MUHIMBILI UNIVERSITY COLLEGE OF HEALTH SCIENCES (MUCHS)

UNIVERSITY OF DAR ES SALAAM

COMMUNICATION BETWEEN MOTHERS AND DAUGHTERS REGARDING SEXUAL AND REPRODUCTIVE HEALTH ISSUES IN HAI DISTRICT, KILIMANJARO.

EUNICE JONATHAN MMARI , MD

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTERS OF PUBLIC HEALTH

IN THE UNIVERSITY OF DAR ES SALAAM

2002

COLLEGE LIBRARY
MUHIMBILI UNIVERSITY
COLLEGE OF HEALTH SIENCIES

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the University of Dar es Salaam a dissertation titled: *"Communication between mother and daughters regarding sexual and reproductive health issues in Hai District, Kilimanjaro,"* in partial fulfilment of the requirements for the degree of Master of Public Health.

.....

PROF. LESHABARI M.T

(SUPERVISOR)

Date: 17th October 2002

DEDICATION

This dissertation is dedicated to my parents Mr. Jonathan Lucas Mmari, my beloved mother, the late Mrs Esther Mmari (Mama Euni), whose belief in the importance of education has contributed much in making me the way I am, and to my aunt Dr (Mrs) Stella Bendera whose constactive advise and criticisms have contributed to the sobriety and balance of this work. Once again, words cannot express the gratitude much less the love I have for them.

TABLE OF CONTENTS

ITEM	PAGE
Certification	ii
Declaration and Copyright	iii
Acknowledgement	iv
Dedication	v
Table of Content	vi
List of Tables	viii
Abstract	x
List of Abbreviations	xii
CHAPTER 1: Introduction	1
Problem Statement	4
Research Question	6
Broad objective	7
Specific objectives	7
Rationale	8
CHAPTER 2: Literature Review	9
CHAPTER 3: Methodology	14
Study Setting	14
Study Design	16
Study Population	16
Sample Size	17
Sampling Procedure	17
Data Collection Instruments	18
Data Management	18
Statistical Analysis	19
Ethical Issues and Research Clearance	19
Limitation of the Study	20
Definition of Terms	20
CHAPTER 4: Results	23
General knowledge on reproductive health issues	24
Knowledge on pregnancy issues	26
Contraceptive knowledge	28

Knowledge on STDs 30

Knowledge on HIV transmission 32

Knowledge on HIV prevention 34

Mothers' concerns about their sexually active daughters..... 36

Mother - Daughters Communication on sexual and reproductive health issues 38

Mother perceived source of reproductive health knowledge for their adolescent girls 42

Mothers' opinion on the type of sexual health program to be taught to adolescent girls.....45

CHAPTER 5 Discussion 47

CHAPTER 6 Conclusion and Recommendation 51

Conclusion 51

Recommendation 52

References 53

Appendices 59

Appendix I – Questionnaire (English Version) 59

Appendix II - Questionnaire (Swahili Version) 72

LIST OF TABLES **PAGE**

TABLE 1: Socio-demographic characteristics of the study sample.....24

TABLE 2: Percentage distribution of reproductive health knowledge scores of mothers by selected socio-demographic characteristics.....25

TABLE 3: Percentage distribution of knowledge on pregnancy by selected socio-demographic characteristic.....26

TABLE 4: Percentage Distribution of correct responses obtained from each test item on pregnancy.....27

TABLE 5: Percentage distribution of knowledge scores of mothers on contraceptive issues by selected socio-demographic characteristics.....28

TABLE 6: Percentage Distribution of correct response on major ways of preventing pregnancy.....29

TABLE 7: Percentage distribution of knowledge scores of mothers on STDs by selected socio-demographic characteristics.....30

TABLE 8: Percentage distribution of correct responses to items on STDs knowledge scale.....31

TABLE 9: Percentage distribution of knowledge on major ways for transmission by selected socio-demographic characteristics.....32

TABLE 10: Percentage distribution of correct responses to items on HIV/AIDS mode of transmission.....33

TABLE 11: Percentage distribution of knowledge on prevention of HIV by selected socio-demographic characteristics of respondents.....34

TABLE 12: Percentage distribution of mothers who responded correctly on selected aspects of HIV prevention.....35

TABLE 13: Percentage distribution of concerns of mothers if they suspected their adolescent girls were sexually active.....36

TABLE 14: Percentage distribution of mothers concerned on pregnancy by selected socio-demographic characteristics.....37

TABLE 15: Distribution of the extent of communication regarding some aspects of reproductive health issues that mother were willing to communicate with their adolescent girls.....38

TABLE 16: Percentage distribution of reasons that hindered communication on parenting knowledge and skills between mothers and their adolescent girls..... 39

TABLE 17: The percentage distribution of the aspects of Reproductive health knowledge that mother were willing to communicate to their adolescent girls.....40

TABLE 18: Frequency distribution of primary sources of information on parenting role and STDs knowledge among the respondents.....41

TABLE 19: Percentage distribution of mothers who thought their adolescent girls knew about various aspects of reproductive health issues.....42

TABLE 20: Percentage distribution of mothers thought on who were the source of information for adolescent girls on selected aspects of reproductive health 43

TABLE 21: Frequency distribution of what mothers suggest should be the sources of information on reproductive health issues to adolescent girls.....44

ABSTRACT

The aim of this study, was to determine what mothers know about sexual and reproductive health, and the extent to which they are willing to share that knowledge with their adolescent girls.

The study was conducted in Hai district and it involved 400 women with adolescent girls. A structured interview was used for generating data.

Findings of the study showed that, generally mothers seemed to have some knowledge on reproductive health issues, but there were serious problems on what they know about the specific aspects of reproductive health. For example, only 35 percent of the respondents knew correct time during a normal menstrual cycle when a woman is likely to conceive. Although 70 percent of the mothers knew about modern contraceptives, only 50 percent specifically mentioned condoms as one of the methods. Majority knew about HIV/AIDS (94 percent) followed by Gonorrhoea (91 percent) as types of STDs, but only 14 percent knew about Genital Discharge Diseases. The majority of women had knowledge on mode of transmission for HIV, but 10 percent of mothers still believe that HIV could be acquired by sharing clothes and utensils with infected person. Only a half of the mothers in this study knew that use of condoms is a preventive measure against HIV. Only a quarter (26 percent) of respondents knew a mother with HIV infection should avoid breast-feeding, as one of the mode of prevention against vertical transmission of the virus.

The majority (98 percent) of the interviewed mothers ranked pregnancy as number one problem, followed by HIV/AIDS, (88.5 percent) when they suspected their adolescent girls were sexually active.

Over 70 percent of the mothers were willing to communicate with adolescent girls on HIV/AIDS, followed by STDs. However, a small proportion (16 percent) was willing to discuss contraceptive issues.

Over 90 percent of respondents, proposed mothers to take role of educating adolescent girls on role of the mother and child rearing. Some, proposed Health workers as primary source of knowledge on contraceptive and STD HIV/AIDS (94 percent and 88 percent respectively). Sixty seven percent of respondents, proposed the schoolteacher as the authority to educate adolescent girl, on STD HIV/AIDS.

The findings of this study, has revealed that due to low level of understanding of specific aspects of reproductive health, mothers are not a dependable source of information unless steps are taken to educate them.

LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	-	Acquired Immune Deficiency Syndrome
DHS	-	Demographic Health Survey
HIV	-	Human Immunodeficiency Virus
MUCHS	-	Muhimbili University College of Health Sciences
PRB	-	Population Reference Bureau
STD	-	Sexually Transmitted Diseases
TDHS	-	Tanzania Demographic Health Survey
UNFPA	-	United Nation Fund for Population Activities
UNICEF	-	United Nations Children's Fund
WHO	-	World Health Organisation
AMMP	-	Adult Morbidity and Mortality Project
DFID	-	Department For International Development
CRHCS	-	Commonwealth Regional Health Community Secretariat

CHAPTER 1: INTRODUCTION

Across the continent of Africa, sexual relations start early and by age 15 years many young people are sexually active (Population Reference Bureau, 1997). Some of these relations are with multiple partners and the majority involve sexual intercourse that is both unplanned and unprotected.

Data from small-scale surveys in both rural and urban Tanzania suggest that a significant proportion of teenage boys and girls, engage in unprotected premarital sex. For example, an urban-based study conducted in Dar-es Salaam among school students revealed that 62 percent of primary school boys and 35 percent of primary school girls had coital experience by the age of 14 years (Leshabari, 1988). A more recent survey in Dar- es Salaam indicates that coital experience was 40 percent for boys aged between 11-19 years and 14 percent for girls of the same age group (Lwihula et al 1996).

Survey data from a study conducted in rural district in Southern Tanzania, revealed that, promiscuity among youth was common (Leshabari et al 1994). This was associated with a business environment, which involved alcohol use, late night discothêques and indiscriminate sexual intercourse.

A study conducted among school adolescents in Kilimanjaro and Arusha region revealed that 63 percent of boys and 24percent of girls had already engaged in sexual intercourse (Klepp et al; 1996).

Unprotected sex among adolescents has severe undesirable consequences. Firstly, there is the problem of unwanted pregnancy and it's related psychological, economical, social, and health consequences.

