative study is one that adequately answers the research questions, which mean Saturation of information gathered is reached, when no more new information is obtained. Therefore the sample size for this study was 14 (8 females, 6 males) sexually-active adults on ART, at Kigoma Regional Hospital CTC. The researcher extracted clients attending the clinic that particular day From the CTC database, who have been on ART for more than 12 months and with CD4 above 350 cells/mm cube.

These clients were individually briefed about the study and an appointment for an in-depth interview was arranged with clients who met criteria and were willing to participate in the study.

3.6 Data collection method

In-depth interviews were held with 14 (8 females, 6 males) sexually-active adults receiving ART, at Kigoma Regional Hospital CTC. The interview was set to obtain a more comprehensive understanding of sexual function, and sexual risky behaviors; including questions about: multiple and concurrent sex partners; condom use, cultural and religious beliefs which influence sexual risky behaviors. The researcher prepared an interview guide which had leading questions grouped into main themes related to the study objectives and other information derived from reviewed literature. The developed interview guide was shared with the counselors and HIV-positive peer educators at the Kigoma regional hospital CTC who suggested adding more probes on sexual partnering and condom use. The guide was translated into Kiswahili by two independent persons who are fluent in both English and Kiswahili. The product of the two translations was translated back into English to see if it matches with the original. The Kiswahili version was field tested for clarity of language, comprehension and content. In an attempt to reduce social-desirability bias, same sex interviewers was used. Male participants were interviewed by the principal researcher, and a female HIV/AIDS counsellor who had not been involved in providing care or patient counseling at the Kigoma regional hospital CTC was hired to interview female participants. The research assistant was introduced to the study with emphasis on the objectives and trained on skills in carrying out an in-depth interview and gathering information in a non-judgmental manner, including listening skills. This helped the interviewer to easily build rapport with participants hence collect information about sexual risky behaviors. Interviews were carried in an environment where both interviewer and respondent were at ease and comfortable. On average each interview took about an hour. Interviewers were interviewed once, except three interviewers who were recalled for follow up questions. All interviews were digitally recorded with the approval from the respondents.

3.7 Pre-testing

The interview guide was pre-tested in field (Kigoma/Ujiji municipality). The pre-testing process involved three areas;

- Testing for reliability and validity of the interview guide
- Evaluating an environment (placed including the rooms) where the interview will take place.
- Assessing the ability of the researchers to use the interview guide.

Two men and two women participated in pre-tesing the interview guide.

The following were the suggestions after the pre testing process;

- As far as sexual partnering is concerned, it was suggested to include a clear definition on multiple sexual partner and concurrent multiple sexual partners. Other parts of the tool were acceptable.
- Instead of using the extra rooms available at the CTC, the participants suggested to use the stand alone VCT at the youth center, because there are a few people there and participants are free to visit the center at anytime even evening times.

The changes were made on the interview guide and the venue was moved to the VCT room at the youth centre of Kigoma/Ujiji Municipality. The researchers were comfortable with using the interview guide.

3.8 Data processing and analysis

Collection, processing, analysis and reporting of qualitative data are closely intertwined and not distinct successive steps. For that reason the entire process involved calling back some participants to collect additional information and frequently revisiting the original field notes. At the end of each interview, the process of data ordering in relation to study objectives started. The principal researcher and the research assistant, sat down together to review the

notes collected during the interview and to transcribe all the material recorded word by word. Then the raw notes were reorganized taking valuable data which answer the research questions and adding observations and comments from the interviewer to produce a summary version of that particular participant. In this version the data were presented in the order that is needed for analysis.

After data collection, the process of categorizing answers that have similar characteristics which belong together according to study objective started. Further the reported information were summarize and displayed in matrices by key characteristics such as sex, marital status, occupation, education, condom use and number of sexual partners. Displaying summarized data in matrices helped to visualize possible relationship between variables such as sex, marital status and sexual behaviors. In other words by displaying the results in matrices, was the beginning of the process of data analysis. Further data interpretations and conclusions were made from the matrices.

Essential verbatim quotations were translated in English for report writing.

3.9 Ethical considerations

- Ethical clearance was obtained from MUHAS ethics committee.
- Confidentiality was observed to both the information provided and to respondents. Names were not used instead codes were used represent the participants. The interview took place in room with closed door so that the participants were free and comfortable to share there are sexual behaviors. All information both written and recorded was destroyed after being utilized.
- Written consent was obtained.
- Participants were at any point free to withdraw from the study even though none did.
- Participants were provided with refreshments during the interview and transport fare was provided.

CHAPTER FOUR: RESULTS

This study first looked at how ART affect sexual function, that's the ability to engage in sexual intercourse and the desire to have sex, then explored sexual risky behaviors, that's multiple concurrent sexual partners, non-condom use and contextual factors that influence sexual risky behaviors, among people receiving ARVs in Kigoma/Ujiji Municipality. The study covered 14 sexual-active adults (8 females and 6 males), as demonstrated on table 1.

Table 1: Demographic Characteristics of the Participants

	Sex	**Age(years)**	**Education**	**Occupation**	**Marital Status**
1.	Female	27	Primary	housewife	Married
2.	Female	45	Primary	Petty trader	Single
3.	Female	40	Primary	Unemployed	Single
4.	Female	34	Primary	Unemployed	Divorced
5.	Female	30	Primary	Petty trader	Married
6.	Female	30	Primary	Unemployed	Married
7.	Female	30	Degree	Teacher	Single
8.	Female	35	Primary	Petty trader	Married
9.	Male	38	Secondary	Carpenter	Married
10.	Male	42	Primary	Unemployed	Cohabiting
11.	Male	54	College	Businessman	Married
12.	Male	59	College	Teacher	Married
13.	Male	52	Primary	Traditional healer	Married
14.	Male	45	Primary	Peasant	Separated

The reported information were summarized and displayed in matrices by key characteristics such as sex, occupation, and education level. Displaying summarized data in matrices helped to visualize possible relationship between variables (sex, occupation, and education level) and sexual behaviors.

Table 2: Matrix on sexual function before and after initiation of ARVs among clients of different sex (female & male)

Sex	Sexual function	
	Before ARVs	After ARVs
Female	• Reduction in sexual function: all 7 out of 8 respondents • Periods of abstinence: All respondents experienced • No fluctuation: one respondent	• Completely improved: 5 out of 8 respondents • Improved but not completely: 2 respondents • No fluctuation: One respondent.
Male	• Reduction in sexual function: all 6 respondents • Periods of abstinence: All respondents experienced • No fluctuation: none	• Completely improved: 4 out of 6 respondents • Improved but not completely: one respondents • No fluctuation: none

Table 3: Matrix on sexual behaviors and HIV status disclosure among people on ART of different sex (female and male)

Sex	Sexual partnering	Condom use	Cultural/Religious beliefs and practices influence	HIV status disclosure
Females	**Single partner:** All 8 respondents reported currently having one sexual partner. **Multiple partners:** none reported currently having multiple partners.	**Consistent condom use:** 3 respondents reported **Inconsistent condom use:** 5 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 5 respondents reported **Desire of children leading to non-use of condoms:** 4 respondents reported **Multiple partners due to polygamous culture:** none reported.	**Disclose HIV status to their partners:** 7 respondents **Not disclose HIV status to their partners:** one respondent
Males	**Single partner:** 4 respondents reported currently having one sexual partner. **Multiple partners:** 2 reported currently having multiple partners.	**Consistent condom use:** 3 respondents reported **Inconsistent condom use:** 3 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 4 respondents reported **Desire of children leading to non-use of condoms:** 2 respondents reported **Multiple partners due to polygamous culture:** one reported.	**Disclose HIV status to their partners:** all 6 respondents **Not disclose HIV status to their partners:** none

From the matrix:

1. Almost all about 12 respondents reported currently not having multiple sexual partners, except 2 male respondents.
2. Both female and male do not seem to differ in inconsistent condom use as reported by respondents (5females, 3males).
3. Desire for children reported by both females and males to be one the reasons of inconsistence condom use. Reported that religion and cultural norms oppose condom use. For both females and males Polygamous culture does not contribute to multiple sexual partners.
4. All females and males have disclosed their HIV status to their sexual partners except one female.

