PERCEPTIONS TOWARD CONTRACEPTION AMONG SECONDARY SCHOOL ADOLESCENT GIRLS IN DAR ES SALAAM, TANZANIA

BY

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A Dissertation Submitted in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for examination by the Muhimbili University of Health and Allied Sciences a dissertation entitled ***Perceptions Toward Contraception among Secondary School Adolescent Girls in Dar es Salaam, Tanzania,*** in a partial fulfilment of the requirements for the award of the degree of Master of public Health of the Muhimbili University of Health and Allied Sciences.



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Date: 14/11/2008

DECLARATION

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I **Tarsila Ewald,** declare that this dissertation is my own original work and that has not been submitted and will not be presented to any University for a similar or any other degree award.

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Lastly I owe my special and deepest gratitude to God for keeping my physical and mental health fit up to my work.

DEDICATION

This work is dedicated to:

My parents (Grace Ewald and Ewald Joseph) for the bringing me to the world and taking good care of me.

ABSTRACT

Adolescent reproductive and sexual health has become a serious concern as it is associated with HIV and AIDS pandemic as well as teenage pregnancy, illegal abortion and childbearing, health and economic problems. A cross-sectional survey was conducted using self administered questionnaire among 195 adolescent girls with the age ranging between 15 to 19 years in six secondary schools of Dar es Salaam region, Tanzania, in July 2008. The study intended to investigate contraception related knowledge, socio-cognitive, psychological and cultural perceptions that describe contraception among secondary school adolescent girls. Altogether, 15.5% of sampled students reported to be sexually active. The condom use rate was higher than other contraceptive methods. Among (22) those who used contraceptives, about 50% indicated that use of contraceptives in their recent sexual encounter was suggested by their partners. The majority (64.6%) of participants had moderate level of knowledge about contraception. Moreover, most of the study participants indicated to have largely received information about contraception through mass media (radio and television). Likewise, 74.8% of the study participants had positive attitude toward contraceptives. There was a relatively high rate of perceived friends and classmates normative support to contraception. Also, high proportion (74.1%) of the study participants perceived that they would contracept regardless of the cost of contraceptives. With regard to socio-demographic characteristics, religiosity was significantly associated with contraceptive beliefs [$F(1,187) = 4.239$, $P = <0.05$]. Further more, intention to use contraceptives was significantly associated with behavioral contraceptive beliefs [$F(1,177) = 10.587$, $P = <0.01$], normative contraceptive beliefs [$F(1,175) = 8.268$, $P = <0.01$] and contraceptive control beliefs [$F(1,175) = 4.361$, $P = <0.05$]. Prevention of unintended pregnancy as well as STDs including HIV and AIDS infection in adolescents should be an urgent public health priority in countries with high prevalence of illegal abortion, teenage pregnancy, STDs including HIV and AIDS. The persuasive arguments through peers should be engaged to promote contraceptive beliefs and normative beliefs and contraceptive control beliefs.

TABLE OF CONTENTS

DECLARATION iii
COPYRIGHT iii
ACKNOWLEDGEMENTS iv
DEDICATION vi
ABSTRACT vii
TABLE OF CONTENTS viii
LIST OF TABLES xii
ABBREVIATIONS xiii
CHAPTER ONE 1
1.0. INTRODUCTION 1
1.1. Background information 1
1.2. Statement of the problem 5
1.3. Rationale 6
1.4. Broad Objective 7
1.5. Specific objectives 7
CHAPTER TWO 9
2.0. LITERATURE REVIEW 9
2.1. Overview of adolescents sexuality and reproductive health problem 9
2.2. Adolescents sexuality and reproductive health problem in Tanzania 11
2.3. Adolescent contraception awareness and utilization 14
2.4. Adolescent referent persons and sexual behavior 19
2.5. The theoretical framework 20
CHAPTER THREE 25
3.0. METHODOLOGY 25
3.1. Design of the study 25
3.2. Study area 25
3.3. Targeted population 26
3.4. Sample size and sampling procedures 27

4.12. Association between intention to use contraceptives and normative contraceptive beliefs 49
4.13. Contraceptive control beliefs 50
4.14. Association between contraceptive control beliefs and socio-demographic characteristics 51
4.15. Association between intention to use contraceptives and contraceptive control beliefs 52
4.16. Association between intention to use contraceptives and sum scores for contraceptive beliefs, normative beliefs and control beliefs 53
CHAPTER FIVE 56
5.0. DISCUSSION 56
5.1. Introduction 56
5.2. The pattern of contraceptive use 56
5.3. The level of contraception related knowledge among adolescent girls 58
5.4. Contraceptive beliefs 61
5.5. Normative contraceptive beliefs 62
5.6. Control beliefs about contraception 64
5.7. Relationship between perceptions and intentions to use contraceptives and Socio-demographic characteristics 65
5.8. Discussion of methodological issues 67
5.8.1. validity 67
5.8.2. Generalizability of findings 68
5.8.3. Likelihood of response bias 68
5.8.4. Application of TPB 69
5.8.5. Ethical challenges 69
CHAPTER SIX 71
6.0. CONCLUSION AND RECOMMENDATIONS 71
6.1. CONCLUSION 71
6.2. RECOMMENDATIONS 71

REFERENCES 74

APPENDICES

Appendix 1: Questionnaire (English Version)

Appendix 2: Questionnaire (Swahili Version)

Appendix 3: Informed Consent Form (English Version)

Appendix 4: Informed Consent Form (Swahili Version)

LIST OF TABLES

Table 1: Socio-demographic characteristics of the study sample..... 38

Table 2: Responses on contraception knowledge among adolescent girls..... 41

Table 3: Levels of contraception knowledge among study participants 42

Table 4: Sources of knowledge about contraception 44

Table 5: Contraceptive beliefs among secondary school adolescent girls 47

Table 6: Association between intention to use contraceptives and contraceptive beliefs..... 48

Table 7: Perceived normative beliefs toward contraception 49

Table 8: Association between contraceptive intention and normative beliefs 51

Table 9: Perceived control beliefs toward contraception 52

Table 10: Association between contraceptive intention and contraceptive control beliefs 54

Table 11: Association between intention to use contraceptive and sum scores for contraceptive beliefs, normative beliefs and control beliefs 55

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
AYA	African Youth Alliance
GTZ	German Tanzania Partnership
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
IUD	Intra-Uterine Device
MOH	Ministry of Health
NACP	National AIDS and Control Program
OC's	Oral Contraceptives
RH	Reproductive Health
SPSS	Statistical package for social science
STDS	Sexual Transmitted Diseases
STI's	Sexual transmitted infections
TDHS	Tanzania Demographic and Health Survey
TPB	Theory of Planned Behaviour
UMATI	Uzazi na Malezi Bora Tanzania
WHO	World Health Organization

CHAPTER ONE

1.0. INTRODUCTION

1.1. Background information

Contraception is any deliberate practice undertaken to reduce the risk of conception by sexually active women (and their male partners) has been described as the most important proximal determinant of fertility (Sherris et al., 1985; Segal, 1988). The benefits of contraception includes enabling couples to determine whether, when, and how often to have children is vital to safe motherhood and healthy families and voluntary family planning has profound health, economic, and social benefits for families and communities. Contraception also protects the health of women by reducing high-risk pregnancies, protecting the health of children by allowing sufficient time between pregnancies, fighting HIV and AIDS through providing information, counseling, and access to male and female condoms and reducing abortions. Furthermore, contraception supports women's rights and opportunities for education, employment, and full participation in society, protecting the environment by stabilizing population (Rachel, 2003; Cromes & Brown, 1992).

Lack of contraception results in high fertility, fast population growth, high maternal mortality, unsafe abortions and retards economic development hence poverty. Tanzania is one of the countries with high fertility rate, high adolescent pregnancy rate, low

contraceptive prevalence rate and high maternal mortality ratio (Rachel, 2003; Sherris et al., 1985).

Adolescent fertility and reproductive health has become a matter of serious health concern worldwide particularly in view of human immuno-deficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) pandemic. The concern is a well as on levels of teenage pregnancy, illegal abortion and childbearing, health and economic consequences. Similar situation is found in developing countries. International fora such as the 1994 International Conference on Population and Development (ICPD) held in Cairo, Egypt. The 1997 African Forum on Adolescent Reproductive Health in Addis Ababa, Ethiopia and the 1999 World Youth Forum at the Hague, Netherlands, has addressed adolescent and youth sexual and reproductive health issues. A number of studies have also focused on adolescent fertility and reproductive health in the region Ba Gueye et al, 2005; Ngalinda, 2001; Population Impact Project, 2001). Early pregnancy and childbirth of an adolescent mother forecloses educational and employment opportunities.

It is estimated worldwide that one in every five persons today is a young person. The total fertility rate and population growth rate of sub-Saharan Africa continue to be the highest in the world. The estimated percentage of the population under 25 years in sub-Saharan Africa in the year 2000 was 64.1 (United Nations, 1998). This suggests that a tremendous number of adolescents and youth persons are at or are reaching reproductive age and are potential candidates for early motherhood.

The World Health Organization estimated that 84 million unwanted pregnancies occur annually worldwide. The high rates of unintended pregnancy among adolescents are apparently explained in terms of lower rates of contraceptive use. In average, 46 million abortions take place every year, out of which 20 million are performed under unsafe conditions and approximately 13% of pregnancy-related mortality worldwide is due to unsafe abortions. Unintended pregnancy is risky as it facilitates the risk of induced/unsafe abortion with associated maternal morbidity and mortality. TDHS, (2004) have further showed that the maternal mortality ratio has remained high at 578/100000 live births.