Young mothers aged 15- 19 are twice as likely to suffer of pregnancy related causes than women ages 20-24 (Holschneider et al 1998). This is due to an immature birth

canal, which may prolong labour, increase the risk of vesicle vaginal fistula, causes permanent damage to the bladder, bowels and may lead to death of mother and the child. Teenager girls, are more likely than older women to have illegal abortions because of legal, social and financial reasons. This may lead to excessive bleeding, infection, infertility and even death. A study conducted in Dar es Salaam on abortions in a Hospital setting, showed that out of all incomplete abortions admitted to the hospital, 31 percent were induced, and out of these 71 percent were amongst teenagers (Kapiga et al 1992). The social consequences of unwanted pregnancy include school dropout. Data from the Ministry of Education and Culture show that in 1992 alone 13 percent of 21,594 primary girls who dropped out of school gave unwanted pregnancy as a reason (BEST 1994). In 2001, out of a total population of primary school girls, i.e 2,404, 522, two thousand six hundred and sixty six dropped out due to pregnancy (BEST, 2002).

Secondly with the large number of the adolescent population subgroup, practising unprotected sex, STDs including HIV infection appear to be a major problem. Records from the Ministry of Health, shows that between 10 - 20 percent of the sexually active population contract STDs each year (NACP, 2000). A survey carried out in Moshi Rural District, found high rates of STDs including HIV among rural youth aged between 15 and 25 years (Kessy, 1996). In this study, 4 percent of males and over six percent of females had gonorrhoea; nine percent of male and 15 percent of females in the study sample had a history of syphilis.

Data from Arusha Urban, revealed that nearly 13 percent of females aged 15 to 24 years are infected the with AIDS virus (Klepp et al; 1994). Another survey carried out in Moshi Rural District, found HIV infection rates were reported to be 5 percent for males and almost 10 percent for female youth (Kessy, 1996).

Many young people especially adolescent girls lack knowledge and have misleading information about sexual issues and related consequences.

In Tanzania, the percentage of young women who didn't know how to protect themselves against HIV/AIDS were 51 percent in comparison to 35 percent of young male. (TDHS, 1996).

In a study done among sixth and seventh grade students in Arusha and Kilimanjaro regions, it was found that students attending urban schools had more knowledge about AIDS than students attending rural schools (Ndeki et al, 1994). The quality of what they knew was however poor since only about half the students knew that one cannot contract the AIDS virus by hugging someone; that AIDS cannot be cured and that there is no vaccine that can prevent AIDS. A very much lower proportion knew that one can not tell whether a person is infected from the way he or she looks or that mosquitoes do not transmit AIDS (Ndeki et al; 1994).

Thirdly, apart from unwanted pregnancy and related consequences, STDs including HIV, unprotected sex also lead to severe psychological consequences because it involves behaviours which are unacceptable to parents, other members of the family, religious leaders, neighbours and other significant adults.

Historically, traditional societies had well-established systems (Jando na Unyango) for educating adolescents on reproductive health issues (Funglesang; 1997). Members of the family for example aunts, uncles and other relatives provided this education. These social bonds and traditions have weakened in the face of urbanisation, new attitudes towards sexuality and the breakdown of the extended family. As a result, more young people are now sexually active without adequate information to protect themselves against potential consequences (Caldwell et al; 1988, Caldwell et al; 1989)

In developing countries, especially in rural areas, parents often are less educated than their children and worry that they lack the knowledge to talk with them about issues of sex and sexuality (Wilson et al; 1994).

The government of Tanzania, has been encouraging parents to talk to their adolescent children about reproductive health issues especially during this period of AIDS epidemic. However, extent of reproductive health knowledge among parents including mothers is not known. This raises questions about what they know and their willingness to share such knowledge with their children. This study was designed to address some of these problems.

PROBLEM STATEMENT

Several studies show that fairly large proportions of adolescent indulge in unprotected sex and most of them are ignorant about the consequences of such behaviour (Kiwara, 2001; Muhondwa, 1999). Reasons behind the discordance between knowledge and behaviour are not empirically known but a barrier to putting what is known into practice is part of the problem.

The needs of young people regarding sexuality are often only recognised when it is too late; when they have unwanted pregnancy, have performed illegal abortions, or are infected with HIV or other STD's (Holschneider et al; 1998). Factors that influence behavioural change and reproductive health knowledge are among important pre requisites in the struggle against the above effects.

Data from a study conducted amongst school youth in rural setting of Rombo district (Leshabari, Kaaya and Kawau, 1996) indicated that when knowledge on biological maturity and fertility control was tested using a 22-item test, 48 percent of males and 62 percent of females scored below 25 percent. Lack of formal source of reproductive

health information and services, contributes towards some of the sexual health difficulties of young people. Two surveys using similar instruments covering rural school students (Leshabari, Kaaya and Kawau, 1996) and urban school youth (Lwihula et al. 1996) revealed that peers followed by mass media were the main primary sources of information on menstruation, wet dreams and sexual intercourse. Teachers, parents and other community members play only a minor role.

The role of mothers in socialisation of girls.

According to African cultures teenage girls spend more time with their mothers performing household chores in comparison to their male counterparts. Following my own experience with my late mother, she used to spend her time teaching me household chores whenever we were together at home. I was told that in order for a girl to become a good housewife she has to behave her self, be well disciplined and hard working. We did not have open discussion about issues of sex and sexuality. I remember when I had my first menstruation I was afraid of telling her. Surprisingly enough when she discovered that I was having my menstruation she just gave me sanitary pads without any instruction on how to wear them! The most she could tell me was

"If you talk or become close to any boy you will get pregnant".

This statement made me afraid to talk or even be close to boys, because I thought by doing so I would become pregnant as my mother had said. This shows how difficult it was for my mother to talk with me openly on sexuality and reproductive issues. What happened to me, to a large extent applies to many girls until today.

A study conducted in Dar es Salaam (Mchomvu; 2001) revealed that, a relatively low proportion of parents are willing to talk to their children on sex related issues. Approximately 35 percent of parents in this study were of the opinion that such issues should be taught at school. The problem here could be, parents were afraid to expose their own lack of knowledge about reproductive anatomy, physiology or other related information to their children. They could also be worried about how much information should be given and at what age, based on unfounded belief that the provision of this information would lead to young people experimenting with sex.

Although a lot of work has been done on adolescent sexuality and related consequences, little is known about important factors that influence their behaviour. For example, there is hardly any empirical data that shows how much parents, particularly mothers, know about sexual and reproductive health and the extent to which they are willing to share such knowledge with their adolescent girls. Resistance of parents to the suggestion of introducing sexuality education in schools is common but little is known about who they suggest should be responsible for imparting such knowledge to their adolescent girls. This study intended to shade some light on this controversial issue using information from mothers of adolescent daughters in Hai district, Kilimanjaro region.

RESEARCH QUESTION:

What do mothers know about sexual and reproductive health and to what extent are they willing to share such knowledge with their daughters.

Specifically the researcher wanted to know:

- What do mothers of adolescent girls know about sexuality and reproductive health issues?

- Are the mothers willing to share such knowledge with their daughters?
- What did mothers fear most when they suspected their adolescent girls were sexually active?
- What did mothers think were the major sources of reproductive health knowledge of their adolescent girls?

OBJECTIVES

Broad Objective:

The major aim of this study was to determine what mothers know about sexual, reproductive health and the extent to which they are willing to share such information with their daughters.

Specifically the study intended to:

- Determine level of knowledge on reproductive health among mothers of adolescent girls.
- Determine what mothers feared most if they suspected their adolescent girl(s) were sexually active.
- Determine which aspects of reproductive health knowledge mothers were willing to communicate to their adolescent girls.
- Determine what mothers thought was the source of reproductive health knowledge of their adolescent girls.

RATIONALE / JUSTIFICATION

In order that adolescent reproductive health problems are arrested and their consequences managed, it is crucial that they are provided with correct information (CRHCH; 1999). Parents are one of the suggested primary sources of information on reproductive health for adolescent (Leshabari, Kaaya, Kawau, 1996), but it was not known how much do they know on specific issues of reproductive health and the extent to which they are willing to share such knowledge with adolescent girls.

This study, has revealed the level of knowledge of mothers of adolescent girls on specific aspects of reproductive health and the extent to which they were willing to share such knowledge with their adolescent girls. It has also provided information on who mothers preferred, as sources of reproductive health information for their daughters.

Findings of this study, contributed towards important information required for addressing consequences of unprotected sex among girls with their mothers as a point of entry.

CHAPTER 2: LITERATURE REVIEW

Studies have been done in countries such as Zaire and Burkina Faso to assess parent's knowledge on sexual and reproductive health issues (Population Council, 1993, Manharti et al; 1995). However, the extent on specific reproductive health knowledge among parents including mothers in Tanzania is not known.

Overview of adolescence and psycho sexual development (world-wide).

Mothers interviewed in a variety of contexts have expressed the desire to teach their teen-age girl issues related to sexual matters but are unable to do so because they were taught very little about sex and reproduction prior to marriage (Bang et al; 1989).

A topic like HIV/AIDS is among sensitive topic that parents avoid to discuss with their children. In a study conducted in Kenya less than half of the parents of teenage children had discussed HIV/AIDS and worry that they do not have the information to give to their children (Bumpas; 1999, Kaiser; 1999,Hughes; 1998). In developing countries, especially in rural areas where parents are often less educated than their children, parents lack the knowledge to talk to their children about sex (Wilson, et al; 1994).

According to a study conducted in Zaire, the husbands said sex socialisation of children was wife's responsibility while wives said it was that of the husband (Population Council; 1992). However, parents recognised the need for one of them to educate their children on sexuality. Inability to address sexuality issues to children has been a problem for many African parents.

In contrast, sexuality information from parents is described by young people as generalised, one sided, authoritarian and prescriptive (Wilson et al; 1994).

