SEXUAL HIV TRANSMISSION RISKY BEHAVIOUR OF PEOPLE LIVING WITH HIV AND AIDS IN KINONDONI MUNICIPALITY, DAR ES SALAAM - TANZANIA

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN RURAL DEVELOPMENT OF SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA.

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ABSTRACT

The study was conducted in order to examine the sexual HIV transmission risky behaviour of people living with HIV and AIDS (PLWHA) in Kinondoni Municipality, Dar es Salaam. It also examined factors affecting HIV and AIDS, and assessed people's perceptions and attitudes towards HIV and AIDS. The primary data were collected from 100 respondents through questionnaire survey, interviews and participant observations. The secondary data were collected from reviewing various literatures from Kinondoni Municipality and other sources. The study relied on quantitative data analysis, based on the compiled data provided by the Statistical Package for Social Sciences (SPSS) tool .The findings from this study showed that more females were prone to HIV and AIDS compared to males. The sexual HIV transmission risky behaviour for females was found to be associated with factors including poverty, unemployment, and inadequate education. The study further revealed that respondents of different ages were affected differently by HIV and AIDS. The factors leading to sexual HIV transmission risky behaviour include having multiple sexual partners, unprotected sexual behaviour, and engagement in commercial sex. The study concludes that few people were knowledgeable, the majority were uncertain, and very few disagreed about HIV and AIDS. The study recommends enhancement of education to increase awareness on HIV and AIDS, introduction of income generating activities, introduction of law enforcement to minimize new infections, and promote safe sex to avoid further infections.

DECLARATION

I, **HADIJA SALEHE MLILIMA,** do hereby declare to the Senate of the Sokoine University of Agriculture that this dissertation is my own original work and has neither been or being concurrently submitted for a higher degree award in any other university.

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DEDICATION

This dissertation is dedicated to my late parents; Saleh Said Mlilima and Halima Iddi Mfunda. I thank them for being able to see me through schooling until their time of death and for all the love, advice and support they gave me.

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LIST OF ABBREVIATIONS AND SYMBOLS

AIDS	-	Acquired Immune Deficiency Syndrome
AMREF	-	African Medical and Research Foundation
CBO	-	Community Based Organizations
HDI	-	Human Development Index
HIV	-	Human Immune Deficiency Syndrome
HIVDR	-	HIV Drug Resistance
KIWOHEDE	-	Kiota Women Health and Development Organization
MDG	-	Millennium Development Goals
NACP	-	National Control Aids Programme
NGOs	-	Non-Governmental Organizations
PLWHA	-	People Living with HIV and AIDS
SPSS	-	Statistical Package for Social Sciences
STD’s	-	Sexually Transmitted Diseases
TACAIDS	-	Tanzania Commission for AIDS
THMIS	-	Tanzania HIV and Malaria Indicator Survey
UDSM	-	University of Dar es salaam
UNAIDS	-	United Nations Programme on HIV/AIDS
UNICEF	-	United Nations International Children's Emergency Fund
URT	-	United Republic of Tanzania
USDHHS	-	U. S. Department of Health and Human Services
WHO	-	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background Information

The reality of Human Immune Deficiency Syndrome (HIV) and Acquired Immune Deficiency Syndrome (AIDS) epidemic and its devastating impact in the world, Africa and Tanzania in particular is an unfortunate situation that the whole world is faced with. This is coupled with the inability of science to find neither a cure for victims nor a vaccine to prevent those not infected yet. The whole scenario is that of despair and uncertainty as to what will become of our world if the epidemic cannot be checkmated (Olapegba, 2005).

The prevalence and spread of HIV and AIDS disease has become not only a leading cause of death but also a critical developmental issue. Tumushabe (2005) contends that the HIV and AIDS epidemic has become an embedded condition of the social economy, with the result that other sources of risk have been upgraded to becoming a major threat to the viability of rural livelihoods, for some groups and localities, stresses and shocks that could have been withstood twenty years ago, now threaten destitution and hunger.

Women and girls continue to be affected disproportionately by HIV in sub-Saharan Africa. Women's vulnerability to HIV in sub-Saharan Africa stems not only from their greater physiological susceptibility to heterosexual transmission, but also to the severe social, legal and economic disadvantages they often confront.

Among people aged 15–24 in the United Republic of Tanzania, females are four times more likely than males to be living with HIV have been reported by(TACAIDS *et al.*, 2008). Individuals who are divorced, separated or widowed tend to have significantly

higher HIV prevalence than those who are single, married or cohabitating, with divorced or widowed women experiencing especially high prevalence. Often, divorce or widowhood stems directly from an individual's HIV status, since many women are often divorced because they are diagnosed with HIV and many individuals in the region have lost their spouses to AIDS-related illnesses.

More than one in four (27%) of widowed Tanzanians are living with HIV, compared with 2% of those who have never been married and 6% of those who are married or cohabiting (National Bureau of Statistics and ORC Macro, 2005). The relationship between marriage and risk of HIV infection is often complex and may vary among settings and population groups.

Sexually Transmitted Diseases (STDs) are enormously costly to society in terms of both human pain and suffering and health care expenditures. Among their consequences, STDs are potent co-factors in the sexual transmission of HIV (John *et al*, 1998). The STDs contribute to the spread of HIV and AIDS. For example, during 2003/4, a total of 223,388 STDs episodes were reported throughout Tanzania, categorized into genital discharge syndromes (43.9 %); genital ulcers diseases (18.5 %), pelvic inflammatory diseases (19 %), syphilis (9.3 %), and other syndromes (9.2 %) have been reported by (URT, 2005). Other factors influencing the spread of HIV and AIDS in Tanzania include multiple partnership relationships, intergenerational sex, male dominated gender relationships and risky cultural practices (TACAIDS, 2005).

However, awareness of the modes of HIV transmission is high; over 90 % of Tanzanians aged 15 - 49 have heard of HIV and AIDS, and with almost 90 % of adults knowing that

having only one uninfected, faithful partner can reduce the chances of getting HIV. Moreover, there is increasing awareness about HIV and AIDS. Minimizing the risk of transmission requires that the poor status of People Living With HIV and AIDS (PLWHA) be addressed and elevated through making it easier for them to access useful advice and services on how best to protect themselves against spread of HIV and AIDS (URT, 2005). In the quest for cure and vaccines, PLWHA have been used to test effectiveness of developed anti retroviral drugs. Although drug regimen enhances life expectance to PLWHA, the attitude and effective social support to mediate the physical and psychological impacts of the disease are important.

Mental health of PLWHA is also affected by the discrimination by health workers against PLWHA. Chequer (2002) asserts that access to medication, in particular antiretroviral drugs, is a critical component of the treatment of PLWHA. However, access to medication should be viewed as just one part of providing appropriate management. In reality, medical care encompasses more actions than just prescribing and providing drugs. Moreover, PLWHA have a complete range of emotional, social and economic needs that also have to be addressed in the framework of comprehensive care, and that cannot be met through the use of medication. Indeed, prevention campaigns have succeeded in raising people's awareness, but this has not translated into required behavioural changes.

Though there is increasing awareness about HIV and AIDS, yet there is increase in transmission not only to people living with HIV and AIDS but also new infections (TACAIDS, 2005). This is due to the prevalence of sexual risky behaviour that influence the HIV and AIDS epidemic and other related infections such as age at sexual debut, multiple sexual partners and sex with commercial sex workers. Contribution towards the

Elimination of commercial sexual exploitation against children, in 2009 in Tanzania NGO Kiota Women Health and Development Organization (KIWOHEDE), carried out a programme aiming at protecting over 1,000 children from 16 Wards located in four district; Arusha, Kinondoni, Ilala and Temeke. KIWOHEDE (2009) found that during the intervention, almost 1,203 children aged between 9-18 years were identified. Among the children rescued, 311 were boys and 892 girls. Many reports on child sexual abuse and exploitation are centred on girls child though boys are also increasingly becoming victims. Although there are no official records, the media and NGO's reports have revealed that the practice of sodomy exists in Tanzania especially in Coastal cities.

Regardless of the existing HIV and AIDS programmes within Kinondoni Municipality, still there are existence of sexual risk behaviour and increasing rate of HIV infection. The increasingly rate was also clarified by National Aids Control Programme (2004) where by the prevalence of infection among blood donors was 6.9 % in 2004, 16.3 % in 2003 and 18.8 %in 2004 for Ilala, Temeke and Kinondoni Municipals respectively.

1.2 Problem Statement and Justification

1.2.1 Problem statement

In Tanzania, HIV and AIDS is a public health problem and a major development crisis that affects all sectors. It has drastically affected health, economic and social progress – reducing life expectancy, deepening poverty, and contributing to food shortages (URT, 2004). It is estimated that in Tanzania the national HIV prevalence rate among adults is 5.8% with females having a slightly higher rate 6.8 % than males 4.7 % (TACAIDS *et al.*, 2008). There are large variations in HIV prevalence by region. The highest HIV prevalence rate is found in Iringa 16 % followed by Dar es Salaam and Mbeya each

accounting 9 %. There is also a significant variation of 5 % and 9 % between rural and urban areas (TACAIDS *et al.,* 2008).

HIV and AIDS is affecting fundamental rights at work, particularly with respect to discrimination and stigmatization aimed at people living with and affected by HIV and AIDS. It jeopardizes fundamental principles of social justice and equality, as well as in conditions of freedom, equity, security and human dignity (UDSM, 2006). Although there have been dedicative efforts by the government and other international and national institutions including NGOs and CBOs to prevent HIV transmission by PLWHA, the behaviour change of PLWHA has not been rectified. Kinondoni being the largest populated Municipality in Dar es salaam Region has the most increasing cases of HIV and AIDS and PLWHA compared with other Municipals in the region (USAID, 2008).

According to Kinondoni Municipal Council, during the President's campaign against HIV and AIDS in 2007, it was reported that the prevalence rate of HIV and AIDS was 5.9 % and 8.9 % between 2007 and 2008 respectively. Despite the increase in awareness of HIV and AIDS in Kinondoni and Tanzania as a whole, factors leading to increasing practices of sexual HIV transmission risky behaviour of people living with HIV and AIDS are not well understood.

1.2.2 Study justification

An increase in HIV and AIDS prevalence over the last decade has further aggravated the health status by eroding the Human Development Index (HDI) and future prospects of Tanzanians. HIV and AIDS is recognized by the Millennium Development Goal (MDG) number six which insists on combating HIV and AIDS, Malaria and other diseases by

2015. It is important to build a deeper understanding of the pandemic so as to contain further spread and minimize its impact. This study will expand knowledge and shed light on sexual HIV transmission risky behaviour of PLWHA in Kinondoni Municipality and Tanzania in general. The study will also benefit various stakeholders including institutions, policy makers, and NGOs that are dealing with the prevention of HIV and AIDS.

Moreover, the information that generated from this study was useful to health planners like Ministry of Health, United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO) and African Medical and Research Foundation (AMREF), in facilitating the development of multiple strategy initiatives at the local level to contain sexual HIV transmission risky behaviour of PLWHA in Kinondoni district which ultimately will reduce the prevalence rate of HIV and AIDS in Dar es salaam.

1.3 Study Objectives

1.3.1 Overall objectives

The general objective of the study was to examine the sexual HIV transmission risky behaviour of people living with HIV and AIDS (PLWHA) in Kinondoni Municipality, Dar es salaam.

1.3.2 Specific objectives

i. To examine sexual risk behaviour of people living with HIV and AIDS.
ii. To examine factors leading to sexual HIV transmission risky behaviour of people living with HIV and AIDS.
iii. To assess the perception and attitude of people living with HIV and AIDS in relation to their practices of sexual risky transmission behaviour.