Table 4: Matrix on sexual behaviors and HIV status disclosure among people on ART of different education level (primary education and above primary education)

Sex	Sexual partnering	Condom use	Cultural/Religious beliefs and practices influence	HIV status disclosure
Those with primary education and below.	**Single partner:** 8 reported having one sexual partner. **Multiple partners:** 2 reported having multiple partners.	**Consistent condom use**: 6 respondents reported **Inconsistent condom use:** 4 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 7 respondents reported. **Desire of children leading to non-use of condoms:** 5 respondents reported. **Multiple partners due to polygamous culture:** 1 reported.	**Disclosed HIV status to their partners:** 9 respondents **Not disclosed HIV status to their partners:** one respondent
Those above primary education level	**Single partner:** all 4 reported having one sexual partner. **Multiple partners:** none reported having multiple partners.	**Consistent condom use:** 2 respondents reported **Inconsistent condom use:** 2 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 2 respondents reported **Desire of children leading to non-use of condoms:** 1 **respondents reported Multiple partners due to polygamous culture:** none.	**Disclosed HIV status to their partners:** all 4 respondents **Not disclosed HIV status to their partners**: none

From the matrix:

1. The level of education seems to have no influence on having multiple sexual partners, even though all those who have education above primary level reported having no multiple partners, only two respondents who have primary education reported having multiple sexual partners.

2. There is no much difference in inconsistent condom use as reported between the two groups.

3. Desire for children reported by both groups to be one the reasons of inconsistence condom use. Both groups reported that religion and cultural norms oppose condom use.

Table 5: Matrix on sexual behaviors and HIV status disclosure among people on ART of different occupation

Sex	Sexual partnering	Condom use	Cultural/Religious beliefs and practices influence	HIV status disclosure
Unemployed (housewives Farmers, causal laborers)	**Single partner:** 5 respondents reported currently having one sexual partner. **Multiple partners:** 1 reported currently having multiple partners.	**Consistent condom use:** 2 respondents reported **Inconsistent condom use:** 4 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 4 respondents reported **Desire of children leading to non-use of condoms:** 4 respondents reported **Multiple partners due to polygamous culture:** none reported.	**Disclose HIV status to their partners:** 5 respondents **Not disclose HIV status to their partners:** one respondent
Employed (formal employment, Engaged in business)	**Single partner:** 7 respondents reported currently having one sexual partner. **Multiple partners:** 1 reported currently having multiple partners.	**Consistent condom use:** 4 respondents reported **Inconsistent condom use:** 4 respondents reported. **Non-condom use:** none	**Religion/cultural norms opposing condom use:** 5 respondents reported **Desire of children leading to non-use of condoms:** 2 respondents reported **Multiple partners due to polygamous culture:** one reported.	**Disclose HIV status to their partners:** all 8 respondents **Not disclose HIV status to their partners:** none

From the matrix:

1. From each group only one respondent reported currently having multiple sexual partners.
2. Both groups of employed and unemployed do not seem to differ in inconsistent condom use as reported by respondents.
3. 4 among those who are employed reported the desire for children to be one the reason of inconsistence condom use while 2 among those employed reported the same. Seems not much different between the two groups that religion and cultural norms oppose condom use.

4.1 Sexual function

An in-depth interview was conducted on sexual function, that is the ability to engage in sexual intercourse and the desire for sex, before and after initiation of ARVs, the answers of the female and male respondents were listed and summarized in a matrix (Table 2). From the matrix, both female and male do not seem to differ in sexual function reduction and experiencing periods of abstinence before initiation of ARVs. Also most respondents reported that ART has improved their sexual function, as most narrated: *"Before these drugs [ARVs] I was sick and very weak…. I had no ability to even desire for it [sex] …..I considered a man as an enemy…..but taking ARVs restored my youth ….I became like a virgin and attractive again….I met this man, I accepted him to be my boyfriend.(Female, 40 yrs, single, unemployed)*

Among men, although some reported a gradual return of interest in sex after initiation of ART, the physical ability to engage in sexual intercourse was, however, not completely restored, as this man explains:

"Before I had the disease [HIV], I could have sexual intercourse up to three times a day…. But now in a week, may be once or twice. (Male, 52 yrs, married to two, traditional healer)"

One female respondent reported that she did not experience long-term fluctuation in sexual function. As she said:

"I don't have any urge at all . . . I used to be fine before . . . , but I see it [sex] as if I am tired of it, I don't see the need [for sex] at all as of now. (Female, 30 yrs, single, Teacher-graduate)"

This could be explained by the fact that, she was diagnosed with HIV during her routine antenatal visit, and immediately enrolled to CTC. She continued with care and started ART based on low CD4 count. She never went through the period of experiencing illness before HIV diagnosis like most respondents.

Misconceptions about interactions between sexual activity and reduction of CD4 count appeared to be common.

As this young lady links frequency of sexual intercourse with reduction of CD4 count:

"You know when you engage yourself in sexual intercourse frequently, your CD4 drops…. So we have agreed with my partner to have sex just once in a week" (female, 30 yrs, house wife)

4.2 Multiple concurrent sexual partners

As the matrix Table 3, displays, almost all participants' males and females reported that they had made efforts to reduce number of sexual partners, to the extent of maintaining single sexual partner. The two male respondents who reported that, they still have multiple concurrent sexual partners, gave the reasons that, it was due to inability to break long standing relationship and economic dependence to their partners. One respondent narrated:

"I am not like before, I have changed, I actually use protection so that I do not re-infect myself and my wife, and I also avoid having extra-marital affairs, so that we can live healthy and longer to take care of our children, [After knowing my HIV-status] I am able to control myself, with one partner. (Male, 38 yrs, married, carpenter)".

