ASSESSMENT OF HIV/AIDS RISK BEHAVIOURS AMONG PRIMARY SCHOOL TEACHERS IN KINONDONI DISTRICT, DAR ES SALAAM, TANZANIA

BY

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ABSTRACT

The cross sectional study on assessment of the HIV/AIDS risk behaviours among primary school teachers in Kinondoni district, Dar es Salaam was conducted in 2007. The data were collected from 150 teachers from 30 primary schools using questionnaires, supplemented by focus group discussions (FGDs) and interviews with Key informants. It was found that over 70% of respondents engaged in sexual activities at the age of 15 to 25 years old therefore were in high HIV/AIDS risk; female teachers started sexual practices much earlier. It was also found that there is no association ($p>0.05$) between sex of respondents and having more than one partner; 45.5% of 79 married respondents had more than one sexual partners claiming to get sexual satisfaction, and financial support. 71.3% of respondents did not use condom the last time they had sex. The logit regression showed that the variables slightly fitted to the model (R^2=39.6%, p-valuc = 0.000), with age, education and income factors found to be significant predictor of respondents' HIV/AIDS sexual risk behaviours ($p<0.05$, $p<0.01$). Indeed, respondents were knowledgeable of HIV/AIDS from the mass media. Difficult financial position and less commitment to religions contributed significantly ($p<0.05$) to HIV infection. It was concluded that respondents started sexual intercourse at early ages, have multiple sexual partners and inconsistently use condoms. However, household socio-economic and socio-cultural aspects influence teachers' sexual behaviour. It was recommended that in order to minimise the HIV/AIDS risks to primary school teachers, there should be a continuing education on the disease and improved income. However, more studies on the subject in Iringa and Mbeya are recommended since the regions are also more vulnerable to HIV/AIDS.

DECLARATION

I. Shoma Phillip. do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work and has not been or concurrently being submitted for a higher degree in any other University.

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DEDICATION

This work is dedicated to my beloved parents: Mr. Phillip Maduka Ndono and Mrs. Loyce Ndono (nee Loyce Holo Macheyeki) for their weight in my education endeavor.

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LIST OF ABBREVIATIONS

AIC	-	AIDS Information Centre
AIDS	-	Acquired Immune-Deficiency Syndrome
COMATAA	-	Community Mapping and Theatre against HIV/AIDS
DSI	-	Development Studies Institute
FGD	-	Focus Group Discussion
GPA	-	Global Programme on AIDS
HIV	-	Human Immune-Deficiency Virus
JUNPAIDS	-	Joint United National Programme on AIDS
KMC	-	Kinondoni Municipal Council
MDGs	-	Millennium Development Goals
NACP	-	National AIDS Control Programme
NSGRP	-	National Strategy for Growth and Reduction of Poverty
PLWA	-	People Living With AIDS
SACCOS	-	Savings and Credit Cooperative Society
SPSS	-	Statistical Package for Social Science
STDs	-	Sexually Transmitted Diseases
STIs	-	Sexually Transmitted Infections
TACAIDS	-	Tanzania Commission for AIDS
TANESA	-	Tanzania-Netherlands to Support AIDS
TDHS	-	Tanzania Demographic and Health Survey
TSD	-	Teachers Service Department
TUCTA	-	Trade Union Congress of Tanzania
UNAIDS	-	United Nation Programme on HIV/AIDS
UKIMWI	-	Udhaifu wa Kinga Mwilini
URT	-	United Republic of Tanzania
VCT	-	Voluntary Test and Counselling
WHO	-	World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background information

Throughout history, worldwide HIV/AIDS is a cross cutting issue affecting people of all age groups. Currently it is estimated that between 36.7 and 45.3 million people worldwide are infected with the HIV, of which 95% live in developing countries (UNAIDS/WHO, 2005; TACAIDS, 2005a). In Tanzania, the first HIV/AIDS case was identified in the early 1980s, with three cases being reported in 1983 in Kagera region. Since then, cases have increased spontaneously and by 1986 all regions in the country had reported AIDS cases (URT 2003a, 2004).

From the beginning of the epidemic until 2005, an estimated 1.24 million Tanzanians have died of AIDS; it is projected that the number will increase to 3.17 million in the year 2020 (TACAIDS, 2005b). An average of 7% of Tanzanians aged between 15 and 49 years are affected with the HIV/AIDS, and the HIV prevalence is 7.7% in women and 6.3% for men respectively (URT, 2005a). About 10.9% of urban residents in Tanzania are infected with HIV compared to 5.3% of the rural residents (URT, 2005a; AIC, 2005). However, it has been reported that prevalence of HIV/AIDS in Tanzania varies from one area to another. For example; Mbeya, Iringa and Dar es Salaam regions have the highest rates of HIV/AIDS, with prevalence of 14%, 13%, and 11% respectively. Manyara and Kigoma regions have the lowest rates of HIV/AIDS, with a prevalence of 2% each (URT, 2005a).

A study by TACAIDS, (2005a) revealed that HIV/AIDS prevalence is higher for educated adults than for less educated ones. The prevalence of HIV/AIDS among educated people was about 8.2%, whereas for less educated individuals the rate was estimated to be 5.3% of adults (TACAIDS, 2005a; URT, 2005b). Furthermore, it has been noted that primary school teachers have significantly higher proportion of deaths due to AIDS than other workers in Tanzania (URT, 2007). For example, in 2006 the incidence of HIV/AIDS among primary school teachers increased to 13% compared to 7% in 2005 (URT, 2007).

1.2 Problem statement

The data on prevalence of HIV/AIDS in Tanzania indicates sectoral disparities in the number of HIV cases reported in the country. Education sector, particularly primary school teachers, is the most affected among employed individuals. It is estimated that 0.39% of all those who die of HIV/AIDS in Tanzania each year are primary school teachers (World Bank, 1992). This implies that by 2010, more than 14 000 primary school teachers in Tanzania will die of HIV/ AIDS and the number is expected to rise to 27 000 by 2020 unless some serious intervention measures are undertaken (World Bank, 1992).

Dar es Salaam region has many primary school teachers summing to 8558 compared to other regions in the country. Specifically, Kinondoni District in the Dar es Salaam region with around 3440 teachers has the highest rate of deaths caused by HIV/AIDS. Between 2001 and 2005, there were 140 deaths of primary school teachers in Kinondoni, of which 59% of deaths were due to HIV/AIDS (TSD per comm., 2006). However, the district has little database on HIV/AIDS risk behaviour

for primary school teachers. It has always been assumed that the high prevalence of HIV/AIDS could result from low salaries paid to primary school teachers (TSD per comm., 2006). Indeed, low salaries may not be the only indispensable factor for the higher vulnerability of primary school teachers to HIV/AIDS. Despite massive awareness and NGOs interventions, Kinondoni district continues to lose most of its teachers. Nevertheless, the risk factors influencing the high prevalence of HIV/AIDS-related deaths in primary school teachers in Kinondoni district and other areas are not clearly known. This study aimed at assessing the HIV/AIDS risk behaviours and the associated factors influencing primary school teachers' vulnerability to HIV/AIDS.

1.3 Justifications

In response to the HIV/AIDS epidemic the Government of Tanzania, with technical support from the World Health Organization's Global Programme on AIDS (WHO-GPA) formed the National HIV/AIDS Control Programme (NACP) in 1988 which aimed at developing strategies to prevent, control, and mitigate the impact of HIV/AIDS through health education, a multi-sectoral response and community participation. The National Policy on HIV/AIDS was developed in 2001 with the main goal of providing a framework for leadership and coordination of the National Multi-sectoral Strategic Response to the HIV/AIDS pandemic. This included formulation by all sectors of an appropriate intervention strategy, which would be effective in preventing transmission of HIV/AIDS (TACAIDS, 2005b). The second National Multi-sectoral Strategic Framework (2008-2012) was formulated so as to provide a broad orientation and principles aimed at guiding the national response to HIV/AIDS in Tanzania (Ngirrwa, 2007). The National Policy on HIV/AIDS is

consistent with the National Strategy for Growth and Reduction of Poverty (NSGRP) which educates Tanzanians on how best to protect themselves against HIV/AIDS. The further spread of HIV/AIDS undermines the foundation for development and attainment of the Millennium Development Goals (MDGs) and National targets. One of them is to combat HIV/AIDS, Malaria and other diseases aiming at prevention and control of the spread of these killer diseases (NACP, 2002a). In respect to that His Excellence, Honorouble, Jakaya Mrisho Kikwete, the President of United Republic of Tanzania launched the campaign for National Voluntary Counseling and Test (VCT) for HIV/AIDS in 2007. Since then as on October 2007, about 273 000 people have volunteered for HIV/AIDS test (Mushi, 2007).

The achievement of the policy largely depend on the reduction of risk behaviours practiced by individuals, specifically primary school teachers for whom the main contributing factors for HIV high prevalence are not clearly known. This study aimed at evaluating HIV/AIDS risk behaviours among primary school teachers in order to provide important information that would be useful for development of the strategies of reducing incidences of HIV/AIDS in Tanzania. This study is important because primary school teachers constitute a large segment of cadre workers and are vulnerable to HIV/AIDS and STI infections.

1.4 Objectives

1.4.1 General objective

The general objective of this study was to assess the HIV/AIDS risk behaviours among primary school teachers in Kinondoni district, Dar es Salaam.

1.4.2 Specific objectives

Specifically this study sought:

1. To assess the attitudes and awareness of primary school teachers about HIV/AIDS
2. To identify factors influencing primary school teachers risk sexual behaviours
3. To evaluate the extent of use of condom as a preventive measure against HIV/AIDS

1.5 Conceptual framework

The conceptual framework is a narrative outline presentation of variables to be studied and the hypothetical relationships between and among the variables. Fig. 1 shows the conceptual framework for the study. The background variables are age, sex, education, and marital status. The independent variables include socio-cultural variables like religiousness, norms and values and moral degradation. Socio-economic variables include income poverty and use of condoms. There are also psycho-social variables such as views, attitudes, awareness about HIV/AIDS and access to HIV/AIDS information. The dependent variable is the HIV/AIDS risky behaviour which is influenced by both background and independent variables.