1.3.3 Research questions

i. What are the types of risky sexual behaviour of people living with HIV and AIDS?

ii. What factors lead to sexual HIV transmission risky behaviour of people living with HIV and AIDS?

iii. What are the perceptions and attitudes of people living with HIV and AIDS on sexual transmission risky behaviours.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers a review of literature related to the subject under study, Sexual HIV Transmission Risky Behaviour of People Living with HIV and AIDS. It provides an overview of the results of the review of available literature on the several subjects of similar or closely related cases.

The review begins with the general description of Sexual HIV Transmission Risky Behaviour of People Living with HIV and AIDS. It goes further by discussing HIV and AIDS from both the global and Tanzanian perspective. The review of literature ends with evaluating the power relation between the Risk Behaviour and HIV and AIDS with the experience from the global and Tanzania in particular. It also covers some of the specific objectives of Tanzania National policy on HIV and AIDS. Generally, and in the process of reviewing various literature, the linked theoretical issues and knowledge gaps within these facets are appraised, and subsequently situated in the last part of the this chapter, the theoretical framework.

2.2 Defining Sexual HIV Transmission Risky Behaviour

Literature indicates that there is no commonly accepted definition of Sexual HIV Transmission Risky Behaviour. Sometimes the definition is based on organisation perspective, activities or even the National policy.

According to WHO (2005), Sexual risky behaviour accounts for a large number of opportunities for acquiring HIV infection, and alcohol use has been shown to increase high-risk sexual behaviour. Moreover, the social dynamics that surround alcohol use, sexual risk behaviour and HIV infection and interactions between these issues warrant a search for alternative ways of dealing with the problem in diverse sociocultural settings, if intervention is to be effective.

According to the National Policy on HIV and AIDS (2001), the term risk is further clarified to the some groups of the society, i.e. due to the fact that HIV infection is mainly through heterosexual intercourse, HIV and AIDS is a social, cultural and economic problem, which touches on the private lifestyles of individuals. Therefore the risk of HIV infection is highest among young people, and especially girls. Girls and women in our social and cultural environment are more vulnerable to HIV infection as they do not have control over their sexuality. Poverty increases the vulnerability HIV infection as some women engage in high risk sexual behaviour for survival.

2.3 Global and National Perspective on People Living With HIV and AIDS

2.3.1 Global Perspectives

The number of people living with HIV worldwide continued to grow in 2008, reaching an estimated 33.4 million [31.1 million–35.8 million]. The total number of people living with the virus in 2008 was more than 20% higher than the number in 2000, and the prevalence was roughly threefold higher than in 1990.

The continuing rise in the population of people living with HIV reflects the combined effects of continued high rates of new HIV infections and the beneficial impact of

antiretroviral therapy. As of December 2008, approximately 4 million people in low- and middle-income countries were receiving antiretroviral therapy—a 10-fold increase over five years (WHO *et al.*, 2009). In 2008, an estimated 2.7 million [2.4 million–3.0 million] new HIV infections occurred. It is estimated that 2 million [1.7 million–2.4 million] deaths due to AIDS-related illnesses occurred worldwide in 2008.

More than five young people worldwide contract HIV every minute. At least 50% of young people are estimated to be sexually active by the age of 16 years (Eaton *et al.*, 2003) and these are at a high risk of acquiring HIV infection. The nature of the causes and transmission of HIV and AIDS is complicated due to its being attributed to many factors such as biological, social, cultural and economical. HIV pandemic among the youths will have a great impact on human survival and development (UNAIDS, 2004).

Sub-Saharan Africa remains the region most heavily affected by HIV. In 2008, sub-Saharan Africa accounted for 67% of HIV infections worldwide, 68% of new HIV infections among adults and 91% of new HIV infections among children. The region also accounted for 72% of the world's AIDS-related deaths in 2008.

The epidemic continues to have an enormous impact on households, communities, businesses, public services and national economies in the region. In Swaziland, average life expectancy fell by half between 1990 and 2007, to 37 years (UNDP, 2008; Whiteside *et al.*, 2006). In 2008, more than 14.1 million [11.5 million–17.1 million] children in sub-Saharan Africa were estimated to have lost one or both parents to AIDS. There is extraordinary interest in HIV and AIDS throughout the world. One country after another is carrying out surveys, policy studies, programmes and projects to help exploit HIV and AIDS.

Table 1: Global Summary of the AIDS epidemic

Number of people living with HIV in 2008	
Total	33.4 million [31.1 million–35.8 million]
Adults	31.3 million [29.2 million–33.7 million]
Women	15.7 million [14.2 million–17.2 million]
Children under 15 years	2.1 million [1.2 million–2.9 million]
People newly infected with HIV in 2008	
Total	2.7 million [2.4 million–3.0 million]
Adults	2.3 million [2.0 million–2.5 million]
Children under 15 years	430 000 [240 000–610 000]
AIDS-related deaths in 2008	
Total	2.0 million [1.7 million–2.4 million]
Adults	1.7 million [1.4 million–2.1 million]
Children under 15 years	280 000 [150 000–410 000]

Source: Adopted from UNAIDS (2009)

The ranges around the estimates in this table define the boundaries within which the actual numbers lie, based on the best available information.

2.3.2 National Perspective

Over the 25 years of the epidemic in Tanzania, emphasis has been placed on the development of strategies and approaches to scale up the interventions and deal with the epidemic. Despite all these efforts, the number of people infected continues to grow because of ongoing new infections. People in urban areas have a higher prevalence relative to those in rural areas. It is estimated that about 2.2 million people are living with the virus and about 400,000 are in need of anti-retroviral therapy (NACP, 2004).

The HIV and AIDS crisis is to a large extent a crisis of sexual behaviour. Unsafe sex is responsible for the large majority of the HIV infections in sub-Saharan Africa (WHO, 2002). Heterosexual contacts accounts for over 80% of HIV transmission in Tanzania (NACP, 2004; Barongo, 1992). Since the predominant mode of HIV infection in Tanzania is heterosexual, this in turn stimulated a strong belief that change of risky behaviour is a prevention and control measure for restricting the spread of the HIV.

According to recent surveys, the knowledge of AIDS is widespread in Tanzania, with 99% of the people having heard of the disease. Despite this high level of awareness and efforts made in fighting the disease through health education/promotion and care and treatment, the prevalence of HIV is still high (TACAIDS, 2005). Thus, increasingly youth's sexual involvement is becoming a subject of concern. Majority of youths engage in risk behaviours exposing them to unwanted pregnancies and sexually transmitted infections including HIV (Mwakagile, 2001).

2.4 Relationship Between the Risk Behaviour and HIV and AIDS

2.4.1 Global Experience

Alcohol use and sexual risk behaviour go hand in hand in commercial sex encounters. Female commercial sex workers use alcohol to cope with the pressures of their work, e.g. a large number of sexual encounters. Alcohol use, especially among young adolescents, is associated with casual sex encounters, traffic accidents, violence, crime and social problems (e.g. in Belarus, South Africa, Mexico). Early sexual experience, a high level of risk taking and alcohol use increase the risk of contracting STDs and HIV among adolescent. (UNAIDS, 2006).

Injecting drug use presents particular risks for HIV transmission because it is a far more efficient mode of transmitting HIV than sexual intercourse (UNAIDS, 2006). Drug injection is often practised among networks of people, which can facilitate the sharing of needles. In Hanoi, there were 8,700 IDUs in 2001. Currently in Viet Nam, injection drug use accounts for approximately 63.8 per cent of HIV infections (Vietnam News Agency, 2002).

Another reason for the rise in HIV infections is an increased likelihood of people engaging in unprotected sex with multiple partners (McCoy *et al.*, 1996). In Viet Nam, prostitution is illegal; therefore, sex workers are not officially managed and their health is not monitored. Perhaps this is the reason why the number of commercial sex workers infected with HIV has increased. According to the Ministry of Labour, War Invalids and Social Affairs, there are 36,800 commercial sex workers in Viet Nam. Of the 36,800 sex workers, 34.6 per cent are drug users, while 18.4 per cent of the drug users are HIV positive. In Hanoi's social assistance centre No. 11, about 30 per cent of supervised sex workers are drug users and half of them are HIV infected (Thanh , 2001).

2.4.2 Tanzanian Experience

According to the cross sectional study conducted in 2008 by Lema and Katapa, with the aim of investigating the determinants of high-risk sexual behaviours among youths in Kibaha District, Tanzania. The survey gathered data pertaining to the sexual healthy behaviours among youths, including condom use, number of sexual partners, age at first sexual involvement and knowledge on sexually transmitted diseases and HIV and AIDS. A total of 322 individuals aged 15-24 years were involved in the study. More than 69% had sex at least once in their life time. Only about one-third (32.3%) of the youths reported to have used condom during the first sexual intercourse and (37%) during the last sex. About (21.7%) of the respondents acknowledged having more than one sexual partner in the last 12 months. The majority (98.4%) of the respondents have heard of HIV and AIDS. About three quarters (74.8%) of the respondents knew where to get HIV testing services but only a small proportion (28.9%) had tested for HIV infection. Of those not yet tested, 38.2% admitted that they were ready to do so. Although 317 (98.4%) respondents were aware of

HIV and AIDS, and majority, 65.2% mentioned condom as the method used to prevent its transmission, only (36.3%) acknowledged using them.

Lema (2008) concluded that despite good knowledge on transmission of HIV among youths in Kibaha district, only a small proportion of them practices safe sex. Education programmes on safe sex practices should be strengthened to provide skills that could be effective in changing and maintaining safe sex behaviours among youths in Tanzania.

2.5 Knowledge of HIV Serostatus

Many countries have taken steps to increase utilization of HIV testing services. Among countries for which testing utilization data are available for 2008, the highest number of tests per 1000 population was reported in Botswana (210), Lesotho (186), Sao Tome and Principe (179), Uganda (146) and Swaziland (139). In Ethiopia, testing rates more than doubled between 2007 and 2008—from 51 tests per 1000 population to 121 tests per 1000 population (WHO *et al.,* 2009).

However, considerable gaps remain. While HIV testing more than doubled in Kenya between 2003 and 2007, an estimated 83% of Kenyans living with HIV remained undiagnosed in 2007 (Kenya Ministry of Health, 2009). Similarly, fewer than one in five people in Burundi know their HIV status (Ndayiragu *et al*., 2008b). According to a household survey in Ethiopia, previously untested men and women were more likely to be infected than their counterparts who had previously accessed testing services (Mishra *et al.*, 2008a).

Recent evidence suggests that inadequate testing rates impede national AIDS responses, contributing to late entry into medical care for people who are HIV-infected and unknowing HIV transmission, especially within sero discordant couples. A household survey in Uganda indicated that HIV-infected individuals who knew their HIV status were more than three times more likely to use a condom during their last sexual encounter compared with those who did not know their status (Bunnell *et al*., 2008). In rural Zimbabwe, women who tested HIV-positive reported increased consistent condom use with primary partners, although individuals testing negative reported an overall increase in risky sexual behaviours (Sherr, 2007), underscoring the need for intensified prevention services to accompany initiatives to promote knowledge of HIV serostatus.