Adolescent sexuality in most of sub-Saharan African countries has raised a lot of concerned in view of low contraceptive use, unplanned pregnancies and sexually transmitted infections including HIV and AIDS. One of the serious challenges facing family planning programs particularly in sub-Saharan Africa is therefore to address the reproductive health needs of adolescents as they initiate sexual activity and are exposed to the risk of pregnancy (Blanc & Way, 1998).

In Tanzania, the National Census, (2002) showed that the estimated population is now about 34 million, of which, 31% are aged between 10-24 years. With an estimated annual growth rate of about 2.9%, the country is facing a population crisis that is attributable in part, to the high female fertility rates in the country, which was estimated

to be 5.7 children per women (TDHS, 2004/2005). Adolescents between ages 15 and 19 account for 12% of the total fertility rate. Also, youth in the age group 20-24 account for 24%. This implies that about 25% of female teenagers in Tanzania have already started bearing children.

The government of Tanzania has been alarmed with high population growth rate and reproductive health problem. The National population policy formulated with the major goal to reduce the annual growth rate through reduction of numbers of births and an increase in voluntary fertility regulation. Therefore, special emphasis is given to the National family planning program. Its major responsibility is the management and distribution of contraceptives to all service delivery points.

Similarly, the Government of Tanzania, in collaboration with non-governmental organizations and the private sector, has developed and implemented a number of small-scale program to address sexual and reproductive health needs of young people in the country. The Africa Youth Alliance (AYA) Tanzania is one program that is developing and implementing such strategies. AYA is a partnership of UNFPA, PATH, and Pathfinder. AYA has identified many critical issues affecting the sexual and reproductive health status of young men and women in the country. Listed by priority, they include the following; Responding to the increased number of unwanted/unplanned teenage pregnancies and addressing the increased incidences and prevalence of unsafe abortion.

1.2. Statement of the problem

Tanzania is among African countries with low contraceptive prevalent rate. In 2004, Tanzania Demographic Health Survey (TDHS, 2004/2005) showed the contraceptive prevalence rate to be 20 percent. However, the contraceptive prevalence among adolescents (15-19 years) in the country was found to be lower (14%) than in the general population (Tawiah, 2002). Studies have shown that, the pregnancy rate among teenagers age-wise, increases from 3% at 15 years to 54% by age 19 and 23.5% of the pregnancies were unplanned, 18.3%un-timed (wanted later), 5.2% unwanted (TDHS,2004). Another study conducted by Mirembe et al, (1996) showed that 21% of deaths were due to induced abortions and 50% of gynecological admissions were due to abortion related complications especially among the youth.

In order to address adolescent reproductive health, the Government of Tanzania has developed the national adolescent health strategy and standards for adolescent friendly services, training materials for health professional and Para-professional and training of National Trainers and service providers is ongoing.

Currently, research efforts have been much placed on family planning service that addresses adult women. Indeed, very little research efforts have been directed to adolescent girls who are at high risk of unplanned pregnancies. As such, there is lack of information that would guide intervention programs on adolescent contraception. Thus, in order to effectively promote contraception among adolescent girls, particularly those

in schools, it is important to understand their perceptions toward contraception and aspects that are likely to influence their contraception.

The present study, therefore, seeks to establish perceptions that are associated with contraception among secondary school adolescent girls in Dar es Salaam, Tanzania.

1.3. Rationale

In general, the findings of the proposed study are expected to be of relevance to the promotion of contraception among the adolescent girls. The study uses a sample of secondary school adolescent girls who may have been or are about to be sexually active and therefore are at risk of reproductive health problems. Information obtained from this study will therefore provide practical experiences as well as giving empirical information on how secondary school adolescent girls can be targeted in an effort to eradicate unwanted pregnancy. Moreover, addressing secondary school adolescents would be cost effective because they are likely to be change agents in their respective communities. Indeed, adolescent girls, particularly those in schools should play an instrumental role in imparting required knowledge, perceptions and beliefs on contraception.

Specifically, the findings of the proposed study will:

- Used to lead to strategies of increasing knowledge about contraception, changing attitude and perceived normative beliefs toward contraception particularly among

school girls and hence reduce the prevalence and impact of unwanted pregnancy in the community.

- Used to develop and guide curriculum developers in planning and designing life skills curriculum for Tanzanian schools. Information from the proposed study will also be useful in designing reproductive health education content that take into consideration aspects of preventing unwanted pregnancies.

1.4. Broad Objective

To investigate contraception knowledge and cognitive, social, psychological and cultural factors that influence contraception among secondary school adolescent girls in Dar es Salaam, Tanzania.

1.5. Specific objectives

1. To find out the pattern of contraceptive use among secondary school adolescent girls in Dar es Salaam, Tanzania
2. To explore the knowledge of contraception among secondary school adolescents girls in Dar es Salaam region.
3. To assess the behavioural beliefs, normative beliefs and control beliefs about contraception among secondary school adolescent girls in Dar es Salaam, Tanzania

4. To examine the extent at which perceptions related to contraception are associated with intention to use contraceptives among secondary school adolescent girls in Dar es Salaam, Tanzania

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. Overview of adolescents sexuality and reproductive health problem

Worldwide, young women and men suffer a disproportionate share of unplanned pregnancies, sexually transmitted diseases, including HIV, and other serious reproductive health problems (Cates at el., 1997). The reproductive health (RH) challenge for sub-Saharan Africa is more difficult in many respects than for other parts of the world. The number of sexually active adolescents has steadily increased worldwide over the past two decades (Creatsas, 1993). More than half of all females aged between 15 to 19 have had sexual intercourse (Harlap, Kost, & Darroch Forrest, 1991). As a result, both pregnancy and sexually transmitted diseases (STDs) are at epidemic proportions among this population. STDs are a common public health problem, with serious health consequences for thousands of children and adults (Roper, Peterson, & Curran, 1993). An estimated 12 million cases of STD occurs each year worldwide, including 3 million teenagers (World Health, 1994). Data from UNAIDS/WHO, 2001 shows that about one-half of all people currently infected with HIV are females in developing countries aged <25 years.

Adolescents are particularly vulnerable because they are more likely to have multiple partners and less likely to prevent or recognize STDs (Biro & Rosenthal, 1992). Among heterosexual adolescents, STD rates are higher for females than males, possibly because

females are more likely to acquire an STD following a single act of unprotected intercourse with an infected partner.

The concept of adolescence has been variously defined as "the state or process of growing up" or "the period of life from puberty to maturity" depending upon the subject-matter being studied (United Nations, 1989). Adolescents which constitute the young population aged 10-19 years, is a vital population segment, making up 24.2 % of the Tanzanian population (1988 census). Adolescence is an important period in any human being's life. Adolescence is the time of rapid growth both physically and mentally. Adolescents theoretically believed to be in the child bearing group (15-19 years), amount to 11 percent of all Tanzanian women. This period of adolescence is characterized by high risk for early and unwanted sexual activity, forced marriage, and early pregnancy-related events. According to WHO (1997), adolescence is a period of profound physical and psychological change during which young people begin to assume control of their own lives and develop attitudes and behaviours that often determine the lifestyle and health habits of adulthood. Similarly, Byrne & Fisher, (1983); Malekoff, (1997) described that adolescent is a time for many to begin to practice sexual activity. In the course of such experimentation, they are often encountered with high risk situations, particular risk for unwanted pregnancy and pregnancy related complications, STDs and HIV/AIDS.

2.2. Adolescents sexuality and reproductive health problem in Tanzania

In Tanzania, Adolescents and youth are at the center of the HIV/AIDS crisis. Adolescents do not protect themselves, because they lack adequate decision-making skills, social support, or the ability to adopt safer sexual behaviors. The epidemiological data of NACP, (2001) shows that the number of new AIDS cases between 1983 to 2001, has increased from 3 to 71,000 per annum respectively. During the same reporting period, the cumulative number of people living with the HIV virus was estimated to be 2,229,770. Youth aged 15-24 accounted for about 15.2% of the total. Similarly, the Tanzanian Ministry of Health, (2004) reports a 2.4 and 3.4 percent HIV/AIDS prevalence rate among males and females of 15-19 years of age. Data obtained from blood donors suggest that 12% and 8% of young females and males (15 – 24 years) respectively were HIV infected. (MOH/NACP, 2001). Apart from HIV/AIDS, adolescents are at a higher risk of contracting sexual transmitted infections (STDs) than any other age group and females aged 15–19 years have the highest rate of STDs compared to other age and gender groups (Berman & Hein, 1999; Mwakagile et al., 2001). Moreover, nearly two-thirds of new HIV infections in teens are among females (CDC, 2003). The main mode of HIV transmission among adolescents is heterosexual (UNAIDS, WHO, & UNFPA, 2004). Biological factors converge with sexual risk behaviors to increase young women's vulnerability to STDs. STD/HIV is more easily transmitted sexually from men to women than vice versa (Anderson, 1999). Teenage girls are at heightened risk due to the immature anatomical development of their cervix, and pregnant teens are at greater risk due to cervical changes occurring in pregnancy

(Watts & Brunham, 1999). Similarly, records at the infectious disease clinic in Dar es Salaam show that 55% of all STI clients were below 25 years of age (IDC/STD clinic data, 2000/2001).