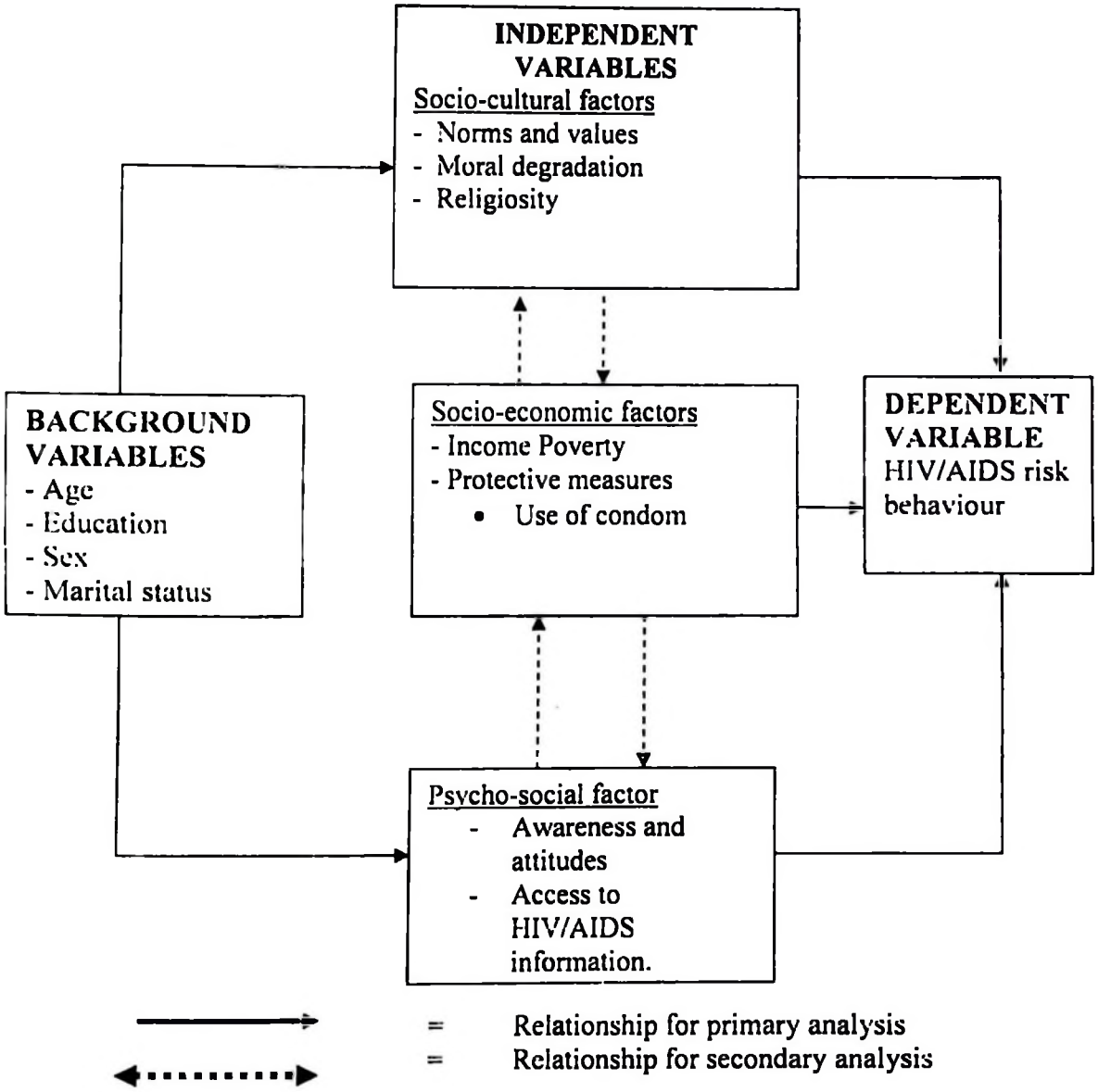

Figure 1: Conceptual framework for analysis of HIV/AIDS risk behaviour among primary school teachers.

1.6 The Hypotheses

Three hypotheses were tested in this study based on attitude and awareness of primary school teachers, factors influencing primary school teachers' sexual behaviours, and the extent of use of condom as a preventive measure against HIV/AIDS.

(a) Attitude and awareness

Null hypothesis (H_0)

I. HIV/AIDS risk behaviours are not significantly accelerated by attitudes and awareness about HIV/AIDS.

Alternative hypothesis (H_I)

II. HIV/AIDS risk behaviours are significantly accelerated by attitudes and awareness about HIV/AIDS.

(b) Sexual behaviour factors

Null hypothesis (H_0)

I. Primary school teachers' sexual behaviours are not significantly influenced by socio-economic factors.

Alternative hypothesis (H_I)

II. Primary school teachers' sexual behaviours are significantly influenced by socio-economic factors.

(c) Extent use of condom as preventive measures against HIV/AIDS

Null hypothesis (II_0)

I. Use of condoms significantly does not accelerate HIV/AIDS risk behaviours among primary school teachers.

Alternative hypothesis (H_I)

II. Use of condoms significantly accelerates HIV/AIDS risk behaviours among primary school teachers.

1.7 Limitations of the study

(i) Limited number of male teachers in the study areas. It was proposed that, in every school, out of five respondents 60% to be occupied by female and 40% to be occupied by male teachers. As for the case; it was difficult to find male respondents instead, the researcher interviewed more female teachers in some primary schools, assuming that they were homogeneous.

(ii) Some questions were too personal as some respondents were scared to answer them. For example, the age at first sexual intercourse, did they use condom? Number of sexual partners they had, and when did they have sexual intercourse for the last time? The researcher solved this problem by informing the respondents that, the information given was secret and meant for academic purposes. In some difficult circumstances the researcher started to answer those questions saying for instance "at the age of 23 I started sexual intercourse at that day we didn't use condom" by so doing respondents found themselves free to respond.

(iii) Some respondents requested payments before the interview. This was due to their understanding that most HIV/AIDS projects are donor funded and normally whenever respondents are interviewed, they are given allowances. This forced the researcher to spend more time explaining the purpose of the research so as to make respondents to participate free of charge.

(iv) Furthermore, some respondents were not willing to give information because previously there were several research projects within the study

area and there was no feedback to the respondents on the findings. The researcher solved this by promising them to send a copy of research finding report to the DEO after completion of the study.

Table 1: Definition of key variables and their indicators

Variable	Operational definition
Background variable	
Age	- Net years since one was born
Level of education	- Number of years of schooling
Sex	- A state of being male or female
Marital status	- A state of being married, divorced, single, or widowed
Dependent variable	
HIV/AIDS risky behaviour	- The number of points scored on an index scale made up of statements implying great likelihood of contracting HIV
Independent variable	
Income	- Refer to one's amount of available earnings per month (for sustainability of basic needs such as food, renting a house, attainment of social services - including water, electricity, and paying school fees
Protective measures	- Ways of preventing individuals from acquiring HIV/AIDS, including use of condoms, abstinence, and having a faithful single partner
Knowledge of HIV/AIDS	- Understanding of HIV/AIDS ways of transmission, symptoms and preventive methods
Source of information	- Where respondents obtain HIV/AIDS information
Religiosity	- Index based on praying, fasting, holding strong religion beliefs
Low Income earners	- A respondent whose gross income cannot subsist him/her self with other standard five dependants at the rate of above one dollar per day.
Young age	- Age cluster between 21 .and 35 years old

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

This chapter discusses consequences teachers encounter in HIV/AIDS risk behaviour and its effects in the country. What is known about HIV/AIDS helped to draw inferences of the research findings (Kumar and Casley, 1988). The chapter begins by defining the word HIV/AIDS, HIV/AIDS situation in Tanzania, determinants of transmission of HIV/AIDS in Sub-Saharan Africa, education and HIV/AIDS, HIV/AIDS awareness, knowledge, attitude and behaviour, gender and HIV/AIDS, HIV/AIDS situation in Kinondoni and HIV/AIDS programmes in Kinondoni.

2.2 HIV/AIDS definition

Human Immunodeficiency Virus (HIV) is a virus that causes Acquired Immune Deficiency Syndrome (AIDS) (TACAIDS, 2005a). HIV attacks the immune system and destroys the ability of the human body to fight off opportunistic infections such as tuberculosis and fungus (TACAIDS, 2005a; Barnett, 2002). The HIV infected persons may remain healthy for up to twelve years or more before signs of AIDS manifest. This mainly depends on age, immune status and the genetic make up of an individual (Moore, 2004; Edwards, 2002).

The main routes through which HIV/AIDS can be transmitted between individuals include sexual intercourse, prenatal, blood transfusions and contaminated health care equipment. It is documented that sexual intercourse contributes up to more than 80%

of all the HIV/AIDS cases. However, mother to child transmission accounts for 19% and other ways constitute 1% (NACP, 2007a).

2.3 HIV/AIDS situation in Tanzania

The first case of HIV/AIDS in Tanzania was reported in Kagera region in 1983. Since then the situation of HIV infection is unevenly distributed across geographical area, gender, age, groups and social economic classes (URT, 2003a and NACP, 2002b). It is estimated that, an average of almost 350 Tanzanians would die from AIDS every single day between 2005 and 2020, making a total of 1.24 to 3.17 million deaths, respectively (TACAIDS, 2005a). The prevalence of HIV/AIDS in Dar es Salaam region is 11%, and is among the regions with high infection rate in Tanzania. Being the business capital city Dar es Salaam has the highest number of tourists, long distance truck drivers and many new people entering and leaving the city daily. Kinondoni municipal is a part of the city with many guest houses and hotels which accommodate many guests in a day. The district also has many recreational centres, beaches, and tourist hotels, which attract both tourists and the local communities for refreshment. Such a situation accelerates HIV/AIDS transmission more than in other municipalities (NACP, 2002b). The HIV/AIDS has rapidly spread into rural areas of the municipality which previously had low disease prevalence (NACP, 2002a).

Tanzania has adopted a multi-sectoral approach in combating HIV/AIDS coordinated by the Tanzania Commission for AIDS (TACAIDS). Government ministries, the private sector, Non Governmental Organizations, support groups for people living with HIV/AIDS, International collaborating partners and other organizations are all

engaged in the national fight against HIV/AIDS (TACAIDS, 2005a); but, HIV/AIDS is increasingly becoming the major underlying factor for hospital admissions and deaths. Many diseases, which seemed to have been controlled ten years ago, have returned to previous levels due to HIV/AIDS. Studies conducted in Dar es Salaam showed that HIV/AIDS is the leading cause of adult mortality especially among women (TACAIDS, 2008).

2.4 Determinants of transmission of HIV/AIDS in Sub-Saharan Africa

The spread of HIV/AIDS in Sub-Saharan Africa is more rapid than in developed countries. The main determinants are social, behavioural, biological and cultural factors. These singly or in combination provide opportunities for HIV infection to occur to an individual (TACAIDS, 2008).

2.4.1 Social factors contributing to the spread of HIV/AIDS

Richens (2003) identified some social determinants of HIV/AIDS transmission in Sub-Saharan Africa. The presence of rape cases, causal and commercial sexual activities are among the factors for transmission of HIV/AIDS. TACAIDS (2008) reported that stigma and discrimination against people living with HIV/AIDS are quite common in Tanzania. Studies done in communities in Magu, Mwanza by TANESA revealed that many people would not admit that their sick relative could be suffering from HIV/AIDS but believe instead in witchcraft as the cause of their sickness. This situation makes it difficult to convince people with wife-inheritance traditions not to marry women whose husbands may have died from AIDS.

Other social determinants are poverty, economic hardship and unequal distribution of wealth among the communities (Richens, 2003). Over 50% of Tanzanians live below

the poverty line and females are worse than males. In addition, low and or irregular income creates an environment that encourages labour migration. Women in such situations may be easily tempted to exchange sex for money and this puts them and their spouses at risk for HIV. People with low income have less access to medical care including that for STDs and HIV/AIDS (TACAIDS, 2008).

