ASSESSMENT OF HIV/AIDS KNOWLEDGE AND SEXUALITY AMONG PRIMARY SCHOOL YOUTH IN MWANZA REGION

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH, IN THE UNIVERSITY OF DAR ES SALAAM, 2004

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the University of Dar es Salaam this dissertation entitled Assessment of HIV/AIDS Knowledge and Sexuality among Primary School Youth in Mwanza Region, in partial fulfillment of the requirements for the degree of Master of Public Health.

Supervisor's signature _____

Prof. G. I. Msamanga

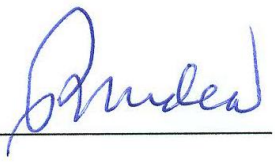
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DECLARATION

I, Pastory L. Mondea, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Candidate's signature 

Pastory L. Mondea

Date 25/10/2004

DEDICATION

This study is dedicated to all who contributed in one way or another for me to be able to reach at an academic level that I am now.

ABSTRACT

A descriptive cross sectional study was undertaken in Mwanza Region during June 2004, to assess HIV/AIDS knowledge and sexuality among primary school youth of class VI and VII. Self-administered questionnaire was used to collect data. Of 1630 study participants, 888 (54.5%) were from HIV/AIDS intervention schools (Magu District) and 742 (45.5%) from no-intervention schools (Ilemela District); 577 (35.4%) were boys and 1053 (64.6%) were girls.

The study results indicated that 94% of respondents from intervention group were aware of HIV/AIDS as compared with 74% in non-intervention group ($p= 0.00001$). Respondents who scored high level of HIV/AIDS knowledge were 83% from intervention group as compared with 86.4% from non-intervention group. However, 71% of respondents from non-intervention group knew 3 preventive measures against HIV infection compared with 64.2% respondents from intervention group.

Pupils from the intervention group were twice as likely to be more sexually active than pupils from non-intervention group, 20.7% vs 11.3% (OR=2.03, 95% CI 1.52, 2.71).

Condom awareness was significantly higher in intervention group than in non-intervention group, 96% vs 87% ($p<0.0003$). For respondents who are sexually active they reported to have higher condom use in intervention group (28.8%) than in non-intervention group (20.2%).

Sources of information on HIV/AIDS and sexuality reported did not differ among study groups except peer educators were more common for the intervention group than in non-intervention group.

This study concludes that school HIV/AIDS education program using peer educators did not demonstrate success in reduction of sexual activity among pupils. Development of appropriate teaching strategies and learning materials for HIV/AIDS education for school youth to bring positive sexual behaviour change is required.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
AIC	African Inland Church
BEST	Basic Education Statistics in Tanzania
CCBRT	Comprehensive Community Based Rehabilitation, Tanzania
CDC	Centers for Disease Control
CPE	Class Peer Educators
DEO	District Education Officer
DSM	Dar es Salaam
FLE	Family Life Education
GPA	Global Program on AIDS
GSC	Global Service Corps
HIV	Human Immunodeficiency Virus
KAP	Knowledge, Attitude and Practice
MOEC	Ministry of Education and Culture
MOH	Ministry of Health
MTP III	Mid-Term Plan III
MUCHS	Muhimbili University College of Health Sciences
NACP	National AIDS Control Program
NGO	Non Governmental Organization
RC	Roman Catholic
REO	Region Education Officer

RR	Risk Ratio
SDA	Seventh Day of Adventists
SIECUS	Sexuality Information and Education Council of the United States
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted infections
TAG	Tanzania Assemblies of God
TANESA	Tanzania - Netherlands Support on HIV/AIDS
TV	Television
UNAIDS	United Nations Program on HIV/AIDS
UNESCO	United Nations Educational Scientific and Cultural Organization
UNFPA	United Nations Fund for Population Activities
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

CHAPTER 1

1. INTRODUCTION

1.1 Situation of HIV/AIDS in Youth

Statistics of HIV/AIDS epidemic globally show that no sign of abating; the number of HIV infection and deaths ever increasing particularly in developing countries. HIV infection is affecting both adults and youth. UNAIDS report of the year 2002, shows that more than a third of people living with HIV/AIDS globally are young people, whereby 7 % are under 15 years of age and 31% are between the age of 15-24 years of age (UNAIDS, 2002). That report also showed that over half of new infections are among young people of which 16% are under 15 years of age and 42% are youth of 15-24 years age group.

The data on HIV/AIDS epidemic globally in the year 2002 showed more or less the same proportions of affected youth as in the year 2001 (WHO, 2003). It was reported that out of 42 million people living with HIV/AIDS globally, 3.2 million (8%) were children under 15 years (WHO, 2003). The total number of people newly infected with HIV in the year 2002 was 5 million of which 800,000 (16%) were children under 15 years of age.

In Tanzania, it is estimated that about 2.2 million persons were infected with HIV by the end of year 2002 (Ministry of Health, 2003). Of which 17% of HIV infections were

contributed by children under 15 years of age. By the end of the year 2003, Global Service Corps (GSC) reported that about 50% of HIV infections occurred in Tanzania affect youth group (GSC, 2003). The commonest mode of HIV transmission in Sub Saharan Africa including Tanzania is heterosexual relationship (TANESA, 1994).

This study is planned to investigate the level of knowledge on HIV/AIDS and sexual intercourse experience among the primary school youth previously exposed to HIV/AIDS education compared with those not exposed.

1.2 Efforts to Control HIV/AIDS Epidemic in youth

The response to control the pandemic of HIV/AIDS has been significant globally, by regions and by individual countries. A focus on prevention of HIV/AIDS among youth has also been strongly supported by many countries. Emphasis is on improvement of quality and coverage of school HIV/AIDS programs and related issues.

The Ministry of Education and Culture (MOEC) of the United Republic of Tanzania has since 1987 been introducing Family Life Education (FLE) into the education system (MOEC, 2001). The FLE content in syllabi and instruction materials is based on FLE issues identified as pertinent in the Tanzania context; the issues fall into five major themes: population and sustainable development/population and environment, sexual and reproductive health, communicable diseases including STI and HIV/AIDS, family

and family life and gender equality, equity and empowerment of women, including girl children.

The MOEC developed curriculum of FLE but due to resource constraints, it was not able to carry out the implementation of all elements of FLE including school HIV/AIDS education. MOEC began to implement an HIV/AIDS education in schools in collaboration with Ministry of Health (MOH) through National AIDS Control Program (NACP) in 1989 (MOEC and TANESA, 2001). However, several players particularly Non Governmental Organizations (NGO) started to implement this program in some schools. With financial assistance from the United Nations Fund Population Activities (UNFPA) the MOEC since 1987 has been providing family life education in some schools and colleges through the curricula. The current problem MOEC is facing regarding addressing FLE including HIV/AIDS education is lack of learning materials and teachers who are trained on HIV/AIDS issues (Leshabari et al, 1997)

In the Mid Term Plan III (MTP III) of NACP, the school HIV/AIDS program became one of its priority areas to reduce vulnerability of youth to HIV/AIDS/STD (MOH/NACP, 1998). Thereafter the MOEC in collaboration with the MOH/NACP/TANESA prepared a guide for school HIV/AIDS program in Tanzania (MOEC/TANESA, 2001). Initially MOEC prohibited talking about condoms to the students, but later it became accepted to do so.

TANESA in collaboration with Magu District have been implementing a school HIV/AIDS intervention in primary schools (class V-VII) of Magu District since 1994 until now (TANESA, 1994). The intervention consists of a mixed bag of concepts and approaches towards creating awareness on reproductive health including HIV/AIDS/STI, establishing school AIDS committee, promoting peer education and introducing female guardians. Reduction of HIV transmission in school is the main objective of that intervention. Specific objectives of the intervention include reduction in sexual abuse of school girls by teachers, and older men in the villages and to empower youth both boys and girls to postpone sex. A number of school guardians (female teachers) that school girls can consult in case of sexual harassment/violence were trained to encourage girls to discuss matters pertaining to sexual health. The peer educators who are pupils (female and males) were selected by fellow pupils to be trained. These provide information on HIV/AIDS to their classmates and answer a range of questions on social issues related to HIV/AIDS.

CHAPTER 2

2. PROBLEM STATEMENT

2.1 Problem statement

Young people between 10-24 years of age account for more than half of new HIV infections (UNAIDS, 2002). Tanzania is one of the sub-Saharan African countries in which the HIV prevalence among adolescents is rapidly increasing (MOH/NACP, 2001). A sharp rise in the number of HIV and AIDS cases has been observed in children of mid adolescence, when many Tanzanians become sexually active. Between the year 1990 to 1994, population based surveys from various parts of the country have shown that HIV prevalence rates among adolescents and young adults through 15 – 24 years ranged from 1% in rural areas to 21% in urban areas (Killewo et al, 1990; Barongo et al, 1992; Mnyika et al, 1994; Shao et al, 1994). Current information indicates that in Tanzania by the year 2003, about 50 % of new HIV infections affect youth (GSC, 2003).

In both developed and developing countries including Tanzania many studies have reported that majority of youth are sexually active and have suffered serious consequences due to unprotected sexual intercourse including unwanted pregnancy, sexually transmitted infections (STI), HIV infection and some psychological and social economic problems associated with these conditions (Leshabari, 1988; Kalinga et al, 1992; WHO/UNESCO, 1992; Klepp et al, 1994; Lwihula, 1996; Kessy, 1996;

Muhondwa, 1999; Obasi et al, 2001). In Tanzania, the percentage of sexually active youth has been reported to be between 13% and 85% or more (Leshabiri, et al, 1997)

A study done in Tanzania by Muhondwa (1997), in Mtwara and Makete in Tanzania, revealed that the age at which most of youth have their sexual act ranged between 12-15 years; they even start having sex as young as 5 years.

School based HIV/AIDS education is one of the appropriate main interventions advocated for the youth to prevent HIV transmission (UNAIDS, 2000; MOH/NACP, 1998). According to the National Policy on HIV/AIDS in Tanzania, education on reproductive health including HIV/AIDS and STI's are to be integrated into school curricula (MOH, Tanzania, 1995). However, a school based HIV/AIDS program has not yet been implemented on a wide range in Tanzania (Muhondwa and Mhina, 2004). Only 7% of the primary school pupils have been formally reached by the HIV/AIDS interventions targeted at primary schools. At secondary school level the coverage is somewhat better. At least 30% of secondary school students have been exposed to HIV/AIDS interventions. Implementation of school based HIV/AIDS interventions at the district levels is still very rudimentary. Only about 20% of the districts in Tanzania are implementing HIV/AIDS interventions in primary schools (Muhondwa and Mhina, 2004).

Despite the good intention to implement HIV/AIDS education/intervention in schools in this era of HIV/AIDS epidemic, obstacles have been observed. There is a considerable disagreement in many countries over school HIV/AIDS education including what to teach, at what age, in what setting, by whom and to what end. It is believed that talking to children about sexuality and condom will encourage youth to have sexual activity (Baldo et al, 1993). These arguments are supported by the policy makers, parents, religious leaders and teachers (Hinder et al, 2002). Political pressure often keeps sex education and thus HIV/AIDS education out of the classroom. Sensitivities about sexuality and young people's behavior often obstruct the AIDS education even where there is a strong national commitment to address AIDS crisis in schools. Because of this controversy, many school districts in the USA have chosen not to implement HIV prevention program in schools despite the fact that it has shown to be effective in lowering HIV risk behavior among youth.

In Tanzania it is considered to be controversial for teachers and parents to talk with pupils about the subject of sexuality, relation between sexes, sexual misuse, sexual diseases and HIV/AIDS in schools and at home because of cultural and religious barriers (MOH/NACP, 1998; Hinder et al, 2002). However, parents, policy makers, religious leaders and teachers seem to be unaware of available statistics on the extent of these reproductive health problems (Leshabari et al, 1997). Consequently, the general impression regarding the extent of school youth sex related problems appear to be

grossly under estimated and many parents, teachers, religious leaders and policy makers assume few school teenagers indulge in unprotected sex.

This study seeks to investigate whether HIV/AIDS Education tends to influence an increase in sexual activity among youth. Knowledge and sexual activities among youth previously exposed to HIV/AIDS education compared with youth not exposed will also be explored to find out if at all HIV/AIDS knowledge influences increased sexual activity.

2.2 Research questions:

1. What are levels of HIV/AIDS knowledge and sexuality among school youth?
2. What factors predispose the youth to engage in sexual intercourse?
3. Does HIV/AIDS education increase sexual activity among youth?
4. What are the sources of information about HIV/AIDS and sexuality?

2.3 Conceptual framework of HIV/AIDS intervention

The conceptual framework of an intervention is based on the fact that in any interventions some people are expected to make some changes. If the conceptual framework is correct and the intervention is successful, we expect that those having greater contact or more positive contact with the intervention would show greater

change in terms of the immediate results (e.g. knowledge, attitude and motivation). Similarly, we expect the people who show greater progress in intermediate results later to make behavioural changes. Using conceptual framework, we can test, specific intervention outcome links to identifying which activities lead to which results (immediate, intermediate, or ultimate).

From **figure 1** on page 143 of this dissertation, it can be seen that HIV/AIDS education may lead to an individual to acquire knowledge about or be aware of HIV/AIDS and develop an intention to perform the behaviour expected. Fishbein et al, present model which conforms to this assumption described above (Fishbein, 2000). Indeed, if one has made a strong commitment or formed strong intention to perform a given behaviour, and if one has the necessary skills and ability to perform behaviour, and if there is no environmental constraints to prevent the performance of that behaviour, the probability is close to one that the behaviour will be performed. Clearly, thus, in some populations or cultures, the behaviour may not be performed because people have not yet formed intention to perform the behaviour; while in others, the problem may be a lack of skills and/or the presence of environmental constraints such as economic, cultural norms, etc.

CHAPTER 3

3. RATIONALE OF THE STUDY

There is no comparable study done on HIV/AIDS knowledge and sexual activity among school pupils in intervention versus non-intervention schools in the area where this study has been conducted. However, there are three studies have been carried out by TANESA in this intervention area. The first study assessed perceptions of AIDS and risk among primary school boys and girls (Nnko et al, 1995). In that study it was reported that 91% of the pupils interviewed were aware of at least one major and one minor symptom of AIDS; the pupils perceived AIDS as a threat more to adults than to school children; a quarter of the pupils considered themselves to be at risk of HIV/AIDS because of partners. About 60% mentioned sex as an important mode of transmission; and 39% were able to mention a single means of prevention. Less than half of those who claimed to have sex said they had used condom.

The second study done by TANESA assessed sexuality among school adolescents in Magu District (Nnko et al, 1997). The authors reported that boys and elder men often initiated a relationship for sex and perceived girls to accept for material gain. Boys' success depends on promising money to girls that they will receive later. Girls delay decision as a negotiation strategy to maximize reward.

The third study only evaluated the female guardian component of the HIV/AIDS intervention in Magu District by use of only a sample of school girls (Mgalla et al, 1998). It was found that the intervention was effective in reducing sexual abuse or harassment of girls.

In this study we used both girls and boys as the study participants. We also selected pupils from schools not implementing HIV/AIDS intervention as a comparable group to pupils from schools implementing HIV/AIDS intervention.

CHAPTER 4

4. BROAD AND SPECIFIC OBJECTIVES

The following were study objectives expected to be achieved by this study.

4.1 Broad objective

The broad objective was to assess HIV/AIDS knowledge and sexuality among primary school youth exposed to HIV/AIDS education intervention and compare with those not exposed.