Like in many parts of sub-Saharan Africa, sexual activity in Tanzania commences at a very young age. Studies have shown that the median age at first intercourse ranges from 10 to 16 (Mpangile at el., 1993; Population Reference Bureau, 2001; Mwakagile et al., 2001). A similar study (Mwakagile et al., 2001) showed that 25 percent of females and 30 percent of males report sexual debut at less than 16 years of age. Moreover, a study conducted by GTZ in Lindi showed the median age of first sex for girls and boys as 11 and 14 years respectively. At the age of 19, more than half of the boys and girls have had sexual experiences.

Clinical and behavioral research by Norris, Ford, Adih & Alexander, (1999); Brabin, (1993); Konings, (1994) has found strong associations between age at first intercourse and subsequent sexual health. An earlier age at first intercourse is likely to lead to an increased lifetime number of sexual partners, an increased likelihood of multiple and concurrent partners a lower probability of using modern contraceptive methods and an increased chance of infection with HIV or other sexually transmitted diseases (STDs).

Factors such as urbanization, economic hardships, poverty, exposure to conflicting ideas about sexual values and behaviour, and the breakdown of traditional sexuality and

reproductive information channels are thought to be facilitators of early sexual debut among adolescents (Lugoe, 1996). Early sexual activity was also attributed to erosion of moral codes, familial control and abandonment of rituals, which served to prepare adolescents for adulthood roles and responsibilities (Silberschmidt & Rasch, 2001). The situation has worsened due to the total lack of a reproductive health education component in the Tanzanian school curriculum. It was thought that such information might encourage promiscuity among adolescents rather than helping them to minimize the consequences of unprotected sex (Kapinga et al., 1992; Lwihula, 1996; Leshabari et al., 1997).

Statistics from the Ministry of Education also show that a large proportion of school girls in primary and secondary schools drop out from school due to pregnancies and early births (Sawaya, 1995). An unwanted pregnancy can be a frightening, if not devastating experience for teenagers. This often leads them to seek unsafe clandestine abortions. A study conducted in four public hospitals in Dar es Salaam on "factors associated with induced abortion" showed that among 455 women who had induced abortion and developed complications necessitating hospital admissions; about one third (32.9%) were teenagers aged 19 years and below. Ninety-one respondents (about 20%) admitted to be students at either primary or secondary school level (Mpangile, et al., 1992). Furthermore various studies conducted at Muhimbili Medical Centre indicate that 50% of admissions due to abortion-related complications are youth aged between 15-24 and as many as 24% die from abortion-related causes (TDHS, 2004).

Out of all population, adolescent girls are most vulnerable to the negative consequences of unintended pregnancies and child bearing both for the mother, offspring and the community. Durkin, (1995); Mears,(1989) have showed that adolescents' pregnancies and motherhood have been documented to result in the curtailment of the adolescents education, career prospects, greater likelihood of educational disadvantage and future delinquency in the offspring. A study conducted by Steven-Simon, (1996) showed that it is important to protect adolescents from getting pregnant by promoting the notion of safer sex and contraception as they are not ready to assume the responsibility of child welfare.

2.3. Adolescent contraception awareness and utilization

The adolescent women independent of their marital status are generally aware of contraceptive methods but very few use them. In Tanzania, almost all young more than 90 percent know about family planning methods. The most commonly known methods are pills, condoms, and injectables. Not surprisingly, unmarried women who have never had sex know the least about family planning, but more than three-quarters of these young women can name at least one method. Young men are even more knowledgeable than young women about family planning. Ninety-two percent of 15-19 year young women and 98 percent of 20- 24 year young men could name at least one modern method of family planning (modern methods include the pill, injectable, male and female condom, IUD, implants, and male and female sterilization (TDHS 2004/2005).

TDHS, (1996) showed that 65.4 percent of women at the age of 15-19 have heard of at least one method of family planning. Only 13 percent of women age 20-24 were using efficient contraceptive methods. This indicates that adolescents are aware of modern contraceptive methods but in fact, very few use them.

Contraceptive prevalence is lower in sub-Saharan Africa than in other parts of the world. The contraceptive prevalence rates estimated in all African countries were less than 15% in 1990 except in Zimbabwe, Botswana and Kenya (Rutenberg et al., 1991; Robey et al., 1992). Moreover the reason given for using contraceptives in many African societies is birth spacing rather than limiting the number of children (Bertrand et al., 1993). A study in USA (Christine & Jeannette, 2005) showed that 31–66% of pregnant/mothering teens never used any contraception prior to current pregnancy, and 73–89% reported no contraception at conception.

However, the higher rates of contraception to be anticipated in Africa are likely to reduce fertility. Indeed the recent DHS conducted in sub-Saharan Africa has shown an increase in the contraceptive prevalence rate in various countries. For instance in Tanzania, the second and third phases of the DHS show that the contraceptive prevalence rate doubled from 10 (1991/92) to 12 % (1994) in less than 3 years (Weinstein et al., 1995).

Twenty percent of all Tanzanian women (age 15-49) use a modern method of family planning. Young married women, therefore, are less likely to use a modern method than the national average, while sexually active young unmarried women are more likely to use modern methods than the national average (TDHS 2004/2005). Similarly, a study by Cacciatore at al., (2004), showed that the most common first contraceptive method used by adolescent is condom. With increasing age and entering a more stable relationship, adolescents switch to hormonal methods, mainly the combined oral contraceptives.

When used correctly and consistently, condoms are effective in reducing the spread of STDs, but they are less effective than hormonal contraceptives in preventing pregnancy. Consistent use of hormonal contraceptives, including oral contraceptives, Depo-Provera injections, and Norplant implants, are effective in preventing pregnancy but provide no protection from STDs. This dilemma highlights the need for dual protection with condoms and hormonal contraception among sexually active teens (Bearinger & Resnick, 2003).

A study by Fekadu, (2001) in Ethiopia showed that adolescent's girls use the modern methods where over 50% showed they themselves suggested contraceptive use. Being less than 18 years, not having a steady boyfriend, being a student were identified as social demographic factors associated with non use of contraception. Also, low partner cooperation, low openness and communication were identified as psychosocial factors associated with non use of contraception. Similar studies (Crosby et al., 2003b; Koniak-

Griffin et al., 2003b) showed that being in a long-term or steady relationship and spending more time with one's partner were associated with sex without condoms.

Also, contraceptive use and safer sex behaviors are also affected by locus of control, the extent to which individuals believe that their behavior will have an impact on their situation (Perkel, 1992; Venier, 1997). Those who believe that their actions can influence their circumstances are characterized as having an internal locus of control, while those who believe they have little or no influence on what happens to them are described as having an external locus of control. Locus-of-control measures allow for perceptions of the role of "powerful others," including individuals, God or supernatural forces (Lester & Cook, 1988).

A research by Perkel et al., (1991) suggests that having an internal locus of control is important in enabling people to refuse unwanted sexual advances and to insist on contraceptive use. A study conducted in South Africa showed that sexually active students categorized as having an external locus of control were more likely to perceived themselves at low risk, to have four or more sex partners and to lack adequate knowledge about AIDS as well as less likely to use condoms.

Nevertheless, there is persuasive evidence that personal and emotional factors are closely connected to inadequate contraceptive vigilance and therefore unintended pregnancy. For example, in a series of telephone interviews with 760 women aged 18–35 at risk of unintended pregnancy, researchers learned that 23 percent of the women

interviewed were sexually active but used no contraception, despite no apparent desire to become pregnant. Most of the reasons given for not using contraception involved feelings about and experiences with specific methods of contraception, issues involving relationships with their partner, and a general discomfort with contraception—all of which have more to do with emotion, attitude, and belief than with the availability of contraception or specific knowledge about individual methods (Silverman et al., 1987). Personal and interpersonal attitudes, feelings, and beliefs can affect contraceptive use and therefore the risk of unintended pregnancy. A study (Wang at el., 2007) in Taiwan shows that the higher contraceptive attitudes (odds ratio, OR, 1.148) and previous contraceptive education in school (OR, 3.394) increased the probability of consistently using contraceptives. Similar study (Susan at el., 2006) showed that adolescents who were using contraceptives inconsistently were more likely to have reported a desire for pregnancy, previous inconsistent contraceptive use, less frequent communication with their partners about prevention issues and an increased number of lifetime sexual partners.

Studies on risky sexual behavior have been influenced by cognitively based theories such as the health belief model, reasoned action and self-efficacy theories (Bandawe and Foster, 1996). The theories focus on the effects of situational factors, belief and cognitive aspects of risky behavior on individual choice. They have succeeded in predicting risky sexual behavior. However, they are behavior specific and do not explain the underlying global determinants of risk-taking behavior

2.4. Adolescent referent persons and sexual behavior

Adolescents who wish to avoid pregnancy or STDS including HIV and AIDS require more accurate information and appropriate services. A study conducted by Rech Soins Infirm, (2005) showed that parents are the most important reference people for adolescents' contraception, followed by their friends; and adolescents tend to take into consideration these reference people's opinion. They may need to draw on psychological skills to abstain from intercourse when pressured, to obtain contraceptives in the face of community disapproval and most importantly, to be able to convince partners of the benefits of contraceptive use. A study conducted by Jeanne at el., (1997), showed that young women with greater sexual self-acceptance at the beginning of sexual relationship they communicated more with their sexual partners about sex and contraception are more effective and use contraceptives more frequently. A study conducted by Crosby et al., (2003a) showed that low perceived family support, not residing with family, and less parent–daughter communication about protection were associated with sex without condoms. Similarly (Koniak-Griffin et al, 2003b) Pregnant/mothering teens who perceived social disapproval of condoms were less likely to use them.