The level of education as displayed on the matrix (Table 4.), seems to have no influence on having multiple sexual partners, even though all 4 respondents who have education above primary level reported having single sexual partners. There were only two out of ten respondents who have primary education reported having multiple sexual partners. All respondents, except one man, reported having multiple sexual partners in the past, before they were diagnosed of HIV infection. As described by this man:

"Prior HIV testing, I had so many casual partners…. Whenever I went for a business trip, I had one-time lovers…. You know I do not remember how many!" (Male, 38 yrs, married, carpenter)

And a woman said:

"*Before learning my HIV status, I changed partners one after another…..I was just like a bus stop" (female, 27 yrs, housewife).*

Two men who are on ART acknowledged currently having concurrent multiple partners said: *"Besides my two wives, who are HIV-negative……there is another one who is a long-term regular partner….I have tried hard to resist her, asking her to stick to her husband…..but she seduces me….up to now, the relationship continues……of course she is now HIV-positive also.(male, 52 yrs, married to two, traditional healer)"*

Another said: *"….My wife passed away….now I have a regular partner here in town and two girlfriends in the village… but they do not know each other. The girlfriends are very supportive, when I visit them, I sleep there…on my way back they give me a lot of foodstuffs….you know with my condition, I need food" (male, 42 yrs, widower, and unemployed/casual loader)*

And another woman said: *"…..there was a time (not more than six months ago), I was in need materially, so I decided to have a boyfriend secretly, to complement my husband's provision….but now I have stopped " (female, 30 yrs, married, unemployed).*

4.3 Non-Condom use

While all respondents, female and male reported using condoms, more than half use them inconsistently. Both female and male do not seem to differ much in inconsistent condom use as reported by respondents (Table 3).

Both groups of employed and unemployed respondents do not seem to differ in inconsistent condom use as reported (Table 5). Respondents, who use condom consistently, reported that Knowledge about HIV disease and transmission, and psychosocial support counseling from health care providers, helped to maintain such behavior. This was reported mostly with couples with strong and supportive relationship and had stopped childbearing. A woman with an HIV-negative spouse stated that:

"After counseling for ART initiation, now I use condoms because I know the importance of using them, not like before……I do not want to infect him". (Female, 45 yrs, married, unemployed)

Another male respondent with a HIV- positive wife status said:

"When you have sex without condoms, the person you are having sex with, whether she is infected or not, there is a possibility of being re-infection." (Male, 59 yrs, married, teacher)

Some of those who are inconsistent condom users reported facing challenges on condom negotiation. A woman with a spouse of HIV-negative status commented how his quest for protected sex occasionally met with refusal:

"I explained to him we use condoms, because I have the disease, so I will infect him, but sometimes he refuses, adding that he is tired of condoms after all, they (condoms) reduce pleasure". (Female, 27yrs, housewife)

Another woman described this:

"He says 'when I use them [condoms] I don't feel any pleasure' . . . I force him, I tell him that if

he does not want I will not sleep with him…..he complains and quarrels…..he threatens me that if I keep on refusing, he will go out to look for other women and leave me…..then I painfully give up", (female, 30 yrs, house wife)

A man married to two, both with HIV-negative status stated:

"I have been living with them for almost 10 yrs with HIV… we have babies and one is currently pregnant…..they (wives) have tested HIV-negative for several times…. So sometimes I do not see the need of using condoms… because I get tired using condom and my wives do not insist" (Male, 52 yrs, married to two, traditional healer)

This signifies lack of support from each other, which results into inconsistent use of condoms. Generally, most of respondents inconsistently do not use condoms, which is a sexual risk behavior.

4.4 HIV status Disclosure influence on sexual risky behaviors

All respondents of the study reported that had disclosed their HIV status to their current sexual partners, except one woman. When asked if the respondents have disclosed their HIV status to their past sexual partners, most declined. Men reported that disclosure was not easy, but found to be beneficial after the decision was made. As described:

"When I told her about my HIV status, she cried bitterly and for the whole week she was very sad…..and when she found that she was also infected, she became very angry with me, accusing me that, I brought her the disease. It was really a hard time…I apologized and later she forgave me". (Male, 38 yrs, married, carpenter)

Both males and females mentioned that disclosure strengthened their relationship between partners and increase mutual support. Disclosure was associated with a sense of relief, a lifting of the burden of guilt and an enhancing sense of 'comfort' in a relationship.

4.5 Religion and cultural norms' influence on sexual risky behaviors

As the matrix (Table 3) displays, the desire for children was reported by both females and males to be one of the reasons for inconsistence condom use. Further displays that both females and males reported that religion and cultural norms oppose condom use, and Polygamous culture does not contribute to multiple sexual partners.

It is reported that there is a clash between moral, religious and cultural beliefs about condoms, on one hand, and scientific evidence, on the other. Even though, all respondents justified condom use in the face of religious opposition. As a man said:

"Condom use is against religious teachings…but I am justified to use, so that I will not transmit the disease to others… which is equivalent to killing" (Male, 45 yrs, married, peasant)

One respondent raised the issues of condom ineffectiveness. For example, a married male underrated the effectiveness of condoms saying:

If condoms are real effective….may be up 25%, …it's in God's hand someone to acquire the disease…look at discordant couples…they do not use condoms, but still one is uninfected" (Male, 45 yrs, married, peasant)

Away from effects on sexual pleasure, several men and women reported that their partners complained that condoms could cause skin problems:

"I hate condoms, now I do not use them at all… I used once and I developed very serious vaginal fungal infection…I make it clear to my partners about my stand on condom use" (Female, 30 yrs, single, graduate-teacher)

4.6 Influence of contextual factors on sexual risky behavior

A sexual risky behavior often occurs together with other social behaviors like alcohol consumption, and engaging in sexual commercial work. As one described:

"I used to drink and engage myself in luxurious life… now I have changed completely, no more alcohol, I work hard to build a future for my children" (Male, 38 yrs, married, carpenter)

It was reported that economic factors, like a need of financial support for childcare can constrain a woman to engage in commercial sexual work.

A longing for companionship, desire for remarriage and a need for financial support for childcare were common reasons motivating women to seek new partners. A widow, who later re-married and divorced, now has a boyfriend who is HIV-negative and describes:

"My [first] husband died from motor accident. . . life became so hard with my children…I met with another man [second], he was rich, he took me to Mwanza and Dar es salaam by flights, enjoying ourselves…we had a baby…but the second pregnancy ended with spontaneous abortion, that's when I learned that I have the disease[HIV]…I left him…then ART restored things to normal, so now I have a boyfriend[for 3yrs now] who supports me to take care of my children"(Female, 40 yrs, widow/divorced, unemployed)

CHAPTER FIVE: DISCUSSION

The research findings indicate that some sexual risky behaviors exist among people receiving ARVs in Kigoma/Ujiji Municipality. While almost all respondents except two, reported has managed to reduce sexual partners to maintain single sexual partner, more than a half of all respondents reported that they do not use condoms consistently. For both male and female respondents, a transition from multiple partners to a single regular partner began at the time of HIV testing and the resolve to stay with one partner was further strengthened by initiation of ART. A need for Materials support and inability to break the long standing relationship as claimed by some respondents seem to be a factor contributing to continue having multiple partners. This shows an existence of a gap in life skills experienced by these participants which need to be addressed by psycho-social counselors.

As reported by all respondents, sexual function was restored by ART, and there is generally reduction in concurrent sexual partners, but still unprotect sex happens. There many factors that influence likelihood that unprotected sex will occur. These are covered in this discussion.

For most, disclosure and couple counseling with enhanced mutual support played a central role in overcoming sexual risky behaviors. This study provides insight into sexual risky behaviors, such as multiple concurrent sexual partners, non-condom use; religious and cultural beliefs and practices that influence sexual behaviors among people receiving ART.

5.1 Multiple concurrent sexual partners

A detailed history of multiple concurrent sexual partners and co-wives, as well as a discussion of the risks associated with it, are critical components of HIV prevention counseling in ART. [11].In this study, from the respondents reports, it's evident that almost all have managed to overcome the behavior of having multiple sexual partners. The results concur with findings from a quantitative study in Mombasa, Kenya for changes in sexual behaviors of people on ART [6, 8] that found significant reduction in number of sexual partners among persons receiving ART [9, 11]. While moderate reduction of sexual partners after ART initiation was noted in Cote d'Ivore by Moatti [7].