4.2 Specific Objectives

The specific objectives of this study were:

1. To determine the percentage of school youth with knowledge of HIV/AIDS among those exposed to HIV/AIDS Education and compare with those not exposed by sex, age, grade of class and residence.
2. To assess the experience of sexual intercourse among school youth exposed to HIV/AIDS Education compared with those not exposed by sex, age, grade of class, religion and residence.
3. To determine the association, if any, between self-reported experience of sexual intercourse and level of knowledge on HIV/AIDS among school youth exposed to HIV/AIDS education and compare with those not exposed.
4. To determine the percentage of youth with intention to postpone sex before marriage among school youth exposed to HIV/AIDS education and those not exposed.

5. To establish factors predisposing school youth to engage in sexual intercourse before marriage.
6. To find out primary sources of information about HIV/AIDS and sexuality among the school youth.
7. To find out school youth's preferences on sources of information about HIV/AIDS and sexuality.

CHAPTER 5

5. LITERATURE REVIEW

5.1 Risk factors predisposing youth to HIV Infection

There is a number of factors observed to play a role in predisposing youth to HIV infection.

The data collected by CDC through the end of 1999 highlighted alarming factors regarding behaviour that put youth at risk for HIV infection in The United States (CDC, 1999). These data revealed 65% of American youth are sexually active and one in five had four or more partners. In USA, each year, 3 million adolescents contract STD which is about one in every four teenagers.

Sexual intercourse relationship is also observed to be high in developing countries. Surveys from different parts of Tanzania indicate that many youth both boys and girls are sexually active with rates self-reported sexual intercourse varying from 13% among young adolescents to over 85% among older teenagers (Mbunda, 1988; Leshabari, 1988; Kalinga et al, 1992; Klepp et al, 1994; WHO/UNESCO, 1992; Lwihula et al, 1996; Katapa et al, 1988; Muhondwa, 1999).

It has been reported from different researches that youth are sexually active because of different reasons which include sex exploration; peer pressure; copying examples set by parents, siblings and media; lack of cash and employment opportunities; lack of

knowledge on reproductive health including HIV/AIDS; sexual harassment of girls and others (Makokha et al, 2002; Lwihula et al, 1996; TANESA, 1998).

Evidence from studies conducted in rural areas of Tanzania indicated the dynamics governing sexual relationship among adults and youth, (Lwihula et al, 1989). Such dynamics appear to be related in part to the external heterogeneity of residents increased use of alcohol and night time recreational activities. Some of the above studies had had reputed high permissiveness of sexual activities in such settings.

In the last two decades in Tanzania the behaviour exhibited by the in-school young adolescents and youth especially those between 10-24 years old has lead to the emergence of several health and development problems among the students (Ministry of Education, Zanzibar, 2000; Kessy, 1996). The key issues reported to be associated with these problems are initiation, unprotected and undesirable sexual behaviour, teenage pregnancy, early marriage, schoolgirls dropping from schools, sexually transmitted infections, drug abuse and alcoholism, sexual harassment and increasing number of cases of prostitution.

5.2 Appropriateness of School HIV/AIDS programs

Many countries consider sex education in school that will encourage early sexual activity. Researches actually suggest the opposite. Schools are appropriate setting in

contributing to the development of healthy sexuality of school youth, because they hold the potential to have a positive effect on health and learning of students. The promotion of reproductive health through a coordinated school based approach is desirable for three main reasons such as financial, development and practical reasons (MOEC, Tanzania Mainland, 2001).

Financial factors: Studies indicate that health problems among youth, including reproductive health problems such as HIV/AIDS and early pregnancy can be prevented, reduced or controlled through efficient and cost effective school based education and treatment. In an assessment of cost and effectiveness of school-based interventions, it has been found that under a broad range of assumptions cost benefit analysis suggest that appropriate health and mutation interventions in the schools are likely to prove to be a very high-yield investment. Schools can also contribute to improved health, including reproductive health, among the students and staff by referring to local health and counseling services requiring health financial expenditure.

Development factors: during puberty, adolescent go through profound changes that they need to understand as part of growing up. Young people are at the early stages of developing attitudes, communication patterns, and behaviour related to sex relationship. By providing reproductive health program early, particularly before the initiation of sexual activity, it is possible to encourage the formation of health reproductive health attitudes and practice instead of changing well-established unhealthy habits. School can

promote healthy messages and establish helpful norms about sexuality and reproductive health. In particular, reproductive health education in primary schools has the opportunity to reach many children who do not continue to secondary schools.

5.3 Practicality and Appropriateness of school settings for HIV/AIDS education

Many of the elements upon which to build reproductive health programs in school already exist (MOEC, Tanzania Mainland, 2001). Health services of some form or another are provided for students in most schools. Schools have the benefit of a staff equipped with tools of teaching and learning. With millions of youth enrolled in schools at the primary and secondary levels, teachers can have an immense impact of the health behaviour of adolescents. It is an acknowledged fact that teachers can have a tremendous impact in the activity of the community, even more they serve as role models to many adolescents. In many cases, schools may be the only place for adolescents to receive accurate reproductive health information.

5.4 Overview on Reproductive Health Programs for Youth and Youth Sexuality

Though many countries do not permit sexual education in schools with the belief that it will encourage early sexual debut, education is considered as one of the most important tools in the prevention of HIV transmission. A number of reports about sexual and reproductive health education programs including HIV/AIDS/STD indicate that they do not encourage increased sexual activity; and quality sexual health education either

delayed the onset of sexual activity, reduced the number of sexual partners or reduced unplanned pregnancy and STD rates. The present challenge is to convince policy and decision makers of the need for sex education and to involve the ministries of education and health in planning and implementation of sex education for schools and youth friendly services.

In 1999, World Bank in partnership with the Partner for Child Development demonstrated that school based method of promoting health behaviour is one of the most successful ways of tackling some major problems of adolescents such as violence, substance abuse, teenage pregnancy and sexually transmitted disease including HIV/AIDS (Partnership for Child Development, 1999). Risk behaviour in adolescents can have a major impact on education. In some countries in Latin America, for example, more than a third of adolescent girls leave school premature and they never return back again because of unplanned pregnancy. Achieving positive behaviour change can promote the educational achievements of youth, prevention of HIV/AIDS/STD and contribute to social capital.

The global program on AIDS of the WHO reviewed 19 studies to examine the age of first intercourse and reported levels of sexual activity among students who had been exposed to sex education (WHO, 1993). In this review, it was found that there was no evidence that sex education leads to earlier or increased sexual activity in young people.

Specifically, the results of six studies out of 19 studies above showed that sex education either delayed the onset of sexual activity or reduced the overall frequency of sexual activity. Two studies showed that access to counseling and contraceptive services did not encourage earlier or increased sexual activity. Ten studies showed that sex education increased the adoption of safe sex practice by sexually active youth. School programs that promoted both the postponement of sexual activity and use of condoms when sex activity occurs were more effective in reducing the risk than those that promoted abstinence alone. It was concluded that sex education for youth is more effective when it is administered before young people become sexually active, and when skills and social norms (rather than knowledge) adoption take place.

In 1996, Baldo discussed reviews commissioned by WHO global AIDS on AIDS on the behavioural impact by sex education programs measured by rates of teenage pregnancy, abortion, birth, STI and self reported sexual activity, another on use of condoms and increased promiscuity and the third on sexual activity and knowledge of HIV. The reviews underscored the importance of communication with adolescents about sex and sexuality in order for the HIV and sexual transmitted infection prevention to succeed. They also noted that these approach conflicts with widespread adult beliefs that sex education encourages young people to experiment with sex prematurely and that teaching about contraception condones sexual activity (Baldo, 1996).

The review by Baldo, further indicated that sex education programs did not lead to early or increased sexual intercourse, but delayed initiation of sexual intercourse, decreased sexual activity and increased adoption of safe sexual practices in increase in condom use among people. Furthermore, there was a decline in sexual activity and number of partners and an increase in condom use among sexually active youth under the age of 15 years, most of who had received information on HIV. The review showed that the most effective sex education program were those undertaken before the onset of sexual activity combining participatory methods, parent involvement, improved access to health services and social-influence approach.

5.5 Reproductive Health Programs for Youth and Youth Sexual Experience in Developed Countries

A comparative study between the United State and three European countries underscored the importance of popular culture in dealing with young people citing the European experience with the media (Bankowsk, 2000). The author noted that sex and sexuality in Europe are part of the media expression but teen births are much lower and contraceptive use is higher than in the United States. Instead of blaming the media for increased sexual activity among the youth, she recommended that sexuality educators use it effectively, because media influences young people to reduce sexual activity or encourage safe sex.

5.6 Reproductive Health Programs for Youth and Youth sexual Experience in Developing Countries

Different studies done in Sub Saharan Africa between 1987 and 1999 on adolescents, found that there is high prevalent rates of sexual intercourse, infrequent use of condoms and significant proportions of adolescents who have two or more lifetime sexual partners (Kaaya et al, 2002). Some countries have started to implement school HIV/AIDS programs to save the young youth from risk of contracting HIV/AIDS. Evaluative studies of these programs indicate that school based sex education and/or HIV/AIDS prevention programs may successfully increase students' knowledge about HIV/AIDS, change attitudes towards risk behaviours and tolerance of people with AIDS and delay engagement in sexual intercourse (Kirby, 1992; Brooks-Gunn, 1992; Baldo et al, 1993).

The study in 1998 in North Province in South Africa gathered information from school going adolescents through interview and focus group discussions, reported that the majority of adolescents were sexually active by the age of 15 and only a few used preventive methods against sexually transmitted diseases and pregnancy (Health systems Development Unit, 1998). These problems were attributed to lack of reproductive health knowledge, inaccurate or unreliable information, inaccessible reproductive health services and negative perception on health services.

The study done by Muhondwa in Tanzania (1999) revealed that majority of youth have their first sexual act at age group of 12-15 years. They even start earlier as young as 5

years. Partners are usually of the same age although boys tend to be older. But sometimes girls have sex with much older persons. It was also reported that a few youths reach the age of 18 years without having had sex.

An evaluative study using comparable cross sectional study design to assess AIDS education for primary school children which was being implemented in Arusha and Kilimanjaro in Tanzania was done by Klepp et al, in 1992. They demonstrated positive effect 12 months after the beginning of HIV/AIDS Education program (Klepp et al, 1994). It was found that there were no significant differences between pupils from intervention and comparison schools on any of the HIV/AIDS related outcomes measures at baseline. 12 months after implementation of HIV/AIDS education program, pupils attending the intervention schools reported being exposed to HIV/AIDS information, discussing HIV/AIDS significantly more frequently and demonstrated a significant increase in their HIV/AIDS related knowledge than did students from the comparison schools. Pupils attending the intervention schools also reported more restrictive attitudes towards engaging in sexual intercourse than did pupils from the comparison schools, but this finding was not statistically significant. Another finding from that study showed also non-significant trend indicated that fewer pupils from intervention schools than from the comparison schools had had their first sexual debut during the twelve months of the program (7% vs 17%). This trend was seen for both boys (14% vs 35%) and girls (3% vs 6%).

Klepp et al (1997) did another evaluation of the school HIV/AIDS program mentioned above seven years after the beginning of the program (Klepp et al, 1999). A comparison of pupils attending the previous intervention schools and those attending the delayed intervention schools revealed a marginally significant difference in knowledge levels (6.5 vs 6.1 N.S). A proportion of sexually active pupils found to be 19.4% for intervention group and 22.8% for non-intervention group. These results indicated there was no long-term effect of the program in the origin at the intervention of schools compared with the effect of the delayed program in the comparison schools. However, comparing the results from the baseline survey of the year 1992, historic trend was observed indicating a slight but significant improvement on knowledge level 5 years later (6.2 VS 5.8, NS scores, $P< 0.001$). It was observed a substantial reduction in the proportion of pupils who reported being sexually active (21.8 % vs 29.8%, $P< 0.001$) and this trend was seen for both boys (38% vs 50%) and girls (6% vs11%).

WHO/UNESCO pilot project on a primary school based HIV/AIDS education in Morogoro and Dar es Salaam which was implemented from 1990 to 1992 was evaluated and showed that 14% of girls and 51% of boys (average of 32.5 %) had admitted to being sexually experienced at pretest. The percentage decreased to 12% and 39% for girls and boys respectively (average of 25.5%) at post test (WHO/UNESCO, 1992). The mean percentage scores for overall knowledge, attitudes, beliefs and practice did not differ significantly between pretest in control schools, but differed in experimental schools.

The study done by TANESA in Magu District, Tanzania, to assess school HIV/AIDS Program (school guardian approach) by comparing the schools with the school guardians and those without school guardians indicated that in the former, girls are more likely to seek advice and or help (Mgalla et al, 1998). Specifically, where a school guardian was available 52% of girls interviewed said that they would consult her on the sexually related matters. However, in schools without school guardian, girls said that they would not go to a female guardian to report sexual harassment by teachers. The conclusion drawn from the study was that girls in schools with school guardians had gained confidence and are empowered to voice their problems relating to sexual matters. Moreover, the guardian program has brought many cases of sexual exploitation of school girls by boys, men, and male teachers into open. In a long run the guardian program was expected to lead to better protection of schoolgirls and more gender equity in schools.

It has also been reported that the majority of youth do not have knowledge about HIV/AIDS/STDs and they lack economic opportunities. A research conducted in Rombo District among youth on knowledge about reproductive including STD and HIV/AIDS was found to be low (Leshabari et al, 1997). Only 5% of primary school pupils answered correctly questions on STD and 22% on AIDS.

Following implementation of HIV/AIDS education program in some schools by Comprehensive Community Based Rehabilitation, Tanzania (CCBRT) in Dar es Salaam,

evaluation was done to compare sexuality among pupils of intervention group from Ilala District and non-intervention group from Kinondoni District (Urassa, 2002). The results from this evaluation indicated that there is considerable improvement in basic reproductive health, knowledge and what appears to be a tendency of delaying first sexual intercourse. Among boys 13% in intervention schools reported being sexually active compared to 21% in non-intervention schools. The results however showed that boys in intervention schools and those in non-intervention schools were equally involved in relation with multiple sexual partners.

The study conducted in Uganda in 1997 revealed that girls engage in risky sexual behaviour because they lacked information on HIV/AIDS/STD and they also lack of cash and employment opportunities (Bohmer et al, 1997). It was concluded that When people do not know something about HIV often do not protect them because they lack the life skills or the means to adopt safe behaviors. Even people who know all the ways to prevent infection may be unable to change behaviour because of poverty or sexual violence.

The survey done by NACP Tanzania (2003), established non-availability of condoms may imply absence of supportive measurement such as cost of condoms to be able to access them. Also, non- availability of condoms was reported to be actual absence of condoms.

Factors as to why children start having sex early and why having sex was investigated by Muhondwa in 1999 in Mtwara and Makete Districts of Tanzania. These factors ranged from lack of privacy in homes making it possible for children at very young age to know what adults do, boredom due to lack of activities which keep children occupied, exposure to sex education during jando (ritual initiation) and lack of economic opportunities for earning incomes for their basic needs. Behavioural surveillance surveys done by NACP in Tanzania in 2003, found that some girls have been forced to have sex, but others receive money or gifts for sex.

5.7 Effective HIV/AIDS Education Programs

Brooks-Gunn noted that a national campaign to prevent adolescent pregnancy in the United States led to a decline in teenage pregnancies and concluded that awareness of reproductive health among adults can encourage a more open discussion with teenagers of the risks associated with adolescent sexuality as well as its healthy expression (Brooks-Gunn, 1992).