2.4.2 Behavioural factors contributing to the spread of HIV/AIDS

Unprotected sexual behaviour among population groups with multiple sexual partners makes them vulnerable to HIV/AIDS infection: this is due to reduced social discipline for making good decisions about social and sexual behaviour. Social discipline has been eroded because of 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 have also contributed negatively to social discipline (TACAIDS, 2008).

2.4.3 Biological factors contributing to the spread of HIV/AIDS

The prevalence of STDs infections (especially gonorrhea and other genital discharges) are among the top-ten causes of HIV/AIDS in mainland Tanzania. Studies have found that patients with STDs are 2 to 9 times more likely to be infected with HIV. Unsafe blood transfusion is also a major determinant of HIV transmission. The HIV transmission rate through transfusion of contaminated blood is almost 100% (NACP, 2007b). Although all centres in Tanzania rendering this service are equipped with facilities to ensure safe blood transfusion but, due to lack of regular supplies of reagents and equipment as well as lack of reliable power supply in some centres there is some risk of transfusing contaminated blood. This

situation therefore calls for improved blood transfusion services in the whole country (TACAIDS, 2008).

2.4.4 Cultural factors contributing to the spread of HIV/AIDS

Cultural risk factors that accelerate HIV/AIDS transmission in Sub-Saharan Africa include acceptability of multiple sexual partners especially for men. For example polygamy, girlfriends/boyfriends relationships and commercial sexes are common in Sub-Saharan African countries. The little emphasis on masturbation for men and a young age at first sexual intercourse also contribute much to the transmission of HIV/AIDS (Bernard and Theodore, 1994). Other cultural factors such as sexual vulnerability of women particularly young women and girls harm their health and increase their risk of HIV/AIDS and other sexually transmitted diseases (STDs). Existing prevention strategies have largely failed to address this vulnerability, focusing on abstinence, mutual monogamy and male condom use none of which are easily controlled by women (Ramakant, 2007).

The influence of culture and religion on sexual behaviour is a matter of an individual. Many people assume strictness on moral code norms of their religions or culture but, privately behave differently. For example, religious rules prohibit sex out of wedlock, but partners normally do not obey, thus could lead to the transmission of HIV/AIDS among them (Green, 2003).

2.5 Education and HIV/AIDS

Many countries in sub Saharan Africa have experienced the impact of HIV/AIDS on education. In Tanzania it is estimated that 27 000 teachers are expected to die due to

HIV/AIDS by the year 2020 (World Bank, 1992). The frequency of teachers' deaths will decrease the efficiency and effectiveness of the education system as the majority of qualified teachers will perish with this pandemic. It will result in a shortage of teachers to address the government education goal that aims to ensure that, at least 75% of teachers at a school should be qualified teachers (Roy *et al.*, 2002). Teachers, like other people in society are also expected to a lot of time to attend sick relatives from HIV/AIDS and this compromises their school activities. HIV/AIDS may lower the quality and quantity of education unless serious interventions are made. The death rate of teachers due to AIDS can be used as an important indicator of the impact of AIDS on education (Roy *et al.*, 2002).

2.6 HIV/AIDS awareness, knowledge, attitudes and behaviour

In Tanzania, the knowledge on HIV/AIDS transmission and prevention is widespread. Studies by Tanzania Demographic Health Survey (URT, 2006) showed that, youth between the ages of 15-24, and those who have never had sex, have a lower level of knowledge than those in older age groups, and those who have sexual experience. Women and men with higher levels of education are more aware of preventive measures than those with less education. The findings show a high level knowledge of HIV/AIDS preventive measures among teachers however, teachers are not passing on this knowledge because of cultural and social inhibitions (Oshi *et al.*, 2006).

2.7 Gender and HIV/AIDS

The most affected group in Sub-Saharan Africa is women accounting for 57% of all adults living with HIV/AIDS (UNAIDS/WHO, 2005; Wills, 2002). There are various

factors making females more vulnerable to HIV/AIDS than males. These include biological factors, a subordinate position to males; the burden of caring for AIDS patients in affected households, cultural and economic practices, which increase the risk of transmission (MSCI, 2006).

2.8 HIV/AIDS situation in Kinondoni district

Kinondoni district council is located in Dar es Salaam region and is reported to be heavily affected by HIV/AIDS pandemic. The district has a population of about 1 083 913 (URT, 2002b) and is estimated to have approximately 7200 AIDS cases (NACP, 2007b). Groups that have been highly affected by HIV/AIDS are teachers, truck drivers, daladala and tax drivers, bar maids, commercial sex workers, soldiers, policemen and fishermen (KMC, 2005). The rapid spread of HIV/AIDS in Kinondoni district is attributed to the relatively low impact of the interventions and strategies adopted. Moreover, the elements of behaviour change among the people are the fundamental and complex issues which are difficult to achieve thus, leading to the rise of HIV/AIDS scourge (KMC, 2005).

2.9 HIV/AIDS programmes in Kinondoni district

According to Kinondoni Municipal Council Strategic Plan (2007-2010) reported by KMC (2006), HIV/AIDS committees have been formed at municipal wards and hamlets levels. Thirteen hamlets have been supported through participatory planning methodology of Community Mapping and Theater against HIV/AIDS (COMATAA). Furthermore awareness training has been done on working places including primary schools. About 350 employees underwent HIV/AIDS training as far as HIV/AIDS

mobilization and sensitization. Up to 300 civil organizations have been formed to combat HIV/AIDS in Kinondoni district (KMC, 2005).

2.10 HIV/AIDS rational health belief theory

The traditional public health approach to the HIV/AIDS pandemic based on the rational health belief model which assume the following "if an individual are given full information about HIV/AIDS infection and method of transmission, if this information are understood and retained by the individual, and if condoms are available at reasonable cost, then the person would logically use condoms when having sexual intercourse" (Digitas, 2008).

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the methods used to collect and analyse data on HIV/AIDS risky behaviour among primary school teachers. The chapter is divided into six sections. Section one presents the study location and justification of its selection. Section two presents research design, which describes the type of respondents involved in the study, while section three presents the sampling procedures employed. Section four describes data collection, which is followed by data processing and analysis in section five.

3.2 Study location and justification for its selection

3.2.1 Location and study area

Kinondoni municipal council is one of the three municipalities that constitute Dar es Salaam city. The municipal council lies between latitude 9 250 000 degrees and 9 275 000 degrees North of the equator and longitude between 500 000 degrees to 525 000 degrees East. It covers an area of 531 square kilometers. It is bordered by Indian Ocean to the North-East, Ilala municipality to the South, Bagamoyo district to the North, Kibaha district to the West and Kisarawe district to the South-West. According to the 2002 census Kinondoni municipality had a population of 1 088 867 people with estimated growth rate of 4.3% per annum (URT, 2003b). Also, Kinondoni municipal council has 27 wards to which the sample of the study was selected; these wards are shown in Fig. 2.

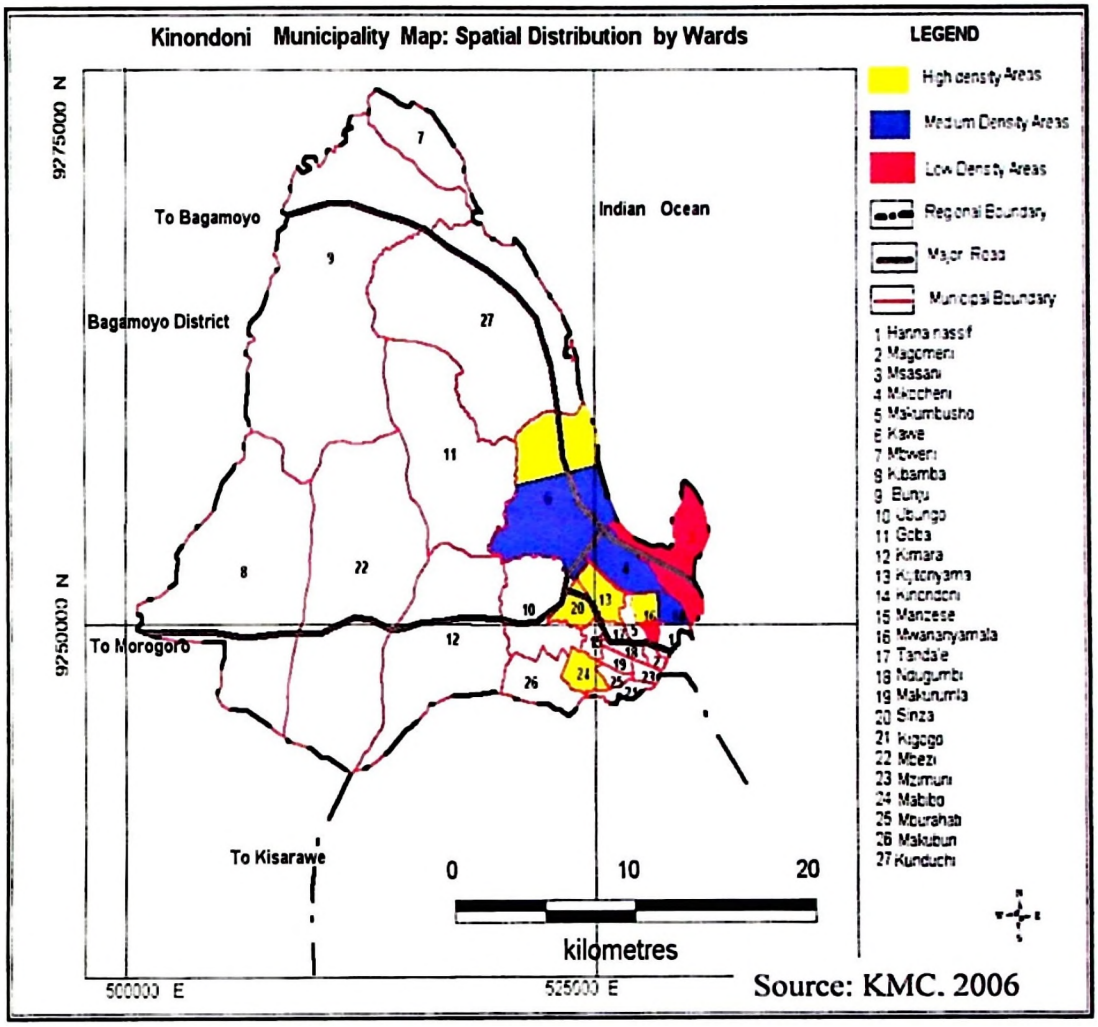

Figure 2: Kinondoni Municipality Map of which sample size was drawn

3.2.2 Justification for selection of the study area

The district was chosen because it had the highest population growth rate of 4.3% higher than the other districts in Dar es Salaam. Kinondoni had a total of 131 primary schools at the time of study which was the highest number of primary schools compared to other municipalities in Dar es Salaam region. The municipal has also the highest number of government primary school teachers summing to 3440. It also has been noted that HIV/AIDS death cases was higher in Kinondoni municipal (50.7%) compared to 18.7% in Ilala and 30.6% in Temeke municipalities.

