BEHAVIOURAL CHANGE TOWARDS HIV/AIDS PREVENTION AMONG THE YOUTHS IN MBEYA DISTRICT, TANZANIA

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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.

ABSTRACT

HIV/AIDS is a global phenomenon. The government of Tanzania developed different strategies and policies in an attempt to reduce the spread of the HIV/AIDS such as The National HIV Prevention Strategy and TACAIDS. However, there is slow behavioural change among the youths in relation to intervention conducted. This study assessed factors affecting behavioural change towards HIV/AIDS prevention among youths in Mbeya District. Specifically, the study aimed at determining the level of knowledge/awareness of HIV/AIDS in relation to behavioural change. The study also determined youths' attitude towards HIV/AIDS prevention strategies and determined factors affecting youths' behavioural change in the prevention of HIV/AIDS. A cross sectional design was adopted using closed and open ended questions administered to 120 respondents. Focus Group Discussions as well as key informant interviews were held to collect qualitative data. The Statistical Package for Social Sciences (SPSS) version 18 was used to analyze the data. Data collected were analyzed descriptively and knowledge index scale was used to measure the level of awareness about HIV/AIDS prevention strategies. Attitude of youths towards HIV/AIDS prevention strategies in relation to behavioural change was measured by Likert scale. Ordinal logistic regression was used to analyze factors affecting behavioural change towards HIV/AIDS prevention strategies. The findings indicate that the youth had high knowledge on HIV/AIDS. Majority of youths had reported to have positive attitude towards HIV/AIDS prevention strategies. Age, marital status, religion, peer influence, separation of parents had significant relationship to behavioural change. The study recommends for Policy makers and development program implementers to take these limitations into account, especially when selecting strategies to implement in concert with specific behavioural strategies so as to reduce the HIV/AIDS infection.

DECLARATION

I, Monata Lucas do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

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DEDICATION

This work is dedicated to the Almighty God and to my beloved parents Mr. Lucas N. Ryoba and Mrs. Christina L. Ryoba whose love encouraged me and laid my foundation. I also dedicate it to my young brothers/sisters Ryoba, Nyamboge, Kitenkeni, Nyakorema and Gatson.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune-deficiency Syndrome
DED	District Executive Director
DSI	Development Studies Institute
FGD	Focus Group Discussion
FHI	Family Health Institute
GIZ	German International Cooperation for Development
ILRI	International Livestock Research Institute
HIV	Human Immune-deficiency Virus
KAB	Knowledge Attitude and Behavior
KIHUMBE	Kikundi cha Huduma Majumbani-Mbeya
MMRC	Mbeya Medical Research Center
NACP	National HIV/AIDS Control Programme
NBS	National Bureau of Statistics
NSGRP	National Strategy for Growth and Reduction of Poverty
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
SPSS	Statistical Package for Social Sciences
STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
TACAIDS	Tanzania Commission for AIDS
TDHS	Tanzania Demographic and Health Survey
THMIS	Tanzania Health Malaria Indicator Survey
UNAIDS	United Nations Programme on HIV/AIDS
URT	United Republic of Tanzania

VCT	Voluntary Counselling and Testing
WHO	World Health Organization
ZAC	Zanzibar AIDS Commission

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

It is estimated that 34 million people are living with HIV globally. The pandemic primarily affects those in their most productive years, an estimated 0.8% of adults aged 15-49 years worldwide are living with HIV (UNAIDS, 2012a).

In 2011, there were an estimated 1.8 million new HIV infections in sub-Saharan Africa; while 69 percent of all people living with HIV/AIDS are found in sub-Saharan Africa (UNAIDS, 2012a). HIV/AIDS caused immense human suffering in the continent. The most obvious effect of this crisis has been illness and death. However, the pandemic has certainly not been confined to the health sector, households, schools, workplaces and business places have been badly affected (Hellandendu, 2012).

It is estimated that 1.6 million people are living with HIV in Tanzania and among them about 1.3 million aged 15 years and above are the victim of the disease.(UNAIDS, 2012a). The highest HIV/AIDS prevalence rates in the country are found in Njombe Region with 15%, Mbeya 9% and Dar es Salaam 9% and Regions with low HIV prevalence rates are Tanga and Manyara with 2% each (TACAIDS *et al.*, 2013).

Historically, the HIV/AIDS pandemic began in 1983 in Tanzania, with the diagnosis and reporting of three cases in Kagera Region. By 1986, all regions had reported cases of HIV/AIDS. Since then, HIV/AIDS continued to spread. There is dramatic increase in the number of AIDS cases as more HIV infected people succumbed to opportunistic infections arising from suppressed immune systems.

According to TACAIDS *et al.* (2013) the HIV/AIDS pandemic in Mbeya Region started in the 1980's. The first AIDS cases were seen in 1986 and by the early 1990s most of the people living in the region were confronted with AIDS-related morbidity and mortality in their own families and among their friends. The prevalence rate of 9% in Mbeya is relatively high in relation to the interventions which were conducted in raising people's awareness (Mbago *et al.*, 2010). Youths of 15-39 years are assumed to be aware on preventive measures for example 69% women and 77% men know that using condoms reduces the risk of contracting HIV; however, there is high prevalence rate among youth (TACAIDS *et al.*, 2013). Despite various interventions in combating HIV/AIDS in Mbeya Region such as provision of education concerning HIV/AIDS risk behaviours, Voluntary Counseling and Testing (VCT). Youths in Mbeya Region have high prevalence due to engaging in risk behaviours. The current study intended to assess factors affecting behavioural change towards HIV/AIDS prevention.

1.2 Problem Statement

Individual behavioural change, particularly sexual behavioural change is the most effective means of preventing further spread of HIV/AIDS and its perceived susceptibility when coupled with accurate knowledge in order to bring about positive change (Ladebo *et al.*, 2002). Youths make a group with high risk of infection from HIV and other negative sexual and reproductive health outcomes as a result of behaviours adopted if practiced unsafely might put them at risk of becoming infected with the virus (FHI, 2010). There have been several interventions done in combating HIV/AIDS in Mbeya District aimed at changing youth's HIV/AIDS risk behaviours such intervention include provision of education on risk behaviors, provision of condom and voluntary testing and counseling (VCT). Despite promotion of the prevention measures for HIV/AIDS there is high prevalence rate of HIV/AIDS in Mbeya District by 9% in relation to national average of

5% (TACAIDS *et al.*, 2013). This means that there is no corresponding behavioural change as youth engage in various high risks sexual behaviours which include having multiple partners, ignoring the use of condom as well as blood testing for HIV/AIDS as it is evidenced by the presence of high prevalence rate among the youth (Mbago *et al.*, 2010). This is also caused by cultural and traditions practices that put a person into a risk of being affected by HIV/AIDS such as polygamy, widow inheritance also alcohol use are factors that affect behavioural change (Mkama, 2006; Rehum *et al.*, 2011; Nyathikazi, 2013).

The observation of the high prevalence rate seems to suggest that behavioural change strategies have not succeeded as was expected in reducing HIV/AIDS prevalence rate. Although the infection rate has slightly decreased from 13.5% to 9% in2012/2013 in Mbeya Region the prevalence is still high compared to National overall prevalence of 5% (TACAIDS *et al.*, 2013). The decrease does not match with the intervention done by various stakeholders fighting against the disease. The stakeholders are, Mbeya Medical Research Center, Walter Reed, German International Cooperation for development and *Kikundi Cha Huduma Majumbani Mbeya (KIHUMBE)* which base on various activities aimed at reducing HIV/AIDS by providing VCT, promotion of behaviour change and condom provision. Thus it is important to assess factors affecting behavioural change towards HIV/AIDS prevention strategies to ensure ability of this change (Heggenhougen and Lugalla, 2005).

1.3 Justification for the Study

Behavioural change programme proves to be one of the most appropriate responses in HIV/AIDS prevention. It seeks to encourage people to adopt safer sexual behaviours such as abstinence or delaying initiation of sexual activity. It also leads to decreasing the

number of sexual partners and using condoms consistently and correctly (Global HIV Working Group, 2008). Behavioural change programmes seek to promote safer individual behaviour as well as changes in social norms that generate healthier patterns of sexual behavior (UNAIDS 2012b). The youth are particularly vulnerable to HIV infection due to social, political, cultural, biological, and economic reasons (UNFPA, 2008). This deems important to understand the factors affecting behavioural change towards HIV/AIDS among youth. The current high prevalence of HIV/AIDS in Mbeya Region for example the prevalence in Bonde la Usongwe of 4.2%, Igoma 12.1% (Mbeya District Council, 2012) is high compared to national prevalence of 5% (TACAIDS *et al.*, 2013). This prevalence validates the study on behavioural change which takes preference over the other important measures. Correct knowledge of how HIV/AIDS is transmitted enables people to protect themselves against contracting the virus which cause people to have positive attitude which may result into positive behavioural change; therefore it is important to assess knowledge and attitude of youth towards behavioural change.

The study is in line with National Multi-Sectoral Strategic Framework, Millennium Development Goal number 6 and the National Strategy for Growth and Reduction of Poverty II which emphasize in combating HIV/AIDS as a way of improving people's well-being. The study is also useful to the stakeholders fighting against HIV/AIDS to improve not only the way they disseminate the information but also the approach they are taking, which aims at handling a holistic person. It is expected that the study would help to develop some guidelines for improving AIDS prevention strategies among the youths.

1.4 General Objective

The general objective of this study was to assess factors affecting behavioural changetowards HIV/AIDS prevention among youths.

1.5 Specific Objectives

i. To determine the level of knowledge/awareness of youths in relation to behavioural change.

ii. To determine attitude of youths towards HIV/AIDS prevention strategies.

iii. To assess factors affecting youths behavioural change towards HIV/AIDS prevention.

1.6 Research Questions

i. What is the level of knowledge of youth in relation to behavioural change?

ii. What is the attitude of youths towards HIV/AIDS prevention strategies?

1.7 Hypothesis

Null hypothesis: Societal and cultural practices have no influence on youths' behavioural change towards HIV/AIDS prevention.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definition of Key Terms

2.1.1 HIV/AIDS

The human Immunodeficiency Virus (HIV) is the virus that causes the Acquired Immune Deficiency Syndrome (AIDS). HIV attacks the immune system and destroys the biological ability of the human body to fight off opportunistic infections and other diseases. There are four routes of transmission of HIV which are sexual intercourse, prenatal, blood transfusion and contaminated health care equipments (TACAIDS *et al.*, 2005).

2.1.2 HIV/AIDS Prevention

Prevention programmes build individual skills needed for effectively negotiating risky situations (Ndegwa *et al.*, 2012).Prevention activities seek to bring about individual behavioural change by encouraging people to learn their HIV/AIDS status, to take precautions of not transmitting HIV/AIDS if they are positive, and to protect themselves against HIV/AIDS infections, if they are negative. According to Birdsal and Kelly (2005) prevention related activities; defined broadly to include both education/awareness activities and specialized interventions for example VCT and prevention of mother to child transmission (PMTCT) are extremely common among HIV/AIDS prevention campaigning messages.

2.1.3 Behavioural change

Behavioural change refers to any transformation or modification of human behavior. It is a broad range of activities and approaches which focus on an individual, a community or an

environment. These activities have influences, which can be either rapid or involuntary, hence associated to the negative impacts or the positive impacts (Opondo, 2009).

2.2 Roles of Behavioural Change Interventions

These roles include creating awareness, increasing knowledge and changing attitudes and practices among various target communities. The changes that take place at different levels of the behaviour change continuum help to create demand for the utilization of services. Stimulating community dialogue and participation as behavioural change efforts aim at strengthening community structures to be able to guide community discussions on the negative and positive social norms, values and risk factors to HIV transmission. Encouraging positive social norms and values and identifying risk reduction and avoidance strategies to address HIV infection are other roles. Promoting advocacy for support of prevention interventions, they aim at lobbying and creating a conducive and supportive environment to facilitate change of behaviour by targeting policy makers and social leaders at national and district levels to support HIV prevention initiatives (Department of HIV and AIDS Prevention and Care, 2012).

2.3 Approaches in HIV /AIDS Prevention Strategies

2.3.1 Behavioural approaches

This approach is about the way people can eliminate or reduce their risk of becoming infected with HIV by choosing to abstain from sex or delay first sex, be faithful to one partner or have fewer partners and condom use, which means using male condoms or female condoms consistently and correctly. There are a number of effective ways to encourage people to adopt safer sexual behaviour, including media campaigns, social marketing, peer education and small group counseling. These activities should be carefully tailored to the needs and circumstances of the people they intend to help (UNAIDS, 2010).

2.3.2 Biomedical approaches

Treatment as prevention is an approach increasingly used among serodiscordant couples where one partner is HIV positive and one is HIV negative. An HIV-positive person takes antiretroviral treatment to decrease their viral load and reduce the risk of transmitting HIV to their partner. The prevention and treatment of other STIs can be relevant to HIV prevention in a variety of ways (Williams, 2011). This approach includes male circumcision which is used in many high-prevalence countries as an HIV-prevention method and has been hugely scaled-up in the last few years. Male circumcision reduces the risk of HIV transmission from women to men by up to 60 percent (Avert, 2012). Moreover, Celum *et al.* (2008) argues that places that treat other STIs can also be utilized as a place to encourage people to have an HIV test, and can provide data and information on potential HIV prevention needs and strategies for a population. The effect of behavioural strategies could be increased by aiming for many goals for example delay in onset of first intercourse, reduction in number of sexual partners, and increases in condom use. Treatment of sexually-transmitted infections (STIs) and behavioural interventions are the main methods to prevent HIV in developing countries.