However, it has been realized that sexual and reproductive health education is not an easy task to translate it into sexual behaviour change. It is suggested that AIDS education interventions to be effective have to consider socio-cultural context and they should not oppose or contradict existing norms, values or patterns of behaviour (Soori and Pool, 1995). Given the nature of sexual relationships such as youth have sex because

they enjoy it, any appeal to abstinence or delayed gratification is likely to have little impact. Sex between youth has to be accepted by both parents and teachers. If girls were both dependent for their sheer survival on the money and gift received in sexual relationships, then, some form of financial support would be a possible solution.

Studies conducted in Sub-Saharan countries found that a variety of repetitive HIV/AIDS related information education and communication messages delivered via various channels, play a significant role in influencing behaviour change (Cohen and Trussell, 1996). Moreover, full and accurate factual understanding of HIV/AIDS basics have been found to be an essential pre-requisite among most people to exploring issues underlying behavioural change. Increased awareness about the existence of HIV, modes through which HIV is transmitted, possible signs and symptoms; and other essential facts as promoting healthy sexual behaviour, dispelling HIV/AIDS related misconceptions and preventing discrimination play important roles in the prevention of HIV/AIDS.

A study which was conducted to assess status of response to HIV/AIDS interventions in the educational sector in Tanzania found that health education and raising public awareness in primary school was deemed as the most helpful by 90% of the districts surveyed (Muhondwa and Mhina, 2004). This was followed by peer education (62%). At the third place is mainstreaming of MOEC's HIV/AIDS education in the curriculum, 59% and counseling for prevention for pupils, 59%. The fourth place was medical treatment of the opportunistic infections to pupils, 50%.The least mentioned intervention

in terms of being helpful was procurement of drugs and supplies to primary school pupils, 18%.

Peer education is regarded by many researchers and program planners to be suitable and effective in HIV prevention (UNAIDS, 1999). This is because in peer education, members of a given group are selected and trained to promote change within that group by acting as role models and acceptable informants. Thus peer education is by definition adapted to the specific cultural context and can be culturally appropriate. Peer educators use the local language including local idioms and metaphors, as well as non-verbal gestures to allow their peers to feel free and comfortable when talking about issues of sexuality and HIV/AIDS. Peer education also found to be cost effective intervention strategy, because of its use of volunteers make it inexpensive to implement. Furthermore, peer education is seldom implemented alone; rather it is often part of a comprehensive HIV prevention approach that includes condom distribution, STD management, counseling, drama and /or advocacy.

Despite the evidence of successful peer educator programs, a study to assess impact of environment on the effectiveness of peer education from teacher-led sexual and reproductive health program in primary schools in rural Mwanza, Tanzania was done and found that the class peer educators (CPE) failed to act as agents of change during extra curricular adult free clubs and ordinary socialization (Makokha et al, 2002). CPEs demonstrated better knowledge and communication skills, are more assertive than, and

can effectively give factual information and advice to, other pupils. The irregularity of clubs, the difficulty of creating an adult free environment, low levels of literacy and constant social and economic pressures to engage in risky sexual behaviour, limited CPE's ability to act as agents of change. It was concluded that: CPE can effectively reinforce key messages and positively influence their peers, but limitations in local resources, school environments and external social pressures must be addressed in order to maximize the impact of this strategy.

Addressing the HIV/AIDS epidemic among young people requires reaching not only youth themselves but also others who influence their lives. Parents, other family members and other people such as teachers, peers etc, need to be involved in such programs. In a study that asked students who most influenced their decisions about sex, 37% cited their parents, while 30% cited their friends (National campaign to prevent teenager pregnancy, 2000, Leshabari et al, 1997)

Parental affection helps deter such as adolescent behaviour problems as violence and delinquency. In US schools, sixth and seventh graders with supportive parents were less likely to use drug or to get into fights and were more likely to delay sex than classmates who were emotionally detached from parents (Turner et al, 1993).

The studies above that refer to developing countries, Sub-Saharan Africa in particular indicate that there are many problems related to adolescent sexuality that need to be

addressed immediately. For instance, lack of knowledge on reproductive health among adolescents, reluctance of parents to discuss and guide their children on reproductive health all point to a need for reproductive health education to be an integral part of the formal education. Thus study to convince the need of this education is required to be undertaken.

CHAPTER 6

6. STUDY METHODOLOGY

6.1 Study Design

The design of the study was descriptive cross sectional survey to compare HIV/AIDS knowledge and sexuality among primary school pupils from an intervention group and non-intervention group of HIV/AIDS education. The study involved visits to primary schools in the study districts. Data collection lasted for a total of 10 working days from 31st May 2004 to 11th June 2004

6.2 Study Area

The study was undertaken in two districts of Mwanza Region. The districts which were involved in the study are Magu and Ilemela Districts. Both districts are located along the Lake Victoria in the south east. Magu District is in a rural area while Ilemela District is in a mix urban-rural area of Mwanza City. However, both districts have more or less the same socio-demographic characteristics.

The main residents of these districts are Sukuma. Other residents migrated from the neighbouring districts of Mwanza Region and from other parts of Tanzania. These include Jita, Kurya, Kara, Haya, Chaga, etc. The main occupational activities in the area include agriculture, livestock keeping, fishing, petty business, and office employment.

Magu District has been implementing HIV/AIDS education intervention in primary schools since 1994 to date. The components of this intervention include peer education and female guardians. The target groups of this intervention are pupils of primary schools standard V-VII. The current coverage of this intervention in Magu District is about 96% of the primary schools. There were 177 primary schools in Magu District out of which 170 primary schools were involved in the school HIV/AIDS education intervention.

Ilemela District had 61 primary schools and none of these schools is implementing school HIV/AIDS education intervention. Ilemela district was included in this study for the purpose of having a comparative study group. However, both districts were implementing the syllabus on family life education (FLE). The FLE content in syllabi and instruction materials include, among others, sexual health, reproductive health, communicable diseases such as STI and HIV/AIDS, family life, gender equity and empowerment of women including girl children.

6.3 Study Population

The study subjects comprised of primary schools pupils from standard VI-VII. The study involved pupils exposed to HIV/AIDS education (from intervention schools) and the other group came from non-intervention schools. Therefore the pupils from Magu

District constituted the intervention group while those from Ilemela District formed the non-intervention group.

6.4 Logistics for Data Collection

After the approval of the study proposal by the MUCHS Ethical Clearance committee, the investigator traveled to Mwanza Region where this study was going to be carried out. After arrival in Mwanza, he first reported to the Regional Education Officer (REO) to explain the purpose of the study and requested for the permission to carry out the study in the proposed districts (i.e. Magu and Ilemela Districts).

Thereafter, he travelled to Magu and Ilemela Districts to have courtesy call with the District Education Officers (DEOs) and explain the purpose of the study. He also requested for the permit to carry out the study in the respective districts. From the DEO office the investigator obtained the list of primary schools having class VI and VII so as to prepare the sampling frame from which he randomly selected the schools to be involved in the study.

Having secured the permission to carry out the study in the proposed districts, the investigator identified and trained two research assistants who assisted him to conduct the survey. Before the commencement of the survey, the questionnaire was pre-tested using the pupils from the schools which were not selected to participate in the study.

When the study was about to start, the investigator requested the DEOs for an education officer from each study district so that he/she can take the researchers to the selected schools and introduce them to the school administration during the time of carrying out the survey.

6.5 Sample Size Estimation

The sample size was determined by using the following formula:

$$(1)\ n_1 = \frac{(Z_\alpha + Z_\beta)^2[P_1(100 - P_1) + P_2(100 - P_2)]}{(P_1 - P_2)^2}$$

$$(2)\ n_2 = \frac{(Z_\alpha + Z_\beta)^2[P_3(100 - P_3) + P_4(100 - P_4)]}{(P_3 - P_4)^2}$$

Source: Kirkwood BR, 1992; Varkevisser et al, 1991; Dawson et al, 2001

Where

n_1 = sample size for boys in non-intervention and intervention study groups

P_1= Estimated proportion of school boys in non-intervention group who are sexually active (0.50)

P_2= Estimated proportion of school boys in intervention group who are sexually active (0.38)

n_2 = sample size for girls in non-intervention and intervention study groups

P_3 = Estimated proportion of school girls in non-intervention group who are sexually active (0.11)

P_4 = Estimated proportion of school girls in intervention group who are sexually active (0.06)

The desired confidence level is 95 %;

α = Level of significance (5%);

β = Probability of failing to detect an existing difference;

Power of the study = $1 - \beta$ (set at 80%);

Z = Point on standard normal distribution such that area to the right of it is α. Thus, since the confidence level is 95%, α =0.05, and Z_α = 1.96; and since the power of the study is 80%, β = 0.20 and Z_β = 0.84.

The estimated proportions used for P_1, P_2, P_3 and P_4 quoted from the School HIV/AIDS education program which was implemented in Arusha and Kilimanjaro between 1991 and 1997. This is because the data on the extent of sexuality among primary school youth in the study area as well as at the national level in Tanzania were not available. For the purpose of obtaining a reasonable sample size, considering the study constraints, the data from that school HIV/AIDS Program were preferred to be applied for estimates of proportions of sexual activity for non-intervention and intervention study groups.

Thus, $n_1 = \frac{(1.96 + 0.84)^2 [50(100 - 50) + 38 (100 - 38)]}{(50-38)^2}$

$= 284$

Therefore, sample size for boys from non-intervention and intervention study groups

$= 284 + 284$

$= 568$

$n_2 = \frac{(1.96 + 0.84)^2 [11 (100 - 11) + 6 (100 - 6)]}{(11 - 6)^2}$

$= 526$

Therefore, sample size for girls from non-intervention and intervention study groups

$= 526 + 526$

$= 1,052$

Total minimum sample size for boys and girls), $n = 568 + 1052 = 1,620$

The study samples for boys and girls were calculated separately because studies have found that they have different sexual intercourse experience.

6.6 Sampling Technique

Multistage cluster sampling method was applied to obtain the samples for the study. Study sample was randomly selected by use of tables of random numbers. A list of all primary schools with class VI and VII in the two study districts was prepared to get a sampling frame. From the sampling frame 11 primary schools were randomly selected from each study district. The schools had a range of 1-2 streams per class.

From 11 selected primary schools of each study district, 4 primary schools were randomly selected to obtain study sample for both boys and girls. A minimum of one stream and maximum of two streams of class VI and VII were randomly selected to be involved in the study. With a class of maximum number of 40 pupils and a ratio of boys to girls being approximate to 1:1, the study participants expected to be obtained were about 320 boys and 320 girls from each study district, making a total of 640 boys and 640 girls from 8 schools.

From the 6 schools, one stream of class VI and class VII were randomly selected while from the last school, 2 streams were selected from class VI and VII to obtain only girls to participate in the study.

6.7 Data Collection Tool and Techniques

Self administered questionnaire was used for collecting data. Majority of pupils of primary schools in class VI and VII in Tanzania can speak, read and write Kiswahili

therefore self-administered questionnaire in Kiswahili version was prepared and used to collect the required information from the respondents.

For those pupils who could not read and write then the research assistants were used to ask the respondents questions written in the questionnaire and then fill their responses into the questionnaire on a particular question.

6.8 Data Processing and Analysis

The data cleaning was done manually and by use of computer. Thereafter data were entered and analysed by use of a computer. Manual data processing involved hand sorting of questionnaires into different groups such as by intervention versus non-intervention group, boys and girls. Each questionnaire was checked to see if it has been completed accurately with relevant information.

The EPI-INFO computer software (version 6) was used to analyze the data. A questionnaire was created in EPI-INFO program for data entry and analysis. Variables of the study were coded and assigned the corresponding field types. Once the questionnaire created, data entry and cleaning were done.

Data were organized and presented in various forms including frequency tables, cross tabulations, graphs and narrative information. Selected measures for central tendency

and dispersion have been calculated. Mantel Haenszel chi-square test and odd ratio were applied to determine significant differences between different study groups for specific variables.

6.9 Study variables

Table1 shows variables that are used in this study indicating their operational definitions and measurement scales.

Table 1: Study Variables, their operational definitions and measurement scales

Variables	Operational definitions	Measurement scales
1. Background Variables		
1.1 Intervention Participants group	Participants from schools implementing HIV/AIDS intervention	- Integer (whole number) - Percentage (%)
1.2 Non-intervention Participants group	Participants from schools without HIV/AIDS intervention	- Integer (whole number) - Percentage (%)
1.3 Age	Age at the last birth day	Years
1.4 Sex	Biological identification	Boys or girls (males or females)
1.5 Education level	Grade of the class of the pupils	Standard VI or VII
1.6 Residence	Place where a person lives	Urban or rural areas
1.7 Religion	A particular system of belief or worship	Roman Catholic, Protestant, Muslim, etc
2 Outcome Variables		
2.1 Level of Knowledge on HIV/AIDS		
2.1.1 Heard of AIDS	Response of pupils if heard of AIDS or not	1 = Yes (heard) 2 = No (not heard)
2.1.2 Knowledge on the meaning of AIDS	Response of pupils to the question on the meaning of AIDS	Answers of the respondents to 25 questions were marked and each correct answer scored 4 marks for each question. Then scores were added to get total
2.1.3 Knowledge about HIV	Response of pupils to the question about HIV	
2.1.4 Knowledge on ways of HIV transmission	Response of pupils to the question on how HIV can be transmitted	

2.1.5 Knowledge on the three prevention methods of HIV infection	Response of pupils on three ways that can be used for prevention from HIV infection	scores for each respondent and ranked under the following knowledge scales: Low = <25 scores (%) Moderate = 25 - < 50 scores (%) High = ≥ 50 scores (%)
2.1.6 Knowledge on other issues related to HIV/ AIDS as follows: - People who are more at risk of getting HIV - The possibility of healthy looking person to have AIDS virus - The people at risk of getting HIV/AIDS - Attitude towards caring the family member who is suffering from AIDS - Knowledge on the availability of drugs to cure AIDS - Knowledge on the availability of a vaccine to prevent AIDS	Correct pupil's responses to specific questions put on issues related to HIV/AIDS	
2.1.7 Sources of information about HIV/AIDS	Response of the pupils on different sources of information used to learn about HIV/AIDS	Nominal e.g. Radio, TV, News paper, Posters, school teachers, etc
2.1.8 Preferred sources of information on HIV/AIDS	Response of the pupils on different sources of information they would prefer to use learning about HIV/AIDS	Nominal e.g. Radio, TV, News paper, Posters, school teachers, etc
2.2 Sexual behaviour		
2.2.1 Pupils who had ever had sexual intercourse	Pupils who had ever had at least one sexual intercourse	Percentage of pupils who had ever had at least one sexual intercourse
2.2.2 Age at which pupils had the sexual debut	Age at the last birthday when pupils had their sexual debut	Years
2.2.3 Pupils who have multiple sexual partners	Pupils who had ever had at least one sexual partner other than regular sexual partner within the period of 2 year (2002-2004)	Percentage of pupils with multiple partners

2.2.4 Age of sexual partners	Comparison of the age between sexual partners	1 = younger 2 = Similar age 3 = Older
2.2.5 Heard of condom	Response of the pupils whether heard of condom or not	1= Yes (heard) 2 = No (not heard)
2.2.6 Used condom during the last sexual contact	Response of pupils whether ever used condom during the last sexual contact	1 = Yes (used) 2 = No (never used)
2.2.6 Access to condom	Response of the pupils whether it is easy to get condom or not	1 = Yes (accessible) 2 = No (not accessible)
2.2.7 Factors predisposing pupils to have sex	Response of the pupils to the question on what makes them do sex	Nominal e.g. false promise, gift, money, threat, rape, etc
2.2.8 Schoolgirls from std VI-VII reported to have pregnancy within the 2 years period	Number of pupils of school girls from std VI-VII known to have pregnancy between the year 2002 – 2004	Whole number (integer) reported as a number of pregnant girls from class VI and class VII who got pregnant
2.2.9 Intention of pupils to postpone sex before marriage	Self report made by pupils who have or do not have intention to postpone sex before marriage	1 = Yes (he/she has intention to postpone sex) 2 = No (he/she has no intention postpone sex)
2.2.10 Sources of information sexuality	Response of the pupils to the question on different sources of information they use to learn about sex	Nominal e.g. initiation, books, video shows, news papers, etc
2.2.11 Preferred sources of information about sexuality	Response of pupils on sources of information they would prefer to use learning about sexuality	Nominal e.g. Radio, TV, News paper, Posters, school teachers, etc

6.10 Operational Definitions of Terms

Definitions of terms which have been used in this study are provided below. Some of these terms bear different concepts in different communities, cultures, policy makers, researchers and academicians, hence it was important to define them and indicate which

definition was applied in this study. The following are definitions of key terms which were used in the study:

1. Youth: The term youth has different conceptual perspectives because there is no universally accepted definition of youth. If one looks into a dictionary, youth is defined as people of the age between the beginning of puberty and maturity. On the other hand WHO defines youth as group of people in the age range of 10 to 24 years (WHO, 1986). Within this age range, subgroups such as under15 years, 15 – 17 years, 18 – 19 years, 20- 24 years could be examined separately depending on issues under the discussion.