In a survey done in Kenya secondary schools 73 percent adolescent girls reported that their parents were useful in helping them to cope with sexual issues, 10percent found them fairly useful and 11 percent found them not useful. Of the 11 percent of girls who felt that their parents were not useful, 56 percent said that parents are not free to discuss sex issues; and 22 percent said that instead of giving advice and guidance, parents usually resorted to physical confrontation if they found them talking with boys. The remaining 22 percent reported that their parents said sex is reserved for married couples, even though the adolescents did not believe this to be true (Okumu et al 1994.). This shows how parents do not know that the period of adolescence marks the beginning of varied psycho-social developmental behaviour. For example, some carry on experimentation and exploration of their bodies, some practise sex for sale, some use drug, alcohol and cigarette and therefore, many teenage are caught between the rigid social norms and their own needs and desire to indulge in sexual intercourse.

An in-depth interview done in Zimbabwe with 80 young people aged between 14-18 years, confirmed that these days credible sexual information tends to be obtained not from parents but from media, school and friends (Wilson et al; 1994).

Madona (1996) did a study to determine practices and attitudes of parents towards adolescent sex education in Lusaka. She observed that parents who had received sex education during adolescence supported sex education in schools. She also found out that, 79 percent of parents were of the opinion that the suitable age for providing education on sexuality to children was in the range of 10-14 years and 21 percent of parents suggested 15-19 years. This suggests that there is a problem regarding the age at which sexual and reproductive health should begin.

Sexual socialisation in Tanzania.

In some societies, including many in the continent of Africa, the provision of information about sex was not taught in schools, instead initiation ceremonies were held, often separately for girls and for boys. In Tanzania for example, initiation rites for girls referred to as "Unyago", were led by a ceremonial leader or "Somo". (Fuglesang; 1997). The Somo was not a relative, but an older woman recognised as knowledgeable and experienced in childbearing and rearing. Young girls were advised on menstruation and the code of conduct associated with it. They were also taught about pregnancies and ways of preventing conception (Fuglesang, 1997). Initiation rites for girls among the Kaguru of Morogoro region were called "digubi". (Etienne van de Walle, et al; 1996). The government through the mass media has been encouraging parents to discuss sexual and reproductive health issues with their children. However many parents still find it difficult to discuss openly on matters concerning sexuality with their children.

CHAPTER 3: METHODOLOGY

Study setting

The study was conducted in Hai district in Kilimanjaro Region, Hai district is situated along the high way from Dar es Salaam to Nairobi via Arusha. Young people out of school have limited opportunities for employment. So far, farming, petty businesses and certain small-scale industries have been the most common activities. Lack of education, coupled with limited job opportunities and scarcity of land in Hai district, has forced large groups of young people to leave their villages for urban and semi-urban centres in search of employment or businesses opportunities.

Hai District profiles.

Hai District lies on the south-western slopes of mount. Kilimanjaro. It borders Rombo District on the north-east, Moshi Rural District on the east, Kiteto District on the south, Arumeru District on the west and Monduli District on the north west. It has an area of 13,000 km^2 and a population of about 260,000 people with a population growth rate of 1.3 percent per year. There are over 38,200 households with an average size of 5.2 people.

About 54.3 percent of the population are adults and children above 15 years of age. Ninety two percent of the population live in rural areas and 7.5percent live in semi-urban settlements.

Geographically the district falls into three zones:

(a) The lowland zone with sparse population (about 70 people per km^2).

(b) The midland zone with dense population (about 150-600 people per km^2).

(c) The highland zone that is uninhabited. The zone constitutes the largest water reservoir and forest reserve in Kilimanjaro Region.

Administratively the district is divided into 4 divisions namely Sanya Juu, Masama, Machame, and Lyamungo and has 11 wards with 61 villages.

Agriculture, livestock keeping, commercial mining activities, and cottage industries are the main economic activities. Coffee, bananas, maize and other grain crops, dairy products and livestock are the main sources of income. Coffee, bananas, and dairy animals are raised mainly in the midland zone, while maize and other grain crops as well as livestock, are produced mainly in the lowland zone. People migrate from the midland zone to the lowland zone each year to grow maize and other grain crops. Underpinning these activities is an infrastructure of 710 kilometres of road, a railway line connecting Moshi and Arusha towns and an international airport (The Kilimanjaro International Airport). Unfortunately, most roads within the district are unpaved and impassable for vehicles during the rainy season.

At present, the district has 139 primary schools with a total population of 39,618 pupils, 13 secondary schools (both public and private) with a total population of 4,880 pupils and five post-primary technical schools with a total population of 720 pupils (AMMP, 2001). About 95 percent of school-age children go to school and about 96 percent of the population is literate. The language of communication is mainly Kichagga and Kiswahili.

The district has two hospitals, two health centres, 39 dispensaries and 61 village health posts. These provide curative, preventive and health promotion services. About 84.5 percent of children below the age of five years are vaccinated against five major communicable diseases (AMMP, 2001). Water supply is plentiful in the district, especially in the highland and midland zones, but in most areas the water is heavily

polluted with microbes, toxic minerals and agricultural chemicals, and is unsafe for human consumption.

Wood is the main source of energy, accounting for about 95 percent of the total energy consumed in the district. Because of the rapidly growing population, demand for fuel is rising sharply and people are being forced to cut down trees and encroach on the highland forest reserve. This has had very deleterious effects on the environment. Thirty-six out of sixty one villages have electricity, but the use of this source of energy is limited because it is expensive. A few households use biogas. The poorly served and sparsely populated villages are Mtakuja, Sanya Station, Rundugai, Kawaya, Kikavu Chini, Mijongweni, Longoi, Mbatakero, Shirimgungani, Shirinjoro, Kimashuku, Kwa Sadala, Kware, Bomang'ombe, and Mungushi.

Study design

An explorative study utilizing a cross-sectional design was conducted focusing on what mothers of adolescent girls know about reproductive health and the extent to which they were willing to pass such knowledge to their daughters.

Study population

The target audiences for this study were mothers with daughters aged ten years and above. The selection of this target audience was based on assumption that mothers with such daughters would be communicating something regarding sexuality since this is the stage of development when girls are about to attain menarche and also start indulging in unplanned and unprotected sex.

Sample size

The sample size n, was determined by using the single proportion formula used in the statistic calculator programme of EPI-Info version 6 such that;

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Where

Z: z value=1.96(corresponding to a confidence level at 95 percent)

d : maximum likely error.(taken to be 5 percent)

p : proportion of mothers who communicate reproductive health issues with their children. The proportion established by Mchomvu (2001) of 53 percent in Kinondoni district is used as an estimate for Hai district as it is the only available estimate in Tanzania. This gives a minimum sample size of 386 people. In this study, a sample size of 400 mothers was taken.

Sampling procedure

A multistage sampling technique was used to obtain the sample population. A list of all wards within Hai district was obtained from the administrative office. From the list, one ward was randomly selected. From the selected ward a list of villages was obtained. From the list of villages households with mothers who have daughters aged 10 years and above were listed. From the listed mothers study subjects were picked randomly. The process of identifying a particular respondent in the sampling frame was done with the help of the street executive officers.

Data collection instruments

A structured interview schedule was used to generate data for this study with both open and closed ended questions. Apart from socio demographic characteristics, the study instrument focused on knowledge on reproductive health issues such as menarche, family planning, STD HIV/AIDS, the extent to which mothers were willing to communicate reproductive health issues and other suggested sources of such information for adolescent girls.

Three female research assistants were selected and trained, to assist in interviewing. The training was comprehensive including the purpose of the study, potential benefits and negative effects, quality data collection and informed consent process.

Data collection was done on every day of a week. During data collection, house-to house visits were done in order to interview mothers. For easy understanding, the questionnaire that was developed in English was translated into Kiswahili since this is the medium of communication among the Chaggas. The interviews were conducted in Kiswahili.

Data management

Data quality checks were conducted daily, followed by coding of all responses. The coded responses were entered into a computer using EPI INFO. Data cleaning was done followed by analysis.

Statistical analysis

Statistical analysis of the data was carried out with the help of EPI-INFO version 6. The qualitative variables were coded using the concept of effects coding and/or contrast coding (where variables are treated as dichotomous and are coded as 1 for the presence of a specific characteristic to each other, and the result represents the effect of each category compared to the other) wherever applicable.

In order to measure reproductive health knowledge of mothers, a test consisting of 30 items was constructed. These items measured knowledge in three broad areas: pregnancy and fertility control, which was measured by 11 items, HIV/AIDS measured by 13 items and other STD's measured by 6 items. Respondents were asked to answer yes or no to the items, and correct responses were assigned a score of one while incorrect items were scored zero. A Similar knowledge scale was used in a study conducted among school youth in Rombo district (Leshabari, Kaaya, Kawau 1997).

Ethical issues and research clearance

Permission to conduct the study was obtained from the Technical Review Committee of the Muhimbili University College of Health Sciences (MUCHS) and the Hai district administration. For each selected participant, the aim of the study was explained, he/she was informed that participation was voluntary and only those who provided informed verbal consent participated in the study. In addition, they were assured of confidentiality and anonymity that was affirmed by ensuring no participant's name appeared on the interview schedule. After data entry the questionnaire were discarded.

Limitation of the study

Obtaining information on mother daughter communication concerning sexuality issues is a delicate task. This is because, according to African culture, open discussion of sexual matters is not commonly done. Some questions requested mothers to recall what they did in the past and this might result in recall bias of historical events. This may limit search for truth. However creating good rapport and confidence helped to minimise this effect. In addition, privacy was maintained during interviews.