3.3 Research design

The cross-sectional research design was used in this study. This method allows data to be collected at one point in time and establishes relationships between variables for the purpose of testing the hypotheses (Bailey, 1995). The method is considered to be useful because of time limitation and resources constraints.

3.4 Sampling procedures

3.4.1 The population

The population from which the sample for this study was drawn involved primary school teachers in Kinondoni municipal in Dar es Salaam city. The total teachers' population in Kinondoni municipal were 3440 (Table 2). The samples were drawn from all groups of teachers despite the fact that they differed in their marital status, religion, age, sex, and education level.

3.4.2 Sample size

In this study the sample size was calculated as shown in appendix 7. The sample size of 150 respondents from 30 primary schools, with a total of five respondents in each school was therefore obtained. It was proposed that in every school, out of five respondents 60% to involve female and 40% to be male teachers. However, during data collection it was observed that, most of the teachers were female therefore in this study male teachers were only 21.3% of the respondents. The sample size by number is shown in Table 2.

Table 2: Total primary school teachers in Kinondoni municipal

Variables	Female	Male	Total
Population	2 819	621	3 440
Single	1 494	329	1 823
Married	1 325	292	1 617
Sample	123	27	150

Source: TSD Kinondoni municipal, 2006

3.4.3 Sampling techniques

Simple random sampling was used, whereby 10 wards were chosen from a list of 27 wards. The Ten wards selected were Ubungo, Makurumla, Ndugumbi, Tandale, Mwananyamala, Magomeni, Mzimuni, Kigogo , Sinza and Kinondoni. From each ward three primary schools were randomly selected from the list and total of 30 primary schools were involved in the study. The schools were Ubungo NHC, Urafiki, Ubungo plaza, Mianzini, Karume, Dr. Omary Juma, Mwalimu Nyerere, Ndugumbi, Turiani, Tandale, Tandale Magharibi, Hekima, Mharitani, Mwongozo, Kinondoni, Msisiri, Msisiri B, Magomeni, Ali Hasan Mwinyi, Mikumi, Mzimuni, Mkwawa, Kigogo, Gilbert Rutihinda, Mapinduzi, Mburahati, Bryceson, Muungano, Relginard, Mengi, Sinza, Mugabe and Kumbukumbu. Focus Group Discussions (FGDs) were conducted at three primary schools (Bryseson, Mburahati, and Hekima) randomly selected from 10 wards of the study. Twelve teachers were involved in each FGD on which 10 participants were female teachers and the rest were male selected randomly from each school. The proportions of male and female teachers were considered in drawing the FGDs participants. There was a checklist for key informant-District Education Officer (DEO).

3.5 Data collection methods

Both quantitative and qualitative data were collected using pre-tested structured questionnaires by interviewing randomly selected primary school teachers. This was used as the main instrument for quantitative data collection and it used structured questionnaire containing both closed and open-ended questions (Appendix 1). The revised version of the questionnaire that was used in the study was translated into 'Swahili', the national language understood by majority of Tanzanians.

However, more information was obtained through checklist and Focus Group Discussion (FGDs). The FGDs were used to obtain general perception on the strategic effort that undertaken to reduce the HIV/AIDS pandemic. One session of group discussion was conducted in each primary school, and in each session 12 teachers were involved where there were two male and 10 female teachers. I as principal researcher moderated the discussion while two research assistants took notes and sometimes tape recorded the discussions. The participants sat in a semi-circle and the moderator in the centre. All the discussions were conducted in 'Swahili'. The moderator introduced the topic and then allowed the group members to discuss. The FGDs were guided by discussion questions (attached in Appendix 2). Each FGD lasted for about two hours. The checklists were used to key informant which included the District Education Officer (DEO). The DEO were asked to supplement the information and reveal if there were any strategies to fight HIV/AIDS in primary schools.

3.6 Data processing and analysis

The data collected were edited, coded, summarized, posted and analyzed using the Statistical Package for Social Science (SPSS) (Kothari, 2004). Descriptive statistics were used, particularly percentages and cross tabulations to assess the magnitudes of relationships using *chi-square test*. Index scale was used to measure the HIV/AIDS risk behaviour of the respondents (Bernard, 1994).

Six independent variables were tested at the one and five percent level of significances to measure the HIV/AIDS risk behaviours in terms of doing unprotected sex, such that sexing without condom. These independent variables were age (X_1), sex (X_2), marital status (X_3), education (X_4), HIV training (X_5) and income (X_6). Logistic regression models were used to determine the teachers HIV/AIDS sexual risk behaviour. The model was estimated using SPSS computer software whereby HIV/AIDS risk behaviour was assigned one, and when not at risk was assigned zero. The logistic regression model used in this study is given by:

$$\text{Ln } P = \alpha + \beta_1 (AGE) + \beta_2 (SEX) + \beta_3 (MARITAL) + \beta_4 (EDU) + \beta_5 (TRAIN) + \beta_6 (INCOME) + \mu$$

Where:

α	=	intercept
β_i	=	parameters to be estimated
P	=	binary dependent variable (P = 1 if sexual risk behaviour present, otherwise P = 0)
AGE	=	age of respondent in years
SEX	=	respondent's sex (Dummy: 1 if female, 0 if otherwise)

MARITAL	=	marital status of respondents (Dummy: 1 if married, 0 if otherwise)
EDU	=	education measured in number of years in school
TRAIN	=	received training on HIV/AIDS (Dummy: 1 if not received, 0 if otherwise)
INCOME	=	household income in TZS (Dummy: 1 if below Tshs 300 000, 0 if otherwise)
Ln	=	the natural logarithm
μi	=	disturbance (error) term $\mu \approx (N (0 Pi(1-Pi))$

With regards to dependent variable, dummy of HIV/AIDS sexual risk behaviour were measured by frequency of using condom, such that equal to one if never using condom, otherwise equal to one. It is known that condoms provide protection to both partners against sexual transmitted diseases (Bernard and Theodore, 1994). Therefore, it was hypothesized that a lower rate of condom use would imply a higher rate of HIV/AIDS sexual risk to both partners. Individuals using condoms regularly with their new partners have a lower risk of contracting HIV/AIDS.

Age was hypothesized to correlate positively with teachers' sexual risk behaviour. According to URT (2007), older people are more likely to be infected than younger people. Primary school teachers with older ages have higher sexual risk behaviour than the younger ones.

Regarding sex, it was hypothesized that females are at risk of being subjected to sexual risk behaviour than their male counterpart with the same age. According to

URT (2007), both men and women are vulnerable to HIV/AIDS infection. However, unlike women in other regions of the world, African women are at least 1.3 times more likely than men to become infected with HIV/AIDS. Biological and cultural factors contribute to the higher rates of HIV infection among women.

Regarding Marital status of respondents, it was hypothesized that married respondents have higher chances of being in HIV/AIDS sexual risk behaviour than unmarried ones, hence having a positive coefficient. Digitas (2008) reported that "in East Africa it is considered a risk factor to be married than being unmarried"

Education was hypothesized to correlate positively to HIV/AIDS sexual risk behaviour. The more educated primary school teachers are, the higher their HIV/AIDS sexual risk behaviour. This is due to the fact that, increase in number of years at school subjects a person to an increase in their number of sexual partners. According to URT (2006), HIV/AIDS prevalence increase with the level of education.

Training about HIV/AIDS sexual risk behaviours was hypothesized to correlate negatively to teachers' sexual risk behaviours. Those primary school teachers who had formal training in HIV/AIDS sexual risk behaviours were safer than their counterparts who never been taken anti-HIV/AIDS training (Wikipedia, 2007).

Regarding income of respondents, it was hypothesized that income factor to be negative correlated to the HIV/AIDS sexual risk behaviour; therefore respondents with a lower income have higher chances of being in sexual risk behaviour than

those with higher income. HIV/AIDS problem is closely connected with poverty and fighting poverty probably would be an effective means of fighting HIV/AIDS (Eric and Oscar, 2004).

3.7 Data quality control

Pre-testing of the questionnaire was done in Kinondoni district two weeks before the actual data collection so as to determine their clarity and relevance to the objective of the study. Pre-testing was done for the purpose of controlling quality of the questionnaire and information that was obtained from them. The questionnaires for pre-testing were administered to 20 respondents drawn randomly from the population with similar characteristics to the respondents in the main survey. Pre-testing was conducted in five primary schools in Kinondoni district whereby three female and one male respondent were interviewed at each school. The questionnaires were modified accordingly to incorporate lessons drawn from the pre-testing. For example, ambiguous questions were modified and repeated questions were removed.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Overview

This chapter presents findings and discussions of the analyzed data from the questionnaires for the three specific objectives that were used to assess the HIV/AIDS risky behaviour of primary school teachers in Kinondoni district. Data from FGDs were also discussed to supplement findings from the questionnaires. The results have been presented in the tables, figures and appendices as detailed below.

4.2 The background characteristics of the respondents

The background characteristics considered in the study included age, sex, marital status, and education level. The study assessed whether these parameters had any influence on the HIV/AIDS sexual risky behaviour.

4.2.1 Age of the respondents

The selected sample for this study comprised 150 respondents, with an age range from 21 to 50 years old. About 29% (n= 150) of the respondents were between 21 and 30 years of age, 38% were between 31 and 40 years of age, 15% were between 41 and 50 years of age and 18% were above 50 years of age (Fig. 3 and Table 3).

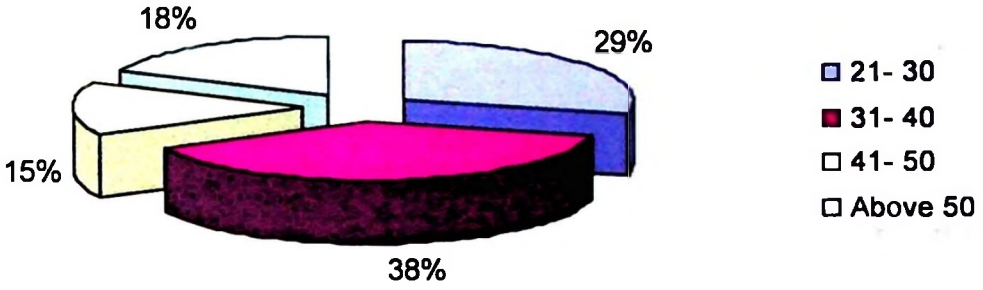

Figure 3: Age range of the respondents

4.2.2 Sex and marital status of the respondents

Of 150 respondents 78.7% were females while 21.3% were males indicating gender disparity among primary school teachers in Kinondoni districts. Results in Fig. 4 and Table 3 show that, 33.3% of the respondents were unmarried, 54% were married, 6% were divorced and 6.7% were widows and widowers. With this result there are a good number of unmarried primary school teachers in Kinondoni district.