According to the study of investigating the level of knowledge on sexually transmitted infections (STIs), and their impact on practice of risky sexual behaviours and HIV transmission in rural Kilimanjaro, Tanzania, by Mmbaga *et al*.(2008), it was revealed that overall; knowledge of STIs was 38.6%. Having a casual partner (59.4%) and multiple sexual partners (50.6%) were mentioned as the most potential sources of STI. Genital ulcers and vaginal discharge were the predominant symptoms noted whereas abstinence and condom use were the preferred preventive measures. Knowledge of STI complications, including HIV transmission, was very low (22.0%) in this community. The low knowledge of STI complications was significantly associated with recent (past 4 weeks) practice of multiple sexual partners (AOR 2.4, 95% CI 1.1 to 8.7), not using condoms with casual partners (AOR, 2.7, 95% CI 1.2 to 7.5) and HIV serostatus (AOR 3.4, 95% CI 1.8 to 14.5)

It was concluded that, an overall STI knowledge and its link to HIV transmission was alarmingly low in this community. Knowledge of STI complications may play an

important role in inducing safer sexual behaviours and hence HIV prevention. Interventions addressing HIV and STI knowledge should put more emphasis on raising awareness of complications as this may play a major role in HIV and STI prevention.

2.6 Continuing Urgent Need to Strengthen HIV Prevention

Even with the significant gains that have been achieved through treatment scale-up, sub-Saharan Africa's epidemic continues to outpace the response. Preserving the long-term viability of treatment programmes and mitigating the epidemic's impact in the region requires immediate steps to elevate the priority given to HIV prevention and to match prevention strategies with actual needs.

In Swaziland, the country with the highest HIV prevalence in the world, 17% of total expenditures in 2008 supported HIV prevention programmes (Mngadi *et al.*, 2009). Prevention spending in Lesotho fell by 24% between 2005/06 and 2007/08 (Khobotlo, 2009). However, in Uganda, prevention resources as a share of national HIV-related spending rose from 13% in 2003/04 to 33.6% in 2006/07 (Wabwire-Mangen, 2009).

Prevention strategies often fail to address the key drivers of national epidemics. While people over the age of 25 are estimated to account for more than two thirds of incident adult infections in Swaziland, few prevention programmes specifically focus on people aged over 25 (Mngad*i et al.*, 2009). Likewise, while people in stable relationships are estimated to account for up to 62% of new HIV infections in Lesotho, virtually no programmes currently focus on adults, married couples or people in long-term relationships (Khobotlo, 2009). Although sex workers and their clients, men who have sex with men and injecting drug users together were estimated to account for roughly one in

three new HIV infections in Kenya in 2006, only minimal funding has been provided for prevention initiatives focused on these populations (Gelmon, 2009).

In Ghana, prevention programmes focused on sex workers, men who have sex with men and injecting drug users consumed 9% of all prevention spending in 2007, even though these groups directly or indirectly were estimated to account for at least 38% of new HIV infections in 2008 (Mngadi *et al*., 2009). In many countries where people in stable relationships are responsible for a large proportion of new HIV infections, couples testing and other prevention services for serodiscordant couples have received inadequate support (Gelmon, 2009).

2.7 State of HIV surveillance

Since 2001, household surveys that include a component to assess HIV prevalence have been conducted in 28 African countries, including nine in 2007 and 2008. Although these surveys vary considerably in quality (Garcia *et al.,* 2006), they have provided more representative population-based estimates of HIV prevalence than were possible with previous extrapolations from sentinel surveillance of women attending antenatal clinics. An assessment of the quality of serosurveillance in low- and middle-income countries between 2001 and 2007 (including sentinel surveillance and national surveys) showed that among 44 countries that were assessed in this region, 24 had fully functional surveillance systems (Lyerla *et al.,* 2008).

Over the past two years, a series of syntheses of epidemiological and programmatic data in 11 African countries has been undertaken. As a result of these efforts, national decision-

makers have obtained guidance on steps to bring national strategies into greater alignment with documented prevention needs.

According to the study of Surveillance of transmitted HIV drug resistance among women attending antenatal clinic in Dar es Salaam, this study that was conducted by Geofrey *et al.* (2008) did not identify any mutations associated with transmitted resistance according to the WHO list for surveillance of transmitted HIVDR. Among the polymorphic mutations identified, only M46L is associated with low –level resistance to some protease inhibitors. These findings suggest that prevalence of transmitted HIVDR in the city of Dar es salaam is still low, and current ARV drugs used in first-and second- line regimens should continue to be effective if good adherence is achieved.

These findings also are supported by an analysis by Vardavas *et al*. (2007) which found that in countries like Tanzania, where ART is being expanded, prevalence of transmitted HIVDR will be low for the next few years because of the low level of ART coverage. In Tanzania, ART coverage was estimated at -75 in 2005 at that level, the number of new infections attributable to persons exposed to ART is almost insignificant. The National ART programme has an ambitious target to reach about 400,000 people in more than 450 treatment sites by 2008. When these numbers are achieved, the risk of transmitted HIVDR is likely to grow substantially.

2.8 National Policy on HIV and AIDS

The overall goal of the National Policy on HIV and AIDS is to provide for a framework for leadership and coordination of the National multi-sectoral response to the HIV and AIDS epidemic. This includes formulation, by all sectors, of appropriate interventions

which will be effective in preventing transmission of HIV and AIDS and other sexually transmitted infections, protecting and supporting vulnerable groups, mitigating the social and economic impact of HIV and AIDS. It also provides for the framework for strengthening the capacity of institutions, communities and individuals in all sectors to arrest the spread of the epidemic. Being a social, cultural and economic problem, prevention and control of HIV and AIDS epidemic will very much depend on effective community based prevention, care and support interventions. The local government councils will be the focal points for involving and coordinating public and private sectors, NGOs and faith groups in planning and implementing of HIV and AIDS interventions, particularly community based interventions. Best experiences in community based approaches in some districts in the country will be shared with the local councils (URT, 2001).

The National policy specifically focused on ‘Prevention of transmission of HIV and AIDS’ by making blood and blood products safe, promoting safer sex practices through faithfulness to partners, abstinence, non-penetrative sex and condom use according to well informed individual decision. The key issue of moving from abstinence or condom use to another strategy depends on testing in between, early and effective treatment of STDs in health facilities, with special emphasis on high risk behaviour groups, and early diagnosis of HIV infection through voluntary counselling and testing.

HIV infection is preventable; the Policy also took the issue of prevention of HIV sexual transmission as a specific objective. This is due to the fact that over 80% of HIV infection is through sexual intercourse, prevention of sexual transmission is the key in the control of the HIV and AIDS epidemic. Therefore the focus here is to raise public awareness of the

risk and change of behaviours that put individuals at the risk of contracting or transmission of HIV and other sexually transmitted diseases in order to reduce the spread of the epidemic. Transmission of HIV is greatly increased for those who have multiple sex partners and engage in unprotected sex. All sectors will be involved in enhancing public awareness at all levels and particularly at the community level and empower the community to develop appropriate approaches in prevention of HIV transmission. These include being faithful to the same partner, practicing abstinence, correct and consistence use of condoms, voluntary counselling and testing, delaying engagement in sexual practices according to well informed individual decision.

The policy also puts emphasis on care for PLWHA through safeguards the rights of people living with HIV and AIDS so as to improve the quality of their lives and minimize stigma (URT. 2001).

2.9 Theoretical Framework

2.9.1 Theories of behaviour change

There are numerous theories upon which intervention aimed at behaviour change may be built.

These theories include the work of, for example, Skinner (1953), Sweat and Dennison (1995), Auerbach *et al.* (1994), Fishbein *et al.* (1992), and Ajzen (1985). Characteristic of the respective theories is that they tend to focus on a particular level rather than multiple levels of social behaviour. However, the multi-levelled manifestation of risky behaviour suggests that a number of the available theories on behaviour change should be considered in the development of interventions. A basis for developing multi-levelled interventions is provided in Dubois-Arber and Carael (2002). These scholars note the following theories of

behaviour change that are generally considered in intervention programming, their main features and (main) proponents.

2.9.2 Behaviour Analytic Theories of Change

Behaviourists Burrhus Frederic Skinner explains the Learning Theories that complex behaviour is learned gradually through the modification of simpler behaviours (USDHHS, 1996). Imitation and reinforcement play important roles in these theories, which state that individuals learn by duplicating behaviours they observe in others and that rewards are essential to ensuring the repetition of desirable behaviour (Skinner, 1953). Since simple behaviours are established through imitation and subsequent reinforcement, the complex behaviour develops; hence the understanding of factors leading to sexual HIV transmission risky behaviour of PLWHA is necessary.

2.9.3 The Theory of Individual and Social Change or the Empowerment Model

(proposed by Perkins) considers evidence that participatory action increases problem-solving capacity and empowers individuals to take action to improve their situation because they learn to understand the personal, social, economic and political forces in their lives better. This empowerment features in persons/individuals, organisations or communities. This theory has proven to be effective, e.g. in the adoption of positive condom use habits/skills (Perkins, 1995).

2.9.4 The Theory of Gender and Power

In contrast to the above theories, the Theory of Gender and Power (proposed by Connell), a Socio structural theory, addresses the wider social and environmental issues surrounding individuals and in particular women, such as the distribution of power and authority,

affective influences, and gender-specific norms within heterosexual relationships. This theory asserts that commitment to a relationship and lack of power can influence one's (mostly the woman's) risk reduction choices and the ability to negotiate safe sex and conduct an effective family-planning strategy (Wingood, 1995).

2.9.5 The Theory of Structural and Environmental Factors

In line with the theory of Gender and Power, the Theory of Structural and Environmental Factors (proposed by Sweat and Denison) takes cognizance of multiple evidence that civil and organisational elements as well as policy and economic issues influence behaviour, and may be crucial for behaviour change. This theory is also about being sensitive to concepts such as "risky situations", "risky environments", "environments facilitating vulnerability" etc (Sweat *et al.*, 1995).

2.9.6 Theory of Reasoned Action

This Theory assumes that individuals consider behaviour's consequences before performing the particular behaviour. As a result, intention is an important factor in determining behaviour and behavioural change. According to Ajzen (1985), intentions develop from an individual's perception of behaviour as positive or negative together with the individual's impression of the way their society perceives the same behaviour. Thus, personal attitude and social pressure shape intention, which is essential to performance of a behaviour and consequently behavioural change (Ajzen, 1985).

2.9.7 Theory of Planned Behaviour

Theory of Planned Behaviour, emphasizes the role of intention in behaviour performance. This theory covers cases in which a person is not in control of all factors affecting the actual performance of behaviour. This theory states that the incidence of actual behaviour

performance is proportional to the amount of control an individual possesses over the behaviour and the strength of the individual's intention in performing the behaviour (Ajzen, 1985). Furthermore, Ajzen (1985) asserts that self-efficacy is important in determining the strength of the individual's intention to perform behaviour.

Therefore, "Behavioural change theories" have potential applications in many areas. Prominent areas of application include healthcare, education, and criminal behaviour. These issues are important to societal functionality and policy-making, resulting in recent renewed interest in these theories. Hence, this study applies this theory on the risky sexual transmission behaviour among PLWHA. In the interest of promoting healthy lifestyle development, behavioural change theory is effective in explaining health-related behaviours and providing insight into methods that would encourage individuals to develop and maintain healthy lifestyles. Specific health applications of behavioural change theories include the development of programmes promoting active lifestyles and programmes reducing the spread of diseases like AIDS (USDHHS, 1996).