Definition of terms

Mother – Daughter Communication

Both parties sharing and reasoning together without a power struggle. Listening with earnest intent to understand. Each knows the importance of understanding the other's perceptions and feeling before beginning to resolve the problem. Each being patient and allowing the other to talk and think for the purpose of understanding the other person's ideas, feelings, and intentions while communicating her own. For the purpose of this study, sexuality related communication, which met these criteria, was considered adequate communication on sexuality and reproductive health issues.

Reproductive health

Reproductive health refers to topics like family planning, the causes and consequences of unwanted pregnancies (unmet need for contraceptives, induced abortions), the prevention of sexually transmitted diseases (STD's), AIDS, infertility, sexual health (including female circumcision), child survival and safe motherhood. Special attention is devoted to teenage pregnancies. (WHO, 1992).

For the purpose of this study reproductive health refers to topics like family planning, the causes and consequences of unwanted pregnancies (unmet need for contraceptives, induced abortions), the prevention of sexually transmitted diseases (STD's), AIDS, infertility, sexual health and child survival.

Sexual health

Sexual health means having a responsible, satisfying and safe sex life. Achieving sexual health requires a positive approach to human sexuality and mutual respect between partners. By recognising sexual health, sexual rights, health and education systems can help prevent and treat the consequences, and ensure that healthy human sexuality is enjoyed by all people and is accepted as part of their overall well being. An expert group to the WHO has described 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" (1976). For the purpose of this study, sexual health means a positive approach to human sexuality and mutual respect between partners, does no involve risks such as STD, unwanted pregnancies and that is employed by all people and is accepted.

Adolescence

Is the period of transition from childhood to adulthood. It is characterised by efforts to achieve goals related to the expectations of the mainstream culture and by spurts of physical, emotional and social development. World Health Organization has considered the adolescence period to range from 10 to 19 years (WHO, 1975). In a workshop on **Youth and Related Problems In Tanzania**, it was agreed that the concept of youth should be limited to people aged 10 to 24 years (Leshabari and

Kaaya, 1996). Within this age range; youth aged 10-14 years were referred to as young adolescents, those aged 15 to 17 years were older adolescents, while teenagers included youth aged 13 to 19 years. Legally, persons aged 18 years and older are considered adults although, the definition of adults in Tanzania depends on whether one is taking the perspective of the criminal justice system, the marriage law or the age at which one is considered capable of operating a bank account. For the purpose of this study adolescents were those aged between10 to 19 years.

Parent Is considered as a biological father or mother of a given individual.

Mother Is considered as female biological parent.

Daughter A human female having the relationship of biological child to her parents.

Menarche The beginning of menstrual functions especially the first menstrual period of an individual.

CHAPTER 4: RESULTS

A total of 400 women with adolescents' daughters aged 10 years and above were the subjects of this study. Half of the respondents were in the age range between 40 – 49 years. The mean age was 44.7 years with a standard deviation of ± 7.1 years. The majority of the respondents were the indigenous Wachagga. Over 79 percent of the respondents were married, and the rest were either single parent, widowed, divorced, separated or cohabiting.

Eighty nine percent of the respondents were literate and most of them; i.e. 79.6 percent had primary education. Only a small proportion, 6.9 percent had secondary education. Seventy eight percent of the respondents were Christians and the majority were Lutherans.

The study was conducted in a rural village consequently a large majority of the respondents i.e. 88.3 percent were peasant farmers and about 8 percent were petty businesswomen. Only a small proportion was employed as teachers or nurses. The social -demographic characteristics of the women of adolescent girls interviewed are summarised in table 1.

TABLE 1:Social demographic characteristics of the study sample

Characteristic	Number of Mothers	Percentage
Age (years)	**N=400**	**100.0**
< 40	96	24.0
40-49	198	49.5
> 50	106	26.5
Marital status	**N=399**	**100.0**
Single	37	9.3
Married	319	79.9
Divorced/Separated/Widowed	43	10.8
Religion	**N=394**	**100.0**
Catholic	16	4.1
Other Christians	293	74.4
Moslem	85	21.6
Education	**N=378**	**100.0**
No formal education	51	13.25
Primary education	301	79.6
Secondary / post secondary education	26	6.9
Occupation	**N=399**	**100.0**
Peasants	352	88.3
Petty business women	31	7.8
Employed	16	4.0

General knowledge on reproductive health issues:

As noted earlier, reproductive health knowledge was measured using a test item that had 30 questions. There were 4 questions mainly testing on pregnancy, seven question testing on contraceptives, six questions testing on sexually transmitted diseases (STDs) and 13 questions testing on HIV transmission, prevention and cure. The maximum score for the test was 30 and the minimum expected was zero for a respondents who scored zero in all the test items. Over all, performance revealed that the lowest score was 12 and three people got all the items right and therefore were awarded a maximum score of 30 points.

In this study, respondent who score less than 17 points were considered to have low level of knowledge, those who scored between 18 - 21 points were considered to have medium level of knowledge and those who scored 22 or more were classified as high

level of knowledge. Twenty five per cent scored less than 17 points and only about 34 percent scored 22 points or higher.

The performance on the whole knowledge scale was examined across the selected socio demographic characteristic as table 2 illustrates.

TABLE 2: Percentage distribution of reproductive health knowledge scores of mothers by selected socio-demographic characteristics.

Description	Percentage of women who scored			Total (N)	χ^2	p value
	Low	Medium	High			
Marital status						
Single	22.2	30.6	47.2	36	12.5	0.01
Married	19.4	48.4	32.2	320		
Divorced/Separated/Widowed	34.9	48.8	16.3	43		
Age						
< 40	18.8	44.8	36.5	96	3.95	0.40
40-49	22.2	50.5	27.3	198		
> 50	21.7	42.5	35.8	106		
Education						
No formal education	18.0	46.0	36.0	50	0.68	0.95
Primary education	21.5	47.4	31.1	302		
Secondary and above	22.9	45.8	31.3	48		
Religion						
Catholic	43.8	50.0	6.3	16	7.64	0.10
Other Christians	19.8	47.1	33.1	293		
Muslims	22.4	45.9	31.8	85		

It was found out that, single mothers had better knowledge than those who were married or other categories of marital status. For example the proportion of those who scored 22 points or more decreased from 47 percent among the single to 16 percent among those who were separated, divorced or widowed and these variations were statistically significant (χ^2= 12.5; p-value =0.01). The level of education, religion categories and age group of the mother did not significantly influence the score obtained.

However, the level of knowledge, varied across the different areas of reproductive health. Respondents were most ignorant of items related to pregnancy followed by STDs. Knowledge on HIV/AIDS was much higher than the other reproductive health categories.

Knowledge on pregnancy issues:

The pregnancy knowledge sub-scale had 4 questions. Respondent who scored 1 and below points were considered to have low level of knowledge, those who scored 2 points were considered to have medium level of knowledge and those who scored 3 or more were classified as high level of knowledge. Two respondents scored zero and only 8 per cent scored all the four points.

TABLE 3: Percentage distribution of knowledge on pregnancy by selected socio-demographic characteristic.

Description	Percentage of mothers who scored			Total (N)	χ^2	P value
	Low	Medium	High			
Religion						
Catholics	75.0	12.5	12.5	16	19.06	0.0007
Other Christians	27.5	31.7	40.6	293		
Muslims	23.5	38.8	37.6	85		
Age						
< 40	20.9	23.8	26.5	96	1.91	0.7518
40-49	31.3	32.8	35.9	198		
> 50	27.4	32.1	40.6	106		
Education						
No formal education	18.0	30.1	31.3	50	4.01	0.4052
Primary education	42.0	31.5	29.2	302		
Secondary and above	40.0	38.4	39.6	48		
Marital Status						
Single	25.0	30.6	44.4	36	1.25	0.8703
Married	28.8	32.2	39.1	320		
Divorced/Separated/Widowed	32.6	34.9	32.6	43		

When performance in the test given was examined across the selected socio-demographic characteristic it was observed that, the level of education, marital status

and the age groups did not significantly influence the score obtained on pregnancy knowledge. However, there was a significant variation of the knowledge in pregnancy among the religious category as table 3 illustrates. For example, high proportion of Catholics (75 percent) had low level of pregnancy related knowledge in comparison to the other Christian and the Muslims (χ^2 =19.06; p-value= 0.0007).

The percentage of mothers who correctly answered each of the questions for this component of the knowledge scale is summarised in table 4.

TABLE 4: Percentage Distribution of correct response obtained from each test item on pregnancy.

Issues discussed	Percentage Responding correctly	Total (N)
Correct time for conception during a normal menstrual cycle.	35.5	395
Pregnancy is not possible through kissing	89.3	400
Sex while standing can lead to pregnancy	65.8	400
Pregnancy is possible before the 1st menses	27.5	400

Note; Total (N) is the denominator used.

There are serious misconceptions in the study area about pregnancy and related issues. For example, only less than 36 percent of mothers in this study knew the correct time during the menstrual cycle when conception can occur. Further more, less than 28 percent of these mothers knew that, pregnancy is possible before the first menses and also it was observed that more than 10 percent of the interviewed mothers believed a girl could become pregnant by kissing. This raises questions about the quality of what these mothers know about reproductive health. The responses on the possibility of pregnancy before the first menses was examined across selected socio-demographic characteristic and it was found that, none of the Catholics in comparison to the other religion categories knew that a girl could become pregnant even before

her first menses. The level of education, marital status and the age did not significantly influence the score obtained in this component of knowledge test.