Table 3: Sex, Education level and marital status of respondents

	Male		Female		Total	
	N	%	N	%	N	%
Education						
Grade B	0	0.0	3	2.5	3	2.0
Grade A	27	84.4	114	96.6	141	94.0
Diploma	4	12.5	1	0.8	5	3.3
Bachelor	1	3.1		0.0	1	0.7
Total	32	100.0	118	100.0	150	100.0
Marital status						
Unmarried	14	43.8	36	30.5	50	33.3
Married	18	56.3	63	53.4	81	54.0
Divorced	0	0.0	9	7.6	9	6.0
widows/widowers	0	0.0	10	8.5	10	6.7
Total	32	100.0	118	100.0	150	100.0

4.2.3 Education levels of the respondents

From Table 3 and figure 4, it was found that, of the 150 respondents, 94% had an education level of Grade A, two percent had Grade B, 3.3% had Diploma in Education, and only one respondent (0.7%) had Bachelor degree in education.

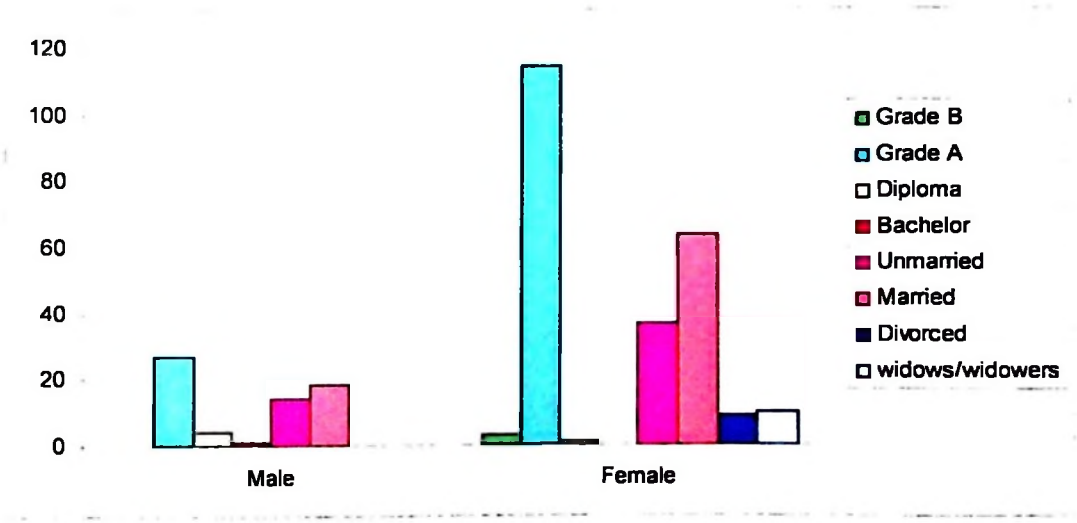

Figure 4: Sex, marital status and education level of respondents

4.3 Results from logit regression model estimation

The logit regression model was used as a general test for the hypothesis on whether the person is at HIV/AIDS risky behaviour. The aim was to test whether the suspected variables of age, sex, marital status, education levels, HIV training and income were responsible for HIV/AIDS risk behaviours of unprotected sex with new sexual partners. The results in Table 4 show that the model was slightly fitted which is indicated by the goodness of fit test where the *chi-square* value for the deviance is 75.017, p-value= 0.000. Moreover, adjusted R^2- value of 0.396 indicates that the model explained about 39.6% of the variation in the odd ratios. This value of R^2 value suggests that the model at least fitted well to the data.

Table 4: Analysis of maximum likelihood estimates for HIV/AIDS sexual risk behaviour

Variables	B	Standard error	Wald	df	Sig.	Exp(B)
Age	0.177	0.037	22.646	1	0.000*	1.194
Sex	0.981	0.615	2.540	1	0.111ns	2.667
Marital	0.803	0.500	2.577	1	0.108ns	2.232
Education	-1.316	0.628	4.391	1	0.036**	0.268
Training	0.038	0.464	0.007	1	0.934ns	1.039
Income	-1.660	0.804	4.266	1	0.039**	5.257
Constant	9.016	8.335	1.170	1	0.279ns	8232.041

R^2=39.6 where p-value=0.000

**=Statistically significant at 0.01,*
***= Statistically significant at 0.05,*
ns=not statistically significant

4.3.1 Respondents age and HIV/AIDS sexual risk behaviour

Table 4 has shown that, the coefficient for age factor was positive as predicted before. This means that the higher the age of respondents the higher the sexual risk behaviour due to increase number of sexual partners. Also the respondents' age was statistically significant ($p<0.01$), indicating that there is a clear relationship between

the age of the respondents and their HIV/AIDS sexual risk behaviour. The results from the odd ratio test also suggest that respondents with higher ages are more than 22.646 times likely to be in HIV/AIDS sexual risk behaviour than others with lower ages, holding other factors constant.

4.3.2 Sex of respondents and HIV/AIDS sexual risk behaviour

The coefficient of sex of respondents was positive as previous expected. This indicates that being female exposes a person to more HIV/AIDS sexual risk behaviour than their male counter parts. The results revealed that female respondents started sexual practices much earlier than males. About 8.5% (n=94) of female respondents reported to have been engaged in sexual activities at the age of 12 to 14. Moreover, FGDs found out that, male teachers were more likely to use condoms than female teachers during sexual intercourse, HIV Insite (2008) reported that at present availability of female condoms is very low and the price remains prohibitive for many women. The results indicate that there is no statistically significant association between sex of the respondents and HIV/AIDS sexual risky behaviours ($p>0.05$). The results from the odd ratio test suggest that female teachers are more than 2.667 times likely to be in HIV/AIDS sexual risk behaviour than male teachers, holding other factors constant. These findings are supported by NACP (2007a, b) which showed that African women are at least 1.3 times more likely than men to be infected by HIV/AIDS.

4.3.3 Marital status and HIV/AIDS sexual risk behaviour

The Marital status of respondents has positive effects to the dependent variable as previous expected. This indicates that married teachers are more subjected to

HIV/AIDS sexual risk behaviour than un married teachers. The findings summarized in Table 4 shows that, marital status was not statistically significant with HIV/AIDS sexual risk behaviours ($p>0.05$). This meaning that the marital status of respondents is independent with HIV/AIDS sexual risk behaviours. The results from the odd ratio test suggest that married teachers are more than 2.232 times likely to be in HIV/AIDS sexual risk behaviour than unmarried teachers, holding other factors constant.

4.3.4 Education level and HIV/AIDS sexual risk behaviour

The findings summarized in Table 4 shows that, the coefficient for education had negative sign contrary to previous expectations; implying the high level of education reducing the respondents' HIV/AIDS sexual risk behaviour; also, the findings of this study showed that education factor was significant predictor of Kinondoni district primary school teachers' HIV/AIDS sexual risk behaviours ($p<0.05$). This is because the higher the number of years spent in school the lower the HIV/AIDS sexual risk behaviour due to having enough knowledge on ways of protection against contracting HIV/AIDS. The results from the odd ratio test suggest that the teachers having the higher number of years spent in school, are more than 0.268 times not likely to be in HIV/AIDS sexual risk behaviour than other teachers with lower number of years spent in school, holding other factors constant.

4.3.5 Respondents' HIV training and HIV/AIDS sexual risk behaviour

The coefficient for training on HIV/AIDS had a positive sign contrary to the predictions, and those who received HI/AIDS training, were found to be not significant predictors ($p>0.05$) of the respondents' HIV/AIDS sexual risk behaviours.

The test do not signify that access to information and awareness on HIV/AIDS due to received HIV training enables primary school teachers to protect themselves against this pandemic. The results from the odd ratio test summarized in Table 4 suggest that the teachers having attended the HIV/AIDS training are more than 1.039 times likely to be in HIV/AIDS sexual risk behaviour than other teachers who have never attended the HIV/AIDS training, holding other factors constant. This result is varied due to the fact that what is important is not only to have knowledge but how those knowledge can bring behaviour changes which will help to a person to avoid HIV/AIDS sexual risk behaviour.

4.3.6 Respondents' income and HIV/AIDS sexual risk behaviour

Table 4 shows that, the coefficient of income was negative as expected, implying that as income increases, the probability of being in HIV/AIDS sexual risk behaviour decreases as measured by number of partners one had. The higher the income, the lower the HIV/AIDS sexual risk behaviours. This indicated that, lower income earners are in a higher risk to HIV/AIDS. The income factor were statistically significant ($p<0.05$), indicating that income factor and the primary school teachers HIV/AIDS sexual risk behaviours are dependent to one another. Luke (2006) found that at present, economic status is found to be negatively associated with HIV/AIDS infection, particularly among women. It is believed that many women are motivated by poor socio-economic conditions to engage in "transactional sex" for a need of financial support.

The results from the odd ratio test suggest that the teachers having higher income are more than 5.257 times likely to be in HIV/AIDS sexual risk behaviour than other

teachers who have lower income, holding other factors constant. Also, the results from FGDs indicated that low income is one of the factors which compelled many teachers to be engaged in HIV/AIDS sexual risk behaviour for having more than one sexual partner so as to get financial support.

4.4 Attitude and awareness of primary school teachers towards HIV/AIDS

The main criterion for assessment of knowledge about HIV/AIDS was divided into two broad categories, namely the general and the detailed knowledge. The respondents were assessed on their HIV/AIDS knowledge and their insight into understanding the causes, spread, symptoms, and prevention methods of HIV/AIDS.

4.4.1 General knowledge concerning HIV/AIDS

The findings of this study indicated that all the respondents were aware of the prevalence of HIV/AIDS in the country. All respondents knew a local name of HIV/AIDS in Kiswahili that is *UKIMWI*. Of the 150 respondents, 80% knew somebody with AIDS or who died of AIDS. A total of 124 (82.3%) respondents mentioned HIV/AIDS as the most dangerous disease, whereas 15.2% of respondents mentioned Ebola and 2.5% mentioned cancers. Based on these results it is indicated that, primary school teachers in Kinondoni district are aware and knowledgeable of HIV/AIDS.

4.4.2 Detailed knowledge concerning HIV/AIDS

The detailed knowledge of HIV/AIDS was divided into four categories: knowledge of the modes of transmission of HIV/AIDS, knowledge of the symptoms of HIV/AIDS, knowledge of the means of prevention of HIV/AIDS, attitudes towards

People Living with AIDS (PLWA) and source of information on HIV/AIDS to primary school teachers.

i. Modes of transmission of HIV/AIDS

Table 5 shows the distribution of respondents by knowledge on the transmission of HIV/AIDS. The findings show that, most of the respondents (85.3%) had detailed knowledge on HIV/AIDS transmission through sexual intercourse. A misconception about the modes of transmission of HIV/AIDS was observed at one FGD conducted at Mburahati primary school. There were doubts about sharing of eating utensils with a person with HIV/AIDS, this being a stigmatic fear attached to HIV/AIDS patients. On the other hand one female respondent remarked that, "You can not get HIV if you don't have genital sore". Yet, another male respondent said "if you play sex without causing friction you are safe". Furthermore, 87.3% of the respondents stated that a person can not contract HIV through supernatural means. The results from Table 5 show that, primary school teachers have detailed knowledge on methods of HIV/AIDS transmission. All respondents knew that HIV/AIDS can never be transmitted by mosquito bites. In addition, 69.3% of the respondents understood that HIV virus can pass from mother to baby during pregnancy and 94.7% were aware that HIV virus can pass from mother to a baby during breastfeeding. Concerning the issue of continuing working while infected with HIV/AIDS, 98.7% of the respondents suggested that teachers should be allowed to teach even when they were HIV positive, based on the fact that transmission of HIV can not occur through casual contacts. The findings above suggest that sexual intercourse is the mostly known route of

transmission of HIV. The results of this study are in consistence with those of the previous reports by NACP (2007b, 2005d).