Prevention activity is the most widespread area of HIV/AIDS response. As such, it is of interest to understand why prevention strategies have not succeeded to the fullest as there is still high prevalence rate of HIV/AIDS among youth. However, global HIV/AIDS prevention strategy regards VCT as central to the HIV/AIDS prevention efforts, although many organizations identify lack of information, awareness and understanding about HIV/AIDS in the community at large as a fundamental challenge to their prevention work (Birsal and Kelly, 2005).

Prevention is the most important aspect towards fighting against HIV/AIDS. Behavioural change has been responsible for the prevention successes to date thus the role of behavioural change as an HIV/AIDS prevention tool must clearly be understood, valued and resourced. Thus it is important to assess the factors affecting behavioural change towards HIV/AIDS prevention among the youth in controlling the pandemic.

2.4 Empirical Studies on Knowledge/Awareness on HIV/AIDS, Attitude on Prevention Strategies and Factors Affecting Behavioural Change

2.4.1 Knowledge/awareness on HIV/AIDS

Media (2008) in a study on the response of Caribbean youth to HIV/AIDS prevention messages and campaigns revealed that, based on their own self-assessment and on the specific items examining knowledge, respondents were generally knowledgeable about HIV/AIDS – its meaning, the modes of transmission and the means of protection. The school and media campaigns were the main source of information for young people – a critical finding from the survey in the context of the rationale for the current study in terms of assessing and improving the efficacy of media campaigns.

Ranotsi (2006) focused on factors affecting awareness about the spread of HIV/AIDS in rural Lesotho in an attempt to study the relationship between awareness about HIV/AIDS and socio-economic and demographic variables. Pearson's chi-square tests of association and logistic regression analysis were used to identify factors that strongly affected awareness about HIV/AIDS. Results showed that awareness about HIV/AIDS was strongly affected by willingness to change sexual behaviour, regular use of condoms, and sexually transmitted diseases, number of sexual partners and knowledge of transmission of the HIV/AIDS virus.

Arogundade and Faloore (2012) seeking to understand adolescents' social relationships and their potential to enhance or impede the successful development of heterosexual relationship, used Multiple Regression Analysis, and Analysis of Variance (ANOVA) to examine the relationship between HIV/AIDS awareness and dating behaviour among undergraduate students. The AIDS Awareness/ Attitude Scale and Dating Behaviour Questionnaire were used to collect data. The results confirmed that HIV/AIDS awareness accounted for a significant two percent (2%) variance in university students' dating behaviour.

Braud *et al.* (2003) in their study titled Guinea's Youth-Driven Campaign Promotes Right to Abstain or Use Condoms Young Adults Included in Program against STIs, HIV observed that even though knowledge of HIV/AIDS was already high, both men and women in the intervention area demonstrated a significantly higher knowledge of methods to prevent HIV infection than the control group. Specifically young men that participated in a larger number of campaign activities showed significantly higher odds of using a condom at last sex. Young women, on the other hand, had significantly higher odds of contemplating abstinence when they perceived their community to be more open to discussing reproductive health issues as compared to one year prior to the survey.

Marindo *et al.* (2003) in their paper compared the views about abstinence and condom use expressed by young people in Zimbabwe in focus-group discussions with the views underlying national policies and religious and traditional beliefs. Findings revealed that young people's decisions to adopt one or the other of these risk-reduction strategies may not necessarily indicate genuine individual choices, but rather their differences to adults' interests as they understand those interests. In addition policymakers and traditional and Christian leaders promoted abstinence as the exclusive strategy for all young people,

whereas non-governmental organizations and the private sector promoted condom use. Evidence from the focus-group discussions indicated that adolescents were aware of this conflict between choices of strategy and sometimes concealed their condom use in order not to disappoint adults. In some cases, their moral conflict gave young people limited choices about reproductive behaviour.

Baumgartner *et al.* (2010) reported that the vast majority of groups felt that messages are important and relevant for unmarried (as well as married) youth to hear for HIV prevention, but the messages need to be explicit (e.g. "being faithful means having only one tested sexual partner"). Faithful relationships are perceived as ideal in terms of romantic expectations and HIV prevention, but were considered unrealistic if the relationship had a power imbalance. Adolescents acknowledged the risks of multiple partners and a few recognized that concurrent partnerships are riskier than serial partnerships. Condoms were viewed as the primary method for pregnancy prevention among youth, yet faithfulness was usually seen as precluding condom use and many youth considered condom use as evidence of a lack of faithfulness. Overall, adolescents recognized that practicing fidelity is complex.

2.4.2 Attitude on HIV/AIDS prevention

Tawiah (2013) observed that youth had favorable attitude towards HIV/AIDS prevention strategies in his study on Ghanaian Youth Attitudes towards HIV/AIDS: "The Role of HIV/AIDS behaviour Change Communication Messages" he found that the exposure of a person to HIV/AIDS prevention messages leads a person to a favorable attitude. Lukuba (2010) found that there was a positive attitude of youths towards campaigns against HIV/AIDS. This is due to the effectiveness of HIV/AIDS campaigns against HIV/AIDS infection.

Mkama (2006) in his study used a likert scale to measure youths' attitude towards prevention programmes in Tanzania. The findings show that majority of youth in the study area in Tanzania had high attitude (score) towards HIV/AIDS prevention programmes in Tanzania thus the major conclusion was majority of youth had positive opinion towards government HIV/AIDS intervention strategies in Tanzania.

2.5 Determinants of HIV/AIDS in Sub Saharan Africa

The spread of HIV/AIDS in Sub Saharan Africa is more rapid than in developed countries. It is probably due to poor socio economic condition particularly for women, highly mobile labour and the underlying cultural expectations that men may have multiple sexual partners. These factors have impact on demographic, biological and behavioural variables that make Sub Saharan Africa to have rapid HIV transmission in the general population than in developed countries; the factors include cultural, structural and social, personal, behavioural and sexual networking and religion factors.

2.5.1 Cultural risk factors contributing to the spread of HIV in Sub Saharan Africa

In some cultures, the friends and relation of deceased married male are required to have sexual intercourse with his widows as part of the widow cleansing. Similarly, widowers may be required to have sexual intercourse with other females for cleansing. The widows are sometimes coerced to have the "ritual" sexual intercourse. Some of the male relations of the deceased insist on having the sexual intercourse even when the widow is HIV positive. Other culturally prescribed sexual liaison for widow is the levirate whereby male sex partners can be arranged for a widow being members of the late husband's agnatic relatives (Maleche *et al.*, 2011).

Africans continue to practice polygamy and have steadfastly resisted viewing family through a Western prism. Polygamy may be a source of HIV transmission if one person affected by HIV may transmit infection to other people who are not affected if they sex without condom. Nyathikazi (2013) found that people who practice polygamy are at high risk of HIV/AIDS infection. Also similar result has been observed by Noble (2008) who found polygamy to have impact on transmission of HIV/AIDS.

Jackson (2002) cited by Mkama (2006) observed that cultural practices and traditions that fulfilled important functions in the past may today carry serious health and welfare risks. With regard to HIV/AIDS and STDS transmission, practices and traditions that are risky include first the practice of levirate (inheritance of a wife). The woman is supposed to become the brother's wife even though her husband may have died of HIV/AIDS and she is infected with HIV/AIDS. Second, initiation rites, which involve adolescent girls being secluded for training to be wives and in some cases, this training may include having sex with anonymous man selected from the community. Third, polygamy, common in many countries is particularly risky if men are allowed to have many girlfriends while seeking further wives and if condoms are not used, or if wives seek extramarital relationships. If any partner becomes infected, the others are at high risk of infection during window phase.

2.5.2 Social factors contributing to the spread of HIV/AIDS

The presence of rape cases, casual and commercial sexual workers are among the factors leading to the spread of HIV/AIDS (Richens, 2003). Stigma and discrimination against people living with HIV/AIDS are common in Tanzania which makes the infected people or their relative not to admit that they are affected with HIV/AIDS instead witchcraft is blamed as a factor and this makes it difficult to convince people with wife inheritance

traditions/ not to inherit women whose husbands may have died of HIV/AIDS (TACAIDS *et al.*, 2008). Also, economic hardship, poverty and unequal distribution of wealth among the communities are also among the factors leading to the spread of HIV/AIDS (Richens, 2003). Low or irregular income creates an environment that encourage labour migration as this situation makes women/ youth under this circumstance to be easily tempted to exchange sex for money, this puts them and their spouses to be under the risk of HIV/AIDS (TACAIDS *et al.*, 2008).

Rehum *et al.* (2011) argued that alcohol use is an independent risk factor for intentions to engage in unprotected sex, and as risky sex intentions have been shown to be linked to actual risk behavior, the role of alcohol consumption in the transmission of HIV and other STIs may be of public health importance. This is widely spread in many areas of Tanzania, in most social functions of different societies there must be alcohol consumption of different magnitudes. When people get drunk they easily engage themselves in unsafe sex hence they become at risk of the infection. A study by Sarkar (2008) found that alcohol was the main barrier to condom use as it impaired judgment and proper condom use leading to high risk including unprotected sex behavior thus affecting behavioural change of an individual. The same result was obtained by Mkama (2006) who found that alcohol impact behavioural change negatively.

2.5.3 Behavioural factors contributing to the spread of HIV/AIDS

Unprotected sexual behavior among population groups with multiple sexual partners makes them vulnerable to HIV/AIDS infection; this is due to the reduced social discipline for making good decision about social and sexual behaviour. Reduced social discipline has been due to several factors such as failure of parents to institute traditional values and discipline to their children for lack of time, sudden mushrooming of television

programmes and other mass media also contributes negatively to social discipline (TACAIDS *et al.*, 2008).

2.6 Government Measures for HIV/AIDS Prevention in Tanzania and National Policy on HIV/AIDS

The efforts to control the spread of HIV/AIDS in Tanzania started in 1985 where a Short Term Plan was prepared and implemented by the Ministry of Health between 1985-1986. In response to the pandemic the government formed National AIDS Control Programme (NACP) with the technical support from the World Health Organization Global Programme on AIDS (WHO-GPA) to coordinate HIV/AIDS preventive activities in the country, it consisted of three-five year midterm plans (1987-1991, 1992-1996, and 1998-2002) the plans followed the guideline provided by WHO in Geneva (Mazzuki *et al.*, 2002).

Various measures have been put in place by the government and stakeholders to combat the pandemic. However, it was realized it is very important to have an organ that provides strategic leadership and that coordinates and strengthens the efforts of all stakeholders involved in the fight against HIV/AIDS. In 2000 the President declared the formation of the Tanzania Commission for AIDS (TACAIDS) which was enacted under the Act No. 22 of 2001 by Parliament (TACAIDS *et al.*, 2008).

National policy on HIV/AIDS provides the general framework for collective and individual response to the pandemic. It clearly outlines the important issues in the fight against the epidemic which includes the roles of other sectors, roles in prevention, counseling and testing, the rights of PLWHA as well as the function and mandate of TACAIDS in the national response to the epidemic. Generally, the policy is providing

framework for leadership and coordination of the national multi-sectoral response to the epidemic which includes formulation of appropriate interventions which will be effective in preventing the transmission and other STD, protecting and supporting vulnerable groups, and mitigating the social and economic impact of HIV/AIDS (National Policy on HIV/AIDS, 2001).

2.7 Modes of HIV/AIDS Transmission

There are various ways in which HIV/AIDS is transmitted from one person to another these modes includes sexual transmission, mother to child transmission and blood transfusion.

2.7.1 Sexual transmission

The predominant mode of HIV/AIDS transmission is heterosexual contact which accounts for 90% of new AIDS cases (TACAIDS *et al.*, 2013) and Arogundade *et al.* (2012) reported that studies have shown that casual heterosexual relationship is one of the major means of spreading HIV/AIDS. Transmission of HIV almost always requires direct contact between two individuals and depends on a transmission of virus-containing fluid from an infected person to a susceptible person. For most individuals, the most direct form of contact is sexual contact. The semen of infected men and vaginal secretions of infected women contain HIV virus. When vaginal intercourse takes place, an infected man deposits HIV contaminated semen into the cavity of the vagina which then enters the female's circulatory system in large numbers and establish an infection. Similarly, HIV can be deposited from the vaginal secretions onto the surface of the penis, the fore-skin of the penis may hold the infection fluid and during the extended period of time, the virus penetrates through the mucous membrane (Alcamo, 2002).

2.7.2 Blood transfusion

This transmission can account for infections in intravenous drug users, hemophiliacs and recipients of blood transfusion (though most transfusions are checked for HIV) and blood products. Also it is of concern for persons receiving medical care in regions where there is prevalent substandard hygiene in the use of injection equipment, such as the reuse of needles in areas where disposable syringes are not available. It can also be spread through the sharing of leeches, piercing and scarification procedures can also be at risk of infection (Centers for Disease control, 2011).

2.7.3 Mother to child transmission

Mother to child transmission of HIV/AIDS is one of the major routes of transmission (WHO, 2010). It can occur during pregnancy, delivery or lactation (WHO, 2011). This transmission may occur by perinatal transmission as HIV can infect the child's bloodstream before it is born through the mother's placenta although her bloodstream is separated from the child's bloodstream by the placenta, nutrients, small particles and viruses can pass across the placental barrier. Another possibility for placental transfer is through small tears in the placenta as HIV enters from the mother's bloodstream during the birth process and when the placenta is disrupted during birth, it is common for the mother's blood to come into contact with the child's blood (Alcamo, 2002).