2.10 Research Gap

From the literature that has been reviewed, a number of studies and improvements on Sexual HIV Transmission Risky Behaviour of People Living with HIV and AIDS. Regardless of these improvements, substantial evidence gaps remain, which hinders efforts to devise evidence- informed AIDS strategies. While there has been an important increase in HIV-related research involving men who have sex with men and injecting drug users in sub-Saharan Africa, many countries lack reliable information on the size, behaviours and HIV prevalence of these populations (Lowndes *et al.*, 2008)

CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter focuses on the methods and instruments used to collect and analyse data collected from the field on sexual HIV and AIDS transmission risky behaviour of people living with HIV and AIDS. There are six sections in this chapter where by section one starts by describing the area of the study, while section two presents research design, section three presents sampling technique, section four presents data collection, section five presents data processing and analysis. The chapter concludes by discussing study limitations.

3.2 Description of the Study Area

The study was carried out in Kinondoni Municipality in the Northern part of Dar es Salaam (Fig. 1). Kinondoni is among the three Municipalities in Dar es Salaam city. The Municipality is situated along the Indian Ocean, and is bordered by Ilala Municipality to the south, and the Coast region to the west. The Municipality has an area of about 531 km^2 and a population of 1, 088, 867 people with the annual growth rate of 4.3% (URT, 2002). Kinondoni being the highest populated Municipality in Dar es salaam its people have a variety of activities., there are some who are employed in different institutions, agriculturists and some are doing business., particularly trade. Administratively, the Municipality has 4 Divisions and 27 Wards. In terms of HIV and AIDS interventions, Kinondoni has several actors including the Central Government (Ministry of Health), TACAIDS, and several NGOs.

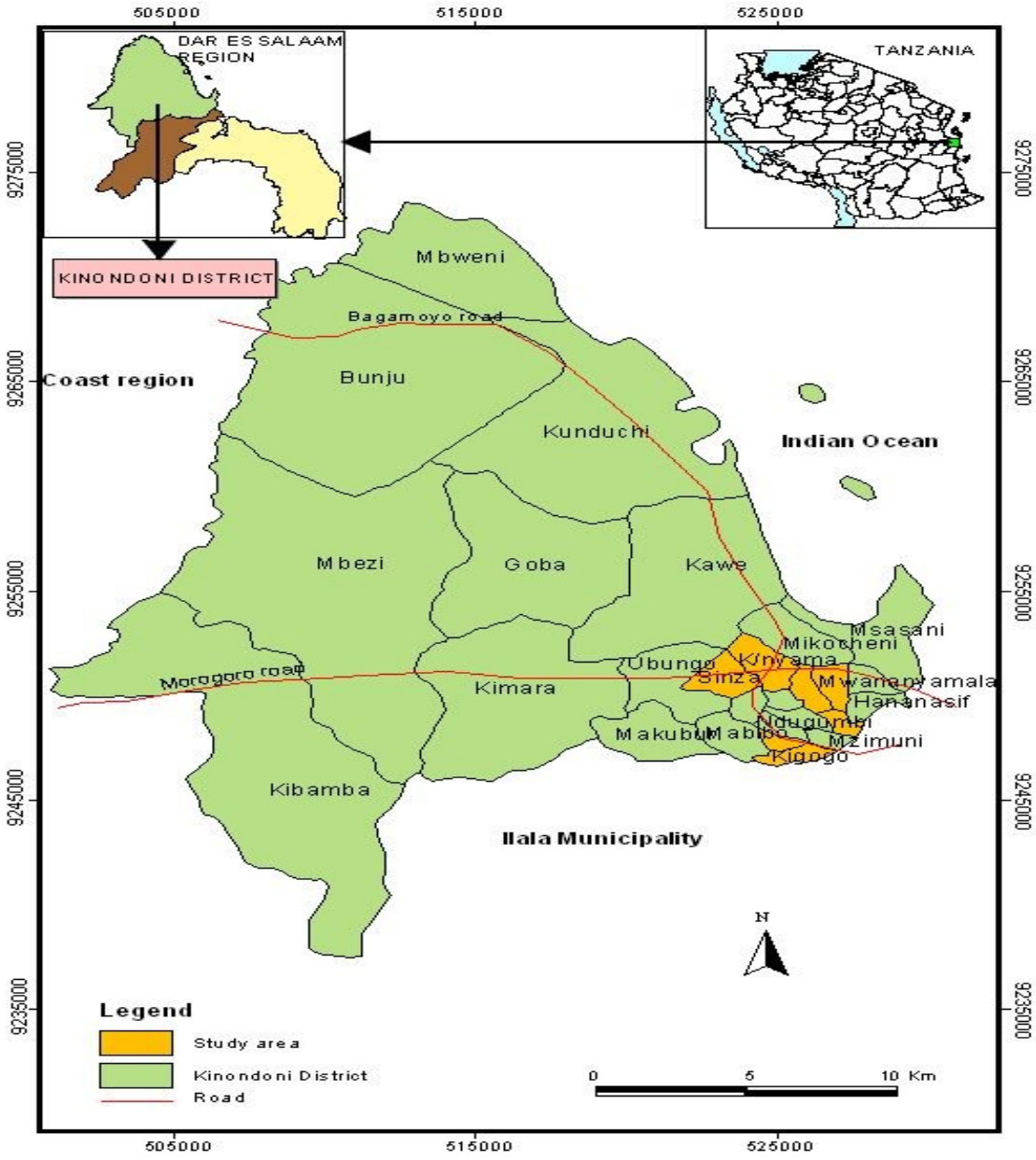

Figure 1: Map of Kinondoni Municipality and list of wards – Study areas

3.3 Research Design

A cross-sectional research design was used in this study. This method allows data to be collected at one point in time and establishing the relationship between variables for the purpose of testing the research questions (Bailey, 1998). This method is considered to be useful because of time limitation and resource constraints.

3.3.1 Sampling techniques

Purposive sampling was employed for the selection of people living with HIV and AIDS .This technique enables a researcher to select a sample on the basis of his or her knowledge of the population, its elements and research aims. It is based on the researcher's judgement and purpose of study (Bryman, 2004). The researcher applied this sampling technique for the selection of PLWHA. This selection was done at different levels such as Municipal, Ward, and NGOs at the Municipal level, and then simple random sampling was applied to obtain respondents from lists of the people living with HIV and AIDS.

3.3.2 Data collection

The study was conducted from October 2009 to May 2010 in Kinondoni Municipality, Dar es Salaam. The selection of Kinondoni was purposive in order to capture the synergy created by human population and socio-economic activities in the Municipality, and their effects to HIV and AIDS. In-depth interviews were conducted to collect information related to HIV and AIDS from the Non-Governmental Organisation (NGO) and the selected Wards in the Municipality. The survey questionnaire included: (1) background information (age, gender, marital status, education, and sources of income), (2) sexual activities and sexual behaviour, (3) factors leading to sexual HIV transmission risk behaviour, and (4) perception and attitude of People living with HIV and AIDS (PLWHA). Secondary data were used to enrich the primary data and were obtained from

Mwananyamala, Kijitonyama, Makumbusho, Kigogo, Mburahati, Magomeni and Sinza Wards of Kinondoni Municipality (Fig. 1).

3.3.3 Data processing and analysis

The data were analysed using the Statistical Package Social Sciences (SPSS) *version* 11.5. Descriptive statistics including mean frequency and percentages were computed to describe the socio-economic conditions of the respondents. A chi square (χ^2) test was employed to determine if there was significant relationship ($P \leq 0.05$). According to Rosner (2000), Chi-Square is denoted by (χ^2) and P-Values are used to test exactly how significant the results are. The guidelines for judging the level of significance of a p-value is noted as: If $0.01<p\leq0.05$, then the results are significant. If $0.001\leq p<0.01$ then the results are highly significant. If $p<0.001$, then the results are very highly significant. If $p>0.05$, then the results are considered not statistically significant (Some times denoted by NS).However, if $0.05<p\leq0.10$, then a trend toward statistical significance is sometimes noted.

3.4 Study Limitations

The challenges faced during data collection include reluctance shown by some people living with HIV and AIDS (PLWHA) and Non-Governmental Organizations (NGOs) to share with the researcher information and data related to this study. To overcome the situation, more NGOs were included in the study. The study participants were recruited based on the known HIV status and having started to attend HIV and AIDS treatment and care centres. Another limitation of this study was how sexual risky behaviour was assessed. The study used descriptive questionnaire to assess behaviour or use of the known HIV transmission behaviour for a certain period. There were no biological measures of

sexual risk such as STDs. These data are cross sectional and any directionality of relationship must be examined with longitudinal data. More formative research is still needed to understand sexual risk behaviour of PLWHA and to inform for interventions.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Overview of the Chapter

This section presents and discusses the results in relation to the study objectives and research questions. It is divided into four sections. Section one deals with Socio-demographic characteristics, while section two focuses on sexual activities and sexual risky behaviour, section three deals with the factors leading to sexual HIV transmission risky behaviour and section four addresses the perceptions and attitudes of people living with HIV and AIDS with regard to their sexual practices.

4.2 Socio-Demographic Characteristics

A total of 100 respondents living with HIV and AIDS were interviewed. (29%) of the respondents were males and (71%) were females. The results imply that more females were prone to HIV and AIDS compared to males (Table 2). The findings of the study suggest those females are mostly risk taker compared to males with respect to sexual HIV transmission risky behaviour. The sexual HIV transmission risk behaviour for females is associated with several factors including income poverty, lack of empowerment, mistrusts between, women's negotiated condom use, partners' alcohol consumption, shorter duration of relationship (years), inadequate education, drug use, multiple sex partners, and lack of a steady partner. The similar pattern was also observed by Maman *et al.*(2002,2000), who found that women are more prone to HIV and AIDS than men due to abandon-ness, violence against women, and eagerness to know their HIV and AIDS status compared to men. In addition, Centres for Disease Control and Prevention (2007) observed that women

are at high risk of contracting HIV through heterosexual intercourse than men due to their biological features.

Table 2: Demographic and socio-economic characteristics

Variables	Male (n=29)		Female (n=71)			
	Frequency	Percentages	Frequency	Percentages	$\chi 2$	P – value
Age						
18-30	20	69.0	23	32.4		
30-45	6	20.7	33	46.5	11.24	0.004
Above 45	3	10.3	15	21.1		
Marital Status						
Married	4	13.8	17	25.0		
Single	20	68.9	19	27.9		
Widowed	1	3.4	25	35.3	17.75	<0.0001
Divorced	4	13.8	10	11.8		
Level of education						
No formal education	2	6.9	5	7.0		
Primary education	18	62.1	44	61.9		
Secondary education	9	31.0	22	30.9		
Post secondary education	0	0.0	0	0.0	0.0007	1.00
Main source of income						
Without a job	3	10.4	7	9.9		
Petty traders	11	37.9	47	66.2		
Employee	2	6.9	6	8.4		
Others	13	44.8	11	15.5	10.28	0.02
Total	**29**	**100.0**	**71**	**100.0**		

4.2.1 Ages of respondents

The results show that respondents with different ages (years) were affected differently by HIV and AIDS (Fig. 1). There was a statistical significant relationship between age distribution (30 – 45, and above) against HIV and AIDS prevalence (χ^2 = 11.24, p = 0.004). The results are comparable with those of TACAIDS (2005), which report that people within the age range of 20 to 49 (years) of both sexes were more affected by HIV and AIDS because they are more active sexually hence more prone to be infected.