Table 5: Response for the means through which HIV/AIDS is transmitted

Parameter	Number of respondents (n)	Percent
Sexual intercourse	128	85.3
Blood transfusion	98	65.3
Instruments contaminated with body fluid	63	42
Sharing eating domestic utensils	40	26.7
Sores in the genitalia during sexual intercourse	90	60.7

ii. Knowledge on the symptoms

Table 6 shows the awareness of respondents on symptoms of HIV/AIDS. The HIV/AIDS symptoms most frequently mentioned were body wasting (77.3%), persistent fever (70%) and prolonged cough (44.7%). All respondents knew that it is possible for a healthy looking person to have HIV/AIDS. Some respondents challenged the use of symptoms as the basis for diagnosis. One widow from FGD said, "My husband died five years ago after suffering from unknown disease and had extreme loss weight; he was labeled a victim of AIDS." The widow decided to go for HIV test in more than two hospitals, but all results showed that she was HIV negative". Nevertheless, two respondents could not mention more than one symptom.

Table 6: The response on the symptoms of HIV/AIDS

Parameter	Number of respondents (n=150)	Percent
Prolonged cough	67	44.7
Prolonged diarrhea	45	30.0
Body wasting	116	77.3
Skin diseases	70	46.7
Persistent fever	105	70.0
Persistent TB	50	33.3

iii. Knowledge on the means of prevention of HIV/AIDS

Respondents were asked about the means of prevention of HIV/AIDS. Results show the frequency of responses of the means of prevention of HIV/AIDS. The most widely cited modes of prevention were fidelity (90%), followed by abstinence (58.7%), and condom use (80%). Some respondents in the FGD at Mburahati primary school were concerned about the available modes of prevention being ineffective and that abstinence being not practical. This comply with the one reported by Sebagereka (2004) "preventive measures like condom use largely favour the male in terms of availability and affordability while the female condom is largely inaccessible and expensive. Current prevention strategies that emphasize mutual monogamy and make condoms require co-operation by women's male partners". Also, condom remains taboo in the predominantly Muslim families (IRIN, 2008).

iv. Attitudes towards PLWA

All respondents showed willingness to take care at home, of their relatives living with AIDS. Up to 98.7% (n=150) of the respondents believed that a teacher with HIV/AIDS should be allowed to continue with his/her

employment, whereas only 1.3% had opposite opinions. A total of 139 respondents were willing to buy fresh food from a shopkeeper with AIDS believing that they will not be affected by the disease, while 8 (5.3%) respondents had negative opinions, and the remaining two percent had no opinion. The findings also show that over 90% of the respondents appeared not to be shameful for a family having HIV/AIDS infected person. These results suggest that, the majority of teachers in Kinondoni district have a positive attitude towards people living with AIDS. This is an important finding especially on fighting and preventing stigmatization for PLWA. which is now a global strategy.

The results also revealed that 11.3% of the respondents were against the disclosure of a member with HIV infection so as to avoid stigmatization in the society. However, 84.7% of respondents said that, the matter should not be taken as a secret due to the fact that others need to be aware of it. The respondents indicated that revealing an individual's HIV status would make it possible for various organizations to assist the patients. On the other hand, 4% of respondents said that they had no comment concerning the above matter. The results indicate that primary school teachers in Kinondoni district are aware of the need for the society to change so as to allow disclosure of HIV positive individuals so enable the patients to obtain appropriate treatment and get current information concerning HIV treatments.

v. **Source of information on HIV/AIDS to teachers**

All respondents were asked to state the place where they got information about HIV/AIDS. Results show that, 82.7% of the respondents got information from the mass media, 8.7% got from NGOs and 8.7% got from both mass media and NGOs. The coefficient for training on HIV/AIDS had a negative sign, but those who received HIV training, were found to be significant predictors ($p<0.05$) of the respondents' HIV/AIDS sexual risk behaviours. The test signify that access to information and awareness on HIV/AIDS due to receiving of HIV training enables primary school teachers to protect themselves against this pandemic. These suggest that primary school teachers have access to HIV/AIDS information which makes them well informed with various current issues concerning HIV/AIDS test, protective measures and treatments of opportunistic infections. The above findings reveal that, primary school teachers in Kinondoni district are aware of HIV/AIDS transmission, symptoms, and protection methods from contracting the disease. The results of this study are similar to those reported by TACAIDS (2006) which showed that, the comprehensive correct knowledge on HIV/AIDS was higher in Mtwara, Kagera and Dar es Salaam regions.

4.5 Factors influencing primary school teachers HIV/AIDS risk sexual behaviours

There were many factors which influence sexual behaviour of primary school teachers (Bernard and Theodore, 1994). The study assessed various sexual risk

behaviours of primary school teachers in Kinondoni district associated by socio-economic and socio-cultural factors.

4.5.1 Socio-economic factors

Socio-economic characteristics of respondents are discussed in this section. Respondents were asked to report the range of their income salary and whether or not they owned assets such as land, cars, house, television, radio, and other properties. The assets were considered as indicators of socio-economic status of the teachers' households. The summary of the teacher's salary range, assets owned in the household and monthly expenditures in the family is presented in Appendix 5. The findings revealed that, up to 42% of the respondents belonged to the income category of below Tshs 100 000. About 48% of the primary school teachers belonged to the income group ranging between Tshs 100 000 to 300 000 and 10% belonged to the income group of above Tshs 300 000. This is an indication that teachers in Kinondoni district are facing a difficult financial position due to the fact that majority (90%) receive less than Tshs 300 000 per month. This results complied to the one reported by IRIN (2008) "Low salaries for teachers remains a major challenge facing the education system in Tanzania, with primary-school teachers earning less than 80 000 Tanzanian shillings a month while their secondary counterparts earned 150 000 shillings, according to a 2005 report by Hakielimu".

Table 7: Cross tabulation of the amount spend on food per month in the household and household size range (N=150)

Amount spend for food per month	Household size range				Total	X^2	p-value
	1-3	4-6	7-9	10 and above			
Less than 100 000	20	25	16	3	64		
100 000- 300 000	13	18	12	8	51		
Above 300 000	2	2	1	1	6		
Not able to mention	10	14	4	1	29		
Total	35	45	29	12	150	8.157	0.518

The respondents were also asked to mention the amount of money they spent on food per month in their household. The results summarized in Table 7 found that, out 150 respondents 64 (42.7%) were spending less than Tshs 100 000 per month whereas 51 (34%) spent between Tshs 100 000 and 300 000 while 6 (4%) spent above 300 000 per month and 29 (19.3%) did not remember exactly how much they spent for food per month. The findings from *chi-square* distribution test at 5% level of significance (X^2=8.157, p-value=0.518) revealed that the amount spent on food and household size are independent of one another, this indicates that it is not always the case families with many members to spend more on food, probably this was due to low income earned per month or other expenditures such as education of children and transport were given more priority. The FGD conducted at Mburahati revealed that, majority of teachers are living in poverty, a situation which is probably forcing them to enter into the HIV/AIDS sexual risk behaviour by having more than one sexual partner, which sometimes results in becoming infected with HIV/AIDS.

Estimation for the minimum living wage for the Tanzanian Government workers in 2006 was Tshs 315 175 based on the basic prerequisites of life. This amount was estimated to meet the basic requirements for the family of six people for the whole

month (TUCTA, 2006). However, the estimated amount could not be satisfactory for the time being due to the high cost of living.

For the case of assets, the results showed that 24.7% of the respondents owned land, 22.7% owned houses; 4% owned motorcars and 2.7% owned all of the above assets. However, 46% of the respondents had none of the above-mentioned assets. In terms of any other income in the household, 72.7% of the respondents had no any other income apart from their salaries, while 27.3% had other sources of income such as small-scale businesses. The results from FGDs revealed that, approximately 35% of the primary school teachers in Kinondoni district were running small scale businesses in order to supplement their incomes. However, their earnings were not enough due to the small capital input in their businesses, the capital which were borrowed from Banks, Savings and Credit Cooperative Society (SACCOS) and other financial institutions.

In this study, the coefficient of income was negative implying that as income increases, the probability of being in HIV/AIDS sexual risk behaviour decreases as measured by number of partners one had. The higher the income, the less the HIV/AIDS sexual risk behaviours. This indicated that, lower income earners are in a high risk to HIV/AIDS. The income factor were significant predictor ($p<0.05$) of the primary school teachers HIV/AIDS sexual risk behaviours. The low income of primary school teachers probably subjects them to HIV/AIDS risk behaviour, as they may be compelled to look for sexual partners for financial assistances regardless of their sex. FGD conducted at Bryceson primary school discussed that both male and female teachers might be engaged in sexual relation with "sugar dadies" and "sugar

mammies" who support them financially in the exchange of sexual satisfaction. That means teachers obtain money and sugar dadies and mammies get sexual satisfaction.

4.5.2 Socio-cultural factors

4.5.2.1 Religiousness of primary school teachers

The respondents were also requested to respond to the questions on their belief in God, praying, fasting, attending to church/mosque and giving offerings. Table 8 shows that all the respondents reported to have a belief in God. Of the respondents, 54% appeared not to be strictly religious as they neither attended to the church/mosque nor involved in giving offerings. Lack of adherence to religious norms most likely led to involvement in unacceptable social activities including HIV/AIDS risk behaviours.

Table 8: Respondents' reaction to religious participation

Mode of participation in religion	Yes		No	
	N	%	N	%
Believe in God	150	100.0	0	0.0
Fast	69	46.0	81	54.0
Attend to church/mosque services	45	30.0	105	70.0
Pray	45	30.0	105	70.0
Give offering	39	26.0	111	74.0

A religious index was developed in order to obtain the likelihood of the commitment by the respondents to religious ethics, so as to determine whether this could be one

way of protection against HIV/AIDS. The results show that there were few respondents that had strong religious commitment, with 5.3% having a high participation rate whereas the remaining 94.7% had a lower participation rate. This suggests that most of the Kinondoni Primary School teachers in this study are less committed to religion. The main reasons given linked to less commitment to religion were that, religious norms and regulations such as prohibition of sexual intercourse out of wedlock were difficult to be obeyed by most teachers especially those who were not married .

4.5.2.2 Age at first sexual intercourse

The age at first sexual intercourse marks the beginning of exposure to sexual risks such as pregnancies and STIs including HIV. Initial sexual intercourse experiences are usually important events in the lives of people (URT, 2005c). Respondents were asked to state at what age they had started to engage in sexual intercourse. According to this study female started sexual intercourse much earlier than males. Table 9 shows that about 8.5% (n=94) of female respondents engage in sexual activities at the age of 12 to 14. The majority of the respondents started to engage in sexual intercourse at age of 15 years.