Contraceptive knowledge:

The contraceptive knowledge subscale had seven test items. Respondent who scored 2 points and below were considered to have low level of knowledge, those who scored between 3 - 4 points were considered to have medium level of knowledge and those who scored 5 or more were classified as high level of knowledge. One respondent did not get any of the questions right and less than 2 percent scored all the seven items correctly. Half of respondents in this study population had medium level of knowledge on contraceptive issues. When performance in the test given was examined across selected socio- demographic characteristic, all except for the marital categories did not significantly influence the score obtained on the contraceptive knowledge sub-scale as summarized in table 5.

TABLE 5: Percentage distribution of knowledge scores of mothers on contraceptive issues by selected socio- demographic characteristics.

Description	Percentage of mothers who scored			Total (N)	χ^2	P value
	Low	Medium	High			
Marital status						
Single	11.1	44.4	44.4	36	17.31	0.002
Married	21.6	50.0	28.4	320		
Divorced/Separated/Widowed	37.2	55.8	7.0	43		
Age						
Less than 40	18.8	53.1	28.1	96	3.26	0.515
40 to 49	22.2	52.5	25.3	198		
Greater than 50	25.5	43.4	31.1	106		
Education						
No formal education	18.0	58.0	24.0	50	3.61	0.462
Primary education	24.4	48.3	27.5	302		
Secondary and above	14.6	54.2	31.3	48		
Religion						
Catholics	25.0	56.3	18.8	16	5.91	0.206
Other Christians	22.5	46.8	30.7	293		
Muslims	20.0	60.0	20.0	85		

Knowledge on STDs:

The sexually transmitted diseases knowledge sub-scale had 6 questions. Respondent who scored 2 points and below were considered to have low level of knowledge, those who scored 3 points were considered to have medium level of knowledge and those who scored 4 or more were classified as high level of knowledge. Thirty respondents i.e.7.5 percent scored 1 point (knew only one type of STD) and only 8 percent mothers score all the six points.

When performance in the test given was examined across the selected socio-demographic characteristics, the findings were as shown on table 7.

TABLE 7: Percentage distribution of knowledge scores of mothers on STDs by selected socio-demographic characteristics.

Description	Percentage of mothers who scored			Total (N)	χ^2	P value
	Low	Medium	High			
Level of education						
No formal education	38.0	44.0	18.0	50	16.04	0.003
Primary education	39.1	46.7	14.2	302		
Secondary and above	50.0	18.8	31.3	48		
Religion						
Catholics	56.3	25.0	18.8	16	5.25	0.263
Other Christians	41.6	41.3	17.1	293		
Muslims	34.1	51.8	14.1	85		
Age						
Less than 40	36.5	41.7	21.9	96	2.56	0.634
40 to 49	40.9	43.9	15.2	198		
Greater than 50	42.5	42.5	15.1	106		
Marital status						
Single	47.2	38.9	13.9	36	1.90	0.754
Married	39.1	43.1	17.8	320		
Divorced/Separated/Widowed	41.9	46.5	11.6	43		

Half of the mothers with secondary education and above had low level of knowledge compared to those with primary or no formal education and this result was not

Knowledge on STDs:

The sexually transmitted diseases knowledge sub-scale had 6 questions. Respondent who scored 2 points and below were considered to have low level of knowledge, those who scored 3 points were considered to have medium level of knowledge and those who scored 4 or more were classified as high level of knowledge. Thirty respondents i.e.7.5 percent scored 1 point (knew only one type of STD) and only 8 percent mothers score all the six points.

When performance in the test given was examined across the selected socio-demographic characteristics, the findings were as shown on table 7.

TABLE 7: Percentage distribution of knowledge scores of mothers on STDs by selected socio-demographic characteristics.

Description	Percentage of mothers who scored			Total (N)	χ^2	P value
	Low	Medium	High			
Level of education						
No formal education	38.0	44.0	18.0	50	16.04	0.003
Primary education	39.1	46.7	14.2	302		
Secondary and above	50.0	18.8	31.3	48		
Religion						
Catholics	56.3	25.0	18.8	16	5.25	0.263
Other Christians	41.6	41.3	17.1	293		
Muslims	34.1	51.8	14.1	85		
Age						
Less than 40	36.5	41.7	21.9	96	2.56	0.634
40 to 49	40.9	43.9	15.2	198		
Greater than 50	42.5	42.5	15.1	106		
Marital status						
Single	47.2	38.9	13.9	36	1.90	0.754
Married	39.1	43.1	17.8	320		
Divorced/Separated/Widowed	41.9	46.5	11.6	43		

Half of the mothers with secondary education and above had low level of knowledge compared to those with primary or no formal education and this result was not

Knowledge on HIV transmission;

The HIV transmission knowledge sub-scale had 6 questions. Respondents who scored 3 points and below were considered to have low level of knowledge, those who scored 4 points were considered to have medium level of knowledge and those who scored 5 or more were classified as high level of knowledge. One respondent scored 2 points and about 81 percent scored all the six points. When performance in the test given was examined across the level of education of the respondents, the findings were as shown in table 9.

TABLE 9: Percentage distribution of knowledge on major ways for transmission by selected socio-demographic characteristics.

Description	Percentage of Women who scored			Total (N)	χ^2	P value
	Low	Medium	High			
Level of education						
No formal education	2.0	8.0	90.0	50	2.34	0.67
Primary education	0.7	4.6	94.7	302		
Secondary and above	0.0	3.8	96.2	26		
Religion						
Catholics	0.0	0.0	100.0	16	4.39	0.35
Other Christians	1.0	4.4	94.5	293		
Muslims	1.2	9.4	96.6	85		
Age						
Less than 40	1.0	3.1	95.8	96	4.82	0.30
40 to 49	1.5	4.5	93.9	198		
Greater than 50	0.0	8.5	91.5	106		
Marital status						
Single	0.0	8.3	91.7	36	2.43	0.65
Married	1.3	5.3	93.4	320		
Divorced/Separated/ Widowed	0.0	2.3	97.7	43		

Knowledge on mode of HIV transmission increased with increasing level of education. For example 96 percent of those with secondary and above level of

education obtained more than five points in this sub scale compared to 90 percent among the respondents with no formal education [χ^2=2.34; p-value = 0.67].

The summary of points obtained from each question on mode of transmission of HIV is as shown in table 10.

TABLE 10: Percentage distribution of correct responses to items on HIV/AIDS mode of transmission.

Mode of Transmission	Percentage responding correctly (N= 400)
Washing vaginal after sex will not prevent one from acquiring HIV	97.0
One can have HIV infection and look healthy	98.2
Lice and mosquito bite dose not transmits HIV	92.0
Sharing clothes and utensils with infected person will not transmit HIV	89.5
If a child is breast-feeding on an infected mother can get HIV	95.3
Practises unprotected sex only once can transmit HIV	99.0

Generally the majority of the respondents knew about HIV. However misconceptions still appear to be a problem. More than 10 percent of the mothers for example, still believe HIV can be acquired by sharing clothes and utensils with an infected person. This may suggest stigma with AIDS patients particularly when it comes to caring for persons living with HIV/AIDS . Catholics were less knowledgeable on some of the issues of mode of transmission of HIV in comparison to other religious categories. For example, while 6 percent of other Christian and 15 percent of Moslems thought that one can acquire HIV by sharing clothes and utensils with an infected person, above 19% of the Catholics thought so.

Age, level of education and marital category did not significantly influence scores obtained in this individual item.

Knowledge on HIV prevention:

The HIV prevention knowledge sub-scale had six questions. Respondents who scored 2 points and below were considered to have low level of knowledge, those who scored between 3 - 4 points were considered to have medium level of knowledge and those who scored 5 or more were classified as high level of knowledge. Two respondents scored zero and only 6.8 percent scored all the 6 points.

When performance on the total test score was examined across the selected socio-demographic characteristics, age, level of education and religion categories did not influence the score obtained as shown in table 11.

TABLE 11: Percentage distribution of knowledge on prevention of HIV by selected socio-demographic characteristics of respondents.

Description	Percentage of Women who scored			Total (N)	χ^2	P Value
	Low	Medium	High			
Marital Status						
Single	27.8	33.3	38.90	36	20.96	0.0003
Married	39.7	44.1	16.30	320		
Divorced/Widowed /Separated.	62.8	27.9	9.30	43		
Religion						
Catholics	62.5	18.8	18.80	16	4.88	0.3003
Other Christians	39.6	41.6	18.80	293		
Muslims	42.4	43.5	14.10	85		
Education						
No formal education	26.0	48.0	26.00	50	6.75	0.1499
Primary education	42.4	41.4	16.20	302		
Secondary & above	47.9	35.4	16.70	48		
Age						
Less than 40	42.7	42.7	14.60	96	5.48	0.2413
40-49	44.9	37.9	17.22	198		
Greater than 50	32.1	47.2	20.80	106		

Single mothers were better informed on the mode of prevention of HIV in comparison to other marital categories. For example the proportion of those who scored 5 points

or more increased from 9.3 percent among those who were separated, divorced or widowed to 39 percent among those who were single mothers. The summary of the correct responses obtained from each question on mode prevention of HIV is as shown in table 12.