Study conducted by Hamburg concluded that socially constructed meaning of maturity and adulthood tends to influence the conceptualization of youth (Hamburg, 1986). For instance, in Tanzania legally, persons aged 18 years and above are considered to be adults though the definition of adult depends on whether one is talking about criminal, marriage, ability to operate an account, or allowed to vote. Institutions or organizations which deal with youth such as Chama Cha Mapinduzi (CCM) age range of youth sometimes extends up to over 40 years. The system of school and police in Tanzania allows age group of 5 to 13 years to start class one. However, in practice many primary school children of class one have age range from 5 – 15 years (BEST, 1994).

In a workshop on youth health and related problems in Tanzania, conducted in Mbeya it was agreed that the concept of youth should be limited to people aged 10 - 24 years

(Leshabari and Kaaya, 1996). Within this age range youth aged 10 – 14 years were referred to as young youth; those aged 15 -17 were referred to older youth.

This study adapted the definition of youth as the people with age range of 10 -24 years. Since the children of age between 5 -15 years can be allowed to start class one in Tanzania, the same age range of pupils 10-24 years will be involved in the study.

2. Adolescent: This is the term which sometimes confuses with the term youth hence it is important to make a distinction between these two terms. WHO defines adolescent as a person at life time between puberty and adulthood (WHO, 1975). In other words adolescents belong to age range of 10 -19 years

3. Teenager: This term bears more or less the same meaning of adolescent but its age range is from 13 to 19 years.

4. Sexuality: The definition of sexuality also differs from culture to culture and community to community. It is because sexuality is culturally specific. The expression of sexuality is either influenced by ethical, spiritual, cultural or moral concerns. The definition of sexuality provided by Sexuality Information and Education Council of the United States (SIECUS) seems to be broad covering most of aspects of sexuality. SIECUS defines sexuality as the sexual knowledge, belief, attitudes, values and behaviours of individuals. Its dimension includes the anatomy, physiology and

biochemistry of sexual response system; identity, orientation, intercourse, roles and personality; thoughts, beliefs and relationships. Human sexuality has intricate meaning for both individuals and societies. It is a complex mixture of biological response, psychological meaning and societal/cultural overlays. Basically, sexuality refers to erotic stimulation. Erotic stimulation refers to what a particular society teaches are the pathways, directly or indirectly, to genital response.

For the purpose of this study, sexuality was referred to as sexual intercourse relationship, meaning penetrative penile – vaginal sex which is a common practice in the study area and it is the main mode of transmission of HIV in developing countries including Tanzania.

5. Reproductive health is defined by WHO as a state of physical, mental, and social well-being in all matters relating to the reproductive system at all stages of life. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so. Implicit in this are the rights of men and women to be informed and to have access to safe, effective, affordable, and acceptable methods of family planning of their choice, and the right to appropriate health-care services that enable women to safely go through pregnancy and childbirth.

6. Reproductive health care/program: WHO defines this term as the constellation of methods, techniques, and services that contribute to reproductive health and well-being

by preventing and solving problems related to reproductive health. It also includes sexual health, the purpose of which is the enhancement of life and personal relations, and not merely counseling and care related to reproduction and sexually transmitted infections including HIV/AIDS.

7. Sexual Health: The World Health Organization defines sexual health as "the integration of the physical, emotional, intellectual, and social aspects of sexual being in ways that are positively enriching, and that enhance personality, communication, and love whereby every person has a right to receive sexual information and to consider sexual relationships for pleasure as well as for procreation."

8. Sexual Behaviour is a form of physical, psychological, and social relationships in matters related to sex. Alternatively, sexual behaviours are referred to as sexual activities. Different types of sexual behaviour include:

- Abstinence
- Masturbation
- Coitus (vaginal intercourse)
- Anal intercourse
- Oral genital acts
- Prostitution
- Transvestism (use of the clothing of the opposite sex for sexual gratification)

- Transsexualism (disorder of gender identity in which an individual wishes to be or feel that he/she is a member of the opposite sex)
- Homosexuality (erotic, romantic and affective attraction to people of the same sex)
- Heterosexuality (erotic, romantic and affective attraction to people of the opposite sex)
- Bisexuality (erotic, romantic and affective attraction to people of both sexes)
- Phone sex (sexual conversations between two persons over the telephone for mutual pleasure, for example by the separated lovers)
- Cybersex (the act of two persons sometimes more sitting at distant computer terminals sending sexually explicit messages back and forth to one another)
- Voyeurism (a practice of an individual derives sexual pleasure from observing other people)
- Autoeroticism (a practice of fulfilling one's own sexual needs without a partner e.g. masturbation)

Sexual behaviours have feeling of intimacy although some sexual behaviours do not have feeling of intimacy such as prostitution and casual sexual relationships. Sexual behaviour as a physical intimacy can be in a number of forms as follows:

- Physical closeness (sitting close to each other or walking together)
- Touching tenderly
- Holding hands

- Hugging (gently enclosing the arms around the trunk of each other)
- Sitting or lying against each other
- Caressing (gently stroking against body parts or hairs with a hand)
- Cuddling (putting your arm closely around a person you love)
- Kissing
- Touching genitals
- Sexual penetration or sexual intercourse (with or without condom use) e.g. vaginal sex, oral sex, anal sex, etc

This study intended to investigate the form of sexual behaviour referring to sexual intercourse which is vaginal, oral or anal sex. The purpose of preferring this term is because it is a common mode of HIV transmission in this country.

9. Sexually Active: According to SIECUS definition an individual is said to be sexually active if he/she has had sexual intercourse in the past 3 months. However, a person who is sexually experienced (ever had sexual intercourse) is not necessarily sexually active. A sexually active person is a person who had ever had sex more than one sexual act.

10. Sexual Debut: It is defined as the sexual experience for the first time in lifetime (Willy, et al, Nov 2003). Since sexual experience can be either coital or non-coital interactions, therefore it is not appropriate to define sexual debut as first intercourse. This study will prefer to use the term intercourse debut instead of sexual debut by

referring to the first sexual intercourse which is an area the study planned to investigate. It has been found that early sexual intercourse is commonly associated with a higher number of lifetime sexual partners and consequently, a higher risk of contracting sexually transmitted infections and hence at risk of HIV infection (Santelli et al, 1998).

11. Sex education: It is a program that seeks to assist children and young people in understanding a positive view of sexuality, to provide them with information and skills about taking care of their sexual health and to help them acquire skills and responsibilities they need to make good decisions now and in the future. Sex education is actually a lifelong process which encompasses sexual development, sexual health, reproductive health, interpersonal relationships, affection, intimacy, body image and gender roles.

12. Intervention: It is the action which introduced to interfere or interrupt a prevailing condition. For instance, HIV/AIDS education is an intervention to prevent or control HIV/AIDS epidemic.

6.11 Study Limitations

This study is subject to have a number of limitations. The pupils might be getting information on HIV/AIDS and sexuality from other sources than HIV/AIDS Education Intervention such as radio, newspapers, relatives, friends etc. On the other hand, currently, FLE has been integrated in the curriculum of schools involving all primary

schools. This can contribute to smaller difference in level of knowledge between intervention and comparison groups.

Another limitation of this study is in regard to baseline data of study participants on HIV/AIDS knowledge and sexuality. The study did not have baseline information to compare with findings obtained from this study; there was no pretest, which was administered before introduction of the intervention so that the researcher could compare the results obtained by this study and draw conclusion.

Some respondents did not provide answers to a number of questions, as the study tool was a self-administered questionnaire on the voluntary basis. Such missing respondents could contribute to failure to get statistically significant results.

Because of resource constraints such as limited time and short of funds, the researcher could not have bigger sample size and application of other research methods such interview and focus group discussion which could contribute to getting more scientifically accepted results.

6.12 Ethical Considerations

In order to make sure that research ethics are taken care, the study proposal was submitted for approval to the supervisor, course coordinator, the college research and

publications committee at MUCHS. Confidentiality of information collected was ensured whereby questionnaires were treated anonymously i.e. no names were required to be written on the questionnaires. Moreover participants were requested to fill the questionnaires after we had obtained their verbal informed consent.

CHAPTER 7

7. STUDY RESULTS

7.1 Background information of study respondents

The background characteristics of the respondents are presented in Table 2 and 3. A total of 1630 pupils participated in the study, of whom 888 (54.5%) were from Magu District and 742 (45.5%) from Ilemela District, Mwanza Region. The median age was 14 years, and the range was 10 to 19 years. About one third (35%) of the respondents were boys; 62.3 % were from urban areas and 37.7% were from rural areas. The majority (63.4%) of the pupils were in the age group of 10-14 years. About 60% of respondents were class VII pupil while 40% were class VI pupils.

The majority (50.3 %) of the respondents belonged to Roman Catholic congregation, (21.7 %) belonged to the African Inland Church (AIC), while (11.3%) were Muslim. Only a few respondents belonged to charismatic, Seventh Day of Adventist (SDA), Lutheran, Pentecost, Jehovah witnesses, Tanzania Assembles of God (TAG), Mennonite and the Salvation Army.

Table 2: Percentage distribution of study participants by districts and schools from which the study sample was selected

Districts / schools	Study Respondents	
	No	(%)
District		
1. Magu	888	54.5
2. Ilemela	742	45.5
Total	1630	100.0
Schools from Magu District		
1. Nyalikungu	206	12.6
2. Itumbilili	74	4.5
3. Bubinza	23	1.4
4. Kiloleli	46	2.8
5. Nsola	20	1.2
6. Mwamayombo	123	7.5
7. Mwamanyili	52	3.2
8. Nyashimo	152	9.3
9. Sali sima	30	1.8
10. Nyanguge	54	3.3
11. Kisesa	108	6.6
Schools from Ilemela District		
1. Buzuruga	189	11.6
2. Nundu	86	5.3
3. Gedeli	48	2.9
4. Nyakato	40	2.5
5. Nyamadoke	32	2.0
6. Buswelu	60	3.7
7. Mabatini	87	5.3
8. Mirongo	52	3.2
9. Mbugani	26	1.6
10. Kirumba	63	3.9
11. Kitangiri	60	3.7
Total	1630	100.0

Table 3: Percentage distribution of socio-demographic characteristics of the Study respondents

Demographic Characteristics	Intervention group		Non-intervention group		Total	
	No	%	No	%	No	%
Sex						
Males	304	34.2	273	36.8	577	35.4
Females	584	65.8	469	63.2	1053	64.6
Total	888	100.0	742	100.0	1630	100.0
Age in years						
10-14	515	58.0	518	69.8	1033	63.4
15-19	373	42.0	224	30.2	597	36.6
Total	888	100.0	742	100.0	1630	100.0
Class						
Std VI	414	46.6	243	32.7	657	40.3
Std VII	474	53.4	499	67.3	973	59.7
Total	888	100.0	742	100.0	1630	100.0
Residence						
Urban	382	43.0	633	85.3	1015	62.3
Rural	506	57.0	109	14.7	615	37.7
Total	888	100.0	742	100.0	1630	100.0
Religion						
RC	399	44.9	421	56.7	820	50.3
AIC	279	31.4	74	10.0	353	21.7
Muslim	33	3.7	45	6.1	78	11.3
Charismatic	53	6.0	132	17.8	185	4.8
Others	124	14.0	70	9.4	194	11.9
Total	888	100.0	742	100.0	1630	100.0

7.2 Awareness on HIV/AIDS

Awareness on HIVAIDS was investigated among respondents from both intervention and non-intervention schools (see table 4) by asking them whether they had ever heard of HIV/AIDS. Of 1630 study participants, 85% were aware of HIV/AIDS. Awareness in intervention area was significantly higher than in the non-intervention area, 94% and 74% respectively (p= 0.0001). There was no significant difference in HIV/AIDS awareness between males and females in intervention and non-intervention groups. The same picture was revealed when data were disaggregated by age, residence and their class, whether they were in standard VI or VII.

Table 4: Distribution of socio-demographic characteristics of respondents who were aware of HIV/AIDS by study groups

Socio-demographic characteristics	Intervention Group (n=888)		Non-intervention Group (n=742)		Statistical Test
	Aware	Not aware	Aware	Not aware	
	No (%)	No (%)	No (%)	No (%)	
Sex[1]					
Males	295(97.0)	9(3.0)	214(78.3)	58(21.2)	P= 0.0001
Females	540(92.4)	43(7.4)	335(71.4)	134(28.6)	
Age in years[2]					
10-14	485(94.2)	30(5.8)	372(71.8)	145(28.0)	P= 0.0001
15-19	350(93.8)	22(5.9)	177(79.0)	47(21.0)	
Class[3]					
VI	391(94.4)	23(5.6)	154(63.4)	89(36.6)	P= 0.0001
VII	444(93.7)	29(6.1)	395(79.2)	103(20.6)	
Residence[4]					
Urban	360(94.2)	21(5.5)	471(74.4)	161(25.4)	P= 0.0001
Rural	475(93.9)	31(6.1)	78(71.6)	31(28.4)	
Total	835 (94.6)	52(5.9)	549(74.0)	192(25.9)	P= 0.0001

1, 2, 3, 4: 1 subject missing from each study group and each socio-demographic characteristic.

7.3 Knowledge on HIV/AIDS

One of the objectives of this study was to explore the extent to which primary school youth have knowledge of HIV / AIDS. The findings on this aspect are summarized in Table 5, 6 and 7. In order to measure school youth's knowledge on HIV / AIDS, a total of 25 questions were asked (See questions No. 9 - 21 in the questionnaire used for this study). The questions asked on knowledge of HIV/AIDS measured the following areas:

-Meaning of AIDS

-Meaning of HIV

-Ways of HIV transmission

-Methods of HIV prevention

Other issues measured include:

-Knowledge on people who are at risk of getting HIV infection

-Knowledge on availability of drugs for cure of AIDS and vaccine for AIDS

-Knowledge on the health looking person that may have HIV infection.