Generally, heterosexual intercourse is the main method of HIV transmission as HIV passes through direct contact while casual contact which do not involve intimate contact which includes hugging, kissing, sharing eating utensils, sharing towel and using the same facilities do not transmit HIV. The HIV breaks down quickly when it is exposed outside the body and there are no insects associated with its transmission.

2.8 HIV/AIDS Prevention Strategies for BehaviouralChange

2.8.1 Abstain

Abstinence for youth means delay of sexual debut and abstinence until marriage, Abstinence based approach to sex education focuses on teaching young people that abstaining from sex until marriage is the best means of ensuring that they avoid infection with HIV, other sexually transmitted infections and unintended pregnancy. As well as seeing abstinence from sex as the best option for maintaining sexual health, many supporters of abstinence based approaches to sex education also believe that it is morally wrong for people to have sex before they are married. Abstinence approaches are represented in programmes such as Aspire and True Love Waits (both developed in the United States), which aim to teach young people that they should commit to abstaining from sex until marriage (SIECUS, 2009).

2.8.2 Condom use

Condom use is a critical element of combination prevention and one of the most efficient technologies available to reduce the sexual transmission of HIV (UNAIDS, 2012). Condom promotion plays an important role in HIV prevention among young people that condoms, if used effectively, are highly effective at preventing HIV transmission. It refers to consistent and correct use of condoms, both male and female for young people who are sexually active, correct and consistent condom use should be supported. Young people and others should be informed that correct and consistent condom use lowers the risk of HIV. UNAIDS (2004) reported that the use of condom avoid HIV/AIDS, various sexually transmitted infections and pregnancy by 90% when used consistently and effectively.

In order for the condom campaign to be effective there must be realization of the interactions between condom promotion, including condom social marketing and peer-

based condom education, and other prevention strategies; understanding and correctly communicating information on the effectiveness of condoms; convincing people to use condoms when they are needed and to do so consistently and correctly; and ensuring a sufficient and regular supply of condoms for those who require them.

2.8.3 Fidelity

Fidelity is an important quality and an ethical principle in most types of social and economic relationships. In people's private lives, partners' faithfulness to each other is essential in sustaining a marriage relationship (Pongou *et al.*, 2009). Fidelity interventions encourage individuals in marriage to be faithful in their sexual relationships as a critical way to reduce one's risk of exposure to HIV. Once a person begins to have sex, the fewer lifetime sexual partners he or she has, the lower the risk of contracting or spreading HIV or another STI. Fidelity advocates for the elimination of casual sexual partnerships, development of skills for sustaining marital fidelity and the importance of mutual faithfulness with an uninfected partner towards reducing the transmission of HIV among individuals in long-term sexual partnerships.

Linney (2007) reported that inside marriage, fidelity is a sure safeguard against infection. Many people are unaware of the HIV status of their partners and this approach relies on both parties in the marriage staying faithful to one partner which has worked in reducing HIV prevalence in Uganda and Kenya.

2.8.4 Number of sexual partners

Based on a study done by the Ministry of Agriculture, Animal Industry and Fisheries in Uganda (2002) over a half of the respondents (53.7%) reported that HIV spread was a result of people having multiple sexual partners, amidst low usage of condom. Around one forth (27.2%) of the sample reported unfaithfulness among partners. The lifetime number

of sexual partners is a very important predictor of HIV infection. Thus, having fewer sexual partners reduces the risk of HIV exposure. However, strategies to promote faithfulness among couples do not necessarily lead to lower incidence of HIV unless both partners have HIV infection and both are consistently faithful.

2.9 Synergies between Multiple Interventions

Multiple prevention approaches must be employed in combination in order to support individual behaviour change, influence the social norms regarding risk behaviours and address social, economic, legal and policy barriers to effective prevention. Prevention programmes that ensure that the whole spectrum of prevention options is available to those most at risk, including access to and use of condoms and sterile injecting equipment, have been shown to substantially reduce new HIV infection throughout the world (UNAIDS, 2010). The use of combination approaches in HIV prevention is recognized as important strategy. Multiple interventions complement each other and compound the impact for curbing the pandemic. For instance, reducing the average number of sexual partners that persons have in a given population could cut the rate of transmission of HIV just as much as an increase in the numbers of people consistently using condoms. If these changes were achieved simultaneously, the reduction in the rate of transmission would likely be more than the additive effects of the two interventions on their own. The greater the number of effective strategies employed, the greater the potential for achieving maximum overall impact (UNAIDS, 2004).

2.10 Theories of Behaviour and Behavioural Change

Although there are numerous theories of behaviour and behavioural change available in the literature, there are three theories that have had a major impact on much of the behavioural research as far as AIDS is concerned. These are The Health Belief Model, the Social Cognitive and Theory of Reasoned Action.

According to the Health Belief Model, two major factors influence the likelihood that a person will adopt a recommended health protective behaviour. First, individuals must feel personally threatened by the disease (i.e. they must feel personally susceptible to a disease with serious or severe consequences. Second, they must believe the benefits of taking the preventive action outweigh the perceived barriers to and/or costs of preventive action) (UNAIDS, 1999).

From the perspective of Social Cognitive Theory, the initiation and persistence of an adaptive behavior depend on the beliefs of self-efficacy (a judgment of one's ability to perform the behavior) and outcome expectations (i.e. a judgment of the likely consequences a behaviour will produce). That is, in order to perform a given behaviour individuals must believe in their capability to perform the behaviour in question under different circumsistance and they must have an incentives to do so (i.e. expected positive outcomes of performing the behavior must outweigh expected negatives outcomes). Incentives may involve physical outcomes, social outcomes, or self sanctions (UNAIDS, 1999).

According to Fishben *et al.* (1991) the theory of Reasoned Action performance or non-performance of a given behaviour is primarily a function of the person's intention to perform (or not perform) that behaviour. The intention is, in turn viewed as a function of two primary determinants- the individual's attitude towards performing the behaviour (based on their beliefs about the consequences of performing the behaviour, i.e. beliefs about the costs and benefits of performing the behaviour) and their perception of the social (or normative) pressure exerted on them to perform the behaviour.

The aforementioned three theories represent a public health, a clinical, and a social psychological approach to the prediction and understanding of behaviour. Some of the theories of behavioural change stress the need of awareness, attitude towards the behaviour, subjective norms i.e. the social influence and other stress risk assessment, decision to reduce risk through perception of enjoyment or self efficacy and its clients support to enact the change. The theory contains the variables that have been utilized in attempts to understand and change a wide variety of human behaviours.

2.10 Conceptual Framework

Research conceptual framework leads toward realistic information to be collected. Fig.1 provides the variables which were investigated in this study and their relationship. The study has adopted some variables from Ramirez-Valles (2001) which illustrate factors affecting behavioural change as associated by peer norms, poverty, lack of positive social self-identity, socio cultural barriers as the factors influencing people towards behavioral change. In this study the independent variables were peer influence, income, polygamy and widow inheritance while the dependent variable is Behavioural change.

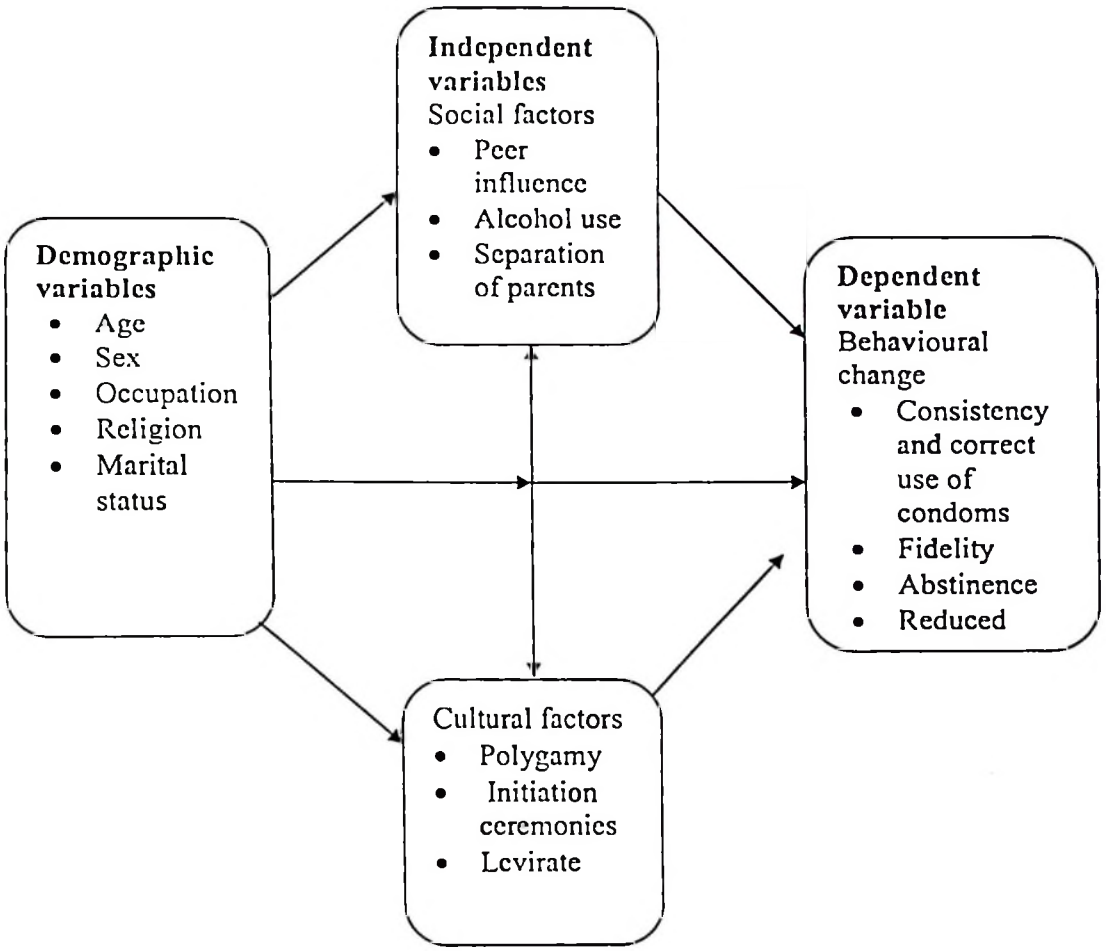

Figure 1: Conceptual framework on behavioural change towards HIV/AIDS Prevention.

Source: Adopted and modified from Ramirez-Valles (2001).

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 Description of the Study Area

The study was conducted in Mbeya Rural District located at Latitudes 7° and 9° S and Longitudes 33° and 35° E. It is among the eight district councils that make up Mbeya Region. It borders Mbarali District council to the East, Rungwe and Ileje Districts to the South, Mbozi District council to the West and Chunya District council to the North. Administratively the district is divided into three divisions namely Tembela, Usongwe and Isangati. These divisions are further subdivided into 17 wards, 143 villages and 1010 hamlets. The district has a total land area of 2432 square km equivalent to 243 200 ha of which 189 818 has an arable land ideal for agricultural production. Whilst about 47 354 ha are covered by forest, 6028 ha are covered by water bodies as well as unarable land (Mbeya District Council, 2010). Mbeya Rural District has a total population of 305 319 where as 143 779 are male while 161 540 are female (URT, 2013).

3.1.1 Justification for the study area

The study was conducted in Mbeya Rural District where there is relatively high prevalence rate of HIV/AIDS by 9% which is higher compared to the national prevalence of 5% (TACAIDS *et al.*, 2013). The Region is among the five leading regions that for many years have been reporting the highest HIV/AIDS prevalence in the country (TACAIDS *et al.*, 2013). In addition, Mbeya is one of business strategic areas in Tanzania allowing intensive interaction of people. It shares borders with HIV/AIDS vulnerable countries (Zambia with prevalence of 13.5% and Malawi with 10.9%) (UNAIDS, 2012b) to the South, which makes the Region to be more susceptible to HIV/AIDS infections (Rutagumirwa *et al.*, 2006).

3.1.2 Ethnic groups

The main ethnic groups found in Mbeya Rural District are the Safwa, Malila and Nyakyusa who reside in Tembela, Isangati and Usongwe divisions respectively. Other ethnic groups include the Wanji, Ndali, Nyika, Kinga, Maasai and Sukuma. The last groups mentioned moved into the area very recently and predominantly agro-pastoralists mostly residing in Mshewe and Ikukwa wards.

3.1.3 Topography and climate

Topographically, the District is characterized by highlands, mountainous peaks and lowlands of Songwe valley. The most predominant natural vegetation includes tropical, savannah and wooded grassland. This district lies at an altitude ranging from 2300 – 2800 m above sea level. The average minimum and maximum temperature are 12 and 30 °C annually, the annual rainfall ranges between 650 mm and 2700 mm.

3.1.4 Infrastructure and economy

There is an expanding and improving infrastructure to support economic activities and investments in Mbeya rural district. This includes transportation (i.e. road networks, railway line and airport), power supplies from the National Grid (TANESCO), good telecommunications, labour supplies and financial services.

The economy of the district is largely based on major sectors which include agriculture, forestry and mining. Crop production, livestock husbandry and forestry generate the main sources of income. Thus agriculture is the mainstay of the district economy and accounts for more than 85% of the District Gross Domestic Product. It supplies food and cash crops to several regions in Tanzania, e.g. Dar es Salaam, Tanga, Arusha, Kilimanjaro and Morogoro.