In this qualitative study in Kigoma/Ujiji municipality, the majority of respondents had one current sexual partner, several women suspect their husband having other sexual partners. The study reveals a reported substantial reduction in sexual function for all respondents, among people on ART.

5.2 Non-condom use

In this study, even though some respondents reported using condoms for the purposes of both family planning and prevention of HIV transmission, more than a half of all respondents do not use condom consistently. This, not only puts them at risk of acquiring new infection, but also risks of transmitting HIV to their sexual partners, both HIV sero-negative and sero-positive. The findings are also in line with results from a quantitative study in Mombasa, Kenya for changes in sexual behaviors of people on ART [6, 8] that found significant inconsistency non-condom use among persons receiving ART [9, 11]. It appears in this study, unprotected sex remains a critical issue, especially in stable relationships, some of which contain HIV discordant couples. Religious and cultural barriers to condom use, and misconceptions about the harmful effects of condoms hindered their use. Among those reported inconsistent non-condom use, a desire for children was an important reason for not using condoms. This desire appears to overcome concerns about the risk of HIV transmission. According to male respondents, their partners, both HIV-negative and -positive, expressed a strong desire for children, seemingly reflecting an internalized social norm about fertility and motherhood. Condom negotiation stills a challenge to some respondents. One's quest for protected sex occasionally met refusal from the other partner.

Respondents, who use condom consistently, reported that Knowledge about HIV disease and transmission, and psychosocial support counseling from health care providers, helped to maintain such behavior. This was reported mostly with couples with strong and supportive relationship and had stopped childbearing. Generally, most of respondents inconsistently do not use condoms, which is a sexual risk behavior.

Many studies from Europe and the United States have examined whether HIV treatment leads to increased sexual risky behaviors among individuals receiving antiretroviral therapy.

A few studies have reported an association between immunological or virological improvements and sexual risk behaviors, [20].Further a study conducted by Diamond C. on Use of and adherence to antiretroviral therapy is associated with decreased sexual risk behavior in HIV clinic patients, found no evidence of a consistent or significant association with sexual risk behaviors, even when patients achieve an undetectable viral load [21]. This study also could not find an increase in sexual risk behaviors among respondents. Generally there is notably decrease in sexual risky behaviors in all participants, even though still unprotected sex happens sporadically among regular partners.

It's reported in this study that knowledge, about HIV disease and prevention including condoms use and reducing multiple sexual partners, are a necessary to shift in attitudes and intentions and, finally, to behavior change. However the study findings show that increased knowledge, even attitude change, does not necessarily directly impact on behaviour. To some extent, much of the behaviour change reported here appeared to be underlined by high levels of perceived behaviour control, a central rule of the theory of planned behaviour [11]. It is clear that sexual behaviours in the study population remains rooted in their social and material circumstances and in their cultural and contexts.

Besides, theories of behavioural change cannot be easily applied to circumstances of conflicting goals, such as fertility desires and protected sex. Desire for children, expressed by men and women who are on ART in Kigoma/Ujiji Municipality was translated into unprotected sex. This concurs with findings of the study conducted in Togo and India among people receiving ARVs, that the desire for children constrained them non-condom use. [11]

It is important to respect the desire for children and steps taken to promote safe conception and prevention of mother to child transmission of HIV.

5.3 Disclosure of HIV status

AIDS-related stigma cause secrecy about one's HIV status as well as secrecy about past sexual experiences related to HIV risks. As it is seen in this study, although most of respondents have disclosed their HIV status to their current partners, they have not done so to all their past sexual partners. This is in line with the study conducted by Seth C. Kalichman, on HIV

Transmission Risk Behaviors of Men and Women Living with HIV-AIDS: Prevalence, Predictors, and Emerging Clinical Interventions, [32] which found that some people who have HIV infection do not disclose their HIV status to their entire sex partners. Notifying past sex partners about testing HIV sero positive is less common.

In this study disclosure, although is mostly beneficial for participants and their relationships as it plays a central role in sustaining safe sex, but by itself appears insufficient to guarantee protected sex, due to other factors and cultural norms like the desire of children that influence sexual risk behaviors.

5.4 Influence of contextual factors on sexual behavior

There are several contextual factors which influence sexual behaviors as described in the study. A qualitative Study conducted in Mombasa on change of sexual behaviors for the people on ART, showed that, Socio-cultural and structural factors influence human sexual behaviors to the extent that, people's intentions may be defeated by lack of behavioral control. Due to culturally approved gender roles in sexual relationships, it may be difficult for women to propose condom use to protect herself because of fear of being abused by a partner, economic constraints or the existence of social norms like religious teachings which calls for women to be submissive to their partners. This kind of environment may hinder safer sex. There are similar findings between, the Mombasa study and this study from Kigoma/Ujiji Municipality, for instance the traditional views about male and female, that women are weak in mind and soul hence they need guidance and protection from men. [11] This could possibly be due to Islamic religious influence that dominates in both Mombasa and Kigoma/Ujiji. While the misconception in Mombasa was that there is interaction between sexual intercourse and effectiveness of HIV drugs, in Kigoma/Ujiji, participants reported that if they frequently engage in sexual intercourse, their CD4 count will decrease. These misconceptions can be addressed by health care providers.

5.5 Limitations of the study

1. Some clients refused to participate in the study because they thought it was a part of conducting census without their consent.

2. Training the research assistant in a limited time to carry an in-depth interview in such sensitive subject may result into limited information collected hence influence the results of the study.

3. Most of participants interviewed had similar information about the issue; this is because most of them have similar background hence the small number of respondents interviewed.

4. The methodology of Self reporting information which is used in this study, could have influenced the results obtained hence also the conclusion of this study.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

In conclusion, as reported by respondents, there is inconsistent condom use, especially in stable relationships, some of which contain HIV discordant couples. Religious and cultural barriers to condom use, and misconceptions about the harmful effects of condoms hindered their use. Among those reported inconsistent non-condom use, a desire for children was an important reason for not using condoms. The study suggests that there is a reported significant reduction in multiple concurrent sexual partners among people on ARVs, to a small extent, an increase in condom use around the time of HIV diagnosis. For those reported having multiple concurrent sexual partners, a need for materials support and inability to break the long standing relationship contributed to continue with such sexual risky behavior. This shows an existence of a gap in life skills experienced by these participants which need to be addressed by psycho-social counselors.

Through the study it is reported that, knowledge, about HIV disease and prevention including condoms use and reducing multiple sexual partners, are a necessary components to shift in attitudes and intentions and, finally, to behavior change.

In this study disclosure of HIV status, although beneficial, appears insufficient to guarantee protected sex, due to other factors and cultural norms like the desire of children that influence sexual risk behaviors. And also there is a reported misconception that engaging in sex intercourse “frequently” may result into decrease of one’s CD4 counts.