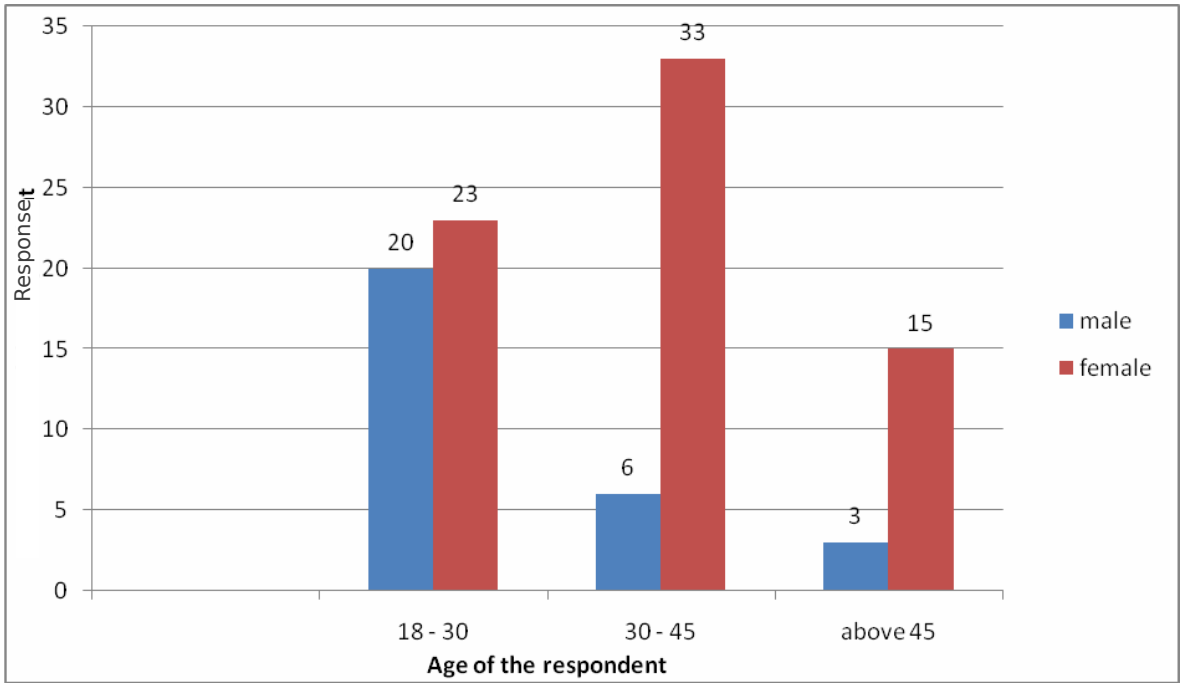

Figure 2: Age distribution of People Living with HIV and AIDS (PLWHA)

4.2.2 Marital Statuses of the respondents

The respondents were asked if they were married, single, widowed or divorced. The results show that more male respondents were single (68.9%) and female respondents were widowed (35.3%), (Table 2).The findings of this study relate with those of other studies which found that most males are single, while the majority of females are widowed (Pumping *et al.*, 2007).The implication of this finding is that more groups of youth who

are still singles are the ones who are more affected by the HIV/AIDS. However, females are more responsive to check for their health status compared to males and because females are the ones taking more responsibility of their family after death of their spouse hence easy to be known by the NGOs for receiving support, unlike men.

4.2.3 Levels of education of the respondents

According to TACAIDS *et al.* (2008) education is a key determinant of lifestyle and status an individual will attain in society. In this study it was revealed that very few respondents (7%) had no formal education. Furthermore, the majority had completed primary education (62.0%). However only (31%) had completed secondary education. None of the respondents had advanced level of education. More male respondents had primary and secondary education than females (Fig. 3). The implication of this finding is that lower class (poor and uneducated) of the community are the ones who are more easily recognised by government and NGOs as compared to high class (Rich and educated) group of community. A similar study by TACAIDS *et al*. (2008) identified that educated and rich people are more aware about HIV and AIDS than uneducated and poor people.

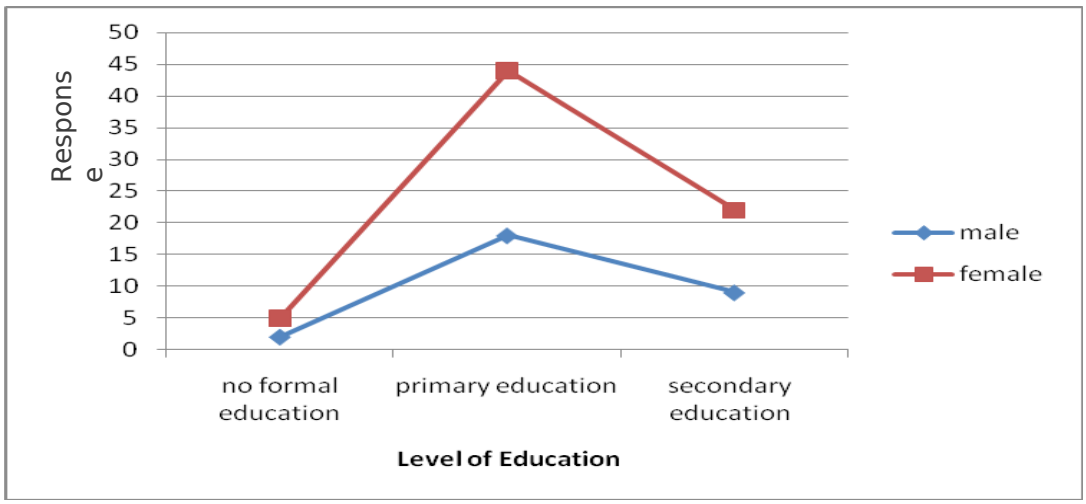

Figure 3: Levels of education of people living with HIV and AIDS

4.2.4 Main sources of income for the respondents

During the survey, the respondents were asked if they were living without a job (jobless), petty traders, employees or performing any other economic activities. Out of 100 respondents, 29 males and 71 females only (10.0%) males and (9.9%) females were living without a job they depend much on their relatives due to worse status of their health, while (37.9%) males and (66.2%) females were petty traders. In addition, (6.9%) males and (8.4%) females were employed in different organizations, while (44.8%) males and (15.5%) female were involved in other activities including agriculture. There was statistically significant relationship between petty trading and sex (χ^2 = 10 28 and P= 0.02) this is due to the fact that the majority of the female were more involved in petty trading than male (Fig. 4).

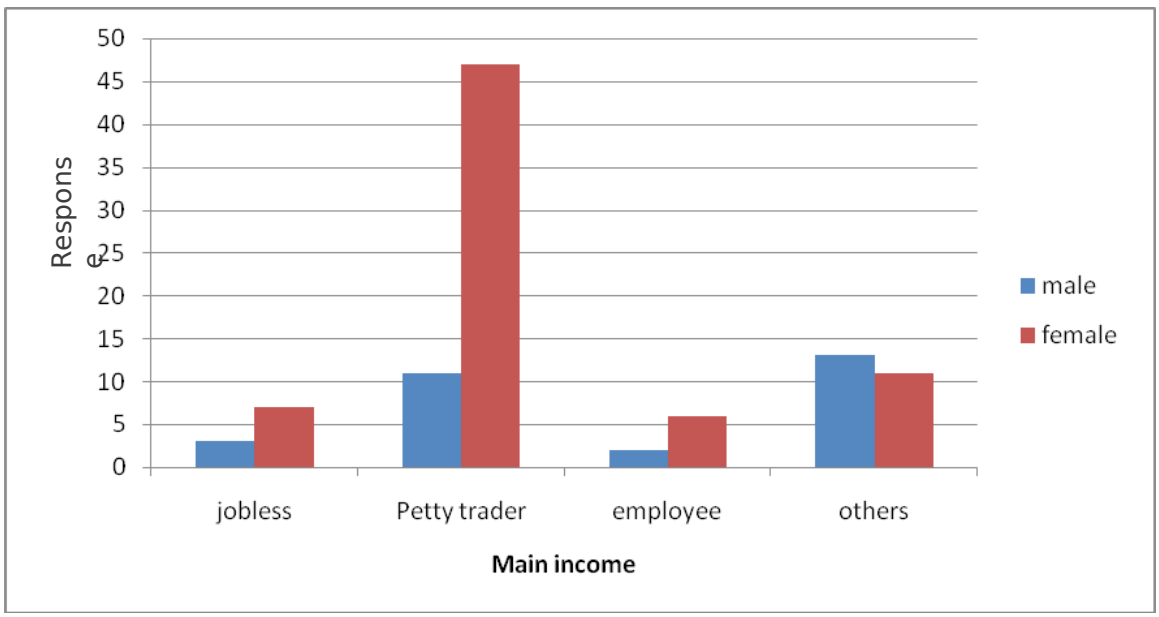

Figure 4: Distribution of main source income by sex (gender)

4.3 Sexual Behaviour

In this section, the study examined the sexual HIV transmission risky behaviour of people living with HIV and AIDS. In order to understand the sexual behaviour of the respondents,

they were asked if they had had sex, age at first sex, the last time they had sex, whether they were married/lived with partners, age at marriage/starting living with partners, years of marriage/living together, relationship with partners and age of the partner and the place where they met. The details of the results are provided in the preceding sub section as per (Table 2).

4.3.1 Ever had sex

The results show that (96.5 %) of male respondents reported being engaged in vaginal sexual intercourse while (100%) of the female respondents did the same in practice. A study by Brooks and Jae (2009) found similar results. This shows that more females are engaged in vaginal sexual intercourse. The implications of these results are due to many factors some of which are children being abandoned due to family violence; in addition more women have income poverty than their men counterparts.

4.3.2 Age at first sex

The respondents were asked at what age they had started sexual intercourse. The results show that females started sexual intercourse at the ages of 10-15 which is equal to (25.4 %) unlike males who were not engaged in sexual intercourse at this age. Furthermore, between the ages of 15-17 the results show that (33.8%) of the female respondents were engaged in sexual intercourse as compared to males (14.3%). The implication of these results is that females start sexual intercourse earlier compared to males due to the fact that females reach puberty (sexual maturity) earlier than males. A similar study by TACAIDS *et al.* (2008) asserts that females had first sex before the age of 18; men initiate sexual activity somewhat later than women. In addition, a study by Georges and Nyovani (2007) found that 53% of females with an age range of 15-19 had their first sex with a boy friend. There was a statistical significant relationship between the two sex categories on the age at

first sexual intercourse ($\chi^2 = 17.35$, $P < 0.05$). In addition, the study shows that the age at first sexual intercourse is of particular interest as HIV is mainly transmitted through heterosexual contact. Thus, analyzing data on age at first sex is a way to understand when individuals are first exposed to the risk of infection by the HIV virus (TACAIDS *et al*., 2008). (See appendix 1).

4.3.3 The last time had sex

The frequency of sexual intercourse can be used to refine measures of exposure to HIV and other sexually transmitted infections. Females and males were asked when they last had sex (See appendix 1). The results show that (62.9%) females and (53.6%) males were engaged in sexual intercourse more frequently. (less than a week).

4.3.4 Age at marriage or starting living with partners

In this study the respondents were asked their age, which was categorized into less than 15, 15-18, 19-25 and above 25 years. The distribution of the age at marriage against sex showed that (1.9%) female reported to be married at the age less than 15 years. Furthermore, (20.0%) of males were married at the age between 15 and 18, and (12.9 %) females were married at the age range of 19 to 25 years. More females (64.8 %) reported to be married at the age above 25 years.

4.3.5 Married/lived with partners

The respondents were asked if they were married or lived with partners. More than three quarters (76.1%) of females were married or reported living with their spouses or partners. However, (31.1%) of males reported to be married or living with partners The findings, however, show that females live more with their spouses, unlike most males. In this

regards males are the ones who causes unfaithful marriage in many families hence leading to spread of the HIV and AIDS pandemic (Fig. 5).