Table 9: Age at first sexual intercourse

Age	Male		Female		Total	
	n	%	n	%	n	%
12	0	0.00	3	3.19	3	2.52
13	0	0.00	2	2.13	2	1.68
14	0	0.00	3	3.19	3	2.52
15	3	12.00	0	0.00	3	2.52
17	3	12.00	3	3.19	6	5.04
18	6	24.00	2	2.13	8	6.72
19	3	12.00	5	5.32	8	6.72
20	1	4.00	9	9.57	10	8.40
21	1	4.00	12	12.77	13	10.92
23	0	0.00	7	7.45	7	5.88
24	0	0.00	7	7.45	7	5.88
25	5	20.00	20	21.28	25	21.01
26	0	0.00	5	5.32	5	4.20
28	0	0.00	6	6.38	6	5.04
30	3	12.00	5	5.32	8	6.72
35	0	0.00	5	5.32	5	4.20
Total	25	100.00	94	100.00	119	100.00

N.B: The remains 31 respondents, 29 did not remember the age they started sexual intercourse while two respondents have never been in sexual contact.

The results in Table 9 also suggest that the age group which is very active to start sexual intercourse is between 15 and 25 years. Of the 150 respondents 19.3% do not remember exactly at what age did they started sexual intercourse and only 1.3% of the respondents had never been in sexual contact with any body.

4.5.2.3 Sex of respondents and number of sexual partners

Table 10 summarizes the results concerning the cross tabulation between sex of respondents and the number of sexual partners. It was observed that greater potion of women respondents (63.6%) had more than one sexual partner; while greater potion of men (84.4 %) had no more than one sexual partners. This indicates the fact that women are in a dangerous position of being affected by HIV/AIDS compared to

men. Nevertheless, statistical analysis shows that there is no significant association ($p>0.05$) between sex of respondents and having more than one partner. The findings of this study however, differ from the previous reports which suggest that it is usually uncommon for women to have more than one sexual partner (URT, 2006).

Table 10: Having multiple partners in relation to respondents' sex and marital status

Factor	Do you have Multiple partners?							
	Yes		No		Total		X^2	p-value
	n	%	n	%	n	%		
Sex								
Male	5	13.2	27	84.4	32	21.3		
Female	75	63.6	43	36.4	118	78.7		
Total	80	53.3	70	46.7	150	100.0	6.012	0.791
Marital status								
Unmarried	44	61.9	27	38.1	71	47.3		
Married	36	45.5	43	54.5	79	52.7		
Total	80	53.3	70	46.7	150	100	0.09	0.559

4.5.2.4 Marital status and number of sexual partners

In this study it was revealed that majority of the respondents (53.3%) are having more than one sexual partner. The results summarized in Table 10 provide an alarming situation due to the finding which was observed that 45.5% out of 79 married respondents had more than one sexual partner. Around 63.6% out of 118 women respondents had more than one sexual partner. URT (2006) reported that it is usually uncommon for married women to have more than one sexual partner. However, the present findings suggest that most of primary school teachers in Kinondoni district are at a high risk of HIV/AIDS of having multiple sexual partners. The *chi-square* statistical test revealed that there is no statistical significant (X^2=0.09. p-value=0.559) between marital status of respondents and having more than one sexual partner, therefore these two variables are independent of one another.

Additionally, through FGDs it was found that, the possible reasons that made Kinondoni district primary school teachers to have multiple partners are sexual satisfaction, need for financial support and peer pressure. Moreover, it was said that some head teachers had sexual relations with their subordinate teachers in exchange for opportunities for seminars and training. That means whenever there would be chances for seminar or training they were given the first priority.

4.6 Use of condom as a preventive measure against HIV/AIDS

It has been documented that condoms are an effective method of preventing unwanted pregnancies, STDs and HIV/AIDS (NACP, 2002b). Assuming that people who use condoms the first time they have sex may be more likely to continue this behaviour during subsequent experiences than those who do not (TACAIDS, 2005b). Respondents were asked whether they used condoms when they had sexual intercourse for the first time or not, out of 150 teachers, 63 (42%) said yes, and the remaining 58% said they didn't use condoms when they had sexual intercourse for the first time. This indicated that a good number of teachers in Kinondoni Municipality were in HIV/AIDS sexual risk behaviour since they started sexual intercourse.

Also respondents were asked if they used condoms the last time they had sexual intercourse, 28.7% used condoms while 71.3% did not use any condom. All respondents acknowledged having knowledge on importance of condoms use in prevention of HIV. However, it was mentioned that the use of condom reduce sexual pleasure and there was also a rumor that most condoms are contaminated with AIDS

AIDS viruses. One participant from Bryceson primary school equated sexing using condom with eating sweets in its cover.

4.6.1 Marital status and condom use

The results of this study indicate that more than two-thirds of the respondents did not use condom the last time they had sex. When these results were cross tabulated with marital status, *chi square* statistical test undertaken at 5% level of significance revealed that, there is clear link between condom use and marital status. Married respondents appeared to be significantly more likely not to use condom compared to unmarried ones (p-value= 0.051). These findings are in consistency with the previous findings reported by NACP (2002a, 2005c) showing that most couples still have unprotected sex. This could be due to the fact that in marriages couples do not regularly use condom unless there is some incidence of prohibiting unwanted pregnancies.

On the other hand it was revealed that 74.6% of the 71 unmarried teachers admitted that they could not say no to their partners when wanted to do sex without condom. This indicates that a good number of unmarried teachers in Kinondoni district are in a risk of being infected with HIV/AIDS because of inconsistent use of condoms.

4.6.2 Consistency of condom use

Information on consistency on condom use is very important because it shows how teachers could be prevented from risk of STDs, HIV/AIDS and unwanted pregnancies. Results on the consistency of condom uses found out that 54 (36%) respondents did not use condom frequently, whereas 31 (20.7%) respondents never

used. This further demonstrates the precarious situation the primary school teachers face regarding HIV/AIDS.

4.7 Index of HIV/AIDS sexual risk behaviour

In order to determine the HIV/AIDS risk behaviour, an index scale was developed using a list of sexual behaviour variables. Five variables were used to form this index. For each variable, every "yes" response was given a value of 1, which indicated high risk, while "No" response was given a value of zero, measuring low risk. The list of variables and their values are presented in Appendix 3.

In this case, an index ranging from zero to five was obtained as an indicator of risk behaviour. The frequency and level of the risk behaviour are shown in Table 11 and the values of the index of the risk behaviour were categorized in low risk, medium risk and high risk of contracting HIV/AIDS. In order to get a meaningful analysis, scores of zero to two were considered as low risk, three were considered medium and four to five were considered to be in a high risk.

Table 11: Index scale for measurement of HIV/AIDS risk behaviour (%)

Statements on HIV/AIDS sexual risk behaviour	Score (n=150)				
	1	2	3	4	5
Ever had sex with no-regular partner without condom	35.6				64.4
Sex with a no-regular partner in last 12 months	31.0	7.0	37.8	24.2	
Had sexual intercourse before the age of 18th?		18.3	10.0	11.7	60.0
Taking alcohol with a non-regular partner just before having sexual intercourse	15.0		49.0		36.0
Sharing of unclear injection equipment	6.8	45.7	35.7	11.8	

The findings revealed that, majority of the primary school teachers (41.6%) in Kinondoni district were in the high risk category of HIV/AIDS. Of the respondents 31.9% (n=150) were in the low risk category, while 26.5% (n=150) were in the medium risk. Therefore, the results indicated that primary school teachers in Kinondoni district are in a high risk of contracting the HIV virus.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 The conclusions

From the results of the present study it is concluded that primary school teachers in the study areas in Kinondoni District became sexually active at early ages, engage in sexual practice with multiple partners and are inconsistent in condom use. The study has also revealed that, under the present social and economic situation, especially the economic reforms and policy of liberalization, teachers will continue to engage into risk taking behaviours. The study has noted that demographic, household socio-economic and socio-cultural aspects influence teachers' sexual behaviour. The low salaries subject them to HIV risk behaviour more easily due to the need of money to meet monthly expenditure in daily lives.

Although teachers have positive attitudes towards condom use, 36% were inconsistent in condom use and 20% had never used condoms. Irregular uses of condoms predispose the primary school teachers in the study area to STDs and HIV/AIDS. The study also showed that there is direct correlation of the income poverty with the HIV risk taking behaviour. However, the adequate HIV/AIDS information and awareness of teachers are not driving them to safer sex; instead they engage in risk sex for the search of money.

From the findings of this study, the fight against HIV/AIDS requires more efforts in order to completely control the episodes. Primary school teachers need to be motivated and assisted in obtaining soft loans in order to engage in small scale

businesses to support their income. As most of the respondents appear to have engaged in sexual practices for the first time at the age of 15 to 25 years old. HIV/AIDS education should be emphasized in primary and secondary schools.

5.2 The recommendations

The study recommends the following:

(i) In order to minimise the HIV/AIDS risk behaviours to primary school teachers, more sensitisation programmes should be carried out to encourage teachers to change their behaviour. More and continuing campaigns for HIV/AIDS should be done to primary school teachers through workshops and seminars. Introduction of programmes that promote family-life education in the teachers' colleges should be established in order to enable teachers to understand and promote safe sexual behaviour.

(ii) Teachers with low socio-economic status are particularly vulnerable to risk sexual behaviours. Increasing economic hardships create financial problems that increase teachers' risk to HIV/AIDS. Small micro credit organizations and bank loans should focus on the low socio-economic status groups to raise their living standards. Access to resources such as knowledge and business skills should be improved for the teachers to get the required entrepreneurship skills. Government Organisations, Non-Governmental Organisations and various individuals should undertake interventions strategies designed to improve and help to reduce the

incidence of HIV/AIDS risk behaviours to primary school teachers as most teachers view HIV/AIDS as other diseases or accidents.

(iii) To strengthen the ability of women to protect themselves from HIV/AIDS. HIV/AIDS sexual risk behaviours are higher among women than men, and young women are particularly vulnerable. Therefore, there should be effective and efficient district interventions so as to address the social norms that drive them to sexual risk behaviours.

5.3 Area of future research

The findings presented in this study are a result of a cross sectional survey conducted in Kinondoni municipal of Dar es Salaam city. The major limitation of micro studies is that 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 Iringa and Mbeya; which are also vulnerable to HIV/AIDS to enable generalization of the observations.

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APPENDICES

Appendix 1: Questionnaire

A. GENERAL IDENTIFICATION

Date of interview.....

School name.....

School code.....

Interview result codes.....

B. BACKGROUND INFORMATION

1. What is your age? .....
2. Sex of the respondents

   Male.....1

   Female.....2
3. Marital status

   Single.....1

   Married.....2

   Divorced.....3

   Widowed.....4
4. What is your education level?