6.2 RECOMMENDATIONS

- Though knowledge of HIV disease and prevention, acquire from health care providers, contributed to reduction in sexual risky behaviors as reported by respondents, it seems that there is a gap of HIV prevention knowledge and life skills which hinder people on ARVs to overcome sexual risky behaviors. Therefore health care providers and psycho-social counselors at the CTC should intensively continue with provision of education and information about HIV prevention and addressing misconceptions about condoms. Long term client-or couple focused counseling should be used to identify, explore and address deep rooted psycho-social barriers reported, most especially among discordant couples or where one has an unknown status.
- Economic factors, like need for financial and materials support, reported to be contributing factors which influence sexual risky behaviors. People on ART with need should seek support from community based organization, and themselves in income generating activities.
- The desire for children must be respected and steps taken to promote safe conception and prevention of mother to child transmission of HIV. People on ART who desire for children should be proactive to seek information about family planning from health care providers. Health care provider should provide information on the risk of transmission of HIV from mother to child, the importance of ART adherence during pregnancy and childbirth and safe motherhood delivery services available to all people on ART who are at bearing age.

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APPENDICES

Appendix 1: IN-DEPTH INTERVIEW GUIDE, English version

SEXUAL BEHAVIOR AMONG PEOPLE RECIVING ANTIRETROVIRAL TREATMENT:

THE CASE STUDY OF KIGOMA/UJIJI MUNICIPALITY.

Interview Guide for PLWHIV on ART

Principal Investigator: Ntoke Heri, Muhimbili University of Health and Allied Sciences.

Introduction: Self introduction, name and general affiliation.

Instructions to Interviewer

Let the respondent know how s/he was selected for the interview. Stress and verify comfort level with the interview, noting that for practical reasons such as the need to reduce fatigue, more than one meeting for the purpose of the interview may be necessary. **Assure respondent of confidentiality, obtain informed consent for the interview**

ESTIMATED TIME FOR THE DISCUSSION: 1 – 1.5 hours

Purpose of Interview

We are aware that Treatment with antiretroviral medications may suppress viral loads to undetectable level but not necessarily eliminate the risk of sexual transmission of HIV infection. PLWHIV receiving ART are living longer, healthier and possibly more sexually active. Unprotected sex among HIV infected persons is of concern because of the risk of transmission to sero-discordant partners, or the risk of re-infection with new and/or drug resistant viral strains. We are interested in knowing your views about how has ART influenced you to change your sexual behavior. We know that these questions are personal and sensitive, but we insist that, this conversation is confidential. It's quite normal for people living with HIV to engage in sex. I will not judge you based on your sexual behavior, so I am asking you to be open and honesty in this conversation. It may not be easy for me to write all the conversation, so I am asking your approval so that I can tape record the conversation.

Interview Begins

I appreciate that you have taken time to participate in this research process which we know will greatly help us to understand some of the sexual behavior of people receiving ART. The things we discuss are completely confidential. Anytime you need a break or not comfortable answering any question let me know.

Different people, have different mean on sexual intercourse, in this research the word sex intercourse will refer vaginal and anal sex.

Basic Information on the setting.

Date of interview _____

Time _____

Name of Interviewer_____

Interviewee references number_____

Introductory questions to put the client at ease:

Tell me a bit about your life history.

Probe:

Age_____

Sex _____ Marital status_____

Address: Village/street_____. Ward_____

Education level_____

Religion_____

How did you find out about your HIV positive status?

Probe: How did you suspect that you got infected?

1. Sexual partnering (number of sexual partners) with ART. *(Objective 2.To explore sexual partnering (number and types of sexual partners) after initiation of ART.)*

(Interviewer: Define 'Casual, regular, concurrent, multiple partners')

1. Could you please describe how do you understand the word sexual partner? Probe: casual partner, regular partner, concurrent partners, multiple partners
2. How many sexual partners have you had in the past 6 months? How many have you had in the past month? Tell me a little about your relationships with these different partners.
   Probe: Number of partners and types of partners
3. Before you were diagnosed that you have HIV, how was your sexual partnering?
   Probe: Number of partners and types of partners.
4. How has the discovery that you are HIV-INFECTED, affected your sexual partnering?
5. As you have been on ART for more than a year now, could you describe to me the trend in your sexual partnering, before you were diagnosed to have HIV, during the disease progression and now when you are healthier after starting ART?
6. What are the reasons/factors that may influence a person receiving ART to have multiple/concurrent sexual partners?
   Probe: How about engaging in casual partners/ sex workers?
7. Do you know any person receiving ART who have multiple sexual partners and/or engage in casual/sex work?

2. Changes in sexual function(desire and activity) with ART.

(Objective 1. To explore sexual function (desire and activity) after initiation of ART.)

I will ask you some personal questions if you feel at any point uncomfortable to answer do not hesitate to tell me

When I say "sexual function" I am interested to know the desire and ability to engage in sex.

8. At what age did you become sexually-active?

1. As you have been on ART for more than a year now, could you describe to me the trend in your "sexual function" I mean the desire and ability to engage in sex, before you were diagnosed to have HIV, during the disease progression and now when you are healthier after starting ART
   Probe: Any fluctuation (reduction or increase) in sexual functions? Periods of abstinence?
2. Could you give reasons for any noticeable changes?

3.Condom use with ART. *(Objective 3 To explore condom use after initiation of ART.)*

Now I would like to ask about your condom use with your partner/s.

11. What do you know about condoms?
    Probe: Uses of condoms.
12. Do you use condoms with your partner/s? Why or why not. Probe: refer partners in the last 12 months, in the last month.
13. Give me an example of a time when you did not use condoms and an example of a time when you did use them.
14. Is your condom using always the same with despite different partners? If you do not consistently use condoms with your partners, why not?

15. Do you discuss condom use with your partners and who usually initiates the conversation?
16. As you have been on ART for more than a year now, could you describe to me the trend in condom use with your partners before you were diagnosed to have HIV, during the disease progression and now when you are healthier after starting ART?
17. Has ART affected your condom use practices in the past year? Explain.

4. Influence of HIV status disclosure on sexual behavior.

(Objective 4.To explore the influence of HIV status disclosure on sexual risk behavior of people who are on ART.)

18. What do you understand by the term HIV status disclosure?
    Probe: What are advantages and disadvantages of HIV status disclosure?
19. Have you disclosed your HIV status to anybody? Why and why not? If 'yes' to who have you disclosed?
    Probe: How did you disclose your HIV status to you partner? How long after testing was this done? What do you think enabled/pushed you to disclose? How did you partner react/respond? How was the whole experience?
20. How has HIV disclosure influenced your sexual behavior?
    Probe: Safer sex practices (condom use and sexual partnering)

5. Influence of contextual factors on sexual risk behavior of people who are on ART.

(*Objective 5.To explore the influence of contextual factors on sexual risk behavior of people who are on ART.)*

21. What are the social-economic factors which influence sexual risk behavior
    Probe: Poverty leading to sex work, economic dependence on sexual partner.
22. What are local beliefs/religion and attitude on condom use?
23. Describe condom use and cultural norm around fertility.
    Probe: desire to have a child and condom use among couples.
24. What role do cultural norms play in sexual behavior?

6. Influence of gender roles and responsibilities in sexual relationships, on sexual risk behavior of people who are on ART.

(Objective 6.To explore the influence of gender roles and responsibilities in sexual relationships, on sexual risk behavior of people who are on ART.)

Now, please describe the gender roles and responsibilities in sexual relationships in this community. For example:

25. Does someone have deciding power over what food to cook or eat on a daily basis? If so, who?
26. Does someone have deciding power about when a couple will have sex? If so, who?
27. Does someone have deciding power over whether the couple will use a condom during sex or not? If so, who?
28. Does someone have deciding power over the number of children the couple will have? If so, who?
29. Between the man and the woman, whose ideas or opinions are more likely to prevail over safer sex practices?