Respondents were requested to answer open ended questions by filling blacks and to answer closed questions by choosing dichotomous answers of yes and no. Every correct response was assigned a score of 4 marks, while incorrect answers were scored zero. Scores obtained were added to get knowledge scales of respondents out of 100 scores. Thereafter, respondents' scores were grouped as <25% (low), 25-49% (moderate), and 50-100% (high).

Table 5: Percentage distribution of school youth who were knowledgeable of HIV/AIDS in the intervention group compared with non-intervention group

Level of knowledge on HIV / AIDS	Intervention group		Non- intervention group		Total	
	No	%	No	%	No	%
Low	10	1.2	18	3.8	28	2.2
Moderate	127	15.8	47	9.8	174	13.6
High	667	83.0	414	86.4	1081	84.3
Total	804	100.0	479	100.0	1283	100.0

Generally, the level of knowledge about HIV / AIDS among of the respondents was high (84.3 %) in both groups (Table 5). Nearly 83% of the study participants from the intervention group scored high level of knowledge compared with 86.4% of study participants from non-intervention group.

The level of knowledge on HIV/ AIDS for boys and girls was similar; 84.6% of boys in the study sample had high level of knowledge on HIV / AIDS compared to 82% among girls from intervention schools (Table 6). Eighty seven percent of boys scored 50 – 100% and likewise 86% of boys from non-intervention schools scored the same level of knowledge (Table 7).

Table 6: Percentage distribution of socio-demographic characteristics of respondents who were knowledgeable of HIV/AIDS in intervention area

Characteristics of respondents in the intervention group	Level of HIV / AIDS knowledge							Statistical Test
	Low		Moderate		High		Total	
	No	%	No	%	No	%	No	
Sex								
Males	5	1.8	39	13.6	242	84.6	286	χ^2=2.37
Females	5	1.0	88	17.0	425	82.0	518	df=2
Total	10	1.2	127	15.8	667	83.0	804	p=0.3064
Age (in years)								
10-14	5	1.1	76	16.1	390	82.8	471	χ^2=0.39
15-19	5	1.5	51	15.3	277	83.2	333	df=2
Total	10	1.2	127	15.8	667	83.0	804	p=0.82
Class								
Std VI	7	1.9	74	19.8	293	78.3	374	χ^2=11.06
Std VII	3	0.7	53	12.3	374	87.0	430	df=2
Total	10	1.2	127	15.8	667	83.0	804	p=0.004
Residence								
Urban	4	1.1	36	10.2	313	88.7	353	χ^2=15.0
Rural	6	1.3	91	20.2	354	78.5	451	df=2
Total	10	1.2	127	15.8	669	83.0	804	p=0.0006

Knowledge of HIV/AIDS was much lower among pupils in standard VI than standard VII in both groups. Among standard VI pupils in the non-intervention group about 20% had low to moderate knowledge as compared with 22% of pupils of the same class in the intervention group. In the intervention area 87% of respondents from class VII had high knowledge of HIV/AIDS as compared with 78% of respondents from class VI. In the non-intervention schools 89% of respondents from class VII had high level of knowledge as compared with 79% of respondents from class VI.

Knowledge of HIV AIDS was similar among pupils in the age group of 10-14 compared to 15-19 years age group. It appeared that respondents from urban area had higher level of knowledge on HIV/AIDS than respondents from rural area in both intervention group (89% vs 79%) and non-intervention group (88% vs 74%).

Table 7: Percentage distribution socio-demographic characteristics of respondents who were knowledgeable of HIV/AIDS in non-intervention area

Characteristics of non-intervention group	Distribution of level of HIV / AIDS knowledge							Statistical test
	Low		Moderate		High		Total	
	No	%	No	%	No	%	No	
Sex								
Males	7	3.5	19	9.6	172	86.9	198	χ^2=0.07
Females	11	3.9	28	10.0	242	86.1	281	df=2
Total	18	3.8	47	9.8	414	86.4	479	p=0.966
Age (in Years)								
10-14	13	4.0	30	9.2	282	86.8	325	χ^2=0.52
15-19	5	3.3	17	11.0	132	85.7	154	df=2
Total	18	3.8	47	9.8	414	86.4	479	p=0.772
Class								
Std VI	11	8.4	16	12.2	104	79.4	131	χ^2=12.42
Std VII	7	2.0	31	8.9	310	89.1	348	df=2
Total	18	3.8	47	9.8	414	86.4	479	p=0.002
Residence								
Urban	13	3.1	36	8.6	369	88.3	418	χ^2=9.78
Rural	5	8.2	11	18.0	45	73.8	61	df=2
Total	18	3.8	47	9.8	414	86.4	479	p=0.008

When respondents were asked to mention three preventive measures of HIV/AIDS, overall results showed that two thirds (65.6%) of the pupils managed to list the three preventive measures namely, abstinence, having sex with one faithful uninfected partner and condom use and one third (34.4%) mentioned less than three methods or did not mention any method (Table 8). Data were analyzed to compare responses from intervention versus non-intervention areas also to see whether there was a difference between boys and girls in the two areas. The results revealed that pupils in the intervention area were significantly less knowledgeable of the three preventive measures of HIVAIDS than pupils from non-intervention area, 62% and 71% respectively (Chi square test =9.58, df=1, p=0.02).

When we compared knowledge of boys in the intervention versus non-intervention areas the results were similar, 73% and 72% respectively. However on analysis of knowledge of preventive measures among girls there was a significant difference between the intervention and the non-intervention areas. Surprisingly knowledge of girls in non-intervention area was significantly higher compared to that of girls in the intervention areas. The percentages were 70.3% and 56.8% respectively.

Table 8: Percentage distribution of pupils with knowledge of HIV/AIDS preventive measures among boys and girls in the intervention and non-intervention areas

Whether they knew three preventive measures of HIV/AIDS						
Respondents	**Magu (intervention area)**		**Ilemera (Non-intervention area)**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
All pupils						
Yes	493	62.4	324	71.1	817	65.6
No	297	37.6	132	28.9	429	34.4
Total	790	100.0	456	100.0	1246	100.0
Males						
Yes	204	72.6	132	72.1	336	72.4
No	77	27.4	51	27.9	128	27.6
Total	281	100.0	183	100.0	464	100.0
Females						
Yes	289	56.8	192	70.3	481	61.5
No	220	43.2	81	29.7	301	38.5
Total	509	100.0	273	100.0	782	100.0

7.4 Sexual behaviour

7.4.1 Sexual intercourse experience

Table 9 and 10 present results on sexual intercourse experience of study participants. Of 1630 respondents 268 (16.4%) were sexually active of whom one in five pupils were in the intervention group (21%) and one in ten in the non-intervention group (11%). These results indicate that pupils from the intervention group were twice as likely to be sexually active than pupils from the non-intervention group (OR= 2.03, 95% CI 1.52, 2.71). A similar pattern was observed when data were examined by age and sex, level of education and residence. When religion was examined to see whether there is any effect on sexual activity, it was found that religion does not affect the modal of sexuality.

Table 9: Distribution of respondents who are sexually active in intervention and Non-intervention groups

Sexuality	Intervention Group		Non-intervention Group		Total	
	No	%	No	%	No	%
Active	184	20.7	84	11.3	268	16.4
No Active	702	79.1	651	87.7	1353	83.0
No Response	2	0.2	7	0.9	9	0.6
Total	888	100	742	100	1630	100

OR=2.03, CI= (1.52, 2.71)

Table 10: Unvariate analysis of characteristics associated with being sexuality active in the intervention group compared with non-intervention group

Characteristics	Intervention (n=888)		Non-intervention (n= 742)		Significance Test	
	Active No (%)	Not active No (%)	Active No (%)	Not active No (%)	OR	95% CI
Sex[1]						
Male	108 (35.5)	19 (63.8)	59(21.6)	213(78..0)	2.01(1.36 , 2.97)	
Female	76 (13.0)	50 (87.0)	25(13.0)	438 (93.4)	2.62(1.60 , 4.31)	
Age in years[2]						
10 – 14	95 (18.4)	418 (81.2)	40 (7.7)	476 (91.9)	2.70 (1.80 , 4.08)	
15 – 19	89 (23.9)	284 (76.1)	44(19.6)	175 (78.1)	1.25 (0.81 , 1.91)	
Class[3]						
VI	90 (21.7)	322 (77.8)	24(09.7)	215 (88.5)	2.50 (1.51 , 4.18)	
VII	94 11.1)	380 (80.2)	60(12.0)	436 (87.4)	1.80 (1.25 , 2.60)	
Residence[4]						
Urban	94 24.6)	286 (74.9)	73(11.5)	553 (87.4)	2.49 (1.75 , 3.59)	
Rural	90 17.8)	416 (82.2)	11(10.1)	98 (89.9)	19.25(9.90,38.55)	
Total	184 (20.7)	702 (79.1)	84(11.3)	651 (87.7)	2.03 (1.52 , 2.71)	

1, 2, 3, 4: 2 subjects missing in intervention group while 7 subjects missing in non-intervention group

7.4.2 Association between level of knowledge on HIV/AIDS and sexuality

Table 11 presents the association between level of knowledge on HIV/AIDS and sexuality by comparing the two study groups. Overall approximately 81% of the respondents who reported to have had sexual intercourse experience had adequate level of knowledge on HIV/AIDS and there was no difference between the intervention and the non-intervention groups (p= 0.434).

Table 11: Distribution of respondents by level of HIV/AIDS knowledge and reported sexual intercourse experience

Level of knowledge on HIV / AIDS	Reported sexual intercourse experience					
	Intervention group		Non intervention group		Total	
	No	%	No	%	No	%
Low	2	1.1	2	3.2	4	1.7
Moderate	32	18.2	9	14.3	41	17.1
High	142	80.7	52	82.5	194	81.2
Total	176	100.0	63	100.0	239	100.0

$\chi 2$ =1.58, df= 2, p=0.434

When multivariate analysis (logistic regression analysis) was done to establish effects of socio-demographic characteristics on sexual intercourse experience, it was revealed that the difference in sexual intercourse experience observed with different sexes was statistically significant in both intervention and non-intervention groups (Table 12).

Table 12: A comparison of sexual intercourse experience between the intervention and non-intervention groups by characteristics of respondents: Multivariate Analysis (Logistic Analysis)

Characteristics	Intervention Group (n=888)		Non-intervention Group (n=742)	
	Sexually active (n=184) No (%)	OR (95% CI)	Sexually active (n=84) No (%)	OR (95% CI)
Sex				
Males	108 (35.8)	1.0 -	59 (21.7)	1.0
Females	76 (13.0)	3.4 (2.4, 4.8)	25 (5.4)	3.6 (1.9, 6.7)
Age in years				
10-14	95 (18.5)	1.0 -	40 (7.8)	1.0
15-19	89 (23.9)	0.7 (0.5, 1.1)	44 (20.1)	0.4 (0.3, 0.8)
School class				
VI	90 (21.8)	1.0 -	24 (10.0)	1.0
VII	94 (19.8)	1.2 (0.8, 1.7)	60 (12.1)	0.9 (0.4, 1.7)
Residence				
Urban	94 (24.8)	1.0	73 (11.7)	1.0
Rural	90 (17.8)	1.6 (1.1, 2.2)	11 (10.1)	1.2 (0.5, 2.7)
HIV/AIDS knowledge				
Low	2 (1.1)	1.0 -	2 (3.2)	1.0 -
Moderate	32 (18.2)	0.5 (0.1, 2.67)	9 (14.3)	0.5(0.1, 3.0)
High	142 (80.7)	0.7 (0.15, 3.70	52 (82.5)	1.0 (0.2, 4.8)

The difference in sexual intercourse experience by age was statistically significant in non-intervention group while by residence was statistically significant in intervention group. The results on HIV/AIDS knowledge indicated that level of HIV/AIDS knowledge had no statistically effect on sexual activity.

When comparison of sexual intercourse experience by socio-demographic characteristics between intervention and non-intervention groups was done, the results were found to be not statistically significant.

7.4.3 Age at sexual debut

Table 13 shows that the majority of respondents had sexual debut very early in both the intervention and non-intervention schools. Generally, a higher percentage of boys than girls in both the intervention and non-intervention appeared to have sexual debut earlier even before age of ten years. Minimum age at sexual debut was found to be 5 years for boys and girls.

About 60.7% of respondents started having sex at the age of 10-14 years in the non-intervention area and 54.9% in the intervention area. Majority (57.9%) of girls in the intervention area and 64% of girls from non-intervention schools had experienced sexual debut at the age of 10 -14 years.

Table 13: Age at sexual debut by study group and sex

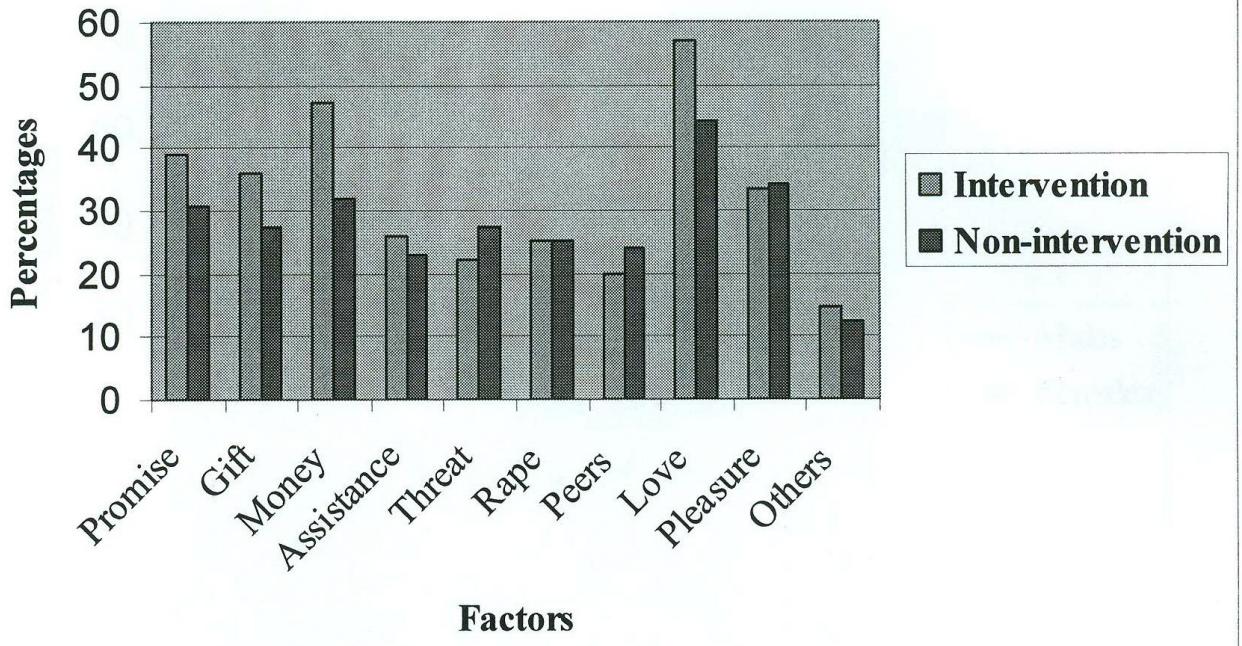
Age at sexual debut (yrs)	Intervention group (n = 184)			Non-intervention group (n= 84)		
	No (%)					
	Males (n=108)	Females (n=76)	Total (n=184)	Males (n=59)	Females (n=25)	Total (n=84)
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
< 10	37(34.2)	10 (13.2)	47 (25.5)	21 (35.6)	6 (24.0)	27 (32.0)
10 – 14	57(52.8)	44 (57.9)	101(54.9)	35 (59.3)	16 (64.0)	51 (60.7)
15 – 19	14(13.0)	22 (28.9)	36 (19.6)	3 (5.1)	3 (12.0)	6 (7.2)
Total	108(100.0)	76(100.0)	184(100.0)	59(100.0)	25(100.0)	84(100.0)