   Grade A.....1

   Grade B.....2

   Diploma.....3

   First Degree.....4

C. ATTITUDES AND AWARENESS ON HIV/AIDS

1. Which disease do you think is most dangerous in the world? (Mention it).....

AIDS is mentioned.....1

AIDS is not Mentioned.....2

Do not know.....3

2. Have you ever heard of the virus or an illness called AIDS (UKIMWI)?

Yes.....1

No.....2

3. What is the Swahili name for AIDS? .....

AIDS is mentioned.....1

AIDS is not Mentioned.....2

Do not know.....3

4. Can you name the symptoms of AIDS? Which is the most important symptom?

Prolonged cough.....1

Prolonged diarrhea.....2

Body wasting.....3

Skin diseases.....4

Others (specify).....5

5. How can a person acquire AIDS or the virus that causes AIDS?

1. Casual sex with multiple partners
2. Cohabiting in levirate
3. Blood transfusion
4. Blood contaminated instruments such as needles
5. Sharing eating utensils with a person with AIDS
6. Prenatal
7. Others

6. Is there anything a person can do to avoid getting HIV, the virus that causes AIDS?

Yes.....1

No.....2

Don't know.....3

7. How can someone avoid getting AIDS? (Name ways known to you)

1. Abstinence
2. Fidelity
3. Condom use
4. Avoid levirate practices
5. Others

8. can AIDS be cured

Yes.....1

No.....2

Don't know.....3

9. Can people protect themselves from getting infected with the AIDS virus by having one uninfected sex partner who also has no other partner?

Yes.....1

No.....2

Don't know.....3

10. Do you think a person can get infected with the AIDS virus through supernatural means?

Yes.....1

No.....2

Don't know.....3

11. Can people protect themselves from the AIDS virus by using a condom correctly every time they have sex?

Yes.....1

No.....2

Don't know.....3

12. Can a person get AIDS virus from mosquito bites?

Yes.....1

No.....2

Don't know.....3

12. Can the people protect themselves from getting infected with the AIDS virus by not having sex at all?

Yes.....1

No.....2

Don't know.....3

14. Is it possible for a healthy looking person to have the AIDS virus?

Yes.....1

No.....2

Don't know.....3

15. Can the AIDS virus be transmitted from a mother to a child?

Yes.....1

No.....2

Don't know.....3

16. Can the AIDS virus be transmitted from a mother to a child?

Yes.....1

No.....2

Don't know.....3

17. Can the AIDS virus be transformed from mother to child at delivery?

Yes.....1

No.....2

Don't know.....3

18. Can the AIDS virus be transformed from mother to child through breast milk?

Yes.....1

No.....2

Don't know.....3

19. If a teacher has the AIDS virus but is not sick, should he or she be allowed to continue teaching in school?

20. If you knew that a shopkeeper or food seller had AIDS or virus that causes it, would you buy food from him or her?

Yes.....1

No.....2

Don't know.....3

D. FACTORS FOR TEACHERS SEXUAL RISK BEHAVIOURS

1. If a member of your family got infected with the virus that causes AIDS, would you want it to remain secret or not?

   Yes.....1

   No.....2

   Don't know.....3

2. If Yes/No why (give reasons).....

3. If a member of your family got infected with the virus that causes AIDS, would you be embarrassed or feel shame for your family?

   Yes.....1

   No.....2

   Don't know.....3

4. If a relative of yours become sick with the virus that causes AIDS, would you be willing to care for her or him in your own household?

   Yes.....1

   No.....2

   Don't know.....3

5. What income category from your salary do you belong?

   Less than 100 000.....1

   100 000- 300 000.....2

   Above 300 000.....3

6. What assets do you own?

   Land.....1

   House.....2

   Car.....3

   Others (specify)....4

7. Do you have children who are at school?

   Yes.....1

   No.....2

8. How much do you spend for paying school fees per student per year?

   Less than 100 000.....1

   100 000- 300 000.....2

   More than 300 000.....3

9. How much do you spend for household food per month? .....

10. What is your religion affiliation?

    Christian.....1

    Muslim.....2

    Others (Specify) ...3

11. What is your denomination? .....

12. How many times do you go to the church/mosque in a week? .....

13. Do you fast?

    Yes.....1

    No.....2

14. Do you give offerings?

    Yes.....1

    No.....2

15. Where do you get HIV/AIDS information?

    Mass media.....1

    NGOs.....2

    Others (specify).....3

16. How old is your husband/wife/partner?

   1

    Don't know.....2

    Don't have.....3 (if don't have go to question 25)

17. Do you think that he/she is at last 10 years older than you?

    Yes.....1

    No.....2

    Don't know.....3

18. In this relationship, do you say" No" to have sex without condom with your new partner?

Yes.....1

No.....2

Don't know.....3

19. MEN; Do you have more than one wife or a sexual partner who live with you?

WOMEN; Does your husband have other wives or does he live with other sexual partner?

Yes.....1s

No.....2

Don't know.....3

20. Do you have any children with your spouse/partner(s)?

Yes.....1

No.....2

21. Does your spouse/partner live with you or does he/she live somewhere else?

Yes.....1

No.....2

22. How often do you visit your spouse/partner? .....

23. What are your views and attitudes towards HIV/AIDS?

24. How old were you when you first had sexual intercourse? (If ever)

_____did you sex with condom that on day?

Yes.....1

No.....2

25. Have you ever taken alcohol?

Yes.....1

No.....2

26. At what age (years) did you drink alcohol? .....

27. Do you still drink alcohol?

Yes.....1

No.....2

28. If no, when did you stop drinking? .....

29. In the last four weeks, on how many days did you drink alcohol? .....

30. In the last 12 months do you have sex with a prostitute?

Yes.....1

No.....2

31. Do you know a place where a person can get condom?

Yes.....1

No.....2 (if no go to question 35)

31. Where?

Shop.....1

Bar.....2

Workplace.....3

Guest houses.....4

Others (specify).....5

32. What do you think is your chance of getting HIV/AIDS?

Small.....1

Moderate.....2

Great.....3

No risk at all.....4

Don't know.....5

E. PREVENTIVE MEASURES

1. The first time you had sex was a condom used?

Yes.....1

No.....2

Don't know.....3

2. What was the relationship to the person with whom you last have sex?

Husband/wife.....1

Girl/boyfriend.....2

Others.....3

3. When was the last time you had sexual intercourse?

_____ days.....1
_____ weeks.....2
_____ months.....3
_____ years.....4

4. How often do you use condom?

   Sometimes.....1

   All of the time.....2

5. The last time you had sexual intercourse was a condom used?

   Yes.....1

   No.....2

6. Do you have problems in using condom?

   Yes.....1

   No.....2

7. What problems have you experienced? .....

INDEX SCALE FOR MEASUREMENT OF HIV/AIDS RISKY BEHAVIOUR

Statements implying HIV/AIDS risky behaviour	**Maximum score**	**Score by respondents**
Ever had sex with no-regular partner without condom	1	
Sex with a non-regular partner in last 12 months	1	
Early age at first sex	1	
Drunkardness with a non-regular partner at the time have sexual intercourse	1	
Sharing of contaminated injection equipments	1	
Total	5	

Appendix 2: Themes for Focus Group Discussions

1. Primary school teachers are dying of HIV/AIDS because of their risky behaviour sexual behaviour, what is your comment/opinion?
2. What are your views/opinions and attitudes towards Kinondoni primary school teachers HIV/AIDS risky behaviours and HIV/AIDS in general?

Appendix 3: Checklist for key informant

1. Is there any programme concerning HIV/AIDS risky behaviour for primary school teachers?

   Yes.....1

   No.....2 (if no go to question 3)

2. How effective is the programme?

Very effective.....1

Not effective.....2

3. What is the academic performance of the pupils at your district?

Good.....1

Average.....2

Bad.....3

4. If bad state reasons.....
5. Do HIV/AIDS have any academic effect to the pupils at your district?

   Yes.....1

   No.....2

6. If yes state.....
7. Is there any information about teachers-pupils sexual relationship harassment?

   Yes.....1

   No.....2

8. To what extent

   Large.....1

   Average 2

   Little.....3

Appendix 4: Response on attitudes and awareness on HIV/AIDS

Category	Percentage on responses		
	Yes	No	Don't know
Ever heard of the HIV virus	100.00	–	–
A person can get infected with the AIDS virus through supernatural means	3.3	87.3	9.3
Can a person the AIDS virus from mosquito bites?	–	100.0	–
Can the AIDS virus be transmitted from a mother to a child during pregnancy?	69.3	28.0	2.7
Can the AIDS virus be transmitted from a mother to a child during delivery?	94.7	2.0	3.3
Can the AIDS virus be transmitted from a mother to a child through breast feeding milk?	93.3	4.0	2.7
If a teacher has the AIDS virus should he/she be allowed to continue teaching in school?	98.7	1.3	–

Appendix 5: Salary, assets owned and household expenses per month (Secondary school education and food consumption.)

	Number of respondents(n=150)	Percent
Range of salary (Tshs)		
Less than 100 000	63	42
Between 100 000-300 000	72	48
More than 300 000	15	10
Total	**150**	**100**
Assets ownership		
Land	37	24.7
House	34	22.7
Motor car	6	4.0
All of the above	4	2.6
Non of the above	69	46.9
Total	**150**	**100.0**
Family expenses		
Do you have children at secondary school		
Yes	50	33.3
No	100	66.7
Total	**150**	**100.0**
Secondary school children expenses per month (Tshs.)		
Less than 100 000	17	34.0
Between 100 000-300 000	11	22.0
More than 300 000	22	44.0
Total	**50**	**100.0**
Households' Food expenses per month (Tshs)		
Less than 100 000	64	42.7
Between 100 000-300 000	51	34.0
More than 300 000	6	4.0
Not able to mention	29	19.3
Total	**150**	**100.0**

Only 50 teachers had children in secondary schools (33.3%) of 150 respondents

Appendix 6: HIV/AIDS risky behaviour variables

Variables	Description
Ever had sex with non-regular partner without condom	1=Ever had sex with non-regular partner without condom 0= Never had sex with non-regular partner without condom
Sex with a no-regular partner in last 12 months	1=Ever had non-regular partner in last 12 months 0= Never had non-regular partner in last 12 months
Had sexual intercourse before the age of 18th?	1=Had sex at less than 18 years 0=Had no sex below 18 years
Taking alcohol with a non-regular partner just before having sexual intercourse	1=Ever taking alcohol with a non-regular partner just before having sexual intercourse 0= Ever taking alcohol with a non-regular partner just before having sexual intercourse
Sharing of contaminated injection equipment	1=Ever shared contaminated injection equipment 0= Never shared contaminated injection equipment

Appendix 7: Sample size calculation

The simple formula used:

$$n = \frac{Z^2 pq}{d^2}$$

Where n = sample size

Z = Standard normal deviate, set at 1.96 (≈ 2.0) corresponding to 95% confidence level,

p = proportion in the target population estimate; if not known use 50%.

q = 1.0 – P

d = degree of accuracy desired, set at 0 .05 or 0 .02.

Therefore sample size will be

$$n = \frac{Z^2 pq}{d^2} = \frac{(2)^2 (0.50 \times 0.50)}{(0.05)^2} = \frac{4 \times 0.25}{0.0025} = \frac{1}{0.0025}$$

= 400 respondents.

37% of the sample size which is equivalent with 150 respondents was used in this study due to cost implications.