30. Discuss the conditions under which a man could be considered justified in leaving his wife.
31. Could he leave her for neglecting chores? which ones? refusing sex? unfaithfulness? disobedience? HIV infection? or covert use of contraception?
32. Of these (and other conditions for divorce), which do you consider to be the most serious? Why?
33. Discuss the conditions under which a woman could be considered justified in leaving her husband
34. Could she leave him for failure to support his wife and children? beating? Unfaithfulness HIV infection? Uncooperative attitude towards contraception?
35. Of these (and other conditions for divorce), which do you consider to be the most serious? Why?
36. How does this community perceive the issue of domestic or intimate partner violence against women by their male partners? Against men by their female partners?
37. Are there issues of justice and equity between men and women in your community? What are they?

7. Others.

38. Do you have any questions or comments of what we have discussed? Anything else?

THANK YOU VERY MUCH FOR YOUR TIME. YOUR CONTRIBUTIONS HAVE BEEN

VERY HELPFUL.

Appendix 2: IN-DEPTH INTERVIEW GUIDE, Swahili version

TABIA ZA KUJAMIANA KWA WATU WANAOTUMIA DAWA ZA KUFUBAZA VIRUSI NYA UKIMWI(ART).

UTAFITI WA MANISPAA YA KIGOMA/UJIJI

Mwongozo wa mahojiano.

Mtafiti: Ntoke Heri, Muhimbili University of Health and Allied Sciences.

Utambulisho: kujitambilisha, jina na uhusiano wako na utafiti.

Maelekezo kwa msaili.

Mweleze msailiwa jinsi alivyochaguliwa kushiriki usaili. Hakikisha mazingira rafiki na msailiwa hana msongo wala uchovu utakaoathiri mahojiano. Kwa umuhimu wa mahojiano mnaweza kukutana zaidi ya mara moja. **Mhakikishie msailiwa usiri, pia pata ridhaa kwa mahojiano.**

MUDA WA MAHOJIANO UNAKISIWA KUWA SAA 1 HADI SAA 1 NA NUSU

Dhumuni la Mahojiano. Sote tunaelewa kuwa dawa za kufubaza VVU (ARVs), vinaweza kupunguza kiwago cha VVU mpaka kiasi cha chini kabisa cha kutoonekana japokuwa uwezekano wa kuambukiza virusi hauwezi kuondoka. Watu wanaotumia dawa za kufubaza VVU wanaishi mda mrefu, wakiwa na afya nzuri pia uwezo wa kujamiana huimarika. Ngono nzembe kwa watu wanaoishi na VVU, huhatarisha maambukizi kwa wenzi wasio na VVU, na pia wanaweza kupata maambuki mapya kwa wale wanaoishi na VVU. Tunahitaji kujua jinsi ambavyo matumizi ya ARVs yanavyoweza kuathiri tabia ya kujamiana.

Tunafahamu kwamba maswali haya ni nyeti na tungependa kukumbusha kuwa maelezo yote ni siri kabisa na hayatatolewa kwa mtu yeyote.Hakuna mtu atakaye fahamu majibu mahsusi unayotoa. Ni jambao la kawaida kabisa kwa mtu mwenye VVU kufanya tendo la kujamiana. Sitakuhukumu kutokana na tabia zako za kujamiana. Naomba uwe mkweli uwezavyo unapojibu maswali haya. Kwa sababu haitakuwa rahisi kuandika mazungumzo yote, naomba kutumia kinasa sauti, ili kunisaidia wakati wa kuandika ripoti.

Mwanzo wa mahojiano.

Ninakushukuru kwa kutoa mda wako kushiriki katika utafiti huu ambao tunajua kuwa utatusaidia sana kujua tabia hatarishi za kujamiana kwa watu wanaotumia dawa za kufubaza VVU (ARVs. Mambo ambayo tutazungumza yatakuwa ni siri. Wakati wowote ambao utahitaji kupumzika au kutojisikia kujibu baadhi ya mambo, unaweza kuniambia.

Taarifa za msingi.

Tarehe ya mahojiano _____

Mda _____

Jina la Msaili_____

Namba ya Msailiwa_____

Maswali ya awali:

1. Unaweza kunieleza historia fupi ya maisha yako.

Umri_____

Jinsi _____ Hali ya ndoa_____

Kiwango cha elimu_____

Kazi/shughuri za kipato_____

2. Ulijuaje kwamba umeambukizwa VVU?

Chokoza: Ni kitu gani kilikufanya uhisi kuwa unamaambukizi ya VVU?

1. Kupata mwenza wa kujamiiana (Idadi ya wenza wa kujamiana) (sexual partnering)

1. Tafadhari unaweza kuniambia uelewa wako wa neno "mwenza wa kujamiana?
   Chokoza: mme/mke, mwenza maalum (wa mda mrefu/kudumu), mwenza asiye maalum (wa mda mfupi), wenza kwa wakati mmoja/kwa pamoja, wenza wengi.
2. Umeshakuwa na wenza wa kujamiana wangapi kwa muda wa miezi 6 iliyopita? Wangapi umekuwanao kwa mwezi mmoja uliopita? Tafadhari naomba unieleze kwa kifupi mahusiano yako na hawa wenza.
   Chokoza: idadi na aina ya wenza.
3. Kabla ya kugundulika kuwa unamaambukizi ya VVU, ni jinsi gani ulivyokuwa unapata wenza wa kujamiana?
   Chokoza: idadi na aina ya wenza.
4. Ni namna gani uelewa wa kuwa unaishi na VVU umeathiri namna ya kupata wenza wa kujamiana?
5. Umekuwa ukipata dawa za kufubaza VVU zaidi ya mwaka sasa, naomba unieleze mtiririko wa mabadiliko ya kupata mwenzi wa kujamiana, kabla ya kugundulika kuwa una VVU, wakati wa hali mbaya ya ugonjwa na baada ya kutumia dawa na afya yako kuimarika.
6. Ni sababu gani zinazoweza kumfanya mtu anayetumia dawa za kufubaza VVU kuwa na wenza wa kujamiina wengi kwa wakati mmoja?
   Chokoza: Kujihusisha na wenza wa kujimiana kwa mda mfupi/ kununua au kuuza ngono(changu doa).
7. Je unawafahamu watu ambao wanatumia dawa za kufubaza VVU ambao wanawenza wa kujamiana wengi au wananunua au kuuza ngono? '(Uchangu doa)'

2. Mabadiliko ya uwezo wa kujamiana (sexual function:desire and activity)

Sasa nitakuuliza maswala ya kibinafsi na kwa undani zaidi, kama hutajisikia vizuri kuyajibu, tafadhali uniambie.

Ninaposema 'uwezo wa kujamiana' nina maanisha hamu na uwezo/nguvu ya kufanya tendo la ndoa.

8. Ulianza kushiriki kujamiana ukiwa na umri gani?
9. Umekuwa ukipata dawa za kufubaza VVU zaidi ya mwaka sasa, naomba unieleza mtiririko wa mabadiliko ya uwezo wa kujamiiana, nikimaanisha hamu na nguvu, kabla ya kugundulika kuwa una VVU, wakati wa hali mbaya ya ugonjwa na baada ya kutumia dawa na afya yako kuimarika.
   Chokoza: badiliko lolote(kuongezeka au kupungua) la uwezo wa kujamiiana? Vipindi nya kuacha kabisa ngono?
10. Naomba unieleze sababu za mabadiliko hayo.