7.4.4 Factors associated with involvement of school youth in sexual intercourse

When exploring the context surrounding the initiation of sexual relationship, respondents pointed out a number of factors that are there from a male to a potential female partner (see figure 2 and 3)

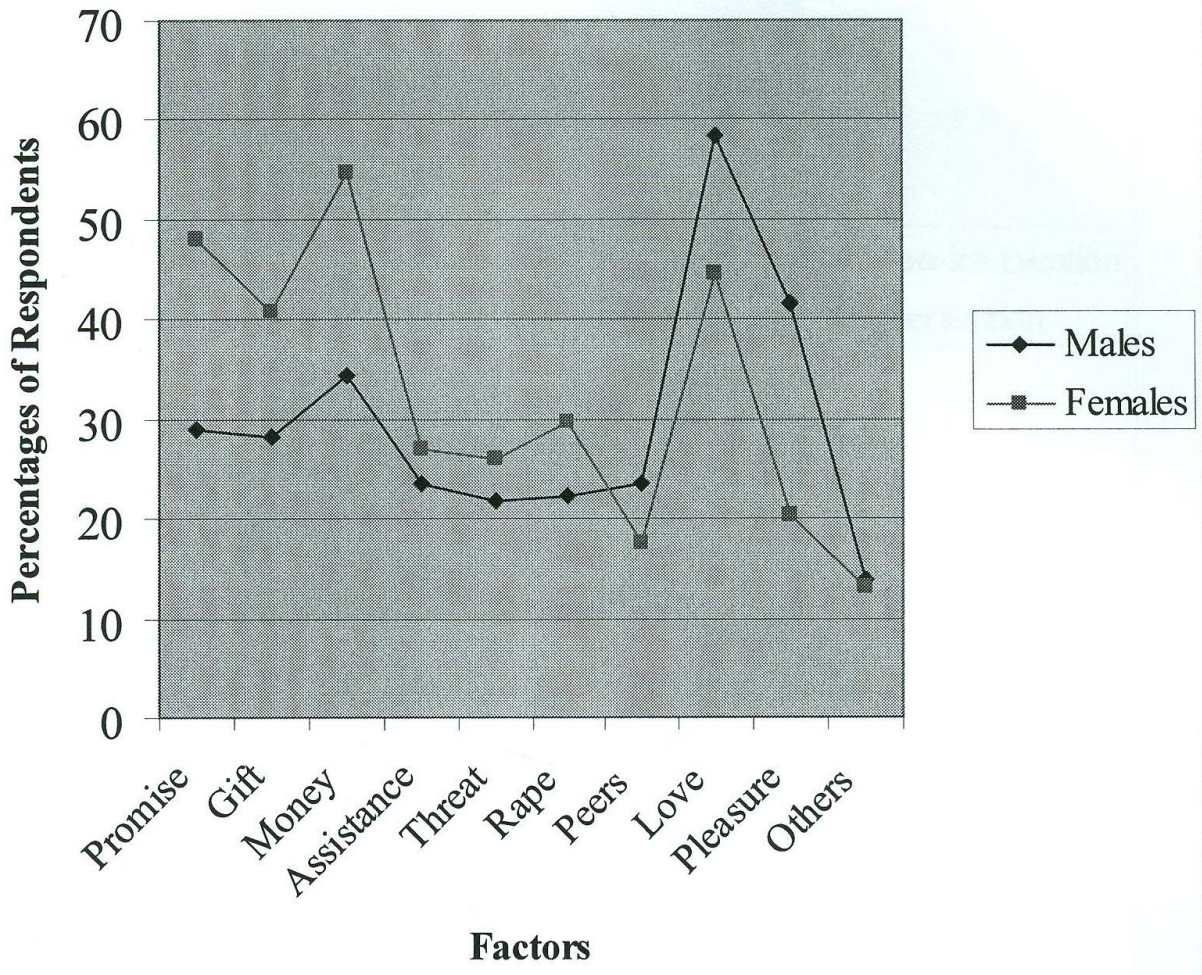
Generally, respondents from both interventions and non-intervention groups reported more or less the same factors which influence them to involve into sexual activity. Factors mostly reported by respondents from both study groups were falling in love (53%), getting money (42%), false promise for marriage (36.5%), getting gifts such as soap, lotion and clothes (33%), and desire for pleasure of sex (33%). Other factors included assistance for home work (25%) threat (23.7%), and peer pressure (21.2%).

Figure 2: Factors predisposing school youth to engage in sex



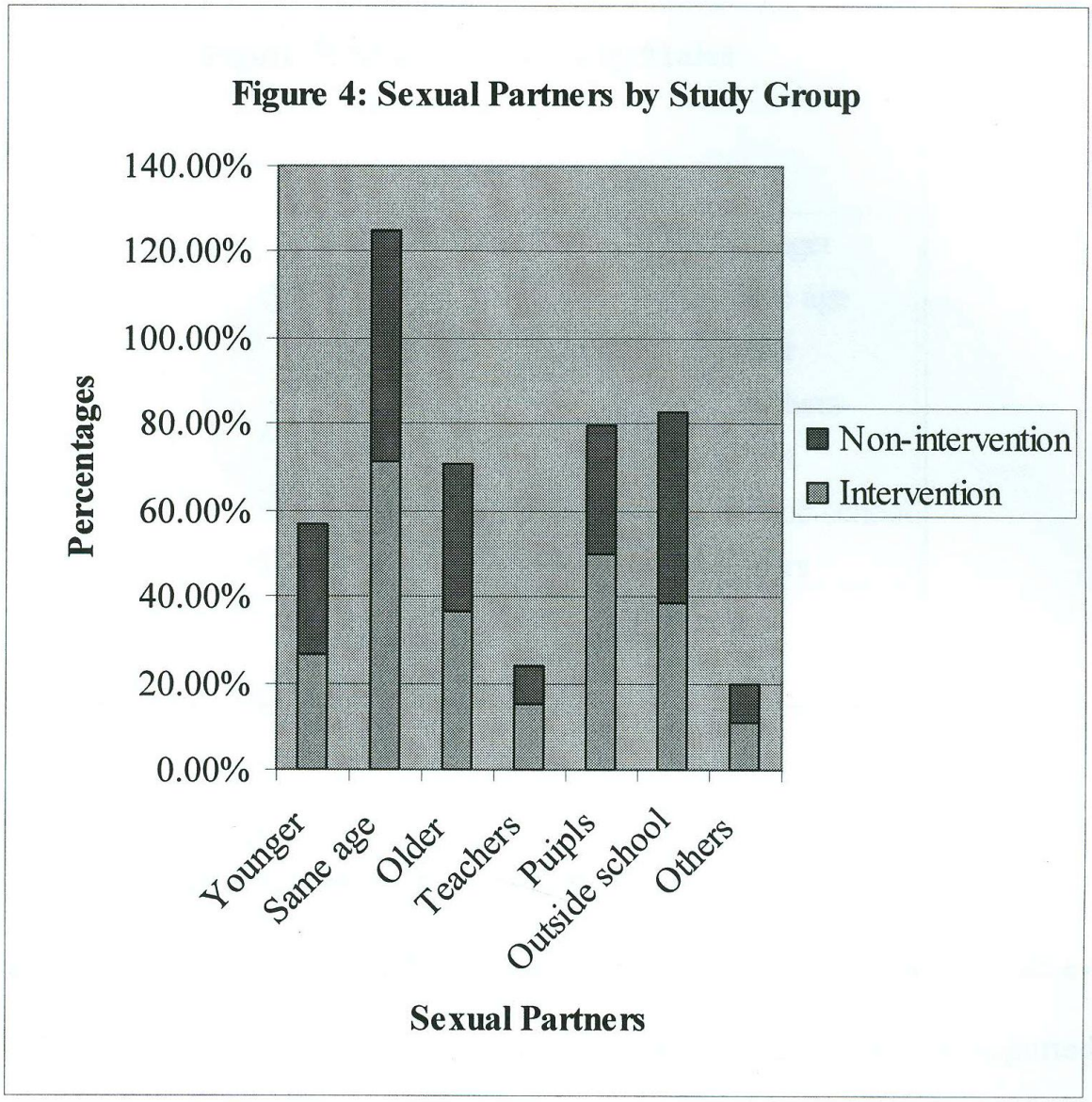
When we compared factors influencing boys and girls to engage in sexual activity we found considerable variation. Majority of boys reported factors such as falling in love (58.4%) and desire for pleasure of sex (41.6%). Common factors reported by girls were getting money (54.6%), false promise for marriage (48.1%), falling in love (44.4%), getting gifts (40.7%) and rape (30.2%)

Figure 3: Factors Predisposing School Youth to engage in sexual intercourse by sex



7.4.5 Sexual partners

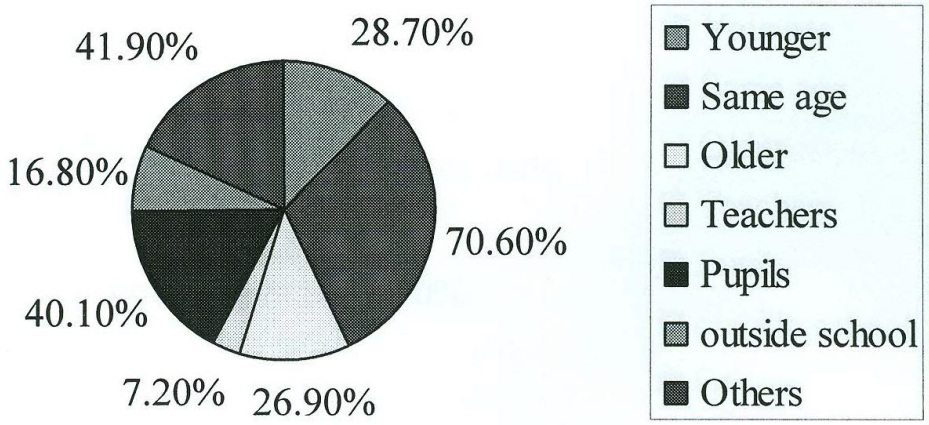
Both boys and girls were asked about types of sexual partners that they have ever had, whether they were of the same age, or older, fellow pupils, school teachers or otherwise. Figure 4, 5 and 6 present data on the distribution of type of sexual partners of respondents by sex.



Generally, the type of sexual partners mentioned by a large percentage of respondents included partner of the same age (66%), somebody outside the school (43%) and fellow pupils (40.5%),.

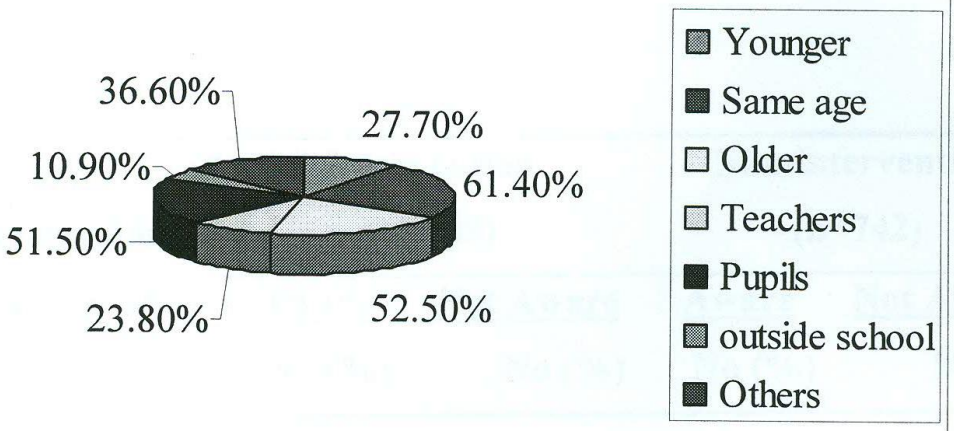
Common partners reported by respondents from intervention group include partners of the same age (71.5%), fellow pupils (50%), people outside the school (38.7%) and older partners (36.6%). Non-intervention group reported partners of the same age (53.4%), somebody outside the school (44.3%), older people (34.1%) and younger people (30.6%) as sexual partners.

Figure 5: Sexual Partners by Males



Relatively high percentage of boys (70.6 %) and girls (61.4%) reported that they have had sexual partners of their age. It was also reported that 52.5% girls had ever had sex with older partners. It was worth noting that other types of partners reported included fellow pupils for both boys (40.1%) and girls (51.5%). House girls were mentioned by boys as their sexual partners and teachers were reported to have had sex with school girls.

Figure 6: Sexual Partners by Females



7.4.6 Awareness on Condom

Condom awareness related questions were asked to the respondents. Results are presented in tables 14.The majority of respondents (92%) reported that they were aware of the male condoms. Condom awareness was significantly higher among pupils in the intervention than the non-intervention group, 96% and 88% respectively ($\chi^2 = 34.5$, df= 2, p=0.0003). A similar pattern was observed when data was examined in relation to age, class and residence. However, there was no difference in condom awareness among males compared with females and among other different socio-demographic characteristics of respondents.

Table 14: Distribution of Socio-demographic characteristics of Respondents who were Aware of Condoms in intervention group compared with non-intervention groups

Socio-demographic Characteristics	Intervention (n=888)		Non-intervention (n=742)		Statistical Test
	Aware	Not Aware	Aware	Not Aware	
	No (%)	No (%)	No (%)	No (%)	
Sex[1]					
Males	29(97.4)	4(1.3)	245(89.7)	24(8.8)	P= 0.0001
Females	553(94.7)	30(5.1)	406(86.7)	51(10.9)	P= 0.0003
Age in years[2]					
10-14	489(95.0)	21(4.1)	455(87.8)	53(10.2)	P=0.0001
15-19	360(96.5)	13(3.5)	196(87.7)	22(9.8)	P=0.001
Class[3]					
VI	400(96.6)	10(2.4)	208(85.6)	32(13.2)	P=0.0001
VII	449(94.7)	24(5.1)	443(88.8)	43(8.6)	P=0.022
Residence[4]					
Urban	361(94.5)	19(5.0)	555(87.7)	62(9.8)	P=0.0046
Rural	488(96.4)	15(3.0)	96(88.1)	13(8.6)	P=0.0001
Total	849(95.6)	34(3.8)	651(87.7)	75(10.1)	P=0.0003

1, 2, 3, 4: 5 Subjects missing in intervention group whereas 16 subjects missing in non-intervention group

7.4.7 Condom use

We asked the respondents if they were sexually active whether they had ever used a condom. Table 15 presents the percentage distribution of respondents who ever used condom in the intervention compared with non-intervention group.

Among of the respondents who reported to have had sex, 26.1% reported to have ever used condoms. Condom use for pupils from Magu and those from Ilemela were 28.8% and 20.2% respectively. The corresponding data on condom use for pupils from Magu and those from Ilemela were 34.3% and 18.6% for boys but it was 21% and 24% for girls respectively.