3.1.5 Health facilities

According to Mbeya District Council (2010) the District has 1 Hospital (private) situated at Mbalizi Village, three Rural Health Centers (2 Government and 1 private) and 49 Dispensaries. All health facilities offer both curative and preventive services to the community. About 85% of the total population has access to a health facility within a distance of 7 km.

3.2 Research Design

The cross sectional research design was used as it allows data collection from different groups of respondents to be collected at a single point in time and it has been found to have a greater degree of accuracy in social science studies than other designs (Babbie, 1990; Bailey, 1994). The design is considered to be favorable especially when there is a time limitation during data collection.

3.3 Sampling Procedure

3.3.1 The population

Samples for this study were drawn from population of youth aged from 15 to 35 years male and female. This is because youths are the most affected. The respondents were drawn from Inyala (3.1%), Igoma (12.1%), Utengule Usongwe (3.7%) and Bonde la Usongwe (4.2%) as these are the most affected areas in the district (Mbeya District Council, 2012).

3.3.2 Sampling method

Purposive sampling method was used to choose four wards which are mostly affected by HIV/AIDS. These wards are Utengule Usongwe with 3.7%, Bonde la Usongwe with 4.2%, Inyala 3.1% and Igoma 12.1% (Mbeya District Council, 2012). The wards have

been selected due to high HIV/AIDS prevalence. Other condition that makes the area vulnerable to HIV/AIDS includes being at the highway and at the center which makes high concentration of people and the trucks drivers. Also presence of many local bars increases the level of vulnerability to HIV/AIDS in the area. One village with high prevalence rate from each ward was selected purposively. Simple random sampling was used to obtain 30 respondents from each of the selected four villages by using sampling frame which was created from the list obtained from each village office with the consideration of age. Focus Group Discussion was conducted per village and 10 participants comprising of 5 males and 5 female participated in the discussion. The unit of analysis was individual youth of both sexes as they are the focus of the study.

3.3.3 Sample size

The sample size used for this study was selected according to Israel *et al.* (2006). The sample size determination was used as follows.

Formula

$n=z^2pq/d^2$.....(i)

Where: n= sample size in the study area when population is large

z= standard normal deviation, set at 1.96 (approximate to 2.0) corresponding to 95% confidence interval level

p= proportion in the target population (if population is not known we use 50%)

q= 1-p (1-0.5) (1-0.5) = 0.5

d= degree of accuracy desired (set at 95% equivalent to 0.05)\

Therefore sample size was calculated as follows:

$n=z^2pq/d^2= (2)^2 (0.5) (0.5)/ (0.05)^2= 4 (0.25)/0.0025=400$

Based on the formula the sample size for the study could be 400 respondents. But due to fund and time limitation, 120 respondents were included in the study as a minimum of 30

elements is reasonable for meaningful analysis (Bailey, 1994). Therefore, 63 respondents were male and 57 females. Thirty respondents were selected from each village.

3.4 Data Collection Methods

3.4.1 Primary data

Quantitative data were collected using a structured questionnaire. The Questionnaire comprised of open and closed ended questions administered to youth. Information collected includes family background, socio-cultural practices, socioeconomic and demographic variables. A structured questionnaire was used because it gives respondents a greater feeling of anonymity which encourages openness to the questions and minimizes interview bias (Kidder, 2000). Besides, socio-cultural practices, there were specific questions regarding the youth's background information, knowledge/awareness on HIV/AIDS, attitude of youth towards HIV/AIDS prevention strategies and factors affecting HIV/AIDS prevention strategies. The questionnaire used is can be found in Appendix 2.

In order to cross-validate the information gathered through structured interviews, qualitative data were collected via focus group discussion (FGD). Further information was gathered through in-depth interviews and key informants interviews guided by a structured checklist. Qualitative methods are often more appropriate for capturing the social and institutional context of people's lives than the quantitative methods (Booth *et al.*, 1998).

3.4.1.1 Focus group discussion

As indicated FGDs were conducted to countercheck some of the issues raised during the structured interviews. Through these discussions researchers gain an insight into the emotional feeling of participants (Sikira, 2009). The discussion was facilitated by the

principal researcher assisted by one assistant researcher. The researcher introduced the topic and then allowed the group members to discuss. The FGDs were guided by a checklist. One FGD was conducted in each village and Individuals who were involved in FGDs were not involved in questionnaire interviews so as to avoid repetition of ideas from same respondents. Each session of discussion involved 10 participants. A copy of the checklist for the FGDs is provided in Appendix 4.

3.4.1.2 In-depth interview

The study also involved in-depth interview with the victims of HIV/AIDS (PLWHA) who discussed various sensitive issues which were important in the study such as causes, factors affecting HIV/AIDS behavioural change, life stories of the victims, factors affecting behavioural change and the way forward in maintaining behavioural change. This was done so as to get the intended information and establish the feelings of respondents on different issues pertaining to behavioural change.

3.4.1.3 Key informants

The key informants' interview was done to acquire information about the issues under investigation. Issues discussed with key informants included history of the HIV/AIDS prevalence in the area and possible factors affecting behavioural change. The discussion also sought opinion of key informants on how to enhance positive attitude towards HIV/AIDS prevention strategies. The key informants in this study included District AIDS coordinator, Ward Executive Officer, Village Executive Officer who gave the history of HIV/AIDS prevalence in the area. Respondents for key informant interviews were selected based on their position in the district, ward and in the village.

3.4.2 Secondary data

Besides the interviews, secondary data were collected to complement information collected from primary sources. These were obtained from District hospitals, village dispensaries; Non-Governmental Organizations dealing with HIV/AIDS, published and unpublished research paper sand the internet. The aim was to obtain information which could not be obtained sufficiently from primary data sources as well as to get the current status of HIV/AIDS in the area.

3.5 Data Analysis

Quantitative data obtained through structured interviews were analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0 software. Descriptive analysis was also undertaken to gain preliminary insights into the nature of association among variables. Beyond the descriptive analysis, content analysis was used to analyze information obtained from focus group discussion, in depth interview and key informants interviews. Using content analysis the recorded discussions were broken into units of information or themes in order to synthesize meanings, values and perception. In some cases respondent's actual words were reported.

In order to address the first objective of this study (i.e. establishing the level of knowledge about HIV/AIDS in relation to behavioral change), a knowledge index scale was applied. Moreover, an attitude index scale was used to determine the youths' attitude towards HIV/AIDS prevention strategies. Finally, ordinal logistic regression model was used to determine factors affecting behavioural change towards adoption of HIV/AIDS prevention strategies. The model was used because the dependent variable in this study is categorical and ordered, a suitable set-up for ordinal logistic regressions. Logistic regression can also

be used in explaining relationship between independent variables which are continuous, binary or categorical to the dependent variable as cited by Mkama (2006).

3.5.1 Knowledge index scale

As explained, knowledge index scale was used to analyze the level of awareness among youths regarding HIV/AIDS in general and in relation to behavioural change towards prevention strategies. The analysis was based on responses to a list of 12 statements which in general measured their level of knowledge in relation to mode of transmission, symptoms and prevention of HIV/AIDS. Respondents were required to provide either Yes or No responses to 12 constructed statements, and the responses were then used to generate a score. For each variable every "Yes" response towards a positive statement was given a score of 1, while every "Yes" response on a negative statement was given a score of 0. Similarly every "No" response against a negative statement was given a value of 1 and every "No" response on a positive statement was given a value of 0.

Using this approach respondent with score of 12 would be considered as having high knowledge because he or she managed to respond to all statements measuring awareness correctly. Similarly, respondents with 0 score will be regarded as having low knowledge. The values of index of knowledge were categorized into low, medium and high knowledge so as to get a meaningful analysis. The score were further categorized into high (6.1-12 score), medium (6.0 score) and low (0-5.9 score) level of knowledge on issues related to HIV/AIDS. Statements used to measure level of knowledge included the following: A person can do nothing to avoid HIV/AIDS; having only one faithful partner prevents HIV/AIDS transmission and correct and consistent use of condom every time having sex prevent HIV/AIDS. Others are: abstaining prevents HIV/AIDS; viruses can be transmitted from mother to child during delivery; a person infected with HIV/AIDS always shows

symptoms; frequent blood screening may determine ones sexual behavior; HIV/AIDS can be transmitted by mosquito bites; shaking of hands may transmit HIV/AIDS; persons cannot get HIV by sharing food and living with a HIV positive person; a person can get HIV by witchcraft or other supernatural; HIV can be transmitted through sexual intercourse, sharing needles and syringes, kissing and blood transfusion.

3.5.2 Attitude index scale

Information on attitude of youth towards HIV/AIDS prevention strategies was measured using a Likert Scale. A set of positive and negative statements that reflect attitude among youths were constructed and included in the questionnaire. The respondent's responses were assigned weights on whether they strongly agree, agree undecided, disagree or strongly disagree to the statements. The likert scale responses were then coded from 5 to 1 with 5 corresponding to strongly agree and 1 corresponding to strongly disagree, for positive statements. The converse was true for negative responses (Kothari, 2004).

The total score was calculated for each respondent. The responses were re-grouped into three groups: strongly disagree and disagree into disagree, agree and strongly agree into agree, and undecided remained as it was. There were 12 statements used, implying that the maximum score which an individual could get is 60 (i.e. 12x5) and the minimum score which an individual could get is 12 (i.e. 1x12). Implying individual's score would range from 12 to 60. The score on the index were further categorized into positive, negative and neutral attitudes. Positive attitude was considered if a respondent obtained score ranging from 31-60, neutral attitude was considered if a respondent score was 30, and negative attitude was considered for respondents obtained below 30 that is 12 -29.9.

The statements that were rated included the following: AIDS is a disease for which you can protect yourself, HIV/AIDS prevention strategies help youth practice proper use of condoms and HIV/AIDS prevention strategies methods helps youth in changing their sexual behavior. Others include: through HIV/AIDS prevention strategies youths get knowledge on HIV/AIDS and how it can be prevented; HIV prevention methods make youth to engage in sexual practices and; getting HIV/AIDS is a result of one's sin. Furthermore, statement such as: through HIV/AIDS prevention strategies youths practice safe sex and HIV/AIDS prevention strategies can be obtained easily in town than in villages were also included in the list; HIV/AIDS prevention strategies stimulate youth to engage in sex; HIV/AIDS prevention strategies do not provide detailed information on proper use of condom; HIV/AIDS prevention strategies cannot succeed because sex is so enjoyable thus it is impossible to abstain and; HIV/AIDS prevention strategies help youth to be aware of prevention methods and mode of HIV/AIDS transmission.

3.5.3 Measuring/assessing factors affecting behavioural change

Ordinal logistic regression model was used to establish the influence of several socio-economic and demographic factors on the youth's behavioural change towards HIV/AIDS prevention. The model has been used in the study due to several reasons. The dependent variable in this study is categorical and ordered, therefore ordinal logistic regression was appropriate (Hill *et al.*, 2008; Pundo *et al.*, 2006).

Behavioural change was measured through an individual response to questions used in assessing the behavior or use of certain HIV/AIDS prevention practices. The scales in the response in each level show the extent to which an individual might have changed his/her behaviour. The questions were based on the proxies of behavioural changes which included fidelity, abstinence, consistency and correct use of condom, and number of

sexual partner. Respondents were asked to state whether they strongly agree, agree, disagree or strongly disagree to the use of each of these practices.

Analytical model

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \cdots + \beta_k X_k + \varepsilon_1 \quad \text{.....(ii)}$$

Where Y=1 if a respondent strongly disagree to the practice

2 if a respondent disagrees to the practice

3 if a respondent agrees to the practice

4 if a respondent strongly agrees to the practice

α = constant

X_1=Age

X_2= Sex

X_3= Education

X_4 =Occupation

X_5=Religion

X_6= peer influence

X_7= Occupation

X_8 = Polygamy where 1= yes. 0= No

β= Coefficient

ε_1= Error term

3.6 Limitation of the Study

i. Some of the questions asked in this study were sensitive; touching on one's personal and confidential behaviour therefore was not easily responded. In some cases it took a long time to interview one person as failure in more probing could

have led to getting false information. However this does not mean that there were no outliers.

ii. Participants in FGD especially from Songwe requested payment before they could participate in the discussion. This was due to their understanding that most of HIV/AIDS projects are donor funded and normally when they participate in the interview/discussion they are given allowances. This demand led the researcher to spend more time explaining to them the purpose and the importance of the research so as to make the respondents participate in the discussion free of charge.

3.7 Ethical Consideration

Research ethics were considered because HIV/AIDS is a sensitive issue which requires informed consent before embarking on the actual survey. It was necessary to have community consent obtained through the district, ward and village leadership. Individual consent was ensured in order to show respect for the respondent and was obtained from each respondent.

Before the interview a respondent was assured of the confidentiality and that their participation was voluntary. They were informed beforehand about some of the questions being personal therefore, somehow difficult to answer.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

The discussion of results starts by first presenting some of the descriptive analysis. We present a summary of the socioeconomic characteristics of our sample before assessing the level of knowledge and awareness about HIV/AIDS among the respondents.

4.1 Socio Economic Characteristics of Respondents

4.1.1 Sex of respondents

Sex is one of the basic and important characteristics of population which may determine one's behavioural change. The findings show that 52.5% of the respondents were females while 47.5% were males (Table 1).