TABLE 12: Percentage distribution of mothers who responded correctly on selected aspects of HIV Prevention:

Methods	Percentage (N=395)
Abstinence	74.4
Use of condoms	49.9
Faithfulness to uninfected partner	73.4
Avoid unsterile skin piecing instruments	48.6
Avoid blood transfusion	29.9
Mother to avoid Breast feeding if she is infected	25.6

Although it is generally believed that awareness about AIDS in the country is very high, it appears this generalization should be interpreted with caution.

The result of this study suggests minimal knowledge on the strategies for prevention of HIV transmission in the study area. For example, less than 30 percent of mothers knew HIV can be transmitted through blood transfusion. Surprisingly, less than 26 percent of the mothers knew that it is possible for an infant to be infected with HIV through breastfeeding.

Although there is a widespread intervention on the role of condoms in preventing HIV infection, less than half of the respondents were aware of the protective nature of condoms in this regard. This level of understanding was unexpected, given the efforts put on prevention of HIV in the society, particularly the emphasis put on condom use.

When the knowledge on condom use as one of the preventive strategies for HIV were examined across the selected socio-demographic characteristics, it was observed that, single mothers were more knowledgeable (71 percent) on use of condoms than those

who were married, separated, divorced or widowed (42 percent). These results were statistically significant [$\chi^2 = 7.9$; p-value = 0.019].

It was also observed that the Catholics were less knowledgeable on almost all of the individual items on the mode of prevention for HIV in comparison to other religious categories. For example, about 60 percent among the Catholics did not know abstinence is one of the preventive strategies for HIV transmission. This variations were significant [$\chi^2 = 15.4$; p-value = 0.00045].

Mothers' concerns about their sexually active daughters:

Generally, many parents worry when they learn that their children especially females are sexually active. One of the objectives of this study was to find out what mothers in the study area worry about when they suspect their daughters are sexually active. The summaries of the concerns obtained are shown in the table 13.

TABLE 13: Percentage distribution of concerns of mothers if they suspected their adolescent girls were sexually active.

Concern	Percentage (N=400)
Pregnancy	98.3
Sexually transmitted diseases	65.8
HIV/AIDS	88.5
School drop out	37.3
Family reputation	19.3
Others	1.5

Given the high prevalence rate of HIV/AIDS as a deadly disease among young people especially girls in the country, one would expect HIV infection to be a major worry of any responsible parent who suspects his/her child to be sexually active. However, it appears a large majority of mothers' worry about pregnancy followed by HIV/AIDS. Family reputation and school drop out seems not to be of much concern to the respondents. Less than 20 percent of mothers in this study, worried about family reputation. This suggests that the social control mechanisms that resulted in moral

judgements used in past generations might no longer be effective today. There was a small proportion of respondents i.e.1.5 percent who had other concerns, such as a girl would never be married, could attempt abortion of which she might die and also that a girl will never conceive when she does get married because of abortions.

The proportion of the mothers, who were concerned about pregnancy, was examined across the socio- demographic characteristics. It was revealed that with the exception of the level of education of the respondents as it is shown in table 14, the age, religion the marital category had no influence in the type of responses obtained.

TABLE 14: Percentage distribution of mothers concerned on pregnancy by selected social demographic characteristics. N =400

Description	Percentage of mothers concerned	Total	χ^2	P value
Level of education				
No formal education	98.0	50	14.20	0.0008
Primary education	99.3	302		
Secondary and above	91.7	48		
Religion				
Catholics	100.0	16	5.42	0.0665
Other Christians	99.0	293		
Muslims	95.3	85		
Age				
Less than 40	100.0	96	2.51	0.2846
40 to 49	98.0	198		
Greater than 50	97.2	106		
Marital status				
Single	97.2	36	0.37	0.8317
Married	98.4	320		
Divorced/Separated/Widowed	97.7	43		

Mother - Daughter Communication on sexual and reproductive health issues:

The mothers interviewed in this study were asked to explain the extent to which they communicate with their daughters about reproductive health. Table 15 gives a summary of responses obtained.

TABLE 15: Distribution of the extent of communication regarding some aspects of reproductive health issues that mother were willing to communicate with their adolescent girls. N =398

Issue communicated	Very Frequently	Frequently	Rarely	Never
Child rearing	10.1	24.1	33.2	32.7
Contraceptives	2.3	10.1	13.3	74.4
Pregnancy	17.8	36.7	26.6	18.8
Sex and related consequences	19.1	35.7	20.1	25.1

Generally, only a relatively small proportion of mothers frequently held discussions with adolescent girls about sex and related consequences. Although one can assume that child rearing is an important issue where knowledge and skills need to be developed from early childhood, nearly two thirds of the mothers rarely or never discussed this issue. Similarly, almost three-quarters of the respondents did not talk or discuss methods of preventing pregnancy and 25 percent never talked about sex and related consequences.

An attempt was also made to explore the respondent's perception on the extent to which they believed their colleagues in the area were imparting parenting knowledge and skills to their adolescent girls as future parents. It was found out that about 15 percent of the respondents did not know if this was happening. Almost half believed that mother daughter communication on parenting role and skills was rarely if ever done. An attempt was made to find out reasons behind this gap and responses obtained from the 40 respondents who answered this additional question are summarised below in table 16.

TABLE 16: Percentage distribution of reasons that hindered communication on parenting knowledge and skills between mothers and their adolescent girls.

REASONS	NUMBER OF MOTHERS	PERCENTAGE
Don't know what to tell them	13	32.5
Busy – no time	11	27.5
Cultural restrictions	10	25.0
Not their task	3	7.5
Will be taught by other members of the extended family	3	7.5
Total	40	100

About one third i.e.32.5 percent of the mothers said they did not know what to tell them. For instance one parent made the following comment,

"*I really do not know what to tell my daughter on reproductive health issues'.* Her daughter was eleven years old. Others, i.e.27.5 percent said they were busy with farm work so they did not have time to talk to their daughters.

Some respondents said, culture does not allow them to speak about sex with their daughters since there were designated people for doing such a job. For example, one mother said:

"*I cannot talk to my daughter about parenting issues she will be taught this during the initiation ceremony especially during circumcision".*

Others felt it was not their task. For example one woman said:

"That is not my task she will be taught by her grandmother".

The explanation for these remarks suggests that some mothers do not feel it is their role to educate their daughters about sex and related issues.

However it appears these women were willing to talk about these issues if barriers hindering such discussions are resolved. The summary of issues that the interviewed mothers were willing to communicate to their adolescent girls is as shown in table 17.

TABLE 17: The percentage distribution of the aspects of reproductive health knowledge that mother were willing to communicate to their adolescent girls.

Issues communicated	Percentage communicated	Total N
HIV/AIDS	97.0	400
Sexually transmitted diseases	82.5	400
Menarche/ Menstruation	81.1	399
Pregnancy	75.5	396
Sex and Related Consequences	72.0	400
Child Rearing	52.3	400
Contraceptives	16.3	399

Note; Total N= denominator used

From the interview it was observed that a fairly high proportion of mothers were willing to communicate to their daughters about HIV followed by STDs. Contraception was the least aspect of reproductive health knowledge mothers were willing to communicate to their adolescent girls.

These aspects of reproductive health knowledge that mothers were willing to communicate to their adolescent girls were examined across the selected social demographic characteristics of the mothers interviewed and it was discovered that, a fairly high proportion of women in all age groups were willing to communicate on HIV/AIDS. Willingness to talk about menstruation decreased with increase in age of the woman. Such willingness varied from 86 percent among those aged below 40 years to 17 percent among those aged above 50 years. Willingness to talk about contraception increased with age, varying from 9 percent among those aged below 40 years to 21 percent among respondents aged above 50 years.

Lack of formal education appeared to be a contributory factor to barriers that inhibit mothers to talk about contraception with their daughters. As the level of education increased, willingness to talk about the problem also increased. For example willingness to talk about contraceptives increased from 10 percent among those with no formal education to 16 percent among those with primary school education and 23

percent among those with secondary school education and above. Catholics were the least interested in talking about child rearing (38 percent) while Muslims had the highest proportion (67 percent) of mothers willing to do this.

An attempt was made to find out whether the interviewed mothers themselves were taught on parenting roles and sexually transmitted diseases during adolescence. It was discovered that, about one third of the respondents were not taught these issues. More than 57 percent of the respondents said that they learnt how to parent after they were married.

The primary sources of information, amongst the women studied on parenting roles and STD knowledge is as summarised below.

TABLE 18: Frequency distribution of primary sources of information on parenting role and STDs knowledge among the respondents.

Information from	Percentage of primary source of information on	
	Parenting role N =276	STDs N =218
Mothers	78.1	72.6
Other relatives	46.6	38.1
Peers	44.1	41.3
During social rites	33.0	0.0
Media	15.4	27.4
Fathers	7.2	9.3
Others	4.3	5.3
Health Workers	1.0	30.6

As summarised in table 18, mothers featured high as information sources on parenting roles and STDs. The father was reputed to be an information source in a very small proportion. Other relatives and the mass media appear to have played a minimum role as a source of information to these mothers. A relatively small percentage (5 percent) of respondents' mentioned other sources like religious leaders and schoolteachers as primary sources of information.

Mothers perceived source of reproductive health knowledge for their adolescent girls:

One of the objectives of this study was to explore mother's opinion on what they thought adolescence girls knew about sexual and reproductive health issues and the source of such information.

TABLE 19: Percentage distribution of mothers who thought their adolescent girls knew about various aspects of reproductive health issues.