Among the age group of 15-19 years condom use was nearly 37% in intervention area compared to 22.7% in the non-intervention area. There was no difference in condom use among the respondents' class, and religious affiliation. However, pupils from urban area in non-intervention schools had higher percentage of condom use than pupils from rural areas while pupils from rural area of intervention schools reported higher condom use than pupils from urban area.

Table 15: Distribution of socio-demographic characteristics of respondents who used condoms in intervention group compared with non-intervention group

Socio-demographic characteristics	Intervention Group (n=184)		Non-intervention Group(n=84)		Statistical Test
	Used condom No (%)	Not used condom No (%)	Used condom No (%)	Not used condom No (%)	
Sex[1]					
Males	37(34.3)	68(64.9)	11(18.6)	47(79.7)	P=0.0296
Females	16(21.0)	60(79.0)	6(24.0)	12(48.0)	P=0.271
Age in years[2]					
10-14	20(21.1)	72(75.8)	7(17.5)	2(65.0)	P=0.0012
15-19	33(37.1)	56(62.8)	10(22.7)	33(75.0)	P=0.114
Class[3]					
VI	19(21.1)	69(76.7)	4(16.7)	17(70.8)	P=1.000
VII	34(36.2)	59(62.8)	13(21.7)	42970.0)	P=0.147
Residence[4]					
	24(25.5)	69(73.1)	16(21.9)	49(67.1)	P=0.866
	29(32.2)	59(65.5)	1(9.1)	10(90.9)	P=0.165
Total	53(28.8)	128(69.6)	17(20.2)	59(70.2)	P= 0.257

1, 2, 3, 4: 3missing subjects in intervention group for each characteristic, whereas in non-intervention group there 8 missing subjects from each characteristic

7.4.8 Accessibility to condoms

It was worthy to note that many respondents knew where they can get condoms. Places mentioned where condom can be obtained were medical stores (poisons part II), pharmacy, shops, health facilities etc. Some respondents reported low accessibility of

condom because of financial constraint, sometimes condoms are not available, it is a shame to be seen buying a condom and others reported that they are afraid to touch a condom. Table 16 indicates findings on condom accessibility. Pupils in intervention schools had higher condom accessibility than those from non-intervention schools (70.5% vs 34.6%).

Nearly 62% of girls who are sexually active from the intervention group reported that they have had access to condom use while for girls from non-intervention group the figure was 22.2%. A similar trend was observed among boys (74.2 %) from the intervention group who indicated to have condom accessibility as compared to 41.2% of boys from non-intervention group. The trend was found to be the same when condom accessibility was examined in relation to grade of class, residence and religion of the respondents from intervention and non-intervention study groups.

The majority of respondents in age group of 10-14 years reported that they have good access to condoms in both the intervention (77%) and non-intervention areas (45.5%). Pupils of class VII from intervention (70.5%) and non-intervention (36.8%) reported to have condom accessibility. Twice as many pupils (68%) from urban residence in intervention area had access to condoms as compared to 35% of pupils from urban in non- intervention group.

Table 16: Percentage Distribution of socio-demographic characteristics of respondents who had accessibility to condoms in intervention group compared with non-intervention group

Socio-demographic characteristics	Intervention (n=44)		Non-intervention (n=26)		Statistical test (n=70)
	Access to condom No (%)	No access No (%)	Access to condom No (%)	No access No (%)	
Sex					
Males	23(74.2)	8(25.8)	7(41.2)	10(58.2)	P=0.0253
Females	8(61.5)	5(38.5)	2(22.2)	7(77.8)	P=0.099
Age in years					
10-14	10(76.9)	3(23.1)	5(45.5)	6(54.5)	P=0.205
15-19	21(67.7)	10(32.3)	4(26.7)	11(73.3)	P=0.0095
Class					
VI	12(71.4)	4(28.6)	2(28.6)	5(71.4)	P=0.159
VII	21(70.0)	9(30.0)	7(36.8)	12(63.2)	P=0.024
Residence					
Urban	15(68.2)	7(31.8)	8(34.8)	15(65.2)	P=0.027
Rural	16(72.7)	6(27.3)	1(33.3)	2(66.7)	P=0.231
Total	31(70.5)	13(29.5)	9(34.6)	17(65.4)	P=0.0037

There was no significant difference in condom accessibility between boys and girls in intervention group, but boys were twice likely to have condom access as compared with girls from non-intervention group (41% vs 22%).

7.4.9 School girl pregnancies

When the respondents were asked to state whether they knew of any pupil who got pregnant within the previous two years in their class, every class under the study reported to have had pregnant girls. The results revealed a range of 1-8 and mean of 4 pregnant girls per class.

7.4.10 Positive sexual behavior change

Positive behavior change was investigated by finding out the proportion of sexually active youth who have ever had sexual intercourse before and after exposure to HIV / AIDS education. Number of sexual partners and use of condoms were also explored. Table 17 presents the results of the above aspects regarding sexual behaviour change.

Fifty percent (50%) of boys and 37% of girls from intervention schools reported to have had sexual intercourse before HIV/ AIDS education intervention. Among pupils from non-intervention schools, the percentages were 69.5% for boys and 44% for girls who reported to have ever sex during the last two years.

Table 17: Distribution of study participants by positive Sexual behavior change after HIV / AIDS education exposure in intervention group and non-intervention group

Sexual Behaviour		Intervention Group			Non-intervention Group		
		Males (n=108)	Females (n=76)	Total (n=184)	Males (n=59)	Females (n=25)	Total (n=84)
		No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
Had sexual intercourse before education		54 (50.0)	28 (36.8)	82(44.6)	41(69.5)	11(44.0)	52 (61.9)
Had sexual intercourse after education		70 (64.8)	64 (84.2)	134(72.8)	37(62.7)	17(68.0)	54 (64.3)
No. of partners within 2 years during HIV/AIDS education exposure	(1)	48 (44.4)	58 (76.3)	106(57.6)	30(50.8)	9 (36.6)	39 (46.3)
	(2)	14 (12.9)	5 (6.6)	9 (10.3)	1 (1.7)	3 (12.0)	4 (4.8)
	(3)	4 (3.7)	1 (1.3)	5 (2.7)	4 (6.8)	2 (8.0)	6 (7.1)
	(4)	4 (3.7)	0 (0.0)	4 (2.2)	3 (5.1)	2 (8.0)	5 (6.0)
Use of condom during the last sexual intercourse		23 (21.3)	8 (10.5)	31 (16.8)	7 (11.9)	1 (4.0)	8 (9.5)

Following the exposure to HIV/AIDS education the percentage of pupils who reported to have had sex increased for both boys and girls. The results on sexual intercourse after the exposure to HIV / AIDS education indicated that 64.8% of boys and 84.2% of girls from the intervention schools have had sexual intercourse compared with 62.7% of boys and 68% of girls from non-intervention schools have had sex in the same period.

Majority of the study participants, 44.4% of boys and 76.3% of girls, from intervention district reported to have one sexual partner, while 50.8% of boys from non-intervention group reported to have one sexual partner compared to 36.0% of girls who reported to have one partner.

Condom use at the last coital act for sexually active school youth as a positive behavioral change was found to be common for boys in intervention (21.3%) and non-intervention school (11.9%).

7.4.11 Intention to postpone sex before marriage

Intention to postpone sex was found to be high; 84.6% for both intervention and non-intervention groups (See table 18). About 87 % of pupils exposed to HIV/AIDS education intervention versus 81% pupils from non-intervention reported positive intention to postpone sex before marriage. Boys reported higher intention to postpone sex than girls both in intervention (87.5%) and non-intervention groups (85%).

When respondents were asked to state why they have to postpone sex, reasons given included: avoiding getting premarital pregnancy and preventing themselves from contracting HIV infection and STI. They also stated that they are too young to have

sexual intercourse and they want to continue schooling. Others mentioned that they wanted to be faithful and remain virgins until marriage and some mentioned that they are scared of being labeled prostitutes by the community members given that it is a sinful doing premarital sex.

Table 18: Distribution of respondents who reported intention to postpone sex before marriage in intervention and non-intervention groups

Intention to postpone sex	Intervention group (n=888)		Non-intervention group (n=742)		Total (n=1630)
	Male (n=304)	Female (n=584)	Male (n=273)	Female (n=469)	
	No (%)	No (%)	No (%)	No (%)	
Yes	266(87.5)	510(87.3)	232(85.0)	371(79.1)	1379(84.0)
No	32(10.5)	59(10.1)	29(10.6)	45(9.6)	165(10.1)
No response	6(2.0)	15(2.6)	12(4.4)	53(11.3)	86(5.3)
Total	304(100.0)	584(100.0)	273(100.0)	469(100.0)	1630(100.0)

7.5 Sources of information on HIV/AIDS and sexuality

7.5.1 Primary Sources of information on HIV/AIDS

When we asked the study participants about the primary source of information on HIV / AIDS, the commonest source of information reported was radio, followed by TV,

newspapers, school teachers and parents. Other primary sources of information on HIV/AIDS include health workers, peer educators, and hearing people talking about HIV/AIDS. The least sources of information were relatives, and the church, community meetings, friends, siblings, leaflets and posters.

It was noteworthy that, there was not much different variety of sources of such information between respondents from the intervention and non-intervention groups. The results also showed there was not any difference in the sources of information on HIV/AIDS among boys and girls from both the intervention and non-intervention groups.

7.5.2 Primary Sources of information on sexuality

Regarding sexuality, the primary sources of information commonly reported by respondents were newspapers, books, TV, schoolteachers and peers. Initiation, sexual partners, trial and error, relatives, siblings, parents and guardians were least frequently mentioned as potential source of information on sexuality. The sources of information between the respondents from intervention and non-intervention groups were also found to be similar among boys and girls.

7.6 Preferred sources of information on HIV/AIDS and sexuality

The preferred sources of information on HIV/AIDS and sexuality reported by respondents did not differ much from the list of primary sources of information on these issues. The preferred sources of information on HIV / AIDS and sexuality by school youth were similar in both intervention and non-intervention areas. Also, there was no difference between the preferred sources of information on HIV/AIDS and sexuality between boys and girls.

However, the list of top most preferred sources of information on HIV/AIDS included radio, TV, parents, teachers, newspapers, peers, and health workers. The least reported sources of information on HIV/AIDS were church, community meetings, friends, siblings, relatives, and hearing people talking about HIV/AIDS.

Furthermore, the commonest preferred sources of information on sexuality reported by respondents included books, newspapers, school teachers, TV and parents. Siblings, relatives, peers, initiation, sexual partners, and trial and error were listed at the lower rank.

CHAPTER 8

8. DISCUSSION

8.1 Awareness of and knowledge on HIV/AIDS

The results of this study indicated that the majority (85%) school youth were aware of HIV/AIDS. Awareness of HIV/AIDS was greater among boys than girls in both intervention and non intervention schools. Age group of 15 – 19 years was found to be more aware about HIV/AIDS. Pupils from urban sites, class VII and RC believers were more aware than pupils from rural areas, class VI and other religious dominances. Respondents from intervention schools showed to have higher awareness on HIV/AIDS compared to respondents from non-intervention schools (94% Vs 74%).

Level of knowledge about HIV/AIDS was found to be higher among the respondents of this study. Overall results indicated 84% of the respondents scored higher level of knowledge. There was no significant difference on level of HIV/AIDS knowledge among respondents from intervention group compared with those from non-intervention group (86% vs 83%), males compared to females, comparison between different age groups and among different religious dominances. However, Standard VII pupils were found to be significantly knowledgeable than standard VI. Respondents from urban areas scored higher level of knowledge than respondents from rural areas in both intervention and non-intervention groups.

Further exploration on level of knowledge of HIV/AIDS revealed that pupils from intervention schools were less knowledgeable on HIV/AIDS preventive measures than in non-intervention schools. Males scored higher level of knowledge on HIV/AIDS preventive measures than females. Age group of 15 – 19 years scored higher level of

The findings from this study agree with findings of other studies in most of aspects investigated in relation to awareness and level of knowledge on HIV/AIDS.

Evaluative studies that were done by Kirby (1992), Brooks-Gunn (1992) and Baldo (1993) in Sub Sahara Africa indicated that school based sex and HIV/AIDS education increased pupils' awareness about HIV/AIDS. The difference observed from those studies compared with this study included pupils from non-intervention area to be more knowledgeable on preventive measures against HIV infection than those pupils from intervention area. This difference may probably indicate that the peer education approach failed to be effective in imparting knowledge on HIV preventive measures.

8.2 Sexual intercourse experience

Overall findings about sexual activity by the study respondents were found to be 16.4%. Boys reported to be more sexually active than girls (20.7% Vs 11.3%). More respondents from intervention areas found to have more sexual intercourse experience than those respondents from non-intervention group. Respondents within age group of

15 – 19 years appeared to be more sexually active group than other age groups. Boys appeared to be more sexually active than girls.

Other studies conducted on sexuality among youth revealed more or less the same results on overall sexual activity among intervention and non-intervention pupils. All these studies showed the same trend of findings on sexual intercourse experience between girls and boys. Boys were reported to be more sexually active than girls. Findings from this study also indicated boys to be more sexually active than girls.

The difference was observed on sexual activity in intervention and non-intervention schools. This study found higher sexual activity in intervention group than non-intervention group. The study done by Klepp et al, evaluating school HIV/AIDS education program in Arusha and Kilimanjaro showed smaller proportion of respondents who were sexually active in intervention group than in non- intervention group. Evaluation of WHO/UNESCO pilot project on primary school based HIV/AIDS educators found the proportion of sexually active pupils decreased after exposure to HIV/AIDS education. The results of evaluation of school HIV/AIDS education program supported by CCBRT in Dar es Salaam done by Urassa (2002) indicated a considerable tendency of delaying first sexual intercourse among pupils from intervention schools. The difference observed by this study may be a result of pupils from intervention group being less knowledgeable on HIV/AIDS preventive measures.

8.3 Association between level of knowledge on HIV/AIDS and sexuality

Apparently, majority of respondents who had high level of knowledge in both intervention and non-intervention groups were sexually active. However, the findings do not show statistically significant difference between intervention and non-intervention schools. These findings conflict with findings of other studies which noted that sex education does not lead to increased sexual intercourse but delay initiation of sexual intercourse and decreased sexual activity (Baldo, 1996). But these findings can not lead to the conclusion of saying HIV/AIDS Education exposure increases sexual activity because there was no baseline data on level of sexual activity for the study groups before introduction of this intervention. It might be that respondents got sex education after they had already experienced sex intercourse.

On the other hand, it takes a long period for sexual behaviour change to take place as indicated in the conceptual framework of this study. Socio-economic and socio-cultural environments are other aspects which contribute to behavioural change as reported by Pool and Nnko (1995). Other studies reported that repetitive HIV/AIDS related information, education and communication delivered via various channels and appropriate strategies can play a significant role in influencing sexual behavioural change (Cohen and Trussell, 1996).

8.4 Age at sexual debut

Majority of respondents had sexual debut at the age group of 10 – 14 years in both intervention and non-intervention schools. Boys had higher proportion than girls who had sexual intercourse experience earlier before the age group 10 –14 years. Surprisingly, minimum age at sexual debut was found to be 5 years. The study in north province in South Africa done in 1998 by Health System Development Unit, reported findings which appeared to be almost the same as the result of this study. That study found majority of youth were sexually active at the age of 15 years. The findings of the study done by Muhondwa in Tanzania (1999) found the majority had their first sexual intercourse experience at the age group of 12 – 15 years and some start their sex even earlier at the age of 5 years.