4.1.2 Marital status of respondents

The marital status of the respondents were grouped into six categories namely single, married, divorced, separated, widow/widower and cohabiting. More than half (52.5%) of the respondents were married while 37.5% were single while the number of the divorced respondents constituted 2.5%. Few (2.5%) were widow/widower; separated (1.7%) and cohabiting were (3.3%) (Table 1). It is important to know marital status of an individual as it has an effect on their sexual behaviour. Marriage is an important factor exposing women and men to sexual intercourse, which is also a leading mechanism for HIV infection in Tanzania (TACAIDS *et al.*, 2005). The relevance of marital status to this study emerges from the fact that formal and informal union is a primary indicator of exposure to primary risk of pregnancy and HIV/AIDS infection (TACAIDS *et al.*, 2005).

4.1.3 Age of respondents

The maximum and minimum ages of respondents were 34 and 15, respectively. The mean age of the respondents was 23.29 years. Respondents were grouped into five groups namely: of 15-20 years constituting 35.8% of the sample; 21-25 years constituting 35.8% of the sample, while those in the range of 26-30 years constituted 21.7% of the sample. The rest making up for 6.7% were in the range of 27-35 years (Table 1).

Age is an important variable and it is the primary basis for demographic classification in vital statistics, censuses, and surveys (TACAIDS *et al.*, 2005). In this study, age was presumed to be a major determinant of knowledge accumulation as well ability to synthesize and internalize external information. Consequently it is an important determinant of possible changes in behavior. Besides, age also determines the exposure of people to different sexual behaviours

Table 1: Sex, marital status and age of respondents (n=120)

Category	Frequency	Percentage (%)
Sex		
Male	63	52.5
Female	57	47.5
Marital status		
Single	45	37.5
Married	63	52.5
Divorced	3	2.5
Widow/widower	3	2.5
Separated	2	1.7
Cohabiting	4	3.3
Age		
15-20	43	35.8
21-25	43	35.8
26-30	26	21.7
31-35	8	6.7

4.1.4 Education level of the respondents

Another key determinant of possible changes in bahaviour is education. From the findings presented in Table 2 about 65% of the respondents had attended primary school education implying 1-7 years of schooling while 26.7% had attained secondary education i.e., 8^{th}-13^{th} years of schooling. Few (25%) had college or university education whose age ranged from 16-20 years while 5.8% had not attained any formal education (Table 2). This implies that most of the respondents in the study area had primary education. Education is an important determinant of livelihood in as far as enhancing access to economic opportunities and better quality of life. To this end, education provides a means of coping with poverty and provides insurance against risky sexual behaviours that could expose one to HIV/AIDS infection. Education also plays a major role in the acquisition of knowledge on HIV/AIDS and hence has an impact on behavioural change. Moreover, studies show that level of education is correlated with a tendency to seek reproductive and health information (TACAIDS *et al.*, 2008).

Table 2: Education level, occupations and religions of the respondents

Category	Frequency	Percentage
Level of education		
None	7	5.8
Primary education	78	65.0
Secondary education	32	26.7
College/university	3	2.5
Occupation		
Farmers	59	49.1
Civil servant	2	1.7
Business	48	40.0
Student	11	9.2
Religion		
Christian	103	85.9
Muslim	14	11.6
Traditional	3	2.5

4.1.5 Occupation of respondents

The findings also show that majority of respondents were farmers (49.2%), followed by business occupation (40%) while 9.25% were students (Table 2). Few (1.7%) were civil servants. This finding is in line with that reported by Mkama (2006) that most of youths from rural areas are engaged in agricultural activities including farming. Access to economic opportunities or lack of it influences vulnerability of individuals, which could determine their exposure to risky sexual behaviours. It is therefore important to determine whether there was any influence of economic activities on behavioural change among youths.

4.1.6 Religion of respondents

Religion is among the essential variables that influence behavioural change. The findings show the majority of the respondents were Christians (85.95%) followed by Muslims (11.6%) while traditionalists were only 2.5% (Table 2). It is expected that religion will have positive effect on behavioural change since most faiths advocates for fidelity among married couple, sex without condom and abstinence among youths and unmarried partners. Eriksson (2011) argued that religion has influence and is a protective factor for young people regarding risky sexual behavior.

4.2 Knowledge of Respondents' towards HIV/AIDS in Relation to Behavioural Change

Knowledge was considered to be an important factor towards behavioural change. Before embarking on knowledge, sources of information were measured. Majority (91.7%) of the respondents' access information via mass media more specifically from radio which play a major role towards educating the community on various issues related to HIV/AIDS (Fig.2). This is in line with Media (2008) who found that media sources such as radio,

television and newspapers are valid instruments directly influencing knowledge on HIV/AIDS. Mass media is powerful in reaching a greater number of people than is feasible through a single program.

Additionally, the use of multiple media channels can reinforce messages and widen the reach of particular messages. In order to assess respondents' exposure to media, respondents were asked to indicate their media-based source of HIV/AIDS information. The results show that a sizeable proportion (77.5%) of respondents got information from the radio; 77.5% got information from meetings. This shows that meetings were also important sources of information to the respondents. About 60.8% obtained information through reading of pamphlets/posters while a good number (55%) of respondents received information from magazine and 54.2% accessed information from television. The findings reveal that mass media play an important role in disseminating information on HIV/AIDS.

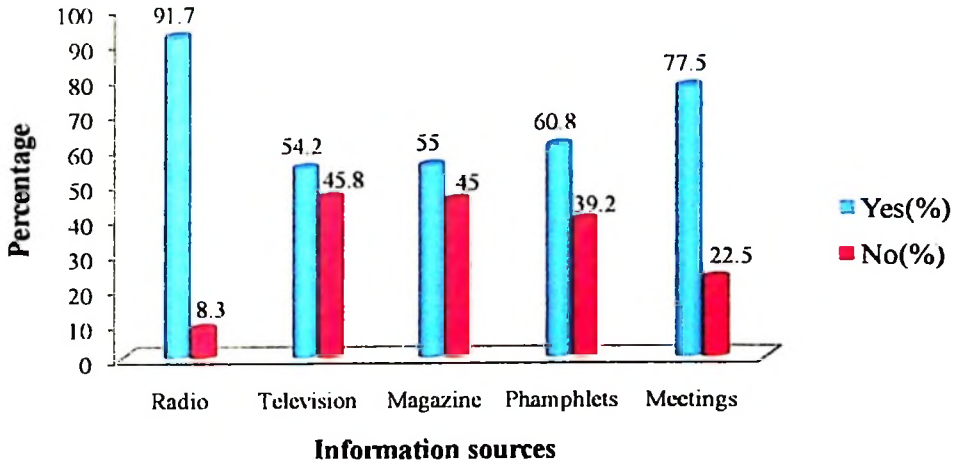

Figure 2: Respondent's sources of information from mass media

4.2.1 Other sources of information

Respondents were asked to list other sources of information such as: community AIDS group, health workers, peer educators and siblings among others. It was exposed that majority (81.7%) of youth obtain information from siblings. A good proportion (70.8%) of respondents obtained information from peer educators and 70% of respondents got information from health workers. The findings reveal that other sources of information are also important in spreading information about HIV/AIDS (Fig. 3).

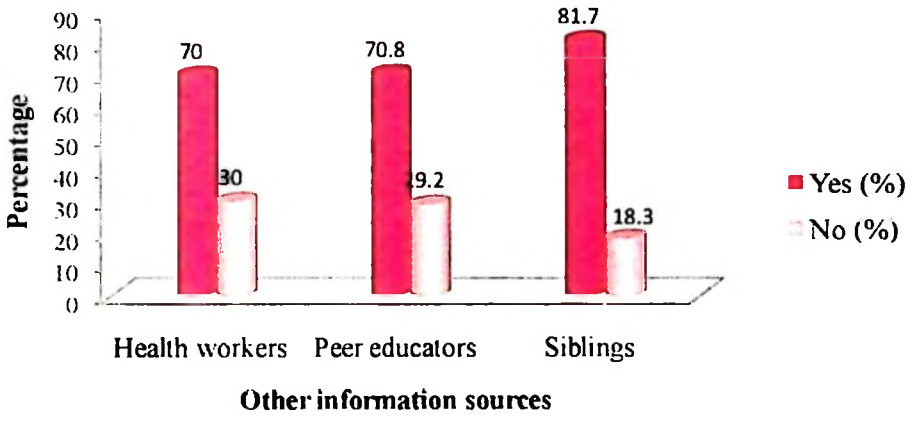

Figure 3: Other sources of information

4.2.3 Type of information received on HIV/AIDS

The study also sought to know the content of information received. Findings presented in Fig. 4 show that about 96.7% of the respondents had received information on mode of HIV/AIDS transmission. This could make them less likely to be infected with HIV/AIDS infections. Also, majority 98.3% received information on prevention of HIV/AIDS, which again makes them less likely to succumb to HIV/AIDS infections especially bearing in mind that HIV/AIDS has no cure. Further, 75.8% received information on VCT.

The findings are comparable with those reported by Getnet *et al.* (2008) and Lukuba (2010) who found that education on HIV/AIDS is important as people become aware on transmission and prevention of HIV/AIDS.

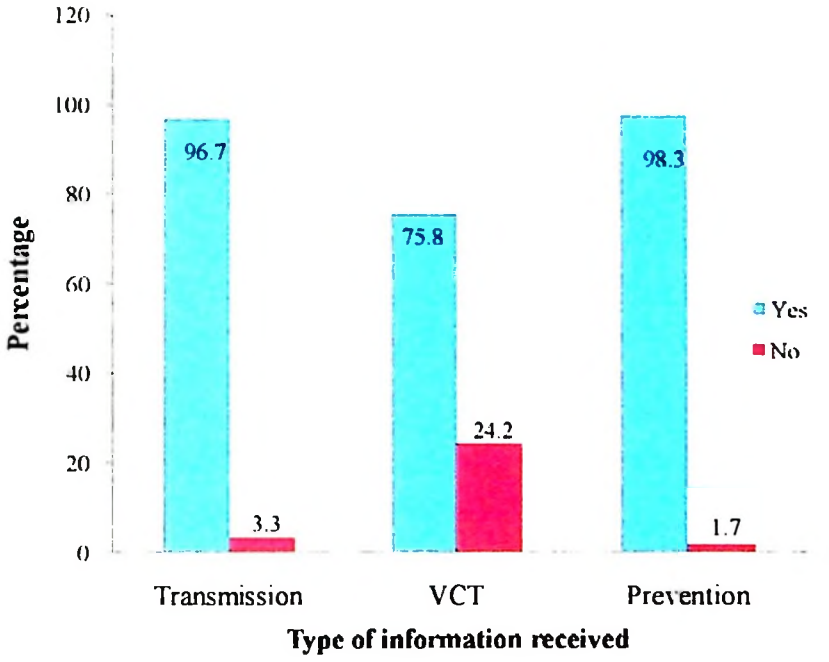

Figure 4: Type of education received

4.3 Level of Knowledge/Awareness of HIV/AIDS among Youth towards Prevention Strategies and Knowledge index scale

In order to assess general awareness on HIV/AIDS prevention strategies some statements were constructed and respondents asked to state whether or not they agreed with respective statements. A summary of these responses from all the respondents is presented in Table 3. It was found that majority (97.5%) of the respondents know that HIV/AIDS virus can be transmitted through sexual intercourse, sharing needles and syringes, kissing and blood transfusion. About 81.7% of the respondents know that viruses can be transmitted from mother to child during pregnancy, delivery and breastfeeding as shown

in Table 3. This shows that majority of youths had higher knowledge on issues related to HIV/AIDS. However, there are misconceptions on transmission. For example almost half (50.8%) of the respondents disagreed on the statement that a person cannot get HIV/AIDS by sharing food and living with a person infected with HIV/AIDS while a good number (49.2%) agreed on the same statement. This implies that a good number of respondents have misconception on the spread of HIV/AIDS. This situation could lead to stigmatization in the society as much as HIV/AIDS patients live with other people within the society and are obliged to share things like food, drinks and beds. Also 22.5% agreed that HIV/AIDS can be transmitted by mosquito bites implying that misconception exists among some of the youths. Few (32.5%) disagreed that abstaining can prevent HIV/AIDS; this means that they cannot abstain as they do not believe in it.

Table 3: Statements used to measure respondents awareness (n=120)

Statements to measure awareness	Yes (%)	No (%)
A person can do nothing to avoid HIV/AIDS	29.2	70.8
Having only one faithful partner prevent HIV/AIDS transmission	93.3	6.7
Correct and consistent condom use during sex prevent HIV/AIDS	85.8	14.2
Abstaining prevent HIV/AIDS	67.5	32.5
Viruses can be transmitted from mother to child during delivery	81.7	18.3
A person infected with HIV/AIDS always shows symptoms	21.7	78.3
Frequency blood screening may determine ones sexual behavior	70.0	30.0
HIV/AIDS can be transmitted by mosquito bites.	22.5	77.5
Shaking hands may transmit HIV/AIDS	12.5	87.5
Persons cannot get HIV by sharing food and living with a victim	49.2	50.8
A person can get HIV by witchcraft or other supernatural	11.7	88.3
Sexual intercourse, needles blood transfusion transmit HIV/AIDS	97.5	2.5

Moreover, the results obtained on knowledge index scale as shown in Table 4 shows that majority (95.83%) of the respondents were in high category as they had high knowledge while 1.67% had medium knowledge and 2.5% had low knowledge. The mainstream of the respondents had high knowledge on issues related to HIV/AIDS the results are similar with those reported by URT (2011) who reported that most people in Tanzania had high

knowledge on issues related to HIV/AIDS. The finding is also in line with Minnick (2010) and Anyamene (2011) who found that adolescent are aware on HIV/AIDS. This may be due to provision of education on HIV/AIDS provided by various stakeholders fighting against HIV/AIDS.