4.3.6 Meeting place

It is known that places where people met also contribute to the risk of HIV and AIDS transmission. The respondents were asked where they had met with their spouses such as friends' home, social gatherings and in business centres. The distribution of responses with respect to gender showed that (30.5%) females and (26.9%) males had met at friends' home, (40.7%) females and (46.2%) males had met at social gatherings while (28.8%) of females and (26.9%) of males had met in business places. The results imply that the majority of partnerships start at social gatherings where interaction that promotes behavioural change leading to unplanned sexual relationship is made, hence the spread of HIV and AIDS.

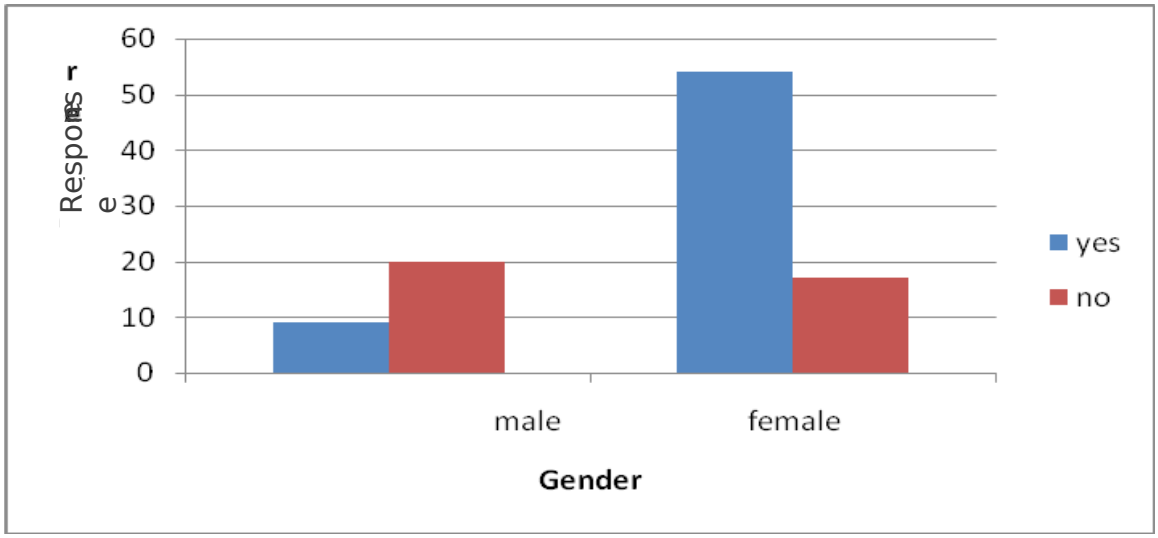

Figure 5: Distribution of married and (or) lived with partners versus gender

4.4 Factors Leading to Sexual HIV Transmission Risky Behaviour

The study examined the factors leading to sexual HIV transmission risk behaviour of the PLWHA, such as, multiple sexual partners, unprotected sex and injected drug users (IDU). This information is important in designing and monitoring intervention programmes to control the spread of HIV.

4.4.1 Multiple sexual partners

The respondents were asked about number of sexual partners, their relationships, and the reasons for having more than one partner. With regard to the number of sexual partners, responses were categorized into no partner (Very good), one partner (Good), two partner (bad) and more than three (worse). The results indicated that (21.7%) of males and (16.5%) of female respondents had no permanent sexual partner, while (4.4 %) of male and (5.9%) of female respondents reported to have one sexual partner and (56.5%) of male and (38.8%) of female respondents reported having two sexual partners. Furthermore, (17.4%) of male and (38.8%) of female respondents had more than three sexual partners (Table 3).

Table 3: Multiple sexual partners' distribution by gender

Variables	Males		Females			
	Frequency	Percentage	Frequency	Percentage	χ^2	P -value
Currently how many sex partners do you haves(N=90)						
Very Good	5	21.7	11	16.5		
Good	1	4.4	4	5.9	8.68	0.070
Bad	13	56.5	26	38.8		
Worse	4	17.4	26	38.8		
Total	**23**	**100**	**67**	**100**		
How do you take them/consider the relationship (N = 88)						
Permanent	5	22.8	16	26.3		
Seasonal	7	25.9	25	40.9	10.71	0.030
Part time	15	51.3	20	32.8		
Total	**27**	**100**	**61**	**100**		
Why do you have more than one sex partners (N = 56)						
Satisfaction	16	88.9	6	16.7		
Habit	2	11.1	6	16.7	36.62	<0.0001
Commercial	2	0.0	24	66.6		
Total	**20**	**100**	**36**	**100**		

The findings of this study show that there was no significant relationship between sex categories of respondents and the number of sexual partners (χ^2=8.68, p=0.07). Additionally, the results show that relationships of partners were categorised into permanent (22.8%) male and (26.3%) female and seasonal (25.9%) and (40.9%) for male and female respectively). Furthermore, those with part time relationships were (51.3%) males and (32.8%) females (Table 3). From these results there was statistical significant relationship between sex categories and the number of sexual partners (χ^2=36.62, P = 0.000). On the other side the result indicated that (88.9%) of males had more than one sexual partner than females (16.7%) just because of leisure or sexual satisfaction. In addition, females (66.6 %) were engaged in commercial sex for various reasons including income poverty.

4.4.2 Unprotected sexual intercourse

The respondents were asked if they were practising unprotected sexual intercourse (vaginal and anal) and how often they were using condoms. In this case the responses were

categorically based on none (Very good), one (Good), two (Bad), and more than two (worse). The results show that (28.0%) and (13.9%) of males and females respectively were engaged in bad unprotected vaginal sexual intercourse while (36.0%) and (58.4%) males and females respectively reported having performed worse unprotected vaginal sexual intercourse in the previous two months. Additionally, (26.6%) and (8.3%) males and females respectively reported being engaged in unprotected anal sexual intercourse while (13.3%) females reported being involved in worse unprotected anal sexual intercourse (Table 4).

Table 4: Unsafe sexual behavioural variable distribution by gender

	Male		Female			
Variables	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**χ2**	**P –value**
Unprotected Vaginal Intercourse (UVI) (N = 90)						
Very Good	4	16.0	11	16.9		
Good	5	20.0	7	10.8	4.94	0.176
	7	28.0	9	13.9		
Bad	9	36.0	38	58.4		
Total	**25**	**100**	**65**	**100**		
Unprotected Anal Intercourse (UAI) (N = 75)						
Very Good	10	66.7	40	66.7		
Good	1	6.7	7	11.7		
	4	26.6	5	8.3	5.64	0.130
Bad	0	0	8	13.3		
Total	**15**	**100**	**60**	**100**		
How often have you used condoms when having anal sex (N = 70)						
No regular	7	70.0	43	71.7		
Every Time	0	0.0	0	0.0	0.01	0.914
Sometimes	3	30.0	17	28.3		
Never	0	0.0	0	0.0		
Total	**10**	**100**	**60**	**100**		

The implication is that females are the ones facing more risk towards HIV and AIDS as result of income poverty which was accelerated by low income. Similarly, some men were also engaged in anal sexual intercourse due to economic factors and harassment for example those who were street children. A similar study by Brooks and Jae (2009) reports the same. In addition, another study by Sureeporn and Kerry (2007) found that unprotected sexual practices may continue even among those who know their HIV status.

4.4.3 Running with commercial sex workers

According to TACAIDS *et al.* (2008) higher risk sex is defined as sex with a non marital, none cohabiting partner. It includes sex with commercial sex workers. Commercial sex workers have higher risk because they have many partners and are thus more likely to have

Sexually Transmitted Diseases. Therefore, involvement of people who are living with HIV and AIDS as sex workers, increases transmission of HIV. The respondents were asked on how many people they had sex during the previous month, how often they had used condoms when having sex with their regular partners, how often they had used condoms when they had sex with their casual partners, how often they had used condoms when they were paid for sex in the previous month, and how many times they had anal sex in the previous month.

The results show that (55. %) males and (55.7%) females had sex with more than three partners within the previous month. There was significant relationship between the number of people with whom the respondents had sexual intercourse and the respondents' sex categories (χ^2=13.96, P = 0.007). The findings furthermore show that (35.%) male and (41.7%)female respondents reported using condoms during sexual intercourse occasionally. In addition, (35%) male and (31.7%) female respondents had never used condoms while having sexual intercourse with their regular partners. These findings imply that very little attention has been paid by the PLWHA to their health status. Likewise, (5.0%) male and (21.3%) female respondents had no casual partners. Furthermore, (65.%) male and (65.6%) female respondents used condoms with their casual partners rarely; while (30.0%) male (and 9.8%) female respondents admitted not using condoms during paid sex, according to the wishes of their customers (Table 5).

Table 5: Commercial sex workers variable distribution by gender

Variable	Males		Females			
	Frequency	**Percentage**	**Frequency**	**Percentage**	**χ2**	**P –value**
How many people have you had sex with within the last months (N = 81)						
None	2	10.0	18	29.5		
One	0	0.0	3	4.9	13.96	0.007
Two	7	35.0	6	9.8		
Three and above	11	55.0	34	55.8		
Total	**20**	**100**	**61**	**100**		
How often have you used condoms when having sex with your regular sexual partners (N = 80)						
No regular partner	4	20.0	10	16.7		
Every time	2	10.0	6	10.0	3.18	0.52
Sometimes	7	35.0	25	41.7		
Never	7	35.0	19	31.7		
Total	**20**	**100**	**60**	**100**		
How often have you used condoms when you had sex with casual sexual partners (N = 81)						
No casual partner	1	5.0	13	21.3		
Every time	0	0.0	2	3.3	7.10	0.065
Sometimes	13	65.0	40	65.6		
Never	6	30.0	6	9.8		
Total	**20**	**100**	**61**	**100**		
How often have you used condoms when you have been paid for sex in the last month s.(N = 82)						
No paid sex	1	4.8	22	36.1		
Every time	2	9.5	0	0.0		
Sometimes	11	52.4	34	55.7	18.04	<0.0001
Never	7	33.3	5	8.2		
Total	**21**	**100**	**61**	**100**		
How many times did you have anal sex in the last month (N = 72)						
None	11	61.1	33	61.1		
Two times	3	16.7	6	11.1		
3-5 times	2	11.1	10	18.5	0.82	0.843
More than5 times	2	11.1	5	9.3		
Total	**18**	**100**	**54**	**100**		

4.4.4 Injected Drug Use (IDU)

It is known that non- sterilized injections can pose a risk of infection with HIV and other diseases. To measure the potential risk of HIV transmission among injected drug users, the respondents were asked about the number of hit up; times in the previous month they shared needles; how many different people had used a needle before the respondents in the previous month; how many times in the previous month someone had used needles after the respondents used them, how often in the previous month needle had been cleaned

before being re-used., and how often before using needles again in the previous month they used bleach to clean them.

The results show that (92%) male and (29.4%) female respondents had hit up more than once a day. In addition (76%) of male and (28.6%) of female respondents reported having re used needles more than three times after someone else. Furthermore, (96%) male and (32.4%) female respondents reported having used needles with more than three people. From this finding it was noted that there were statistical significant relationships between sex category and drug injection ($\chi 2=27.72$, $p=0.000$), number of times needles were re-used after someone else ($\chi 2=26.12$, $p=0.000$), number of people who used the needle before the respondents used them ($\chi 2=25.45$, $p=0.00$). and number of times other people used needles after the respondents had used them ($\chi 2 =27.11$, $p=0.000$). Generally the results imply that injected drug against PLWHA is very high, more than (90%) of males, hence higher risk of spread of HIV .The details of the result are shown in (Table 6).