Developed-country research notes the importance of psychological factors in influencing the sexual behavior and perceptions of risk among adolescents, especially those from such particularly vulnerable groups as economically deprived populations. Studies (Mott, 1996; Heise, 1996 & Edwards, 1993) in Europe and America indicate that self-esteem is associated with the timing of first intercourse, which in itself has been shown

to influence subsequent sexual behavior. Low self-esteem frequently appears to be associated with an earlier age at first intercourse, with having multiple or concurrent partners, and with adolescent childbearing.

Improving self-esteem has been shown to be an important way to improve reproductive health outcomes for adolescents in sub-Saharan Africa. A study in Namibia (Stanton, 1998) showed that a successful health education program used a curriculum based on social cognitive theory to increase young women's self-esteem and associated perceived control of their sexual relationships. These changes resulted in increased condom use and a delay in the timing of first intercourse.

A study in Burkina Faso (Gorgen et al., 1993) showed that low self-esteem has been associated with early and unwanted pregnancies and with sexual risk-taking in sub-Saharan African settings. A study in Ouagadougou found that low self-esteem was common among adolescent mothers. The authors remarked that the young women's "self-esteem and physical development were such that they were unable to protect themselves against aggressive male behavior.

2.5. The theoretical framework

The present study used perceptual beliefs that are addressed by the Theory of Planned Behaviour (TPB). The TPB (Ajzen, 1991) is a socio-cognitive theory that focuses on attitudes, subjective norms, perceived behavioral control, behavioral intentions and actual behaviors. This theory has widely been used to predict and explain people's

engagement in various kinds of health behaviors. In the TPB, attitudes towards performing behavior reflect a favorable or unfavorable evaluation of the particular behavior; subjective norm refers to the perceived social pressure towards performing the behaviour; and perceived behavioral control reflects the perceived ease or difficulty associated with behavioural performance. The three predictors of the TPB influence subsequent behaviour indirectly through behavioral intention. However, perceived behavioral control may influence behaviour directly if it reflects actual control and whenever the behaviour in question is not under complete volitional control by the individual.

Variables of the present study were based on the three beliefs namely behavioral beliefs, normative beliefs and control beliefs that emanate from the TPB model. TPB related beliefs have been considered important in understanding contraception as it has been used in numerous studies to predict intentions regarding contraceptive use (Boldero et al., 1992; Jemmott et al., 1992; Lavoie & Godin, 1991; Libbus, 1995; Reinecke et al., 1996; Wilson et al., 1992). More specifically, the TPB components have been useful in predicting Middle Eastern women's use of oral contraceptives (OCs) in previous studies (Kridli & Libbus, 2002; Libbus & Kridli, 1997). There are also previous studies conducted in developing countries focusing on condom use (Bosompra, 2001; Lugoe & Rise, 1999; Wilson et al., 1992), refusal of the next sexual intercourse request or proposal (Lugoe & Rise, 1999), and contraception (Fekadu & Kraft, 2001). Indeed, the predictive validity and applicability of the TPB in African setting as shown in previous

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studies suggest that TPB related beliefs may be useful in understanding contraceptive behaviours.

Adolescents' contraceptive decisions have been considered to be made through a rational process (Weisman et al., 1991) and they are influenced by multiple factors including having a positive or negative attitude towards contraception. Accordingly, previous studies have revealed attitude to be a significant predictor of the intention to use condoms among adolescents (Villarruel et al., 2004, Koniak-Griffin & Stein, 2006). Likewise, a study of Taiwanese adolescents found that attitude towards contraception was an important explanatory factor for contraceptive intention (Wang et al., 2004).

Contraception among adolescents has been shown to be influenced by normative beliefs. A study conducted inn Ethiopian setting (Fekadu & Kraft, 2001) observed that the effect of subjective norm was the strongest predictor of intended contraception use followed by attitude and perceived behaviour control. Similarly, studies done in developed countries (Rise, 1992; Sutton et al., 1999; Richard, de Vries, and van der Pligt, 1998) reveal that the effect of subjective norm exceeds that of attitude in predicting intention to use condoms. Moreover, previous studies by Whitaker & Miller, (2000); Wang et al., (2004) have shown that the perceptions of peers' contraceptive behaviour were significantly correlated with contraceptive intentions among adolescents. Perception of support from significant others was also an important predictor for contraceptive intention among male adolescents (Wang et al., 2004). Adults, such as parents, teachers and school

nurses, are important persons for adolescents because they can exert pressure on their behaviours. For instance, parental approval was a significant predictor of condom use intention among adolescents (Jemmott et al., 2002, Villarruel et al., 2004).

Furthermore, a number of studies have shown that perceived behavioral control explains contraceptive behaviours including condom use (Basen-Enquist & Parcel, 1992; Goden et al., 1996; Nucifora, Gallois, & Kashima, 1993; Richard et al., 1998; Heinrich, 1993; Brafford and Beck, 1991; Fekadu & Kraft, 2001). However, there are also studies where the addition of perceived control did not contribute to a significant improvement of behavioral intention (Morrison et al., 1995; Boyd & Wandersman, 1991; Sutton et al., 1999).

Similarly (Declerque et al; 1986) women who perceive a method of contraception as unsafe have little motivation to use it effectively. In their study regarding Egyptian women's beliefs about modern contraceptive methods, Declerque et al. (1986) reported that almost 80% of Egyptian women heard that OCs cause side effects such as morning sickness. Almost 40% of Egyptian women believed that the symptoms were not temporary, and that they would remain as long as the method was used.

Furthermore, the Declerque et al. (1986) study revealed that few Egyptian women were able to report correct daily use of OCs and fewer than half were able to report a back-up routine to follow when daily ingestion was missed. DHS (2003) identified that side

effects (33.4%), health concerns (6%), inconvenience (3.8%) and fatalism (0.2%) were main reasons for Jordanian women's discontinuation of OCs. Moreover, several demographic factors have been found to affect Jordanian women's contraceptive behaviors. These factors include number of children, gender of children, location of residence, influence of religion, level of education, maternal age, and employment status, and source of contraceptive services (Abdel-Aziz et al. 1986; DHS 2003; Kridli & Libbus 2001). Other non-demographic factors, such as knowledge about contraceptive methods, pressure to have children, husband opposition, and wanting more children (DHS 2003; Libbus & Kridli 1997) have also been reported.

CHAPTER THREE

3.0. METHODOLOGY

This section presents the methodology that was employed in this study. Specifically, it describes the design of the study, area of the study, study population, sample and sampling procedures. The chapter also presents data collection methods, the pilot study, administration of the research instrument and ethical considerations.

3.1. Design of the study

The study was conducted as partial fulfillment of Master of Public Health (MPH) degree programme of Muhimbili University of Health and Allied Sciences. Given the timeline of MPH program, the study design was a cross sectional. Data were collected and analysed quantitatively.

3.2. Study area

The study was conducted in Dar es Salaam region. The region is situated on the east coast of Tanzania. It is bordered by the Indian Ocean to the East and on all other sides by the coast region. Dar es Salaam is at the sea level, the climate is typically tropical with hot weather throughout the year, and temperature ranges between 26 to 35^{o} C. The region has two rainy seasons, short rains from November to December and long rains in March to May. The population census, (2002), it has a total population of 2,497,940 of

which 1,236,864 are females. Dar es Salaam has three municipalities namely Ilala, Kinondoni and Temeke.

Dar es Salaam region was purposively chosen for this study because is the conveniently largest city in Tanzania with many secondary schools situated in urban areas. Secondary school girls from these schools are considered to have higher interaction levels with the larger urban community which could influence their sexual behaviours and other related lifestyles. According to Dar es Salaam regional education administration, the region has 231 secondary schools both public and private owned where 79, 91 and 61 for Ilala, Kinondoni and Temeke districts respectively.

3.3. Study population

The study population refers to the large, complete group of people from among who samples are selected (Coolican, 2004). Therefore, the target population of the present study was adolescent girls in the selected secondary school in Dar es Salaam region. Adolescent girls were selected because close to 17 million of adolescent girls under the age of 20 give unwanted birth each year. Likewise, about 4.4 million abortions are sought by adolescent girls each year (WHO, 1998). In addition, more than 50% of all new HIV infections occur among the 15–24 years old, with young girls being at particular risk due to sexual relations with older men (ICPD, 1999).

Nevertheless, students in secondary schools are adolescents and young adults who are sexually active or are about to become sexually active and therefore prone to STDs including HIV and AIDS, unplanned pregnancy and unsafe abortion (Lugoe et al., 1996). These students constitute the country' s future teachers, social workers and health personnel and as such may serve as important role models.