Despite the universal awareness and high level of knowledge on HIV/AIDS, misconceptions about HIV/AIDS still persist especially in the rural areas where information and other services are inadequate (Lukuba, 2010). These misconceptions continue to distort people's perceptions of the HIV/AIDS and consequently hamper behavioural change. The misconceptions observed include the belief that HIV/AIDS can be transmitted by mosquito bites and by witchcraft. One female FGD discussant at Igoma was quoted saying. *"If a Witchdoctor hates you he/she can mix blood of people who are infected with a person who is not infected, as a result people who are not infected with HIV will be infected"*

Table 4: Score of respondents and their categorization (n=120)

Score	Frequency	Percentage
4	2	1.67
5	1	0.83
6	2	1.67
7	4	3.33
8	7	5.83
9	25	20.83
10	28	23.33
11	29	24.17
12	22	18.33
Mean Index 8		
Categorization of knowledge		
Low	3	2.5
Medium	2	1.67
High	115	95.83

4.4 Prevention Strategies Practiced in the Area in Relation to Behavioural Change

From the findings majority (63.3%) of the respondents use condom as one of the prevention strategies while a good number of the respondents (61.7%) reduces number of sexual partner, and only (28.3%) were faithful to their partner while 15.8% abstain as their prevention strategies against HIV/AIDS.

Table 5: Prevention strategies practiced in the area

Prevention strategies	Yes (%)	No (%)	Undecided (%)
Condom use	63.3	5.8	30.9
Abstain	15.8	1.7	82.5
Fidelity	28.3	5.0	66.7
Reduced number of sexual partner	61.7	4.2	34.1

4.4.1 Attitude of youth towards HIV/AIDS prevention strategies in relation to behavioural change

Generally youth had positive attitude on prevention strategies as Table 6 shows. About 90% of the respondents agreed that HIV/AIDS is a disease from which a person can protect him/herself. Similarly, 81.7% of the respondents agreed that HIV/AIDS prevention strategies help youths to practice proper use of condom. Majority (90.9%) of the respondents agree that through HIV/AID prevention strategies youth get knowledge on the way HIV/AIDS can be prevented thereby helping them change their behaviour. About 61.7% agreed that prevention strategies help youth to practice safe sex while 71.6% of the respondents disagree that HIV/AIDS prevention strategies cannot succeed because youth cannot abstain. Also 55.8% of the respondents disagree on the statement that HIV/AIDS prevention strategies make youth engage themselves in sexual practices while 38.4% agreed on the same statement, arguing that condom motivates people to have sex. The findings are in line with (Getnet *et al.*, 2008) who found that people use condom so as to prevent themselves from STDs infections.

Table 6: Statements for measuring youth's attitude on prevention measures in relation to behavioural change and their score (n=120)

Statements	Percentage		
	A	U	D
AIDS is a disease for which you can protect yourself	90.80	0.8	8.40
Prevention strategies help in proper use of condoms	81.70	4.20	14.20
Prevention strategies help to change sexual behavior	65.90	10.00	24.10
Youth get knowledge on prevention of HIV/AIDS	90.90	2.50	6.70
Prevention methods make youth to engage in sexual practices	38.40	5.80	55.80
Getting HIV/AIDS is a result of one's sin	30.00	2.50	67.50
Through prevention strategies youth practice safe sex	61.70	3.30	19.20
Prevention strategies are obtained easily in town than in villages	77.50	3.30	19.20
Prevention strategies stimulate youth to engage in sex	29.20	2.50	68.40
Prevention strategies do not provide detailed information	38.30	9.20	52.50
Prevention strategies cannot succeed as it is impossible to abstain	24.20	4.20	71.60
Prevention strategies do not help youth.	10.80	0	89.20

Key: A=Agree, U=Undecided 3=Disagree

4.4.2 Attitude index scale

A Likert scale was used to determine respondents' attitude towards HIV/AIDS prevention strategies. The likert scale had five levels namely: strongly agree, agree undecided, disagree and strongly disagree. Both positive and negative statements were constructed to assess individual's attitude. The findings are presented in Table 7. The index score were calculated based on the likert scale as indicated in section 3.5.2. Table 7 reveals that 99.16% of the respondents had positive attitude towards HIV/AIDS prevention strategies. This is because prevention strategies explain most important issues towards HIV/AIDS prevention hence leading to behavioural change. Few (0.83%) had neutral attitude while 0.01% had negative attitude towards prevention strategies for behavioural change. The majority of the respondents had a positive attitude towards HIV/AIDS preventive strategies, these findings are in line with those reported by Lukuba (2010) and Makachila (2008) who found that more people had a positive attitude towards HIV/AIDS prevention strategies.

Table 7: Score of respondents and their categorization

Score	Frequency	Percentage
26-30	1	0.83
31-35	6	5
36-40	24	20
41-45	25	20.83
46-50	26	21.67
51-55	33	27.50
56-60	5	4.17
Mean index 45.9		
Categorization of attitude		
Positive	119	99.16
Neutral	1	0.83
Negative	0	0.01

4.5 Factors Affecting Youth's Behavioural Change towards HIV/AIDS Prevention Strategies

An assessment of factors affecting youths' behavioural change was done in two different ways. First, a chi square test of independence was used to test association between the socio-demographic factors and various HIV/AIDS prevention strategies as dependent variables. Furthermore, ordinal logistic regression was used to analyze factors affecting behavioural change towards HIV/AIDS prevention strategies. Essentially the analysis tests for the effect of several socio-demographic factors on the use of various HIV/AIDS prevention methods. Factors with significant and positive influence are therefore interpreted as increasing the likelihood of using a certain method.

4.5.1 The association between the socio demographic factors and positive behavioural change

Results of the chi-square tests are given in Table 8, which reveals a positive and highly significant ($p<0.01$) association between number of sexual partner and religion of a respondent. This implies that respondents who are religious are more likely to adopt reduced number of sexual partners as a measure towards reducing HIV/AIDS infection. This finding concurs with Agardh *et al.* (2011) who found that those who consider religion

as less important in their life tend to have higher probability of early sexual activity. Such people also tend to have high number of lifetime partners.

Secondly it was found that positive and highly significant ($p<0.01$) association between abstinence and level of education of the respondents. This means that a person who is not educated is more likely to engage in sexual behaviour as compared to educated person. The possible reason for this result might be the fact that education exposes one to reproductive health issues, which enables them to appreciate the risks associated with sexual relationships. Such educated persons therefore have a great chance of abstaining from sexual interaction.

Table 8: Chi square outputs to show the association between socio demographic variables with behavioural change

Dependent variable	Background Variables	Chi-Value	p-value
Condom use	Age	2.754	0.600
	Sex	12.988	0.878
	Level of education	13.581	0.328
	Occupation	9.958	0.620
Abstinence	Sex	5.858	0.210
	Age	13.141	0.359
	Marital status	14.623	0.798
	Level of education	29.633	0.003***
	Religion	22.084	0.140
	Occupation	10.654	0.559
Fidelity	Sex	2.656	0.617
	Age	18.352	0.105
	Marital status	12.823	0.885
	Level of education	6.265	0.902
	Religion	20.790	0.187
Reduced Number of sexual partner	Sex	3.147	0.533
	Age	15.356	0.223
	Occupation	11.855	0.457
	Marital status	21.411	0.373
	Level of education	19.135	0.085*
	Religion	34.700	0.004***
	Occupation	7.975	0.787

***Note:*, **, *** Significant at the 0.1, 0.05, and 0.01 level respectively**

4.5.2 Factors affecting behavioural change towards HIV/AIDS prevention strategies

While the chi-square test shows the level of association between the socio-demographic factors and the various prevention methods, the test does not show any causal relationship. Therefore, ordinal logistic regression was conducted in order to determine factors affecting behavioural change towards HIV/AIDS prevention methods. The dependent variable in the logistic regression is the use of prevention strategies which determine behavioural change include: abstinence, fidelity, the use of condom and reduced number of sexual partner. Respondents were required to rate their approval or disapproval of respective practices on a 5 level likert scale i.e., strongly agree, agree, undecided, disagree and strongly disagree. Among the independent variables we include age, sex, marital status, level of education and occupation of the respondent. Other independent variables included information on religion, initiation ceremonies, drug abuse, polygamy, strikes, peer group and poverty status. Results for these estimations are presented on Table 9.

The results indicate that the age group of 26-30 years had a positive and significant ($P<0.05$) influence on the practice of abstinence. This implies that youth in this category are more likely to abstain from sexual behavior as a means of reducing possibility of HIV/AIDS infection. The results are in agreement with findings from Winarti (2010) who analyzed the influence of age on HIV/AIDS behaviour. Similar findings have also been reported by Philip (2008) among primary school teachers in Kinondoni District. This underscores the need for age-targeted approach in implementing anti-HIV/AIDS campaign. Campaigns emphasizing this method of prevention should therefore focus on this age group. Apart from abstinence, preference for fidelity is also significant and cuts across age groups. As can be seen from the last column of table 11, all age groups showed significant and positive influence on practice of fidelity as a HIV/AIDS prevention strategy.

Furthermore, marital status also had an effect on behavioural change towards HIV/AIDS prevention approaches. Results show that use of abstinence is less popular among single and married youths and may not be an effective method for preventing HIV/AIDS infection among this group of youths. We also find that single youths are less likely to exercise fidelity, which is unsurprising since fidelity is a practice among married couples. As for sexual indulgence with multiple partners, single youths are more likely to engage multiple partners. Therefore anti-HIV/AIDS campaign messages targeting single youths will be less effective if they emphasize indulgence with fewer numbers of sexual partners. Similar findings have been reported by Baumgartner (2010) who reported that most of single youth are not faithful to their partners. On the other hand single youths are seen to be more likely to adopt use of condoms, which is unsurprising given the reported increased use of condoms among youth Getnet *et al.* (2008) report that most of unmarried youth use condom with their partners.

As expected, married youth are less likely to engage in abstinence since sexual relationship is part and parcel of marriage life. Another interesting finding was that widows or widowers are less likely to practice infidelity. This is worrying since some of the youth could have lost their couples to HIV/AIDS infection, meaning that they could already be infected. Such infidelity among already infected individuals could lead to increased spread of HIV/AIDS infection. We also find that those who are cohabiting are also less likely to practice infidelity. This could be due to the uncertainty usually surrounding relationships involving cohabitation, in comparison to the possible assurance and certainty often guaranteed in official marriages.

The analyses also reveal the overall significance of education in enhancing bevioural change. Table 9 shows that higher level of education increases the likelihood that the

youth will engage in abstinence. In the contrary, lower levels of education lowers the likelihood of abstinence. This could be an indication of the stage at which reproductive health education is provided. Alternatively it could also imply that students are only able to comprehend and appreciate the risks of sexual indulgence at a later stage of their education. Further analyses would be needed to understand these issues in detail. We also see that more educated youths are more likely to adopt the use of condoms when engaging in sexual relationships. These two facts underscore the general importance of education in realizing behavioral change, particularly in as far as enhancing prevention of HIV/AIDS infection.

Moreover, it was found that perceptions also influence behavioral practices that could in turn affect HIV/AIDS prevention strategies. For instance, we see that youths who believe in the influence of religion on changing people's behavior towards HIV/AIDS prevention are also the ones that are less likely to use condoms. This is largely due to the fact that most religions are against condom and instead encourage abstinence and fidelity. These findings conform to Eriksson (2011), who describes religion as a protective measure for young people against risky sexual behavior. Prevention strategies promoting the use of condom will therefore have to contend with the strong religious opposition to use of this method.

Additionally, there are those youths who think that initiation ceremonies do hinder changes in behaviour towards HIV/AIDS prevention practices. Such youths are less likely to use condoms. Interestingly, it was revealed during focus group discussion that most of the people who attend traditional ceremonies tend to engage themselves in unplanned sexual practices, more often without condom. Indeed, one of the respondents at Songwe was quoted saying that "*During traditional ceremonies unplanned sexual practices are*

committed by communities including youths under the cover of darkness. Most of youths practice sexual intercourse without using condom which is dangerous as they may contract HIV/AIDS if one parson was affected or may result into unplanned pregnancy".