Table 6: Injected Drug use variable distribution

Variables	Males		Females			
	Frequency	Percentage	Frequency	Percentage	χ2	P –value
How many times have you hit up (Injected any drugs) (N = 59)						
None	0	0	21	61.8		
More than once a week	0	0	2	5.9	27.72	<0.0001
Once a day	2	8.0	1	2.9		
More than once a day	23	92.00	10	29.4		
Total	**25**	**100**	**34**	**100**		
How many times in the last month have you used a needle after someone else had already used it (N = 60)						
None	0	0.00	22	62.8		
One time	2	8.00	0	0.0		
2 times	4	16.00	3	8.6	26.12	<0.0001
3 ≤ 5 times	19	76.00	10	28.6		
Total	**25**	**100**	**35**	**100**		
How many different people have used a needle before you in the last months (N = 59)						
None	0	0.0	20	58.8		
One person	0	0.0	1	2.9		
2 person	1	4.0	2	5.9	25.45	<0.0001
3 ≤ 5 person	24	96.0	11	32.4		
Total	**25**	**100**	**34**	**100**		
How many times in last month has someone used a needle after you have used it? (N = 59)						
None	0	0.0	21	61.8		
2 person	2	8.0	4	11.8	27.11	<0.0001
3 ≤ 5 person	23	92.0	9	26.4		
Total	**25**	**100**	**34**	**100**		
How often, in the last month, have you cleaned needles before re-using them? (N = 40)						
Doesn't re-use	0	0.0	2	13.3		
Rarely	4	16.0	3	20.0	3.78	0.15
Never	21	84.0	10	66.7		
Total	**25**	**100**	**15**	**100**		
Before using needle again how often in the last month did you use bleach to clean them (N = 40)						
Doesn't re-use	0	0.0	2	13.3		
Rarely	2	8.0	2	13.3	3.98	0.13
Never	23	92.0	11	73.4		
Total	**25**	**100**	**15**	**100**		

4.5 Perception and Attitude of PLWHA on Sexual Transmission Risk Behaviour

In this section, questions were prepared to identify people perception and attitude towards HIV and AIDS in relation to their practices of sexual risk transmission behaviour. It is known that HIV continues to spread around the world, and it is becoming increasingly apparent that the epidemic does not follow the same course in all societies (TACAIDS *et al*, 2008). The National policy on HIV and AIDS has identified stigma as one of the challenges in prevention and control of the epidemic (URT, 2001). People living with HIV and AIDS face discrimination and are sometimes neglected because of their status. This hinders the effort to fight against the pandemic.

The attitude of the respondents towards HIV was sought using a likert summated scale (Yogesh, 2006). The likert scale had five statements about HIV and AIDS. The respondents were requested to say whether they strongly agreed (SA**),** Agreed (A), were Uncertain (U), disagreed (D) and strongly disagree (SD) with each statement. Information on attitude of PLWHA towards HIV and AIDS was analyzed by using summated scale approach (Table 7 and Fig. 6). Results show that (67%) of the respondents were undecided whether AIDS is a disease syndrome for which one can protect unless someone is sure about his /her HIV status. Furthermore, the results indicated that (46%) of the respondent deserved having all support such as food and other social services that could sustain their daily life. In addition, the results show that (52%) of the respondents claimed that death of HIV is not a threat and that every one will pass away. However, (27%) of the respondents disagreed with the statement that death due to AIDS is not a threat meaning that people need to take care about HIV since it lead to loss of resources and life.

Table 7: Perception and attitude of PLWHA towards their practices of sexual risky transmission behaviour

SN	Statements	Perception and Attitude in percent		
		Agree	undecided	Disagree
1	AIDS is a disease syndrome for which one can protect one self	21	67	12
2	Getting HIV and AIDS is the results of sins	0	8	92
3	PLHWA deserve to have all support. Such as food etc	46	37	17
4	There is no need for the government to use resources to care for PLWHA	10	0	90
5	Knowledge of PLWHA is good enough to influence their sexual behaviours	75	12	13
6	It is believed that PLWHA are neglected among the society	84	6	10
7	PLWHA don't care to transmit HIV to uninfected people	23	63	14
8	Death due to AIDS is not a threat., everyone will die anyway	52	21	27

The results (Table 7) also revealed that (92%) of the respondents disagreed with the statement that being affected by HIV and AIDS is a result of sins since causes of the disease may be due to various causes away from risky behaviours, such as unprotected sex, multiple sexual partners and commercial sex workers.

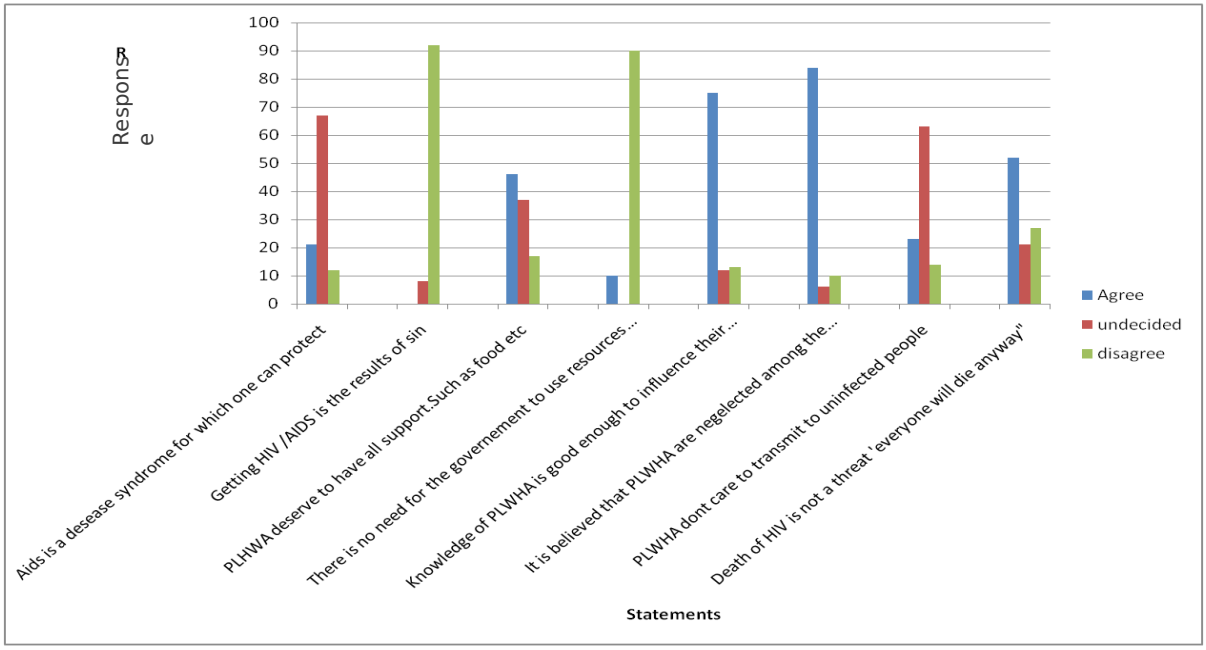

Figure 6: Perceptions and attitude towards sexual transmission risky behaviour

4.5.1 People's knowledge about HIV and AIDS

The results show that the knowledge of PLWHA is good enough to influence their sexual behaviour (Fig. 6). It was further observed that (79%) of females were more aware about HIV and AIDS, and agreed to most statements compared to males (66%).The findings imply that PLWHA had enough knowledge to influence their sexual behaviour. However the increase of income poverty, lack of education, and missed employment opportunities are the major predisposing factors for PLWHA to continue with unsafe sexual behaviour, hence transmission of HIV to others.

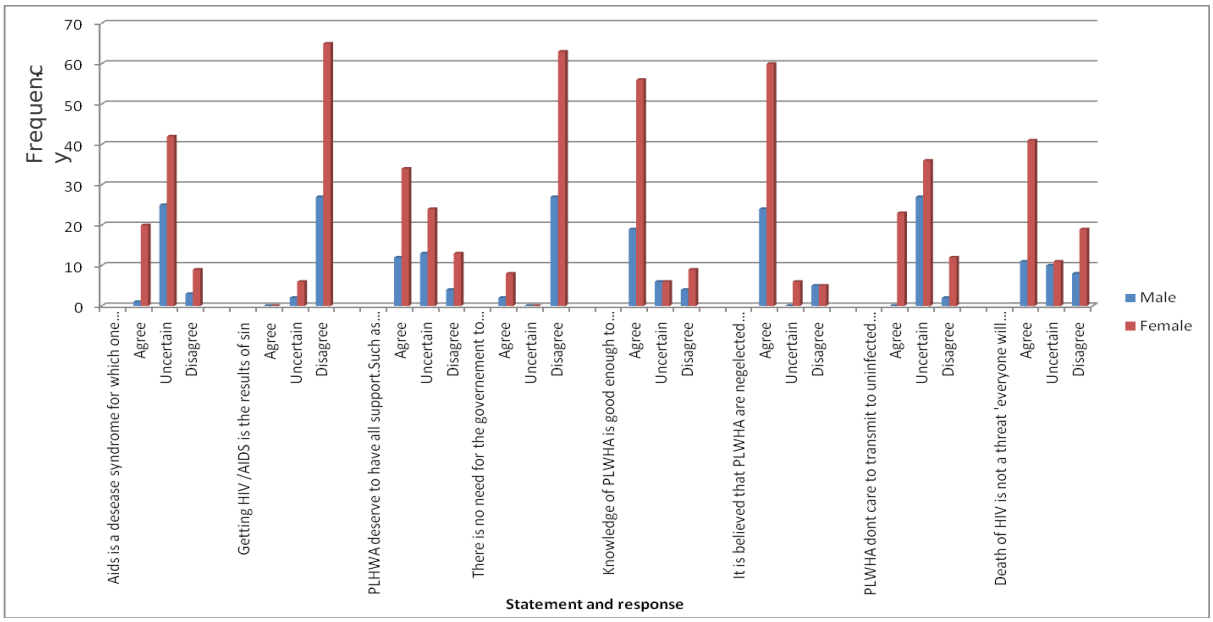

Figure 7: People perceptions towards HIV and AIDS

4.5.2 Protection of HIV and AIDS

The Interviewers were subjected to respond by accepting, denying or being neutral on whether AIDS is a disease for which one can protect. The result reveals that (86%) of males and (59%) of females were uncertain. This perception and attitude in terms of gender indicate that the disease can be protected for those who know their health status and for those living with HIV and know their status, they will be protected from getting a new HIV infection.

4.5.3 Government support to PLWHA

People living with HIV deserve to have all support such as food, clothes and shelter. The perception for this differ into a great extent between male and female, whereby (45%) of males were uncertain while (48%) of females agreed with the statement. This implies that the female are more affected with the disease as they were dependant due to the fact that the most women are the widows and elders (grandmothers).The male affected with the disease they need to be empowered by Government in terms of capital or capacity building so as to depend themselves instead of having all support .

In the question, whereby PLWHA should not depend much on the support from the government resources for their living, the analysis reveals that (93%) of males and (89%) of females disagree with the statement. This also can further be clarified by the situation whereby majority of respondents, i.e. (83%) of male and (85%) of female reported of being stigmatised and neglected from the general public. This indicates that the government resources are highly needed by the PLWHA in terms of medication, education, cancelling, capacity building, capital and others with similar nature.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

From the study findings, it is concluded that more women are prone to HIV and AIDS compared to men. This was shown by the pattern of risk associated sexual behaviour which women faced due to lack of food, income poverty, inadequate education and empowerment in the society.