Knowledge on	Percentage of mothers	Total N
Sex and related consequences	74.3	400
STD HIV/AIDS prevention	95.7	396
Sex and related consequences of pregnancy	79.8	392
Knowledge on what to do during pregnancy	45.4	399
Knowledge on how to bring up a healthy child	42.0	395

The summary on table 19 show that, the majority of the women believed adolescent girls knew about STD and HIV/AIDS prevention, followed by sex and its related consequences. Interestingly, less than a half of the respondents believed their adolescent girls knew what to do during pregnancy and how to bring up a healthy child. An attempt was made to find out what the mothers thought was the source of such information and the response pattern obtained is summarised in table 20.

TABLE 20: Percentage distribution of mothers thought on who were the sources of information for adolescent girls on selected aspects of reproductive health.

Sources of information	Sex and related consequences	Child rearing	Care for pregnancy	STD/HIV AIDS
	N=293	N=167	N=182	N=386
Mothers	64.2	82.0	65.9	63.2
Friends	58.7	37.7	50.0	43.5
School Teachers	54.3	67.7	55.5	65.0
Media	53.2	52.1	54.4	72.3
Health workers	43.0	78.4	71.4	54.7
Religious groups	31.1	37.1	24.7	45.1
Aunts	29.4	37.1	26.4	21.0
Other family members	27.0	37.7	30.2	27.5
Initiation Ceremonies	18.1	9.6	15.9	14.2
Fathers	8.2	3.0	3.8	25.4

From this interview, it was observed that the majority of the respondents thought mothers were the primary source of the information on reproductive health issues to adolescent girls. The proportion of mothers who thought that adolescent girls learnt from their mothers on child rearing was higher (82 percent) in comparison to when mother themselves (52 percent) were asked if they communicate on child rearing with their own children (see table 17). Usually, adolescent girls help their mother in taking care of the young ones and by doing so they gain experience. Interestingly, fathers were the least mentioned as primary sources of information on reproductive health issues except for STD HIV/AIDS whereby a quarter of the respondents mentioned fathers. The mothers were of the opinion that, the primary source of information on STD HIV/AIDS was the media (72 percent) followed by schoolteachers (65 percent). Friends (58.7 percent) were thought to be giving information more on sex and related consequences than other aspects of reproductive health knowledge. Information on child rearing, was believed to be obtained from mothers followed by schoolteachers and health workers. These findings are interesting since schools hardly cover topics

on child rearing and contact with health workers by adolescent girls occurs only when they are pregnant or sick. It will be interesting to find out view of heath workers and schoolteachers on these issues. Despite the study area being predominantly rural, initiation ceremonies were noted by few respondents as a primary source of information on reproductive health knowledge.

In this study, the mothers were also asked to give suggestions on who should teach their adolescent girls issues related to reproductive health.

TABLE 21: Frequency distribution of what mothers suggest should be the sources of information on reproductive health for adolescent girls

Suggested source of information	**Percentage distribution of suggested source of information on**				
	Sexual and reproductive health	**Child rearing**	**Contraceptives**	**STD/HIV /AIDS**	**Role of mother**
	N=400	**N=398**	**N=397**	**N=397**	**N=399**
Mothers	82.0	91.5	47.0	84.1	95.20
Health workers	70.3	66.6	94.2	87.7	45.90
Religious groups	47.3	47.0	25.9	64.7	59.40
School teachers	43.3	49.2	38.7	67.0	43.90
Media	36.8	33.7	37.2	50.1	32.30
Other relatives	32.5	30.7	15.3	29.7	45.60
Peers	17.3	16.8	11.6	15.1	15.50
Fathers	8.3	18.1	2.8	42.3	23.10
Others	0.5	-	-	-	0.25

Again the mother was perceived to be the major source of information for all aspects of reproductive health issues except contraceptives by over 80 percent of all respondents. The father was considered an appropriate source of such information by only a small proportion of mothers except for STD HIV/AIDS whereby about 42 percent cited them as an appropriate source.

Peers were not so much suggested as primary sources of reproductive health information. Quite a relative high proportion of the mothers' suggested health workers should be the primary source of information for nearly all aspects except the role of motherhood. The roles of the schoolteachers were more recognised on issues of STD/HIV/AIDS than the other aspects of reproductive health and this was similar to the religious leaders.

Mothers opinion on the type of sexual health program to be taught to the adolescent girls:

As it is well known sexual health refers to the somatic, as well as the emotion, intellectual and social aspects of sexuality. People should have full knowledge of sexuality, it's potentials and risks. Sexuality is a positive force in human beings and the prevention of any risks involved in expressing sexuality is not an end in itself, but a necessary requirement in order to take full advantage of the positive potential of sexuality.

This study made an attempt to find out what type of content on sexual health would mothers support their adolescent girls to be taught. It was revealed that nearly 60 percent of the respondents were of the opinion that adolescent girls should only be exposed to intervention on problems arising from sexual relationship. For example, one respondent said,

" I can not talk to my daughter on positive aspect of sexuality because this will make her a prostitute".

This mother had a daughter aged 15 years. Another respondent said

" *Ah! There are no benefits in indulging in sexual behaviour*". Only 1 percent of respondents supported programmes that would teach positive aspects of sexual health.

This study has revealed that, mothers in the study area have poor knowledge on specific issues of reproductive health. A large majority of mothers worry about pregnancy and HIV/AIDS comes second when they learn their adolescent girls were sexually active. Mothers are willing to share with adolescent girls on various aspects of reproductive health except contraceptive issues. It has also been discovered that, mothers preferred themselves to be the primary source of information to the adolescent girls on issues of child rearing and role of mothers. They preferred the health workers to be the main primary source of information on contraceptives and STD HIV/AIDS. The schoolteachers and the mass media were also proposed for providing information on STD HIV/AIDS. Peers as a source of information were perceived to be of less importance in almost every aspect of reproductive health.

CHAPTER 5: DISCUSSION

Generally, mothers in Hai district appear to have some knowledge on reproductive health issues but there are serious problems on what they specifically know.

For example, only 35 percent of the respondents knew correct time during a normal menstruation cycle when a woman is likely to conceive. This raises question on what messages these women pass on to their children given that some of them resist modern contraception for religion reasons.

Although more than 70 percent of the mothers knew about modern contraceptives, only 50 percent specifically mentioned condoms as one of the methods. Consequently, despite the dual effect of condoms as a preventive measure against HIV and pregnancy, such knowledge is still low in Hai district.

Syphilis is only known to half of the interviewed mothers although it has been proved to be prevalent among the youth in Moshi rural (Kessy; 1996). The silent features of this disease call for effort to educate women about it.

Quite a large number of these women did not know about other genital discharge diseases. This raises questions about what mothers in this area can teach about STDs if they are given such opportunities. One doubts what they might tell their adolescent girls who complain of similar problems to them.

Despite of the high knowledge on mode of transmission for HIV, it has been observed that 10 percent of the interviewed mothers in this area believe that one can acquire HIV/AIDS by sharing clothes and utensils with an infected person. This raises questions on the type of home care people suspected to be suffering from AIDS get. Almost similar results of poor knowledge on mode of transmission has been reputed by other studies which revealed that only 28.9 percent of rural women believed sexual intercourse is one mode of transmission of HIV (TDHS; 1996).

Half of the mothers in this study did not know that use of condoms is a preventive measure against HIV. This raises questions on how health education on condom use is been delivered. A lot of emphasis is put on HIV but messages are not effective in changing the knowledge of the target audience. No wonder use of condoms for preventing pregnancy, STDs and HIV are not clearly understood by the target audience. In this study, only 30 percent of the mothers' could name at least two correct ways to prevent HIV. This is similar to the study conducted by TDHS whereby only 38 percent could name at least two correct ways to prevent HIV (TDHS; 1996).

The fact that 70 percent of the respondents did not know that blood transfusion may transmit HIV, raises worries about the extent to which these women take preventive measures to minimize the need for blood transfusion.

On the other side, the fact that only a quarter of the respondents knew infants can be infected with HIV from infected mothers when breastfeeding raises questions about the effectiveness of measures taken against this mode of HIV transmission. Currently, the national policy encourages pregnant mothers to test for HIV and those found positive are provided with anti retroviral drugs prior to delivery. The newly born is also provided with the same drug. If infected mothers are not aware of the effect of their HIV sero status on their babies and it might be difficult to accept proposed interventions for this problem. Mother's level of understanding of these issues makes them inappropriate sources of such information unless steps are taken to educate them.

This study has revealed that majority of mothers' worry about pregnancy if their adolescent girls are sexually active. This is true as there is high prevalence of teenage pregnancies nowadays (Holschneider, et al; 1998). It is not known what is the

are sick or pregnant. Intervention between adolescent girls and health facilities in their communities should be improved first for the suggestion from their mothers to be effective.

Some proposed that, schoolteachers should educate adolescent girls mainly on STD HIV/AIDS. The Ministry of Education has also advocated this. The problem with this proposal is that, it is not known how knowledgeable schoolteachers are on these issues. However various sources of socialization have a role to play in educating adolescents about sex and there is a need to provide them with the necessary knowledge and skills so that such roles can be done effectively.

Only a few mothers proposed fathers as an important source of information. Similar results have been obtained from a study conducted in Kenya (Okumu, et al; 1994). The suggested sources of information on various issues of reproductive health did not very much differ from what the majority of the school youths in Rombo district preferred (Leshabari, Kaaya, Kawau; 1996). They preferred to be taught about various reproductive health issues from health workers followed by teachers and parents.

As was the case in the Rombo study, in this study, peers and mass media did not feature at all as preferred source of reproductive health information. This is contrary to what it has been found in other studies (Wilson, et al; 1994).