The inclusion criterion for the present study was the age. Only those with age ranging between 15 to 19 years participated in the present study. This age group was considered for this study because majority of young people initiate sexual debut around age of 15 years and very few are virgin after the age of 19 years. Similar finds were revealed in a study (Olinto et al, 1999) in Brazil showed that the mean age at first sexual intercourse for girls is 15.5 years. Also at this age, these girls are likely to get unplanned pregnancy, unsafe abortion and STDs including HIV/AIDS. A study conducted in Pelotas, Rio Grande do sul state in Brazil by Olinto et al, (1999) showed that 45.3% of females between 15 and 19 years of age had already had sexual relations.

3.4. Sample size and sampling procedures

The purposively sampling technique was used to select secondary schools that were used in the present study. A minimum enrollment of 360 students was purposively determined for a school to be included in the sample. The size of the school as a community is important in perceiving the level of interaction among its members with respect to their

behaviour and lifestyles. Moreover, this minimum enrollment suggested that such a school would cover the age range of 15-19 years targeted in the study. Most of the private schools are run and funded by religious organizations, hence were excluded from the selection. Some of schools are both seminary and ordinary secondary schools. Religious overtones were minimized by excluding all seminary schools and other secondary schools where strong religious feelings prevailed. Also, location of school (urban and rural), residential status (whether the school is boarding only or boarding and day, day only) were taken into consideration. This is because urban school students more than rural are assumed to have higher interaction levels with the larger urban community which could influence their behaviour and lifestyles. Ultimately, six secondary schools met the inclusion criteria: size of school, location and residential status. Thise were Kibasila, Mbagala, Jangwani, Benjamin Mkapa, Temboni and Mugabe secondary schools.

Nevertheless, according to Tawiah (2002), the contraceptive prevalence rate among adolescents in Tanzania is 14%. The degree of precision was set at 0.05 while the standard level of confidence is 1.96. By using this information with a formula derived from Epi Info as shown below, the required minimum sample size study participants was calculated as follows.

$$N = \frac{Z^2 P (1 - P)}{\varepsilon^2}$$

Where: N=Sample size

Z= level of confidence which is 1.96

P=population proportion

ε =margin of error

Given

P = 14% (Tawiah, 2002)

Z = 1.96

E = 5%

From above formula,

$$\mathbf{N= \frac{1.96^2 \text{ X } 0.14[1-0.14]}{[0.05]^2}}$$

N= 185

Therefore, the required minimum sample size of respondents was 185.

By adding 10% of anticipated non respondents, the sample size of the participated adolescent girls was 204 and so each school was present 34 adolescent girls participated in the present study.

The adolescent girls aged between 15-19 years in the selected secondary schools were collected by academic master from each school. The collected students were placed in one room. Then a piece of papers that was written number 1 and 2 were distributed to these students where number 1 contain number of adolescent girls required to participate

in the present study. All adolescent girls with piece of paper with indicated number 1 were allowed to participate in the present study.

3.5. Data collection method

Data were collected between July and August, 2008, using a structured questionnaire. The questionnaires contained the information concerning the socio-demographic characteristics including school location, age, level of education (grade level), religion, living arrangements, participant's Mothers occupation and education level. The information on components behavioral beliefs, normative beliefs and control beliefs about contraception were collected. The research instruments were constructed in English and translated in Kiswahili, the widely spoken language of Tanzania. The instrument included dependent variable and independent variables. Dependent variable was intention to contracept while independent variables consist of socio-demographic characteristics, contraceptive behavioral beliefs, contraceptive normative beliefs and contraceptive control beliefs.

3.6. Measurement of variables

3.6.1. Socio-demographic variables

The socio-demographic variables included were age, grade level (level of education), religion, religiosity, living arrangements, mothers' level of education and occupation.

Age was measured as a continuous variable while grade level (level of education, religion, religiosity, living arrangement, mothers' level of education and occupation were measured as categorical variables.

3.6.2. Contraception related knowledge

Knowledge related to contraception was measured by using 8 items. Questions were based on pupils' information, facts, familiarity, awareness; understanding of contraception and skill of STI's including HIV and AIDS prevention. Participants indicated "yes" or "no" if they were certain and indicated, "don't know" when they were not certain. The responses were re-recorded as 1 (knowledgeable) to correct responses and 0 (not knowledgeable) to both incorrect and don't know responses. Then knowledge scale was constructed which ranged from 0-8. Further more the knowledge scale was categorized into three categories namely; low knowledge (0-2), moderate knowledge (3-5) and high knowledge (6-8).

*3.6.3. Contraceptive behavioural belief*s

The contraception beliefs were measured using seven (7) items. The respondents were asked to rate the extent to which they agree or disagree with those seven (7) contraceptive behavioural belief items. A 4-point scale was used to rate the responses ranging from (1) strongly disagree to (4) strongly agree. The seven items were added (sum-scored) to generate 1 item for contraceptive behavioural beliefs that ranged from 7 to 28.

3.6.4. Normative contraceptive beliefs

The normative contraceptive beliefs were measured using seven (7) items which were based on perceived normative contraceptive support from significant people (perceived contraceptive use support from parents, relatives, teachers and friends). The respondents were asked to rate the extent to which they agreed or disagreed with those seven (7) items. A 4-point scale was used to rate the responses ranging from (1) strongly disagree to (4) strongly agree. Likewise, the seven items were sum-scored to create contraceptive normative belief index with scale ranging from 7 to 28.

3.6.5. Contraceptive control beliefs

The contraceptive control beliefs were measured using six (6) items. The respondents were asked to rate the extent to which they agree or disagree with those six (6) items. A 4-point scale was used to rate the responses ranging from (1) strongly disagree to (4) strongly agree. The sum-score was run to generate one index for contraceptive control beliefs ranging from 6 to 24.

3.6.6. Intention to use contraceptives

The intention to use contraceptives was measured by asking respondents to rate the extent to which they agreed that they would use contraceptives in their next sexual intercourse. A 4-point scale was used to rate the responses ranging from (1) strongly

disagree to (4) strongly agree. Responses were categorized as non-intenders (strongly disagree and disagree) and intenders (strongly agree and agree).

3.7. Recruitment and training of assistant researchers

Two experienced female nurses with experience in data collection and wide knowledge of counseling were recruited as research assistants. The Research Assistants were among nurses working in the family planning clinics in district hospitals Dar es Salaam. In order to accomplish the research task, the recruited research assistants were trained for one day. The training content covers briefing of the study, familiarization of research tools and how to administer tools and to conduct the whole exercise. During the training, research assistants were introduced to research ethics and also were informed about other field logistics.

3.8. Pre-testing of the questionnaire

The pilot testing of the questionnaire was carried out in July, 2008 at Tambaza secondary school which was not among the selected schools in the main study. About 30 adolescent girls participated in the pilot test study. The pilot study aimed at checking how the target population was going to understand the questions and if there were important aspects omitted. Review of the questionnaire was done following the pre-testing and necessary modification was made.

3.9. Administration of questionnaires

The questionnaires were administered by a team of researchers. First, the purpose, rationale and aspects of confidentiality and anonymity were explained to all participants. Then, each participant was given a written informed consent form to read and sign if she voluntarily agreed to participate. Those who consented to participate were given questionnaires as well as instructions on how to fill-in questionnaires and at the end; they had an opportunity to ask questions if they had any.

3.10. Data analysis

Quantitative approach was employed for data analysis by using a statistical package for social sciences (SPSS) computer programme (version 13). Descriptive statistics applied to analyze the basic characteristics of the sample. Analysis of Variance (ANOVA) was used to assess the difference in means for continuous variables (Pallant, 2001). The mean values, standard deviation and F-values were recorded. The significance probability value was at 0.05 levels.

3.11. Ethical considerations

As Smith and Morrow (1996) asserts, "any research investigation on human subjects should be submitted for ethics committee review". As for this study, the research protocol was submitted to the research and publication committee of Muhimbili University of Health and Allied Sciences (MUHAS) for ethical review prior to the study.

Permission to conduct the study was requested from the Regional Administrative Secretary (RAS) of Dar es Salaam region. Before collecting data in each district, permission was sought from the District Administrative Secretary (DAS). Permission letters obtained from DAS were given to the Heads of participating schools, before briefing them about the objectives and importance of the study. Heads of schools were also requested for permission to collect data from participating school girls.

Informed consent was sought from prospective respondents before they filled-in questionnaires. Respondents were informed about the objectives of the study and were informed that their participation was voluntary and that they were free to decline or withdraw their participation at any time in the course of the study if they felt that they have to do so. It was transparently clarified that the information that they were to provide was for research purposes and would therefore strictly be dealt with anonymously and confidentiality.

CHAPTER FOUR

4.0. RESULTS

4.1. Introduction

This chapter presents the findings of the study that was carried out in six (6) secondary schools in Dar es Salaam region. A total of 195 adolescent girls aged between 15 to 19 years participated in the present study. This sample constituted the response rate of 96%. The remained 4% refused to participate in the present study. The study participants were selected from six secondary schools.

4.2. Basic characteristics of the sample

As shown in Table 1, majority of the study participants were aged 17 years (29.9%) followed by those of 16 years (27.3%).There were considerably more grade three level (form 3) participants (47.4%) as well as Christians (59.1%). As regards to religiosity, majority (85.1) of the study participants rated themselves religious person. The information of respondents living arrangements showed that majority of the study participants were living with both parents (50.3%). Most (34.9% and 38.7%) of study participant's mothers were a businesswomen/traders and also had attained primary level of education respectively.