It is further concluded that men and women were affected differently by HIV and AIDS., women were more affected than males. In addition it is concluded that female respondents of the age range of 30 – 45 years are more susceptible to HIV and AIDS compared to those of age range between 18 -30 and above 45 years of age. In contrast, male respondents of the age range of 18 – 30 are more affected by HIV and AIDS than those of 30 – 45, and above 45 years.

According to the findings on the sexual HIV and AIDS transmission risky behaviour of people living with HIV and AIDS, females start sexual intercourse earlier than males, and they are more prone to high risk of HIV infection than males due to ignorance.

It is also concluded that, since the respondents had been engaged in vaginal sexual intercourse, sexually transmitted diseases were more caused by vaginal sexual intercourse than from other sources such as injected drug uses.

It is also conclude that the main factors leading to sexual HIV Transmission risky behaviour include having multiple sexual partners with seasonal sexual relationships, and unsafe sexual behaviour (unprotected vaginal and anal sexual intercourse), especially among females, and engagement in commercial sex that has high risks due to the big number of partners involved in the business. Injected drug use contributes less risk of infection to the respondents when compared to other forms of sexual intercourse due to lower number of injected drug users.

In terms of attitude and perceptions, the study concludes that few people were knowledgeable, while the majority reported to be uncertain, and very few disagree about HIV and AIDS. The pattern was associated to inadequate education, and food and income poverty among most respondents.

5.2 Recommendations

- The study recommends promotion of education and awareness to people who are not educated and the poor segments of the society on HIV and AIDS and the effects it brings to people. Knowledge regarding HIV prevention, acquisition, transmission and consequences of infection was perceived to be lacking to uneducated and poor people. Therefore, such interventions to prevent HIV infection have the potential to reach large numbers of people in a cost-effective way and to lower rates of future infections. Education and awareness building if properly done may help individuals to change their behaviour and to help them maintain changes by social support.

- In addition, people especially women, those who had less education, the poor (in terms of food and income poverty), and the youth (adolescents), who, according to

the study findings, start sexual intercourse at early ages should be educated on the importance of conducting safe sex to prevent HIV transmission. The use of condoms consistently during sex by commercial sex workers and the youth who were perceived to be most HIV vulnerable populations, will enable them to avoid new infections among PLWHA and to those who are not infected.

- Education on behavioural change should be encouraged in order to reduce the number of people who have multiple sexual partners, unsafe sexual behaviour (unprotected vaginal and anal sex intercourse), and reduce the number of people, especially females and the youth, who are engaged in commercial sex. In connection to this, the study recommends introduction of income generating activities in order to make direct contribution towards alleviating poverty and improved people's livelihoods.

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APPENDICES

Appendix 1: Sexual behaviour distribution by gender

Variables	Male		Female			
	Frequency	**Percentage**	**Frequency**	**Percentage**	**χ2**	**P –value**
Having ever had sex (N = 100)						
Yes	28	96.5	71	100.0	2.47	0.116
No	1	3.5	0	0.0		
Total	**29**	**100**	**71**	**100**		
Age at first sex (N = 98)						
10-15	0	0.0	18	25.4		
15-17	4	14.3	24	33.8	17.35	0.05
18 and above	24	85.7	29	40.8		
Total	**28**	**100**	**71**	**100**		
The last time had sex (N = 98)						
Less than a week	15	53.6	44	62.9		
1 month ago	12	42.8	12	17.1	14.02	0.015
More than a year ago	1	3.6	14	20.0		
Total	**28**	**100**	**70**	**100**		
Married/lived with partner (N = 100)						
Yes	9	31.1	54	76.1	17.90	<0.0001
No	20	68.9	17	23.9		
Total	**29**	**100**	**71**	**100**		
Age at marriage/starting living with partner (N = 54)						
Less than 15 years	0	0.0	1	1.9		
15-18 years	2	20.0	7	12.9		
19-25 years	8	80.0	35	64.8	2.81	0.422
Above 25 years	0	0.00	11	20.4		
Total	**10**	**100**	**54**	**100**		
Years married/lived together (N = 61)						
1-3 years	2	22.2	8	15.4		
4-6 years	3	33.3	15	28.9		
7-9 years	3	33.3	10	19.2	2.5	0.475
10 years and above	1	11.1	19	36.5		
Total	**9**	**99.9**	**52**	**100**		
Relationship with partners (N = 78)						
Spouse/partner	6	31.6	52	88.1		
Girl/boyfriend not living with you	6	31.6	7	11.9	31.88	<0.0001
Casual acquaintance	7	36.8	0	0.0		
Total	**19**	**100**	**59**	**100**		
Place where met your partner (N = 85)						
Friends home	7	26.9	18	30.5		
Social gathering	12	46.2	24	40.7	16.93	0.05
In business	7	26.9	17	28.8		
Total	**26**	**100**	**59**	**100**		

Appendix 2: Questionnaire

Introduction

My name is Mlilima, H. S. a postgraduate student at Sokoine University of Agriculture, pursuing Master of Arts in rural Development (MARD). I am conducting a research on sexual HIV transmission risk behaviour of people living with HIV and AIDS in Kinondoni Municipality. I kindly ask you to participate in my research.

Confidentiality

I am going to ask you some very personal questions; your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you provide. Your honest answers to these questions will help us better understand the sexual HIV transmission risk behaviour and assist policy makers and institutions to better help the people living with HIV/AIDS.

Questionnaire No……..Date of interview…….

Interviewer name……Name of respondent……..

Module 1: Respondent characteristics

1. Age of the respondent……..…….years

2. Gender of respondent
   1) Male
   2) Female ☐

3. Marital status
   1) Married
   2) Single ☐
   3) Widowed
   4) Divorced
   5) Others (specify)……..

4. Education level of respondent
   1) No formal education
   2) Primary education
   3) Secondary education and above ☐
   4) Post secondary education

5. Main sources of income (more then one answer is possible)

Module 2: Sexual activities and sexual risk behaviour
Now I am going to ask you some questions about sexual activities in order to gain a better understanding of some important life issues.

6. Have you ever had sex intercourse?
   1) Yes
   2) No

7. At what age did you first have sex?. ……. (Years)

8. When was the last time you had sex?
   1) Today

2) …days ago
3) ….weeks ago
4) ….months ago
5) ….years ago

9. Have you ever been married or lived with a man /woman as if you were married? (Yes, No)

10. How old were you when you first married or lived with a man /woman as if you were married?..... year(s)

11. For how many years have you been married or living together as if you were married?
……year(s)

12. MEN: do you have more than one wife or live in partner who lives with you?

WOMEN: Does your husband have other wives or does he live with other partner?
1) Yes
2) No

13. MEN: altogether, how many wives or other partners live with you?
WOMEN: Including yourself how many wives or other partners live with your husband?
1) No
2) wives/partner

14. Does your spouse/partner live with you or does he/she live somewhere else?
1) with respondent
2) Somewhere else

15. What is your relationship with this partner?
1) Husband / wives
2) Live with partner
3) Girl/boyfriend not living with you
4) Someone whom you paid or who paid you for sex
5) Casual acquaintance
6) Others (specify)

16. How old is this partner?
1) Number of years
2) Don't know

17. What place or event did you first talk to or get to know this partner?
1) Own or friend's house
2) Market
3) Church/mosque
4) Bar/night club/disco
5) Family event or Social gathering
6) Hotel/guest house
7) School/College/university
8) Can't remember

9) Don’t know
10) Other (specify)

18. Where does this partner live? He/she live……..
    1) in same house
    2) in the same University/Campus
    3) in same village/neighbourhood
    4) Don’t know
    5) Other (specify)

Module 3: Factors leading to sexual HIV transmission risk behaviour (Multiple Sexual Partners)
(1 = Very good, 2 = good, 3 = Bad, 4 = Very bad, 5 = extremely bad)

19. Currently, how many Sex partners do you have?
    1) None
    2) One
    3) Two
    4) Three
    5) More than 3 people

20. How do you take them/ consider the relationship?
    1) Don’t have one
    2) One Permanent
    3) Seasonal
    4) Part time
    5) No relationship

21. Why do you have More than one sex partner?
    1) Satisfaction
    2) Habit
    3) Commercial purpose
    4) Others, mention……..

Unprotected Sex/ Unsafe Sex
22. In last two month, how many times have you engaged in unprotected vaginal sex with another person
    1) None
    2) One
    3) Two
    4) Three
    5) More than Three

Anal sex
23. In the last month, how many times have you engaged in unprotected anal sex with another person
    1) None
    2) One
    3) Two

4) Three
5) More than Three

24. How often have you used condoms when having anal sex with your regular partner(s) in the last month?
    1) No reg. partner
    2) Every time
    3) Often
    4) Sometimes
    5) Never

Running with Commercial Sex workers

25. How many people, including clients, have you had sex with in the last month?
    1) None
    2) One
    3) Two
    4) 3-5 people
    5) More than five people

26. How often have you used condoms when having sex with your regular partner(s) in the last month?
    1) No reg. partner
    2) Every time
    3) Often
    4) Sometimes
    5) Never

27. How often did you use condoms when you had sex with casual partners?
    1) No casual. partners
    2) Every time
    3) Often
    4) Sometimes
    5) Never
28. How often have you used condoms when you have been paid for sex in the last month?
    1) No paid sex
    2) Every time
    3) Often
    4) Sometimes
    5) Never

29. How many times did you have anal sex in the last month?
    1) No times
    2) One time
    3) Two times
    4) 3-5 times
    5) 6-10 times
    6) More than 10 times

Drugs Uses

30. How many times have you hit up (i.e. injected any drugs) in the last month?

1) Hasn't hit up
2) Once a week or less
3) More than once a week
4) (but less than once a day)
5) Once a day
6) 2-3 times a day
7) More than 3 times a day

31. How many times in the last month have you used a needle after someone else had already used it?
    1) No times
    2) One time
    3) Two times
    4) 3-5 times
    5) 6-10 times
    6) More than 10 times

32. How many different people have used a needle before you in the last month?
    1) None
    2) One person
    3) Two people
    4) 3-5 people
    5) 6-10 people
    6) More than 10 people

33. How many times in the last month has someone used a needle after you have used it?

1) No times
2) One time
3) Two times
4) 3-5 times
5) 6-10 times
6) More than 10 times

34. How often, in the last month, have you cleaned needles before re-using them?
    1) Doesn't re-use
    2) Every time
    3) Often
    4) Sometimes
    5) Rarely
    6) Never
35. Before using needles again, how often in the last month did you use bleach to clean them?
    1) Doesn't re-use
    2) Every time
    3) Often
    4) Sometimes
    5) Rarely
    6) Never

Module 4: Perception and attitude of PLWHA to their practices of sexual risk transmission behavior.

Let us now discuss about perception and attitude towards sexual transmission risk behaviour. Say whether you **strongly agree (SA), Agree (A), Uncertain (U), Disagree (D) or strongly disagree (SD)** on each of the statement**.**

	Statement	SA 1	A 2	U 3	D 4	SD 5
1	AIDS is a disease syndrome for which one can protect					
2	Getting HIV/AIDS is a result of one's sin					
3	PLHWA deserve to have all t support. Such as food etc.					
4	There is no needs for the Government to use resource to care for PLWHA					
5	Knowledge of PLHWA is good enough to influence their sexual behaviour					
6	It is believed that PLWHA are neglected among the society					
7	PLWHA don't care to transmit to uninfected people					
8	Death of HIV is not a threat 'everyone will die anyway'					