Table 9: Factors affecting youth's behavioural change on HIV/AIDS prevention

	Abstinence	Use of condom	Multiple partners	Fidelity
Sex(male dummy)	-1.021	0.094	-0.330	-0.281
Age group				
15-20	1.111	-0.610	-0.349	1.238*
21-25	1.031	-0.532	-0.464	1.861**
26-30	1.702**	-0.283	-0.622	2.179***
Marital status				
Single	-4.033***	3.384*	3.386**	-2.924**
Married	-3.209**	2.529	1.683	-1.666
Widow/widower	-2.315	1.976	1.168	-3.540*
Divorced	-.442	0.547	-	-
Cohabiting	-2.619	-	2.075	-3.575*
Separated	-	1.842	-1.043	0.572
Education				
None	-4.497**	2.678	-0.216	-0.070
Primary	-3.316**	4.483**	0.562	-0.472
Secondary	4.486***	3.751*	-0.258	0.436
Occupation				
Farmer	1.878	-0.347	-0.500	0.620
Civil servant	1.211	-1.956	0.354	0.305
Business	0.646	-0.786	-0.575	1.015
Other factors				
Religion	0.55	-2.900***	0.878	1.935
Peer group	-0.665	-0.057	1.027	-0.552
Initiation ceremonies	0.543	-2.076**	0.316	-0.679
Alcohol	-1.726	0.011	0.064	1.381
Separation of parents	1.620	0.858	3.143**	3.655***
Strikes	-.115***	-1.296*	-0.257	-0.298
Polygamy	21.052	-0.668	24.954	-3.483
Drug abuse	2.588	-0.637	-2.576	2.451
Low knowledge	0.554	0.848	-0.914	0.820
Poverty	-0.318	0.666	-0.445	-0.512

***Note:**, **, *** Significant at the 0.1, 0.05, and 0.01 level respectively**

Finally, the youths who think that separation of parents could hinder changes in behaviour towards HIV/AIDS prevention strategies are also most likely to have multiple partners. This causal relationship reveals the possible hardship experienced by youth growing under the care of single parents, which could lead to errant sexual behavior. The deviant sexual behavior could be in pursuit of meeting their basic needs that can hardly be met by their single parents. Fako (2010) explains how poverty remains a major challenge towards behavioral change in HIV/AIDS prevention. Alternatively, deviant sexual behavior could also be due to lack of parental guidance borne out of inadequacies of single parenthood.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study sought to establish the level of awareness about HIV prevention measures among youths in Mbeya. There is high level of awareness and knowledge on HIV/AIDS related issues among youth regarding HIV/AIDS, which is an important factor in realizing behavioural change among the affected groups. This indicates the success of previous HIV/AIDS campaigns and public education. Nevertheless misconceptions about HIV/AIDS, particularly on modes of transmission persist that could partly act as impediments to fight against HIV. In particular, it was observed that some people believe HIV/AIDS can be transmitted by mosquito bites, witchcraft and by sharing food and living with infected person.

Besides the high level of awareness, it was also found that youth had positive attitude towards HIV/AIDS prevention strategies, which could be indicative of general acceptance and effectiveness of the prevention initiatives. Campaigns geared towards prevention of HIV/AIDS therefore appear to have enhanced access to knowledge on modes of HIV/AIDS transmission as well as on prevention methods. It is also possible that such awareness could also encourage safer sexual behaviour among youths in Mbeya. However, positive attitude does not necessarily imply changes in behaviour in as far as adoption of HIV/AIDS prevention practices. In order to establish if the revealed attitudes are being translated into actions through behavioural changes, the study further analysed factors influencing practices of respective HIV/AIDS prevention practices. The analyses allow us to determine the socio-economic and demographic factors that could influence behavioural change towards adoption of HIV/AIDS prevention practices.

The analyses reveal that several social and cultural practices had significant influence on the use of HIV/AIDS prevention strategies among youths. Among all of the independent variables included in the ordinal logistic regression; age, marital status, education, separation of parents, religion and initiation ceremonies, were found to have significant influence towards behavioural change. The hypothesis "societal and cultural practices have no influence on youths' behavioural change towards HIV/AIDS prevention" is therefore rejected. It is imperative to note that behavioural change is not an overnight event. Hence it will take time since it could involve acquisition and internalizing of acquired knowledge. Social systems are also usually resistant to change and could take time to change inspite of spirited effort towards realizing changes in sexual behavior

Also, the analyses reveal for differentiated approach to prevention of HIV/AIDS. This should take into account the popularity of some methods with some age groups and people of varying demographic status. For instance age group of 26-30 years is more likely to abstain than other age groups. Therefore, prevention strategies must consider different methods to different groups.

5.2 Recommendations

5.2.1 Recommendation at the community level

Stakeholders dealing with education programs on HIV/AIDS prevention must focus on misconception about HIV transmission in rural areas. For instance the notion that HIV can be transmitted by mosquito bites and witchcraft should be dealt in order to enhance adoption of the more appropriate HIV/AIDS prevention strategies. There is therefore need for further public health education in order to eliminate some of these misconceptions. Besides general awareness, education programs especially reproductive health at higher level presents great promise. There is, however greater need for a review of education

system in order to ensure that reproductive health education is appropriately incorporated at various levels of educational programs. More emphasis should of course be at the lower level of education where there appear to be less adoption of abstinence as a HIV/AIDS prevention strategy. This should be presented in a manner that easily comprehendible by the students in lower level of education.

5.2.2 Recommendation at policy level

Although evidence demonstrates the possibility of changing youths' behaviour to reduce the risk of HIV transmission, Policy makers and program implementers should take these limitations into account, especially when selecting strategies to implement in concert with specific behavioural strategies. Messages and interventions that will persuade behavioural change are paramount among youths.

The government and other relevant organs should put more efforts on educating the society to make sure that all Tanzanians receive important information concerning HIV/AIDS matters. They should also help the society to put the knowledge into practice which will help in behavioural change so as to reach the goal on HIV free generation.

In case of factors affecting behavioural change, more efforts on HIV/AIDS prevention strategies should be used to help individuals perceive that they are at risk of HIV/AIDS infections as well as continue building skills required to enable individuals to protect against transmission. Different socio-economic and demographic factors influence practices of different prevention strategies towards behavioural change differently. This continues to underscore the need for a multiple approach to prevention of HIV/AIDS infection. Promoting a single approach may exclude some other potentially vulnerable groups.

5.3 Areas for Future Research

The findings presented in this study are a result of a cross sectional survey conducted in Mbeya District thus they cannot be representative of the entire population. In this case there is a need for more studies on the subject in other parts of the country like areas that are more vulnerable to HIV/AIDS, to enable generalization of the observations.

Studies on the relationship between positive attitude towards HIV/AIDS preventive measures and behavioural change should be done.

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APPENDICES

Appendix 1: Operational definitions, indicators and measurement level of key variables

Variable	Definition	Indicators	Level of Measurement
1.Age	Number of years of respondents	Number of years 15-35	Interval
2.Sex	Biological sense at the time of time	1=Male 2=Female	Nominal
3.Occupation	The activity of respondents	1=Agriculture 2=Livestock 3=Teacher 4=Doctors 5=Businessman 6=Others	Nominal
4.Marital status	Situation of being married or not married	1=Single 2=Married 3=Divorced 4=Widow 5=Separation 6=Other	Nominal
5.Access to finance	Respondents ability to get money	1=Salary 2=farm activities 3=Nonfarm activities 4=Other	Ratio
6.Level of education	Number of years in schooling	1=7 years 2=11 3=13 4=15 5=16 6=Other	Ratio
7. Peer influence	The group pressure that the respondents get from their fellow friends that leads to engagement to sexual activities and risk behavior	1=Yes 2=No	Nominal
8.Religiosity	Respondents faith that they belong to	1=Muslim 2=Christian 3=Traditional 4=Other	Nominal
9.Gender	Respondent's situation of being male of female	1=Male 2=Female	Nominal
10. widow inheritance	Respondents whose husband passed away	1=Yes 2.No	Nominal
11.Perception on condom use	Respondent's belief on the condom use as a means of HIV/AIDS preventions	1=Strongly agree 2=Agree 3=Undecided 4=disagree 5=Strongly disagree	Ordinal
12.Attitude towards HIV/AIDS prevention strategies	Respondent's perception towards HIV/AIDS prevention strategies	1= Strongly agree 2=Agree 3=Undecided 4=Disagree 5=Strongly agree	Ordinal
13. Behavioural change	Respondents changes in their practices including consistence and correctly use of condom use, Abstinence, Fidelity,	1= Strongly agree 2=Agree 3=Undecided 4=Disagree 5=Strongly agree	Ordinal
Youth	Male and Female aged 15-35	Number of years 15-35	Interval

Appendix 2: Questionnaire for the youth

Respondent No.....

SOKOINE UNIVERSITY OF AGRICULTURE

DEVELOPMENT STUDIES INSTITUTE, P.O BOX 3024, MOROGORO

Introduction

Dear Sir/ Madam,

I am Monata Lucas, a student from Development Studies Institute of the Sokoine University of Agriculture, Morogoro. I am carrying out a research on Behaviour change towards HIV/AIDS prevention among youths in Mbeya Rural District. You have been selected randomly among other youths; from your data will be treated confidentially and used for academic purpose only. Therefore, please respond faithfully to the best of your knowledge. Some of the topics may be difficult to answer/discuss, but your honest answer are very important and of useful towards HIV/AIDS prevention strategies. Your participation is completely voluntary but your experience could be very helpful to other youth in Tanzania. Please give honest answers and complete responses to all questions.

Ward .....

Street/Village.....

Section A. Background Information

1. Sex of respondent

1 = Male [ ]

2 = Female [ ]

2 .Age of respondent .....years

3. What is your ethnic group? .....

4. Marital status

1 = Single [ ]

2 = Married [ ]

3 = Divorced [ ]

4 = Widow/widower [ ]

5 = Separated [ ]

6 = Cohabiting [ ]

7= Other(specify).....

5. What is your highest education level attained?

1 = None [ ]

2 = Primary school [ ]

3 = Secondary [ ]

4 = College [ ]

5 = other (specify) .....

6. Number of years of schooling .....

7. Religion

1 = Roman Catholic [ ]

2 = Protestant [ ]

3 = Muslim [ ]

4 = Traditional [ ]

5 = SDA [ ]

6= Others(specify).....

8. What is your main occupation?

1 = Farmer [ ]

2 = Civil servant [ ]

3= Business [ ]

4= Student [ ]

5= Other (specify).....

Section B: To assess the level of knowledge/awareness of HIV/AIDS in relation to positive behavioral change. This will be measured by using knowledge index scale

Statements to measure awareness	YES	NO
1. A person can do nothing to avoid HIV/AIDS		
2. Having only one faithful partner prevent HIV/AIDS transmission		
3. Correct and consistent use of condom every time having sex prevent HIV/AIDS		
4. Abstaining prevent HIV/AIDS		
5. Viruses can be transmitted from mother to child during delivery		
6. A person infected with HIV/AIDS always shows symptoms		
7. Frequency blood screening may determine ones sexual behavior		
8.HIV/AIDS can be transmitted by mosquito bites.		
9. Shaking hands may transmit HIV/AIDS		
10. Persons cannot get HIV by sharing food and living with a HIV positive person		
11. A person can get HIV by witchcraft or other supernatural		
12. HIV can be transmitted through sexual intercourse, sharing needles and syringes, kissing and blood transfusion		

10. Through which media of information have you learned about HIV/AIDS for the past 6 months?

	Yes	No
1 = Radio	[ ]	[ ]
2 = T.V	[ ]	[ ]
3 = Newspapers/Magazines	[ ]	[ ]

4 = Pamphlets/ Posters [ ] [ ]

5 = Meetings [ ] [ ]

6 = Other (specify).....

11. Which are the main communities based sources of information you learned about HIV/AIDS.

	Yes	No
1= Community AIDS group	[ ]	[ ]
2 = Healthy workers	[ ]	[ ]
3 = Doctor/Hospital	[ ]	[ ]
4 = Peer educator	[ ]	[ ]
5 = Parents/Relatives/Siblings/Guardians	[ ]	[ ]

12. What is the type of information you received when you heard about HIV/AIDS information?

1 = Education on transmission [ ]

2 = Voluntary counseling and testing [ ]

3 = Prevention messages [ ]

4 = others (specify).....

Section C: Assessment of youth attitude towards HIV/AIDS prevention strategies

13. Have you ever attended or heard prevention strategies meetings towards HIV/AIDS?

1 = Yes [ ]

2 = No [ ]

Please state whether you strongly agree, agree, undecided. Strongly disagree or disagree with the following statements.

Statements	SA	A	U	D	SD
1. AIDS is a disease for which you can protect yourself					
2. HIV/AIDS prevention strategies helps youth practice proper use of condoms					
3. HIV/AIDS prevention strategies methods helps youth in changing their sexual behavior					
4. Through HIV/AIDS prevention strategies youth get knowledge on HIV/AIDS and how to can be prevented					
5. HIV prevention methods makes youth to engage in sexual practices					
6. Getting HIV/AIDS is a result of one's sin					
7. Through HIV/AIDS prevention strategies youth practice safe sex					
8. HIV/AIDS prevention strategies can be obtained easily in town than in villages					
9. HIV/AIDS prevention strategies stimulate youth to engage in sex					
10. HIV/AIDS prevention strategies do not provide detailed information in proper use of condom					
11. HIV/AIDS prevention strategies cannot succeed because sex is so enjoyable thus it is impossible to abstain					
12. HIV/AIDS prevention strategies help youth to be aware of prevention methods and mode of HIV/AIDS transmission.					

Key: SA=Strongly Agree, A=Agree, U=Undecided. SD=Strongly Disagree, D=Disagree

14. What messages have you heard from HIV/AIDS prevention strategies?

1= Absteinining [ ]

2= Being faithful to one partner/spouse. [ ]

3= The use of condoms. [ ]

15. Among the prevention strategies messages which ones do you mostly practice?

1= Abstaining [ ]

2=Being faithful to one. [ ]

3=The use of condoms. [ ]

16. Are you worried about becoming infected with HIV/AIDS?

1=Yes [ ]

2=No [ ]

17. Religion has influence towards behavioural change in relation to prevention strategies?

1=Yes [ ]

2=No [ ]

Behavioural index

18. Statements to assess the change in behavior. Say whether you SA, A, U, D, SD on the following behavior so as to determine a change in your behavior.