4.3. The pattern of contraceptive use among adolescent girls

The analysis of contraceptive pattern among the adolescent girls revealed that 15.5 %(30) of the study participants indicated that they ever had sexual intercourse. Further analysis by the type of contraceptives used at their most recent sexual intercourse revealed that 7.7% had ever used a condom; 3.1% had ever used a behavioral methods and 0.5% had ever used injection. About 3.6% of the participating adolescent girls indicated that they had not used any contraceptive method. Assessment of who makes the decision to use contraception showed that both partners (6.2%) decide on the use of contraceptives followed by own decision (3.6%).

Table 1: Socio-demographic characteristics of the study sample (N= 195)

Socio demographic variable	Category	n	%
Age	15 years	29	14.9
	16 years	53	27.3
	17 years	58	29.9
	18 years	39	20.1
	19 years	15	7.7
	Missing cases	1	0.5
Level of education	Form 1	15	7.7
	Form 2	34	17.5
	Form 3	92	47.4
	Form 4	53	27.3
	Missing cases	1	0.5
Religion	Christian	114	59.1
	Moslem	79	40.9
	Missing cases	2	1.0
Religiosity	Religious person	165	85.1
	Not a religious person	29	14.9
	Missing cases	1	0.5
Living arrangements	Alone	3	1.5
	Both parents	98	50.3
	Mother only	28	14.4
	Farther only	11	5.6
	Friend	3	1.5
	Grand Mother/Father	9	4.6
	Relative	41	21.0
	Boarding school	2	1.0
Mothers occupation	No mother	25	12.8
	Peasant farmer	16	8.2
	Employed	38	19.5
	Businesswoman/traders	68	34.9
	House keeper	43	22.1
	I don't know	2	1.0
	Others	3	1.5
Mothers education	No mother	25	12.9
	No education	6	3.1
	Primary	75	38.7
	Secondary	50	25.8
	Post secondary	28	14.4
	I don't know	9	4.6
	Other	2	1.0

4.4. Knowledge about contraception among adolescent girls

Table 2 shows the responses pertaining to knowledge about contraception among secondary school adolescent girls. Majority of secondary school adolescent girls who participated in the study were knowledgeable with respect to the fact that 'not all contraceptives can prevent HIV infection' (81.3%); 'a woman can get pregnancy if it is her first time to have a sexual intercourse even if she does not t use any contraception' (79.4%); 'a woman can not become pregnant if she uses contraceptives correctly in every sexual intercourse' (61.9%). Less than half of participants were informed that a woman can not become pregnant if 'a man removes a penis from the vagina before piercing' (47.7%) and that 'condom is not the only method that can be used to prevent pregnancy' (40.6%). Further analysis on knowledge items revealed that only 36.8% of the study participants had correct knowledge on the fact that 'a woman using oral pill needs to use a condom when having sex'.

It was noted that a small proportion of adolescent participants (12%) correctly mentioned that 'emergency contraceptive can be used to avoid pregnancy after having sexual intercourse on unsafe day/s'.

The study participants were also given opinion to indicate whether they didn't know the correct response for any knowledge items. Results shows that majority (44%) of the study participants admitted that they lacked knowledge on whether 'emergency contraceptive can be used to prevent pregnancy after having sexual intercourse on

unsafe day/s'. Likewise, a considerable proportion (36.8%) declares that they did not know whether a woman using oral pill needs to use a condom when having sex.

In order to assess the level of contraceptive knowledge among study participants, knowledge item were recorded as 0=incorrect and 1= correct. There after, knowledge variables were added to form an index (knowledge index).Accordingly, the minimum possible score was 0 while the highest was 8. From the results, 3.9% of respondents scored 0 and 13.3% scored 8. The mean score for knowledge index was 3.7, *SD* = 1.6. With reference to three categorized levels of contraception related knowledge (Table 3), the results revealed that majority (64.6%) of the participants had moderate level of contraception knowledge (scored between 3-5); about 13.3% had a high level of contraception knowledge (scored between 6-8) and 22.1% scored at a low level of knowledge (scored between 0-2).

Table 2: Responses on contraception knowledge among study participants (N= 195)

Contraception knowledge item	n*	Responses in percent		
		% Yes	% No	% Don't know
Condom use is the only method that can be used to prevent pregnancy	187	38.0	40.6	21.4
Emergency Contraceptive can be used to prevent pregnancy after having sexual intercourse on unsafe day/s	191	12	44	44
A woman can not become pregnant if she will use contraceptives correctly in every sexual intercourse	194	61.9	10.8	27.3
All contraceptives can prevent HIV infection	193	3.1	81.3	15.5
A woman can not get STIs if she uses contraceptive	194	6.2	73.2	20.6
A woman can not get pregnancy if a man removes a penis from the vagina before pierce	193	47.7	8.8	43.5
No need of using a condom if a woman has already used oral pills	193	26.4	36.8	36.8
A woman could not get pregnancy if it is her first time to have a sexual intercourse even if she doesn't use any contraception	194	1.5	79.4	19.1

*Cases with missing information were excluded from the analysis

Table 3.Levels of contraception knowledge among study participants (N=195)

Level of knowledge	n*	%
Low (0-2)	40	22.1
Moderate (3-5)	117	64.6
High (6-8)	24	13.3
Total	181	100

* Cases with missing information were excluded from the analysis

4.5. Sources of knowledge on contraception

Further analysis on the sources of contraceptive knowledge among study participants (Table 4) shows that majority (40.6% and 37.4%) of the participants very often get the information on contraception from the radio and television respectively. Like wise 30.7% and 33.9% of the participants also often get the information from news papers and posters respectively.

Most of the participants indicated that they never get contraceptive information from the church/mosque and family.

4.6. Association between contraception knowledge and socio-demographic characteristics

Assessment of the association between knowledge about contraception and social-demographic characteristics revealed no statistically significant association between participant's knowledge about contraception and their age, grade level, religion, perceived religiosity, living arrangements, mothers' occupation and education ($P>0.05$).

Table 4: Sources of knowledge about contraception (N=195)

Sources of information	Responses	n*	%
Family	Never	78	41.1
	Rarely	63	33.2
	Often	37	19.5
	Most of time	12	6.3
School	Never	42	22.0
	Rarely	71	37.2
	Often	48	25.1
	Most of time	30	15.7
Church/Mosque	Never	133	70.0
	Rarely	29	15.3
	Often	19	10.0
	Most of time	9	4.7
Radio	Never	12	6.3
	Rarely	32	16.7
	Often	70	36.5
	Most of time	78	40.6
News papers	Never	18	9.4
	Rarely	46	24.0
	Often	65	33.9
	Most of time	63	32.8
Television	Never	17	8.9
	Rarely	29	15.3
	Often	73	38.4
	Most of time	71	37.4
Posters	Never	30	15.9
	Rarely	58	30.7
	Often	58	30.7
	Most of time	43	22.8
Health facility	Never	29	15.2
	Rarely	37	19.4
	Often	58	30.4
	Most of time	67	35.1

* Cases with missing information were excluded from the analysis

4.7. Contraceptive beliefs among adolescent girls

Table 5 shows behavioral beliefs about contraception. Majority (78.9%) of the study participants were more likely to agree that 'use of contraceptives would prevent them from becoming pregnant' and 'avoid illegal abortion' (74.8%).

Despite such observation, participating adolescents were more likely to disagreed that 'use of contraceptives would prevent them from STI's including HIV and AIDS' (70.6%), 'will increase conflicts with their partner'(50.9%) and 'would increase chances of promiscuity '(52.1%).

4.8. Association between contraceptive beliefs and socio-demographic characteristics

Results of a one way Analysis of Variance (ANOVA) on the association between contraceptive beliefs and socio-demographic characteristics shows that contraceptive beliefs was statistically significantly associated with religiosity($P<0.05$). In particular, participants who perceived themselves as religious were significantly more likely to have positive perception of contraceptive use as compared to those who perceived themselves as non religious [$F(1,187) = 4.239$, $p < 0.05$].There was no statistically significant association between adolescent's perception on contraception and their age, level of education, religion, living arrangements, mothers' occupation and mother's education.

4.9. Association between intention to use contraceptives and contraceptive beliefs

Results of a one way Analysis of Variance (ANOVA) on the association between contraceptive intention and contraceptive beliefs (Table 6) shows that contraceptive intention was statistically significantly associated with contraceptive beliefs variables of the positive outcome (perceived benefits) of the contraception use.

Specifically, intenders evaluated the positive outcome as significantly more favorable than did non- intenders. There was no statistically significant association between contraceptive intention and the two negative beliefs that contraception would, 'increase conflicts with partner' and 'increase chances of promiscuity'.

Table 5: contraceptive beliefs among study participants (N=195)

Variable	n*	SD %	DA %	AG %	SA %	Mean+	SD
Use of contraception will:							
Prevent me from becoming pregnant	194	8.8	12.4	48.5	30.4	3.0	0.9
Prevent me from getting STIs including HIV/AIDS	193	56.6	14	22.8	6.7	1.8	1.0
Make me avoid worries about becoming pregnant	193	20.2	21.2	34.2	24.4	2.6	1.1
Prevent me avoid illicit abortion	194	18.0	6.7	33.0	41.8	3.1	2.4
Improve my future academic prospects	194	28.9	8.2	30.4	32.5	2.7	1.2
Increase conflicts with partner	192	35.9	12.0	28.1	24.0	2.4	1.2
Increase chances of promiscuity	193	34.2	11.4	20.2	34.2	2.5	1.3

*Cases with missing information were excluded from the analysis

+ Scale range: 1= strongly di-agree to 4=strongly agree

SD=strongly dis-agree, DA=Disagree, AG=Agree, SA= strongly agree

4.10. Normative contraceptive beliefs

Seven items were used to assess adolescents' normative beliefs toward contraception. Table 7 shows perceived normative beliefs on contraception among adolescent girls. Results regarding normative beliefs revealed that majority of the study participants were more likely to agree that best friends (70.9%) and classmates (63.7%) would approve their contraception.