3. Matumizi ya mipira ya kujamiiana (Kondom)

Ninapenda kukuliza kuhusu matumizi ya kondom wakati wa kujamiiana.

11. Unaelewa nini kuhusu kondom?
    Chokoza: Matumizi ya kondom.
12. Je unatumia kondom na mwenzi/wenzi wako? Kwa nini? Au kwanini hutumii?
    Chokoza: Uliza kuhusu wenza miezi 12 iliyopita na mwezi uliopita.
13. Naomba unipe mfano wakati ulipotumia kondom na wakati ambao hukutumia kondom.
14. Je matumizi yako ya kondom hayabadiliki kutokana na tofauti ya mwenza unayekuwa naye? Kama hutumii mda wote kondom kwa wenza wote, ni kwa nini?
15. Je huwa unajadiliana na mwenza/wenza wako kuhusu matumizi ya kondom, na

nani huwa anaanzisha mahojiano?

16. Umekuwa ukipata dawa za kufubaza VVU zaidi ya mwaka sasa, naomba unieleza mtiririko wa mabadiliko ya matumizi ya kondom, kabla ya kugundulika kuwa una VVU, wakati wa hali mbaya ya ugonjwa na baada ya kutumia dawa na afya yako kuimarika.
17. Je ni kwa vipi kutumia dawa za kufubaza VVU zimeathiri matumizi yako ya kondom?

4. Kuweka wazi hali ya maambukizi ya VVU inavyoathiri tabia za kujamiiana

18. Unaelewa nini kuhusu kuweka wazi hali ya maambukizi ya VVU? Chokoza: Faida na hasara za kujiweka wazi.
19. Je umewahi kumweleza mtu yeyote kuwa una VVU? Kwa nini? Na kama hapana kwa nini? Kama ndiyo, ni nani umemweleza ? Chokoza: namna ulivyojiweka wazi kwa mwezi wako. Ni baada ya mda gani? Unafikiri ni kitu gani kilikusukuma kumweleza? Je alipokeaje hali hiyo? Ni namna gani iliathiri mahusiano yenu?
20. Ni namna gani kujiweka wazi kumeathiri/kusaidia katika tabia ya kujamiiana? Chokoza: kufanya ngono salama (matumizi ya kondom na kupata wenzi wa kujamiiana)

5. Sababu za kimazingira, mila na desturi zinavyoathiri tabia za kujamiiana kwa watu wanaotumia dawa za kufubaza VVU.

21. Ni sababu zipi za kiuchumi zinazoathiri tabia za kujamiiana?
    Chokoza:Ufukara na 'Uchangu doa', kipato tegemezi kwa mwenza.
22. Je ni mitazamo ipi ya kiimani, mila na desturi kuhusu kondom kwenye jamii?
23. Nieleze kwa kifupi kuhusu matumizi ya kondom na maswala ya uzazi/uwezo wa kuzaa katika mila na desturi za jamii yenu.
    Chokoza: Hamu ya kupata mtoto, ugumba na matumizi ya kondom.
24. Kwa maoni yako, naomba unieleze kwa kufupi nafasi ya maadili ya kimila katika swala la tabia ya kujamiana.

6. Majukumu ya kijinsia na wajibu katika mahusiano ya kujamiiana yanavyoathiri tabia za kujamiiana.

Sasa, nigependa unieleze majukumu ya kijinsia na wajibu katika mahusiano ya kujamiiana katika jamii yenu. Kwa mfano.

25. Je kuna mtu ananguvu za maamuzi ya mwisho kwamba kitu gani kipikwe/kiliwe kila siku? Kama ndiyo, ni nani?
26. Je kuna mtu ananguvu za maamuzi ya mwisho kwamba ni wakati gani wa kujamiiana kwa wenye ndoa? Kama ndiyo, ni nani?
27. Je kuna mtu ananguvu za maamuzi ya mwisho kwamba ni wakati gani wapenzi watatumia kondom wakati wa kujamiiana? Kama ndiyo, ni nani?
28. Je kuna mtu ananguvu za maamuzi ya mwisho kuhusu idadi ya watoto kwa wanandoa? Kama ndiyo, ni nani?
29. Kati ya mwanaume na mwanamke ni nani mawazo yake ya nguvu zaidi/ yatapewa kipaumbele zaidi katika kufanya ngono salama?
30. Tuzungumze mazingira ambayo itaonekana kwamba ni halali mwanaume kumwacha/kumtaliki mke.
31. Je inaweza kuwa, uzembe/kutokufanya kazi za nyumbani? Zipi? Kukataa

kujamiiana? Kutokuwa mwaminifu? Kutotii/utovu wa nidhamu/ maambukizi ya VVU? Kutumia mpango wa uzazi kwa kificho?

32. Kati ya hayo(na mengine), ni yapi kwa maoni yako ni muhimu zaidi? (most serious)
33. Tuzungumze mazingira ambayo itaonekana kwamba ni halali mwanamke kumwacha/kumtaliki mume.
34. Je inaweza kuwa, kushindwa kulea/kutojali familia (mke na watoto)? Kupiga mke/ugonvi? Kutokuwa mwaminifu? maambukizi ya VVU? Kutokushiriki/kukataa mpango wa uzazi?
35. Kati ya hayo(na mengine), ni yapi kwa maoni yako ni muhimu zaidi? (most serious)
36. Jamii inalichukuliaje swala la ugonvi na unyanyasaji wa kijinsia dhidi ya mume au mke?
37. Katika jamii kuna haki sawa kati ya wanaume na wanawake? Kivipi?

7. Others.

38. Je unaswali au jambo lolote ambalo hatujalizungumza hapa, ambalo ungependa kulisema?

NASHUKURU SANA KWA MUDA WKO NA MCHANGO WAKO UMEKUWA NI WA MSAADA SANA.

Appendix 3: INFORMED CONSENT, English Version
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

INFORMED CONSENT

ID-NO ☐

Consent to participate in this study

Introduction:

Greeting! "My name is ……. I'm working on this research project with the objective of exploring changes in sexual behaviour with ART and the contextual factors that affect control over these behaviours among persons receiving ART in Kigoma/Ujiji municipality.

We're interviewing people living with HIV who have been receiving ART for not less than 12 months, sexually-active and their recent CD4 count is above 350 cells/mm cube.

Purpose of the study

The purpose of the interview is to collect information from people living with HIV receiving ART. You are being asked to participate in this study because you have particular knowledge and experiences that may be important to the study. The findings of this study will help the principal investigator to write a dissertation which is a partial fulfillment of Master of Public Health for the academic year 2011/2012.

What Participation Involves

If you agree to participate in this study the following will occur:

1. You will sit with a trained interviewer and answer questions about sexual behaviors and the contextual factors that affect control over these behaviors among persons

receiving ART and finally your comments on what should be done to improve the situation. The interviewer will be taking notes recording on tape your responses.

2. No identifying information will be collected from you during this interview, except your age, sex, employment, level of education, marital status.

3. You will be interviewed only once for approximately 60-90 minutes in a private setting. During the interview you will be given refreshments and then after you will be reimbursed your transport fare.