Given the problem posed by consequences of unprotected sex among adolescents, one needs a comprehensive approach to the problem. For this reason there is a need to find out information from sources which in one way or another influence adolescent behavior and explore the possibilities of designing intervention measures with such data as an important input.

CHAPTER 6: CONLUSION AND RECOMMENDATION

CONCLUSION

Considering the low level of knowledge of mothers on specific issues of reproductive health, particularly on pregnancy and use of condoms for prevention of unwanted pregnancy and STD HIV/AIDS, an in-depth qualitative assessment of perception, knowledge, attitude is likely to provide more insights into mothers interest in reproductive health issues.

The majority of mothers are more worried about pregnancy than potential HIV/AIDS infection when they suspect that adolescent girls are sexually active. It is difficult to draw any definite conclusion about this major concern. However, it was found that relatively fewer mothers were willing to talk to their adolescent girls about contraception, child rearing and pregnancy compared to other reproductive health aspects explored. This study has revealed that, there are some barriers hindering communication between mothers and their adolescent girls on parenting roles and skills. The main barrier was lack of knowledge followed by cultural restrictions. However, it appears that, the mothers were willing to talk about these issues if barriers hindering such discussions were resolved. The mothers have also suggested health workers to be the major primary source of information on contraception even though little is known about the extent of interaction between the mothers and the health workers as well as the level of knowledge of these workers and the extent to which they are willing to share such knowledge with adolescents.

Given the problem posed by consequences of unprotected sex among adolescents, one needs a comprehensive approach to the problem. For this reason there is need to find out information from sources which in one way or another influence adolescent

behavior and explore the possibilities of designing intervention measures with such data as important input.

RECOMMENDATIONS

- Well-designed interventions are needed to educate mothers on specific issues of reproductive health to foster effective communication on these matters with their adolescent girls.

- In-depth interviews are needed to establish the meaning behind the unwillingness of mothers to communicate on contraception with their adolescent girls despite a major worry of potential pregnancy when adolescent girls are sexually active..

- The level of knowledge on mother to child transmission of HIV through breast milk is fairly poor in the study area therefore efforts should be made to provide this information.

- In-depth interviews are needed to find reasons behind the low acceptance of condoms in Hai district, as one of the preventive methods for both pregnancy and STD HIV/AIDS.

- Since schools and health care units are located in most Tanzanian communities, there is need to find out how they can be used in sex socialization of adolescent children. For this reason, there is need to conduct studies focusing on teachers and health care workers which will generate information useful for developing interventions focusing on adolescent sexual health.

REFERENCES

AMMP, Adult Morbidity and Mortality Project - census data done in Hai district Kilimanjaro region, 2001.

Balmer, D. H; Gikundi, E; Billengley, M.C; Kihuho, F.G; Kimani, M; Wang'ondu, J. and Njoroge H; "Adolescent knowledge , values and coping srategies; implications for health in Sub-Sahara Africa" in Journal of Adolescent Health 21: 33-38. 1997.

Bang, R.A; Bang A.T; Baitule, M; Chondhary Y; Sarmukaddam, S. and Tale O; "High prevalence of Gynaecological Diseases in Rural Indian Women". Lancet, 1 (8629): 8 – 88. 1989.

Barnett, B; " Education protects health, delays sex." Network Vol.17 (3): 14-15, 18-20. Research Triangle Park, North Carolina, Family Health International Spring 1997.

BEST ; "Basic Education Statistics in Tanzania Best 1989-1993". Ministry of Education and Culture Dar es Salaam, June. 1993

BEST; " Basic Education Statistics in Tanzania, Ministry of Education and Culture, Dar es Salaam, forthcoming, 2002.

Bumpas, K; "Parent-Child Communication": Promoting Healthy Youth (Fact Sheet) Washington, DC. "Advocates for Youth" 3p Feb 1999.

Burgos, M; "Street-based female adolescent. Puerto Rican sex workers contextual issues and health needs". Family and Community Health 22(2), 59– 71, Jul 1999.

Caldwell J.C. and Caldwell P; "Is the Asian family planning programme model suited to Africa? Studies in Family planning", 19 (1), 1988.

Caldwell J.C; Caldwell P. A.and Quiggin, P; 'The social context of AIDS in Sub. Saharan Africa". Population and Development Review, 15 (2): 185-233, 1989.

CRHCS; "Commonwealth Regional Health Community Secretariat-Improve Teenage reproductive health in Zimbabwe: Summary of an Intervetion study on selected aspects of teenage reproductive health with policy and program implications", Arusha, Tanzania, 1999.

Etienne van de Walle and Nadra Franklin. "Sexual initiation and the transmission of reproductive knowledge University of Pennsylvania; Health Transition Review, Supplement 6, 61-68, 1996.

Fuglesang, M; "Lessons for Life – Past and Present Modes of Sexuality Education in Tanzania Society". Social Science and Medicine, 44(8): 1245 – 1254, 1997

Holschneider, S. and Debrework; "Investing in young lives: The role of reproductive health, why investing in young people?" The World Bank Group. Human Development Department, Washington DC, 1999.

Hughes, J. and McCauley, A; 'Improving the fit: Adolescent's need and future Programs for sexual and reproductive health in developing countries". Studies Family Planning 29(2): 233-245. Jun. 1998.

Kapinga, S.H. and Justeen, A; "Abortion in a Hospital Setting: Hidden Realities". An Anatod Bibliography of Information on Adolescent Sexuality in Dar es Salaam, p.20. unpublished. 1992.

Kaiser, H.J; Family Foundation. Survey of Africa American on HIV/AIDS. The Untold story: AIDS and Black American: "A Briefing on the crisis of AIDS among Africa Americans".Washington DC, 16-17. March 1999.

Kessy, A; "Prevalence and Risk Factors for HIV and other STDs. Among youth in Moshi Rural District". Unpublished Master of Medicine Dissertation, Institute of Public Health, University of Dar es Salaam, Dar es Salaam, 1996.

Kekovole, J; Kiragu, K; Muruli, L. and Josiah, P; "Reproductive Health Education in Kenya. Results of a National Information, Communication and Education" Situation survey. Baltimore, Johns Hopkins University Center for Communication Programs (Fild report No. 9) 72p , 1994.

Kiwara, A; "HIV/AIDS in adolescents: A window of hope or mirage" Paper presented at the sixth Repoa research workshop held at the White Sands Hotel, Dar es Salaam, Tanzania April 18-19, 2001.

Klepp, K.I; Ndeki,S.S; Thuen,F; Leshabari,M. and Seha,A.M. " Predictors of intention to be sexually active among Tanzanian school children". East African Medical Journal Vol. 73 No.4, April, 1996.

Klepp,K.I; Ndeki,S.S; Seha,A.M. and Leshabari,M.T; "Expossure to HIV/AIDS information, AIDS knowledge perceived risk and attitudes towards people with AIDS among primary school – children in Northern Tanzania". AIDS Care 6: 183-91, 1994b

Lebashari, M.T. "Factors influencing school Adolescent Fertility Behaviour in Dar es Salaam Tanzania", Unpulished doctor of Science Thesis, Johns Hopkins University, School of Public Health, Baltimore Marland, 1988.

Leshabari, M.T. and Kaaya, S.F; "Youth Health and Development in Tanzania. Report prepared for the United Nations Fund for Population Activities (UNFPA)" Dar es Salaam,1994.

Leshabari, MT; Kaaya,S.F. and Kawau,F; "Patterns of School Teenage Sexual Behaviour in Rombo District". Unpublished research report, Institute of Public Health, Dar es Salaam,1996.

Lwihula, G; Nyamuryekunge, K. and Hamelmann, C; "Baseline Survey of Sexual and Reproductive Health Knowledge, Perceptions and Behaviour Among School Youths in Kinondoni District Report". Africa Medical Research Foundation (AMREF) Dar es Salaam March, 1996.

Madona, A. "A study to determine the attitudes and practices of parents to sex education of their children". Unpublished research study, Lusaka, 1996.

Manhart, L;Ouba, N.and Yaro,Y. "Study on reproductive health among adolescents in the Sahel. Results of focus groups and individual interviews" The case of Burkina Faso (CEPROD) Jun. (3) 45p. 1995.

Mchomvu, H. "Factors associated with communication between parents and their children regarding sexual and reproductive health matters in Kinondoni District, Dar es Salaam". Dissertation for the degree of Master of Public Health, 2001.

Muhondwa, E. "Adolescent Sexuality and HIV/AIDS in Mtwara Rural and Makete district". A report of a study commissioned by UNICEF- Tanzania office, Dar es Salaam. December 1999.

NACP; "National AIDS Control Program" Report Number 15, P. 15; 2000.

Nyangu, S. "A study on the level of communication from parents to their children in the dissemination of STD/HIV/AIDS preventive messages and the associated factors". Unpublished research study – Kitwe, Zambia, 2001.

Okumu,M.I; Isabella, N.C.and Hezron, O.O; "Female Adolescent Health and Sexuality in Kenya Secondary Schools"p30,1994.

Population Council, Africa or/TA Project Update "Need for Family Life Education in Zaire " up date Dec. 1993.

Population Reference Bureau (PRB) 1977.

TDHS; "Tanzania Demographic and Health Survey"; 1996.

Wilson, D; McMaster, J; Armstrong, M; Manguje, N.and Chimhina,T. "Intergenerational Communication within the family: Implication for developing STD/HIV prevention strategies for adolescents in Zimbabwe". Washington, DC, United States Agency for International Development (Women and AIDS Research Program Report Series No. 13). 89p. August 1994.