Statements	SA	A	U	D	SD
1.Sex with non spouse/partner					
2.Sex without condoms					
3.Abstinence					
4. Fidelity.					
5.Number of sexual partners					
6.Cross generational sex					
7.Real men must have more than two girls					
8.Modern youth must have access to phonographs					
9.Drug abuse is crucial for a modern youth					

SA=strongly agree, A=agree, U=undecided, D=disagree, SD=strongly disagree.

19. Tick major prevention method that a person can do to avoid getting HIV/AIDS

1 = Abstaining from sex [ ]

2 = Fidelity [ ]

3 = Use of condoms [ ]

4 = Avoiding mosquitoes/insects bites [ ]

5 = Avoid sharing food with people who have HIV/AIDS [ ]

6 = Others [ ]

20. HIV/AIDS can be transmitted by sharing sharp objects without sterilizing them?

1=Yes	[ ]
2 =No	[ ]

21. Among the listed methods, what is the major method of HIV/AIDS transmission?

	Yes	No
1=Unsafe sex	[ ]	[ ]
2 = Sharing Unsterilized sharp objects	[ ]	[ ]
3 =Mother to child	[ ]	[ ]
4 =Transfusion with HIV infected blood.	[ ]	[ ]

22. Did your partner drunk the last time you had sex?

1=Yes	[ ]
2 = No	[ ]

Factors affecting behavioural change towards HIV/AIDS prevention strategies.

23. Peer group influence affect behavioural change?

1=Yes	[ ]
2=No	[ ]

24. Initiation ceremonies may cause a person to engage in sexual behaviour thus affect behavior change

1=Yes	[ ]
2=No	[ ]

25. Alcohol may led a person to engage in risk sexual practices thus makes behavioural change difficult

1=Yes	[ ]
2=No	[ ]

26. Separation of parents may cause a person to engage in risk behaviours so that he/she can get money to sustain her/his need hence affect behavior change.

1=Yes [ ]

2=No [ ]

27. Strikes in college and universities may cause a person to engage in sexual practices thus affect behavioural change.

1=Yes [ ]

2= No [ ]

28. Polygamy may led into HIV/AIDS transmission if one parson has been infected thus makes behavioural change difficult

1=Yes [ ]

2=No [ ]

29. Drug abuse affects behavioural change

1=Yes [ ]

2=No [ ]

30. Religion has influence towards behavior change

1=Yes [ ]

2=No [ ]

31. Low level of knowledge affects behavioural change

1=Yes [ ]

2=No [ ]

32. Poverty affects behavioural change

1=Yes [ ]

2=No [ ]

Appendix 3: Check list for Key informants (Regional AIDS coordinators, district regional AIDS coordinator, Medical officers)

Introduction

Basing on your experience of working in this district where research on **Behavioural change towards HIV/AIDS among youth in Mbeya district** is being carried out, you are requested to provide information to supplement that will be obtained from the youth. All information will be treated confidentially and will be used for the purpose of this study only

Background information

1. Sex of respondent

   Male [ ]

   Female [ ]

2. Highest professional qualification

   Certificate [ ]

   Diploma [ ]

   Advanced diploma [ ]

   Degree [ ]

   Others (specify).....

3. Number of years of schooling.....

4. What is your field of qualification.....

5. For how many years have you worked in this district.....

Section B: Programme related services

5. Are HIV/AIDS services available in your district?

5. Do you offer voluntary HIV/AIDS testing to individual in your district?

7. Do you provide condoms free of charge to clients with high risk of STDs/HIV infection?

8. How many villages do you regularly visit? .....

9. Mention strategies for HIV/AIDS Prevention

(i) .....

(ii) .....

10. Do youth have better knowledge on how HIV/AIDS is transmitted and how it can be prevented than before the implementation of these programs?

1=Yes [ ] 2=No [ ]

A) If yes in what ways.....

b) If No, give reasons.....

11. Mention the problems that affect HIV/AIDS prevention programs among the youth.

(i) .....

(ii) .....

(iii).....

13. What do you think are the factors affecting HIV/AIDS prevention programs among the youth?

(i) .....

(ii) .....

(iii).....

(iv).....

13. To solve this problems what do you think should be done?

    a) Parents.....

    b) Society.....

    c) Government.....

    d) The youth.....

    e) Others.....

14. What are the shortcoming/problems of government prevention strategies and programs?.....

15. Can you suggest ways for overcoming these problems/shortcomings?

    16. What are your suggestions on prevention strategies towards Behaviour change?

    .....

17. How can you rank the changing behaviour on HIV/AIDS prevention?

    (a)Low (b) Medium (c) High [ ]

Appendix 4: Check list for Focus Group Discussion

1. How is HIV/AIDS transmitted?
2. Is there any problem when one stays without engaging in sexual intercourse for a long time of abstinence?
3. Any traditions/customs that encourage sexual practices?
4. How do you rate your risks of being infected with HIV/AIDS (High, Medium, Low) Why?
5. On your own opinion did the youth changed their behavior on HIV/AIDS prevention? If yes/no, how?
6. What should be done to avoid HIV/AIDS?
7. What are the factors affecting HIV/AIDS prevention strategies towards behaviour al change?
8. What is your attitude towards HIV/AIDS prevention strategies?
9. What are your comments on behavior change?
10. What are your suggestions about preventive measures strategies?

Appendix 5: The value of yes and no in the statements used to measure respondent's level of awareness on issues related to HIV/AIDS

Statements	Yes	No
A person can do nothing to avoid HIV/AIDS	1	0
Having only one faithful partner prevent HIV/AIDS transmission	1	0
Correct and consistent use of condom every time having sex prevent HIV/AIDS	1	0
Abstaining prevent HIV/AIDS	1	0
Viruses can be transmitted from mother to child during pregnancy, delivery and breast feeding	1	0
A person infected with HIV/AIDS always shows symptoms	0	1
Frequency blood screening may determine ones sexual behavior	1	0
HIV/AIDS can be transmitted by mosquito bites.	0	1
Shaking hands may transmit HIV/AIDS	0	1
Persons cannot get HIV by sharing food and living with PLWHA	1	0
A person can get HIV by witchcraft or other supernatural	0	1
HIV can be transmitted through sexual intercourse, sharing needles and syringes, kissing and blood transfusion	1	0

Appendix 6: Ordinal logistic regression output on dependent and independent variable

Abstain

Variable		Estimate	Wald	Sig.
Sex	Male	-1.021	2.681	0.102
Age	1 5-20	1.111	2.261	0.133
	21-25	1.031	1.952	0.162
	26-30	1.702**	4.715	0.030
Marital status	Single	-4.033***	7.595	0.006
	Married	-3.209**	4.631	0.031
	Widow/widower	-2.315	1.286	0.257
	Divorced	-.442	0.048	0.827
	Cohabiting	-2.619	1.556	0.212
Education	None	-4.497**	5.270	0.022
	Primary	-3.316**	3.870	0.049
	Secondary	4.486***	6.588	0.010
Occupation	Farmer	1.878	0.011	0.171
	Civil servant	1.211	0.177	0.271
	Business	0.646	0.000	0.422
	RELGN_INF_BHVCNGE	0.55	0.004	0.949
	PEERGRP_HIN_BHVCNG	-0.665	0.960	0.327
	INITIATN_HIND_BHVCNG	0.543	0.580	0.446
	ALCOHOL_HIND_BHVCHANG	-1.726	1.216	0.270
	SEPARTN_PARNT_HIND_BHVCNG	1.620	1.861	0.173
	STRIKES_MAY_HIND_BHVCNG	-.115***	7.344	0.007
	POLGMY_LED_HIV_TRANSMSSN	21.052	0.000	0.999
	DRG_ABUS_AFFECT_BHVCNG	2.588	1.388	0.239
	LOW_KNODGE_HIND_BHVCHN	0.554	0.389	0.533
	POVT_HIND_BHVCGE	-0.318	0.099	0.753

Key: RLGN- Religion, DRG_ABUS Drug Abuse, BHVCGE-Behavioural change, KNODGE- Knowledge, POVT-Poverty, POLGMY-Polygamy, HIND-Hinder

Condom use

Independent Variables		Estimate	Wald	Sig
Sex	Male	0.094	0.022	0.882
Age	15-20	-0.610	0.690	0.406
	21-25	-0.532	0.527	0.468
	26-30	-0.283	0.136	0.712
Marital status	Single	3.384*	3.609.	0.057.
	Married	2.529	1.954	0.162
	Divorced	0.547	0.044	0.833
	Widow/widower	1.976	0.751	0.386
	Separated	1.842	0.550	0.458
Education	None	2.678	1.175	0.278
	Primary y education	4.483	3.935	0.047
	Secondary education	3.751	2.769	0.096
Occupation	Farmer	-0.347	0.312	0.576
	Civil servant	-1.956	1.248	0.264
	Business	-0.786	1.502	0.220
	RELGN_INF_BHVCHANGE	-2.900	8.752	0.003
	PEEGRP_HIN_BHVCHANGE	-0.057	0.007	0.932
	INITIATN_HIND_BHVNG	-2.076	5.866	0.015
	ALCOHOL_HIND_BHVNG	0.011	0.000	0.995
	SEP-PART_HIND_BHVNG	0.858	0.371	0.543
	STRIKE_HIND_BHVCNGE	-1.296	2.733	0.098
	POLGMY_LED_HIV_TRANS	-0.668	0.017	0.897
	DRG_ABUS_AFFCT_BHVNG	-0.637	0.115	0.734
	LOW_KNO_HIND_BHVNGE	0.848	0.893	0.345
	POVT_HIND_BHVCHNGE	0.666	0.459	0.498

Key: RLGN- Religion, DRG_ABUS -Drug Abuse, BHVCGE-Behavioural change, KNODGE- Knowledge, POVT-Poverty, POLGMY-Polygamy, HIND-Hinder

Reduced number of sexual partner

Independent Variables		Estimate	Wald	Sig
Sex	Male	-0.330	0.282	0.595
Age	15-20	-0.349	0.231	0.631
	21-25	-0.464	0.407	0.523
	26-30	-0.622	0.655	0.418
Marital status	Single	3.386*	4.320	0.038
	Married	1.683	1.043	0.307
	Widow/widower	1.168	0.255	0.613
	Separated	-1.043	0.216	0.642
	Cohabiting	2.075	0.595	0.440
Education	None	-0.216	0.010	0.920
	Primary education	0.562	0.088	0.767
	Secondary	-0.258	0.018	0.893
Occupation	Farmer	-0.500	0.651	0.420
	Civil servant	0.354	0.060	0.806
	Business	-0.575	0.827	0.363
	RELGN_INF_BHVCHANGE	0.878	0.956	0.328
	PEERGRP_HIN_BHVCHANGE	1.027	2.318	0.128
	INITIATN_HIND_BHVCHANGE	0.316	0.215	0.642
	ALCOHOL_HIND_BHVCHANGE	0.064	0.002	0.969
	SEPATN_PARNT_HIND_BHVCN	3.143*	5.433	0.020
	STRIKES_MAY_HIND_BHVCHA	-0.257	0.102	0.749
	POLYGMY_LED_HIV_TRANSMN	24.954	0.000	0.998
	DRUG_ABUSE_AFFECT_BHVCH	-2.576	1.851	0.174
	LOW_KNOWDG_HIND_BHVCHN	-0.914	0.885	0.347
	POVT_HIND_BHVCHNGE	-0.445	0.206	0.650

Key: RLGN- Religion, DRG_ABUS -Drug Abuse, BHVCGE- Behavioural change, KNODGE-Knowledge, POVT- Poverty, POLGMY-Polygamy, HIND-Hinder

Fidelity

Independent variables		Estimate	Wald	Sig.
Sex	Male	-0.281	0.232	0.630
Age	15-20	1.238	2.815	0.093
	21-25	1.861	6.156	0.013
	26-30	2.179	7.460	0.006
Marital status	Single	-2.924	4.423	0.035
	Married	-1.666	1.371	0.242
	Widow/widower	-3.540	2.850	0.091
	Separated	0.572	0.077	0.781
	Cohabiting	-3.575	2.938	0.087
Education	None	-0.070	0.001	0.971
	Primary	-0.472	0.084	0.772
	Secondary	0.436	0.067	0.796
Occupation	Farmer	0.620	1.020	0.313
	Civil servant	0.305	0.045	0.832
	Business	1.015	2.572	0.109
	RELGN_INF_BHVCHANGE	1.935	0.045	0.832
	PEERGRP_HIN_BHVCHANGE	-0.552	0.807	0.369
	INITIATN_HIND_BHVCHANGE	-0.679	0.992	0.319
	ALCOHOL_HIND_BHVCHANGE	1.381	0.779	0.377
	SEPARTN_PARNT_HIND_BHVCHANGE	3.655	8.580	0.003
	STRIKES_MAY_HIND_BHVCHANG	-0.298	0.155	0.694
	POLYGMY_MAY_LED_HIV_TRANSMSS	-3.483	0.824	0.364
	DRUG_ABUSE_AFFECT_BHVCHNGE	2.451	1.796	0.180
	LOW_KNOWLDGE_HIND_BHVCHNGE	0.820	0.865	0.352
	POVT_HIND_BHVCHNGE	-0.512	0.317	0.574

Key: RLGN- Religion, DRG_ABUS -Drug Abuse, BHVCGE-Behavioural change, KNODGE- Knowledge, POVT-Poverty, POLGMY-Polygamy, HIND-Hinder