8.5 Factors associated with involvement of school youth in sexual intercourse

Nature of factors predisposing youth to engage in sex was found to be the same in both intervention and non-intervention schools. Common factors included falling in love, desire for pleasure of sex, false promise for marriage, getting gift, rape, threats and peer pressure.

Different factors were observed between boys and girls. Majority of boys found to be involved in sex because of love, pleasure of sex and peer pressure. Girls in particular

mentioned factors such as getting money, getting gift, false promise for marriage, and rape. These findings did not differ from the study done by Muhondwa in Tanzania (1999). Other studies that demonstrated the same factors done by Bohmer et al in Uganda (1997), Makokha et al (an evaluative study of school HIV/AIDS program in Mwanza, Tanzania) and Soori and Pool, 1995, the study on social cultural context in Sexual behaviour in youth. Sexual behavioural surveillance survey done by NACP Tanzania (2003) also reported that some girls have been forced having sex but others received money or gift for sex.

8.6 Sexual partners

The same type of sexual partners were reported in both intervention and non-intervention groups. The common partners to both boys and girls were partners of the same age, fellow pupils and people outside the school. It was a common finding for girls to report to have sex with partners such as teachers. The findings are similar to those reported by Muhondwa in some aspect in the study done in Mtwara and Makete Tanzania (1999). He found that sexual partners of youth are usually of the same age although boys tend to be older. He also found that sometimes girls do have sex with much older persons.

8.7 Condom awareness, use and accessibility

Overall findings on condom awareness was found to be high (92%) for respondents from both intervention and non-intervention groups. More respondents from intervention schools were aware of condoms than those from non intervention schools. The same trend was observed when we examined condom accessibility in relation to sexes, age, class, residence, and religion. There was no significant difference in condom accessibility when compared different sexes, ages, grades of class, residences and religions.

Despite level of knowledge on HIV/AIDS and condom awareness was found to be higher among respondents, results on condom use was found to be low. Only 26% of sexually active youth had ever used condoms. Generally, condoms use was higher among pupils from intervention group (28.8%) than those from non-intervention group (20.2%). Both intervention and non-intervention groups indicated that condom use was higher among males, age group 15-19 years and grade of class VII compared with females, other age groups of the respondents, and class VI. Surprisingly, difference in condom use was observed among respondents from intervention and non-intervention regarding residence. Rural residents from intervention schools reported higher condom use (32.2%) than respondent from urban area (25.5%). Urban residents from non-intervention schools indicated higher condom use (21.9%) than respondents from rural area (9.1%).

More than half (55%) of the respondents who were sexually active were found to have accessibility to condoms. There was significant difference in condom accessibility for both intervention group and non-intervention group. Twice as many pupils in intervention group (70%) had access to condom as compared with pupils in non-intervention group (35%). However, condom accessibility did not differ in each study group in relation to sex, age, residence and religion. Respondents, who reported to have condom accessibility, also were found to be aware of places where condoms could be obtained. These places include shops, pharmacy and health facilities.

For respondents who reported low accessibility to condoms, gave reasons such as financial constraints, unavailability of condoms in some places, and it was shame to be seen buying condoms. The same condom use associated barriers also reported in other studies. Sexual behavioural survey among youth done by NACP, Tanzania (2003) established condom non-availability for youth which may imply absence of supportive environment to access them or actual absence of condoms or both.

Report by Health System Development Unit (1998) on the study done among school going adolescents in South Africa showed that few adolescents who were sexually active used preventive measures against STD and HIV infection. The lower use of condoms was explained to be attributed to lack of adequate knowledge on HIV preventive measures and inaccessible condom distribution services. The same trend of finding was also revealed by this study.

8.8 School girls pregnancies

The question regarding school girl pregnancies was asked in the period of HIV/AIDS education exposure to each class of concern (i.e. standard VI and VII). The result of the study revealed pregnancies were common among school girls in both intervention and non-intervention schools. Almost all classes under the study reported to have schoolgirls who were pregnant with a mean of four (4) pregnant girls per class. This shows that unprotected premarital sex is common among schoolgirls. Other studies found consistent results on pregnancy among youth. Study conducted by Kessy in Moshi in 1996, found that majority of youth was sexually active and suffer serious consequences due to unprotected penetrating sexual intercourse. Such consequences reported to be unwanted pregnancies, STI, HIV infection and some psychological and social economic problems associated conditions such as school discontinuation.

The study done by Health System Development Unit in South Africa (1998), also reported that a few school going adolescents used preventive methods against pregnancy which is attributed to lack of reproductive health knowledge and inaccessible reproductive health services.

8.9 Positive sexual behaviour change

A comparison of sexual behaviour among youth who were sexually active before and after HIV/AIDS education exposure was done. It appeared that sexual activity was higher for respondents from intervention schools than those from non-intervention schools before and after HIV/AIDS education exposure.

During HIV/AIDS education exposure, number of sexual partners was also investigated and found that there was a higher percentage of respondents having one partner from intervention group (57.6%) than respondents from non-intervention group (46.3%). Girls who were sexually active from intervention schools were an exception that majority (76%) had one sexual partner in the period of HIV/AIDS education exposure.

Condom use as one of preventive measures against HIV/AIDS infection was also investigated among sexually active school youth. Boys in both intervention and non-intervention showed higher proportion for condom use during the last sexual intercourse.

Basing on the above findings regarding sexual behaviour change, generally there was no positive sexual behaviour change observed regarding sexual activity between intervention and non-intervention groups since both intervention and non-intervention groups had an increase in sexual activity during the period of HIV/AIDS exposure in

intervention schools. There are consistent findings from other studies on sexual behaviour among youth. Bohmer et al who did a study on sexual behaviour among youth in Uganda (1997) pointed out that even people who know all ways to prevent HIV infection might be unable to change sexual behaviour because of environment surrounding individuals. Such environments include socio-economic situation. Nnko and Pool who discussed sexual discourse in the context of AIDS, in 1997, suggested that for HIV/AIDS education intervention to be effective have to consider social-cultural context and they should not oppose or contradict existing norms, values and patterns of behaviour.

A study by Makokha et al 2002 to assess impact of environment on effectiveness of peer educators of HIV/AIDS program in primary schools in rural Mwanza, Tanzania reported similar findings. It was found that class peer educators failed to act as agents of change during extra curricular adult free clubs and ordinary socialization despite that they demonstrated better knowledge on HIV/AIDS. It was concluded that peer educators can effectively reinforce key positive message by reinforcing their peers, but limitations in local resources, school environments and external social pressure must be addressed in order to maximize the impact of this strategy. If girls were both dependent for their sheer survival on money and gift received in sexual relationships, then some forms of financial support would be a possible solution to realize impact of the program.

However, other aspects of results of this study showed success of the school HIV/AIDS intervention. These results revealed that higher proportion of respondents who were sexually active in intervention schools had one sexual partner and were using condoms as compared with respondents from non-intervention schools. These findings agree with what was reported by Baldo (1996) that sex education may increase adoption of safe sexual practice such as condom use.

8.10 Intention to postpone sex before marriage

One of the aims of school HIV/AIDS program in the intervention schools where this study conducted was to enable pupils postpone sex before marriage. Majority (84.6%) of respondents in both intervention and non-intervention groups reported to have high intention to postpone premarital sex. Major reasons reported for such intention were to avoid premarital pregnancy and HIV infection. These findings were the same on this aspect between intervention and non-intervention groups. This is possibly can be explained by the fact that there is a FLE being taught in both intervention and non-intervention area.

8.11 Primary sources of information on HIV/AIDS and sexuality

Despite that many people including teachers, parents, policy markers, religious leaders, education sector, etc, oppose the right of youth to get information on sex education and HIV/AIDS, results of this study generally show that different types of informal sources of information on these issues were available. Such sources of information on HIV/AIDS listed at the top most found to be radio, TV, newspapers, schoolteachers and parents. Other sources of information on HIV/AIDS included health workers, friends, church, siblings, peer educators and others.

Sources of information on sexuality reported to be more or less the same as sources of information on HIV/AIDS. Sources of information on sexuality in addition to what mentioned under HIV/AIDS included initiation, trial and error, sexual partners and guardians.

These findings were the same for both intervention and non-intervention groups. These findings are also consistent to what was found through the study done by Leshabari et al, 1997; Ndeki et al, 1994 and what reported by National campaign to prevent teenage pregnancy in USA (2000).

8.12 Preferred sources of information on HIV/AIDS and sexuality

A list of preferred sources of information on HIV/AIDS and sexuality by respondents did not differ from the primary source of information on these issues. However parents and teachers listed as the common preferred sources of information in addition to mass media and peer educators. Health workers were not included in the list of preferred sources of information on sexuality. Despite that parents and teachers think that it is not proper to talk to children about sexual health and HIV/AIDS, yet youth think it is appropriate for teachers and parents to talk to them about HIV/AIDS and sexuality. Even a church is a place where youth would prefer to get such information.

The findings from this study agree with what has been cited by number studies on youth and reproductive health. Report of the study conducted by MOEC in Tanzania (2001), supports that school is the favorable and appropriate setting for school youth to learn HIV/AIDS and sex education. National campaign to prevent teenager pregnancy advocated in USA in 2000, emphases that addressing HIV/AIDS epidemic among youth requires reaching not only youth but also other who influence their lives. Parents, other family members and other people such as teachers, peer etc need to be involved in such program.

CHAPTER 9

9. CONCLUSION

1. Level of knowledge on HIV/AIDS and sex intercourse experience among the study respondents from intervention and non-intervention groups did not differ significantly. Literature review showed that all primary schools currently are involved in family life education (FLE) from class V and VII. HIV/AIDS is one of the topics taught in FLE. Therefore the gap of level of knowledge on HIV/AIDS among intervention and non-intervention groups has been narrowed through FLE. However, the difference in level of knowledge on HIV/AIDS by residence and class was observed by this study. Residents from urban area and class VII found to have higher level of knowledge than other counterparts in both intervention and non-intervention groups.

2. Despite study participants in the study areas (both in intervention and non-intervention schools), generally were found to be aware of and knowledgeable about HIV/AIDS, some youth are still sexually active and practice unprotected penetrating sexual intercourse. Further exploration on level of knowledge of HIV/AIDS revealed that pupils from intervention schools were less knowledgeable on HIV/AIDS preventive measures than in non-intervention schools. Hence this ignorance on HIV/AIDS preventive measures might have contributed to high level of sexual activity in intervention group. From the findings of this study, it appears that HIV/AIDS intervention in schools in the

study area has not been able to reduce sexual activity among pupils since respondents from intervention schools reported to be more sexually active during HIV/AIDS education exposure compared to the period before HIV/AIDS exposure. However, condom use appeared to be more among pupils in intervention than in non-intervention schools. This is the positive sexual behaviour change which was demonstrated by the program.

3. Factors predisposing school youth to engage in sex were different between girls and boys. Social economic factors e.g. poverty influenced girls to have sex, while boys are more influenced by socio-psychological factors such as falling in love, desire for sex pleasure and peer pressure. In this circumstance males seem to influence females to have sex.

4. There is a gap between what is expected for youth regarding acquisition of information on HIV/AIDS and sexuality. Many societies particularly of African countries youth are denied of such information. However, this research and other studies done in African countries (Leshabari et al, 1997; Ndeki et al, 1994) found variety of sources of information on HIV/AIDS and sexuality for youth including mass media and interpersonal communication are available. Since most of these sources of information on these issues are informal, there is a worry whether these sources of information provide the correct information on HIV/AIDS and

sexuality to allow youth to have correct decision making in relation to sexual activity.

5. Since schoolteachers were mentioned in the top list of preferred of sources of information on HIV/AIDS and sexuality, school setting would be appropriate learning environment of this subject in addition to others like at the family level.

6. Despite the school youth in this study found to be sexual active, results of the study also indicated that school youth have high percentage of intention to postpone premarital sex. If socio-economic and cultural environments could be improved there is a high chance of youth to delay premarital sex.

7. Results from this study indicated difference in level of knowledge on HIV/AIDS and sexuality in terms of different socio-demographic characteristics. Such differences observed were between school children from urban to rural and from class VII to VI.

CHAPTER 10

10. RECOMMENDATIONS

1. Basing on the findings of this study, it is recommended to close the knowledge – practice gap. Despite the primary school youth seem to be aware of HIV/AIDS and scored high level of knowledge on HIV/AIDS for pupils from both intervention and non-intervention schools, they are still sexually active and practice unprotected penetrating sexual intercourse. A need to develop appropriate teaching and learning strategies of school HIV/AIDS education for pupils to bring the positive sexual behaviour change is important. In addition, provision for appropriate youth friendly sexual health service and improve socio-economic and cultural environments (such as making condom accessibility high for sexually active youth) among the target groups is required.

2. Though postponement of sex is a key aim of school HIV/AIDS education program, it is recommended that school HIV/AIDS education should be broadened to include sexuality, life skills and how to prevent HIV infection. Condom use should not be restricted to be mentioned as a way of preventing HIV infection. This is because respondents who found to be sexually active engage in unprotected sexual intercourse, as majority reported not using condoms, school girl pregnancies and multiple partners are common. HIV/AIDS program is recommended to be integral part of formal education since this study has demonstrated a number of positive outcomes related to prevention of HIV

transmission among youth. Increased level of HIV/AIDS awareness and knowledge, postponement of premarital sex, use of condoms and having one sexual partner for youth who are sexually active, just a few to mention, are positive outcomes revealed by this study.

3. Assuming that youth who use condoms at sexual debut are likely to continue that behaviour of using condom during subsequent sexual act. Waiting for promotion of condom use for those who are already sexually active may be too late to spare them from unwanted pregnancies and STI including HIV/AIDS. Therefore program that promote sex education and condom use to young who are not yet sexually active are highly recommended. The question of costs of condoms require consideration of extensively free or be subsidized distribution of condoms for young people since cost of purchasing condom was commonly reported by the study participants as a factor contributing to reducing condom accessibility.

4. Relatively high level of risk sexual behaviour may represent the failure for interventions designed to equip people with skills and knowledge to protect them from HIV infection. Information on the exposure from interventions currently in place in schools would need to highlight which aspect of these interventions were effective and what was failing so as to be able to design effective interventions. In addition, school HIV/AIDS and sexuality education program

should be tailored to meet the specific needs of different target groups in terms of residence areas, grade of class, etc since these groups showed difference in level of HIV/AIDS knowledge and sexuality.

5. Since different sources of information on HIV/AIDS and sexuality reported by the study participants, there is a need to involve different actors in HIV/AIDS programs such as parents, government, schools, health department, religious institutions, mass media, local community and NGOs, among others if we want to improve the school HIV/AIDS and sexuality education program.

6. Teaching on HIV/AIDS and sexuality can be improved by resource personnel who have adequate knowledge on HIV/AIDS and sexuality. Teachers training colleges should ensure trainee teachers learn about HIV/AIDS and sexuality since they will be teaching pupils or students on the subjects. School peer educators who conduct HIV/AIDS education to their fellow pupils also should be adequately trained on this subject.

7. Further research on this subject is recommended in the study area. A preferable study should be of prospective cohort design that can obtain reliable results whereby pretest (to obtain baseline data) and post test will have to be done before and after introduction of an HIV/AIDS intervention respectively. A need to control spill over information of intervention is also necessary.

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CHAPTER 11

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