It was also surprising to note that, majority of the study participants were more likely to disagreed that father (78.2%); mother (65%), relatives (63.1%), male teachers (56 %) and female teachers (51.3%) would approve their contraception.

Table 6: Association between intention to use contraceptives and contraceptive beliefs (N=195)

Contraceptive beliefs variable	n*	Intenders		Non-intenders		F-Value	df	P-value
		Mean+	SD	Mean+	SD			
Use of contraception will:								
Prevent me from becoming pregnant	183	3.1	0.8	2.8	1.0	3.977	1,181	**0.048**
Prevent me from getting STIs including HIV/AIDS	182	1.9	1.1	1.5	0.8	7.508	1,180	**0.007**
Make me avoid worries about becoming pregnant	182	2.7	1.1	2.4	1.0	5.143	1,180	**0.025**
Prevent me avoid illicit abortion	182	3.2	1.0	2.7	1.2	6.577	1,180	**0.011**
Improve my future academic prospects	183	2.8	1.1	2.3	1.2	7.762	1,181	**0.006**
Increase conflicts with partner	182	2.5	1.2	2.5	1.1	0.000	1,180	0.987
Increase chances of promiscuity	182	2.5	1.3	2.6	1.3	0.268	1,180	0.606

*Cases with missing information were excluded from the analysis

+ Scale range 1= strongly dis-agree to 4=strongly agree

Table 7: Perceived normative beliefs toward contraception (N=195)

Variable	n*	SD %	DA %	AG %	SA %	Mean+	SD
Do you think the following referent persons would approve or disapprove of your contraception if you were to have sexual intercourse?							
Mother	194	52.6	12.4	23.7	11.3	1.9	1.1
Father	191	61.3	11.5	17.8	9.4	1.8	1.1
Relatives	190	50.5	12.6	25.8	11.1	2.0	1.1
Female teachers	193	38.3	13.0	27.5	21.2	2.3	1.2
Male teachers	191	40.3	15.7	26.2	17.8	2.2	1.2
Best friends	192	22.4	6.8	31.8	39.1	3.0	1.2
classmates	193	23.8	12.4	34.2	29.5	3.0	1.3

*Cases with missing information were excluded from the analysis
+ Scale range: 1= strongly di-agree to 4=strongly agree
SD=strongly dis-agree, DA=Disagree, AG=Agree, SA= strongly agree

4.11. Association between normative beliefs on contraception and socio-demographic characteristics

Assessment of the association between normative beliefs on contraception and socio-demographic characteristics revealed no statistically significant association between normative beliefs on contraception and their age, grade level, religion, perceived religiosity, living arrangements, mothers' occupation while mother's education was on the borderline (P=0.053)

4.12. Association between intention to use contraceptives and normative contraceptive beliefs

Results of a one way Analysis of Variance (ANOVA) on the association between contraceptive intention and contraceptive normative beliefs (Table 8) shows that contraceptive intention was statistically significantly associated with contraceptive

approve of mother, father, relatives, female teacher and male teacher. Specifically, intenders were more likely to believe that mother [F (1, 181) = 5.089; p<0. 05], father [F (1, 179) = 6.938; p<0.05], relatives' [F (1, 178) = 11.645; p<0. 05], female teacher [F (1, 181) = 9.990; p<0. 05], and male teacher [F (1, 179) = 7.438; p<0. 05], would approve their contraception. There was no statistically significant association between contraceptive intention and contraceptive approve of best friends and classmates.

4.13. Contraceptive control beliefs

Table 9 shows the control beliefs on contraception among adolescent girls. Majority (86.2%; 77.2%) of the study participants were more likely to agreed that use of contraception would be difficult for girls who feel shy to buy and sexual partners who feel shy respectively. Likewise, most (74.1%) of the participants were more likely to disagree that the high price of contraception would cause girls to have sex without contraception.

Table 8: Association between contraceptive intention and normative beliefs (N=195)

Contraceptive beliefs variable	n*	Intenders Mean+	SD	Non-intenders Mean+	SD	F-Value	df	P-value
How likely the following referent persons would approve or disapprove of your contraception if you were to have sexual intercourse.								
Mother	183	2.0	1.1	1.6	1.1	5.089	1,181	**0.025**
Father	181	1.9	1.1	1.4	1.0	6.938	1,179	**0.009**
Relatives	180	2.1	1.1	1.5	1.0	11.645	1,178	**0.001**
Female teachers	183	2.5	1.2	1.9	1.0	9.990	1,181	**0.002**
Male teachers	181	2.4	1.2	1.9	1.0	7.438	1,179	**0.007**
Best friends	182	3.0	1.2	2.8	1.2	0.860	1,180	0.355
Classmates	183	2.8	1.1	2.6	1.1	1.309	1,181	0.254

*Cases with missing information were excluded from the analysis
+ Scale range: 1= strongly di-agree to 4=strongly agree

4.14. Association between contraceptive control beliefs and socio-demographic characteristics

Assessment of the association between contraceptive control belief and social-demographic characteristics revealed no statistically significant association between contraceptive control beliefs and their age, grade level, religion, perceived religiosity, living arrangements, mothers' occupation and mother's education (P>0.05).

Table 9: Perceived control beliefs toward contraception (N=195)

Variable	n*	SD %	DG %	AG %	SA %	Mean+	SD
I believe that:							
It's difficult for the girls at school use of contraceptives	190	27.4	13.7	23.7	35.3	2.3	1.2
Use of contraceptives would be difficult for sexual partners who feel shy	189	18.5	4.2	20.1	57.1	1.8	1.2
Contraception would be difficult for the girls who feel shy to buy	189	6.9	6.9	25.9	60.3	1.6	0.9
The high price of contraceptives would cause girls to have sexual intercourse without contraception	189	59.8	14.3	14.3	11.6	3.2	1.1
Use of contraceptives would be difficult for regular sexual partners	189	27.7	12.2	22.3	37.8	2.3	1.2
Use of contraceptives would be difficult if one is to have sexual intercourse with someone he or she has been very much thinking of	188	27.7	12.2	22.3	37.8	2.4	1.3

*Cases with missing information were excluded from the analysis

+ Scale range: 1= strongly di-agree to 4=strongly agree

SD=strongly dis-agree, DA=Disagree, AG=Agree, SA= strongly agree

4.15. Association between intention to use contraceptives and contraceptive control beliefs

Results of a one way Analysis of Variance (ANOVA) on the association between contraceptive intention and contraceptive normative beliefs (Table 10) shows that

contraceptive intention was statistically significantly associated with one contraceptive control belief. Specifically, intenders more than non intenders were more likely to contracept in the future even though that 'they happen to have sexual intercourse with someone been very much thinking of'. The remaining five (5) contraceptive control factors did not discriminate intenders significantly from non-intenders.

4.16. Association between intention to use contraceptives and sum scores for contraceptive beliefs, normative beliefs and control beliefs

Results of a one way Analysis of Variance (ANOVA) on the association between contraceptive intention and contraceptive normative beliefs (Table 11) shows that contraceptive intention was statistically significantly associated with sum scores of the contraceptive beliefs [$F(1,177)=10.587, P<0.01$], contraceptive normative beliefs [$F(1,175)=8.268, P<0.01$] and contraceptive control beliefs [$F(1,175)=4.361, P<0.05$].

Table 10: Association between contraceptive intention and contraceptive control beliefs (N=195)

Contraceptive beliefs variable	n*	Intenders		Non-intenders		F-Value	df	P-value
		Mean+	SD	Mean+	SD			
I believe that:								
It's difficult for the girls at school use of contraceptives	179	2.7	1.2	2.8	1.3	0.656	1,177	0.419
Use of contraceptives would be difficult for sexual partners who feel shy	179	3.1	1.2	3.4	1.0	2.475	1,177	0.117
Contraception would be difficult for the girls who feel shy to buy	179	3.4	1.0	3.4	1.0	0.065	1,177	0.799
The high price of contraceptives would cause girls to have sexual intercourse without contraception	179	1.8	1.1	1.7	1.0	0.001	1,177	0.973
Use of contraceptives would be difficult for regular sexual partners	177	2.7	1.3	2.8	1.2	0.879	1,175	0.350
Use of contraceptives would be difficult if one is to have sexual intercourse with someone he or she has been very much thinking of	179	2.6	1.3	3.0	1.2	4.208	1,177	**0.042**

*Cases with missing information were excluded from the analysis
+ Scale range: 1= strongly di-agree to 4=strongly agree

Table 11: Association between intention to use contraceptive and sum scores for contraceptive beliefs, normative beliefs and control beliefs (N=195)

Contraceptive variable	n+	Intenders		Non-intenders		F-Value	df	P-value
		Mean	SD	Mean	SD			
contraceptive beliefs*	179	18.7	3.8	16.6	4.5	10.587	1,177	**0.001**
Contraceptive normative beliefs**	177	16.6	6.5	13.7	5.0	8.268	1,175	**0.005**
Contraceptive control beliefs***	177	13.9	3.8	12.7	3.5	4.361	1,175	**0.038**

+Cases with missing information were excluded from the analysis

*Scale range: 7=low score to 28=high score

**Scale range: 7=low score to 28=high score

***Scale range: 6=low score to 24=high score

CHAPTER FIVE

5.0. DISCUSSION

5.1. Introduction

The main findings of the study are discussed in this chapter. Specifically, the key components of the discussion include pattern of contraceptive use, knowledge on contraception, contraceptive beliefs, normative beliefs on contraception, contraception control beliefs and the association between perceptions and contraceptives intention among adolescent girls. Moreover, methodological issues are discussed.