Confidentiality

"I'm going to ask you some very personal questions that some people find difficult to answer. Your answers are completely confidential. Your name will not be taken, and will never be used in connection with any of the information you tell me.

Risks

You will be asked questions about your sexual behaviors and the contextual factors that affect control over these behaviors. Some questions could potentially make you feel uncomfortable. You do not have to answer any questions that you do not want to answer, However, your honest answers to these questions will help us better understand the changes in sexual behaviour with ART and the contextual factors that affect control over these behaviours among persons receiving ART. We would greatly appreciate your help in responding to this interview.

Rights to Withdraw and Alternatives

Taking part in this study is completely your choice. If you choose not to participate in the study or if you decide to stop participating in the study you will not get any harm. You can stop participating in this study at any time, even if you have already given your consent. Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Benefits

The information you provide will help to increase our understanding and provide practical experiences as well as gain information on the changes in sexual behavior with ART and the contextual factors that affect control over these behaviors among persons receiving ART.

In Case of Injury

We do not anticipate that any harm will occur to you or your family as a result of participation in this study.

Who to contact

If you ever have questions about this study, you should contact the study Coordinator or the **Principal Investigator, Ntoke Heri Wilson,** Muhimbili University of Health and Allied Sciences (MUHAS), P.O. Box 65001, Dar es Salaam (Tel. no. 0782 000 248). If you ever have questions about your rights as a participant, you may call **Prof. M. Aboud Chairman of the College Research and Publications Committee,** P. O. Box 65001, Dar es Salaam. Tel: 2150302-6 and **Dr. M. Mwangu who is the supervisor** of this study (0713 253513)

Signature

Do you agree?

Participant Agrees [__]

Participant disagree [__]

I _____ have read/understood the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of Participant_____

Signature of witness (if participant cannot read) _____

Signature of research assistant_____

Date of signed consent_____

Appendix 4: INFORMED CONSENT, Swahili version
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

FOMU YA RIDHAA

Namba ya Utambulisho ☐

Ridhaa ya Kushiriki katika utafiti huu

Habari! Jina langu naitwa ..……..... nafanya kazi katika mradi huu wa utafiti wenye lengo la kuainisha mabadiliko ya tabia hatarishi ya kujamiana na sababu zinazopelekea, kudhibiti au kushindwa kuzidhibiti tabia hizo, kwa watu wanaotumia dawa za kufubaza VVU (ARVs) katika manispaa ya Kigoma/Ujiji. Tunawahoji watu wanaotumia dawa za kufubaza VVU (ARVs), kwa mda usiopungua miezi 12, wanaofanya ngono na wenye kiwango cha CD4 kinachozidi 350 cells/mm cube.

Malengo ya Utafiti

Utafiti huu una lengo la kukusanya taarifa kutoka kwa watu wanaoishi na VVU, wanaotumia dawa za kufubaza VVU (ARVs). Unaombwa kushiriki katika utafiti huu kwa sababu una uelewa ambao unaweza kuwa muhimu katika tafiti hii. Matokeo ya utafiti huu yatamwezesha mtafiti kuandika ripoti maalum ikiwa ni kigezo cha kumaliza shahada ya Udhamili ya afya ya jamii mwaka 2011/2012.

Ushiriki.

Ukikubali kushiriki katika utafiti huu yafuatayo yatatokea:

1. Utakaa na msaili/mtafiti aliyepewa mafunzo ya jinsi ya kuhoji na kujibu maswali yahusuyo kuainisha mabadiliko ya tabia hatarishi ya kujamiana na sababu zinazopelekea, kushindwa kuzidhibiti tabia hizo, kwa watu wanaotumia dawa za kufubaza VVU (ARVs) Msaili atakua ananukuu majibu yako na kuyarekodi.

2. Hakuna taarifa zozote za utambulisho tutakazokusanya wakati wa usaili isipokua umri, jinsia, kazi,kiwango cha elimu na hali yako ya ndoa.
3. Utahojiwa mara moja tu kwa takriban saa 1- 1.5. Wakati wa mahojiano utapatiwa viburudisho na baadaye utarudishiwa nauli yako.

Usiri

Nitakuuliza maswala ambayo watu wengine huwawia vigumu kuyajibu. Nakuhakikishia kwamba taarifa zote zitakazokusanywa kutoka kwako zitakua ni siri, ni watu wanaofanya kazi katika utafiti huu tu ndio wanaweza kuziona taarifa hizi. Hatutaweka jina lako au taarifa yoyote ya utambulisho kwenye kumbukumbu za taarifa utakazotupa.

Madhara

Utaulizwa maswali juu ya tabia hatarishi ya kujamiana na sababu zinazopelekea, kushindwa kuzidhibiti tabia hizo. Baadhi ya maswali yanaweza kukufanya usijisikie vizuri. Hulazimiki kujibu maswali yote na unaweza ukasitisha mahojiano wakati wowote. Japokuwa majibu yako yakinifu na ya ukweli yatasaidia kupata uelewa wa mabadiliko ya tabia hatarishi ya kujamiana na sababu zinazopelekea, kudhibiti au kushindwa kuzidhibiti tabia hizo, kwa watu wanaotumia dawa za kufubaza VVU (ARVs). Tunashukuru sana kwa kushiriki mahojiano haya.

Haki ya kujitoa na mbadala wowote

Kushiriki katika utafiti huu ni kwa hiari yako, kama utachagua kutokushiriki au utaamua kusitisha kushiriki hutapata madhara yoyote. Unaweza kusitisha ushiriki katika tafiti hii muda wowote hata kama ulisharidhia kushiriki. Kukataa kushiriki au kujitoa katika utafiti hakutasababisha adhabu yoyote au upotevu wa faida yoyote unayotakiwa kupata.

Faida

Taarifa utakayotupatia itasaidia kuongeza uelewa wa tabia hatarishi ya kujamiana na sababu zinazopelekea, kuzibithi au kushindwa kuzidhibiti tabia hizo, kwa watu wanaotumia dawa za kufubaza VVU (ARVs). Faida binafsi ni pamoja na ushauri nasaha kwa watakaogundulika kuwa wana uhitaji ushauri huo.

Endapo Utadhurika

Hatutegemi madhara yoyote kutokea kwa kushiriki kwako katika tafiti hii.

Watu wa kuwasiliana nao

Kama una maswaIi katika utafiti huu unaweza kuwasiliana na **mtafiti mkuu, Ntoke Heri Wilson** Chuo Kikuu cha Muhimbili, S.L. P 65001, Dar es Salaam (Simu. no. 0782 000 248). Kama utakua na maswali yoyote kuhusu haki zako kama mshitriki unaweza kupiga simu kwa **Prof.M. Aboud,** ambaye ni **Mwenyekiti wa kamati ya chuo ya utafiti na machapisho,** S.L.P 65001, Dar es Salaam. Simu namba: 2150302-6 na **Dr. M. Mwangu** ambaye ni **msimamizi wa utafiti huu** (Simu nambari. 0713 253513)

Sahihi

Unakubali?

Mshiriki amekubali [__]

Mshiriki amekataa [__]

Mimi _____ nimesoma/nimeielewa hii fomu, maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Sahihi ya mshiriki_____

Sahihi ya shahidi (kama hawezi kusoma na kuandika)_____

Sahihi ya mtafiti muandamizi_____

Tarehe ya makubaliano_____