5.2. The pattern of contraceptive use

The findings on the general adolescent sexual risk taking behaviors reveled that a small proportion (15.5%) indicated ever had sexual intercourse. The findings differ from the studies conducted previously in Tanzania (Lugoe, 1996; Mwakagile et al, 2001; Maswanya et al, 1999) which showed that 21.9%, 25% and 54% of female students reported to have had sexual debut at less than 16 years of age. Similar study conducted in Brazil for the same age groups (Olonto et al, 1999) showed that about 45.3% had already sexual relations. The difference observed between the present study and the previous study can be explained due to fact that the present study deals with females students only who may underreport the information under research due to private nature

of sexual activity, guilt regarding involvement in early sexual activity and fear of being reproached by school authorities.

Also the findings of the present study revealed that the use of contraceptives among adolescent girls is approximately 11.2%. Such finding is slightly different from the national contraceptive prevalence rate of 14% in the same age groups (Tawiah, 2002). This is due to fact that the present study had only school adolescent girls while Tawiah, (2002) had the general population. Similarly, majority of the study respondents indicated to use more condoms as compared to other contraceptive methods in their most recent sexual intercourse also noted. The findings are similar with the studies conducted by cacciatore et al, 2004 and Lugoe, 1996 which showed that the most common contraceptive method used by adolescents is condom. Also, the findings are similar with the research conducted in Brazil (Clarissa et al, 2007) in that condoms were the most commonly used method by adolescents. It is plausible to also reflect that condom use may be largely used as it prevents both STI's and pregnancy.

Further more, large proportion of the respondents indicated did not use either of the contraceptive methods. This implies that some of adolescent girls still engaging themselves in risky sexual behaviors. This is despite the danger of HIV/AIDS. Nevertheless, the findings are consistent with the general pattern of adolescent sexual risk taking behaviors reported in Ethiopia, where millions of young people are being infected with HIV/AIDS (WHO, 2000). Moreover, the findings reveled that majority of the respondents indicated that both partners followed by themselves decided on the use

of contraceptives in their most recent sexual intercourse. The results concur with a study conducted by Fekadu & Kraft, (2001).

5.3. The level of contraception related knowledge among adolescent girls

Knowledge about various contraceptive methods and a desire to use protection is essential for successful contraception. The information that is directly relevant to prevention of pregnancy and STD's including HIV/AIDS and easy to apply in an individual's social setting is a pre-requisite of pregnancy, STD's and HIV preventive behaviour (Fisher, Bryan & Misovich, 2002).

The present study sought to assess contraception-related knowledge among secondary school adolescent girls. The findings in the present study revealed that majority of the adolescent girls had moderate knowledge about contraception. Such findings are lower than the proportion indicated in the Tanzania Demographic and Health Survey (TDHS 2004/2005). Overall, the findings revealed that adolescent girls were lacking information in some aspects of contraception methods and their uses on different aspects i.e. pregnancy and STDs prevention including HIV and AIDS.

The low rate (26.4%) of adolescent girls who agreed with the statement "if a woman is using oral pills there is no need to use a condom when having sex" may indicate that adolescent girls do not distinguish condom use as a contraceptive method for preventing pregnancy and condom use as a strategy for STI prevention including HIV/AIDS. Such

erroneous belief may encourage some of adolescents to practice risky sexual behaviors by creating the false impression that they will be protected from HIV infection if they are using pills. Although the use of hormonal contraceptives such as oral contraceptive pills, injections and implants are known to be highly efficacious (Cheung & Free, 2005) they do not protect against HIV or other STIs. Notably, hormonal contraceptives should go hand in hand with other STI's including HIV prevention (WHO, 2004). Nevertheless, condom is the solitary contraceptive method that provides dual protection against pregnancy, STIs and HIV/AIDS.

Likewise, the proportion (38%) of adolescent girls who agreed with the statement that "condom is the only method that can be used to prevent pregnancy", reflects that majority of adolescents are not well informed about the other contraceptive methods for pregnancy prevention. This can be explained due to the fact that majority of adolescents are using condoms (Cacciatore at al., 2004) as their contraceptive method for pregnancy prevention, reflecting that it is the only method that is known by the group for preventing pregnancy.

Moreover, the finding revealed that majority (44%) of study participants were not informed about the fact that "emergency contraception can be used to avoid pregnancy after having sexual intercourse on unsafe day/s" is worth noting. This statement may reflect that adolescents do not know alternative method of contraception that can be used to prevent beginning of pregnancy after having unprotected sexual intercourse on unsafe day/s. This deficit of knowledge may aggravate them on illicit abortion. Emergency

contraception is a method used after intercourse to prevent the beginning of a pregnancy (Cacciatore at al., 2004; WHO, 1998; Von Hertzen at el, 2002) thus it is not related to abortion, and should be taken within 72hours following unprotected sexual intercourse. This notion is supported by statistics from Finland where the number of abortions among 15–19-year old girls decreased by 10 percent within 6 months due to increased utilization of emergency contraception.

Nevertheless, it was noted that, most of the study participants to have largely received information about contraception through mass media i.e. radio (40.6%) and television (37.4%). The findings concur with the study conducted by Maswanya et al, (1999) in that students got information through mass media. Likewise, large proportional (70.4% and 41.1 %) of the participants agreed that they never had information on contraception through church/mosque and family. Likewise, the finding revealed that 37.2% rarely got information from school. This can be explained by sexual norms in Tanzanian context that prohibit sexual relations until marriage. It has been argued globally that abstinence is the best solution(Barnett & Parkhurst, 2005). Use of contraception is the last opportunity neither for people who can neither abstain nor be faithfulness to one sexual partner. Also, school-based STI's including HIV/AIDS prevention interventions that target on the use of contraception are opposed by some of teachers and education policy makers because they contradict with the traditional social norms and school regulations, which demand sexual abstinence as the only solution of HIV prevention among school adolescent. The norm of abstinence may also render parents to oppose the safer sex

education programmes, and particularly instructions about contraception thinking it encourages sexual activity (Shafii, Stovel, & Holmes, 2005).

5.4. Contraceptive beliefs

Previous studies (Villarruel et al, 2004; Koniak-Griffin & Stein, 2006) have shown that attitude towards contraception was an important factor for contraceptive use intention. The findings of the present study revealed that large rate of the study participants had positive altitude towards contraception. They were more likely to believe in the positive outcomes of using contraceptives and rate this outcome as advantageous. The results concur with findings observed in Taiwan (Wang RueyHsia at el, 2004; Susan at el, 2006) where higher contraceptive attitudes increased consistently the use of contraceptives.

Furthermore, participants were less likely to believe in the perceived social and psychological cost of using contraceptive, as for example, 'use of contraception increase conflicts with partner' or 'use of contraception increase chances of promiscuity'. This revealed negative attitude towards contraception hence less likely to contracept. The personal attitude and emotional factors such as partner's relationship and general discomfort with contraception are closely connected to inadequate contraception (Silverman et al, 1987; Crosby et al, 2003b; Koniak-Griffin et al, 2003b; Susan at el, 2006).

5.5. Normative contraceptive beliefs

A study done in Ethiopia (Fekadu & Kraft, 2001) and another done in developed countries (Sutton et al, 1999) have shown that the effect of subjective norms was the strongest predictor of the intended contraception. Koniak-Griffin et al, (2003b) have shown that the teens who perceived social disapproval to contraception are less likely to use them. Social network members such as parents and friends have an important role to play in fostering STI's including HIV/AIDS preventive behaviors. Given the influence of peers' attitudes and beliefs on others (DiClemente, 1990), normative support to contraception use was assessed basing on whether participants' referent persons would approve on contraception.

As noticed in this study, there was a relatively low rate of perceived parents and teachers normative support to contraception. The findings are similar to the study conducted by Crosby et al, (2003a) in that there were low perceived family support and less parent daughter communication about protection that were associated with sex without contraceptive. On the other hand, the finding are different from the study conducted by Rech Soins Infirm, (2005) which showed that parents were the most important referent persons followed by friends. These findings may be explained by sexual norms in Tanzanian context that prohibit sexual relations until marriage and intergeneration talk about sex and contraception is taboo. The norm of abstinence may render parents to oppose the safer sex education programmes, and particularly instructions about contraception thinking it encourages sexual activity (Shafii, Stovel, & Holmes, 2005).

Conversely, parents are likely to support contraception among adolescent when they suspect or realize that adolescents outwit the norm by having secret sexual encounters. In this way, adolescent girls who engage themselves in sexual relations secretly at night, in remote spots, or when their parents are away may practice safer sex. Such findings corroborate a study done in Tanzania (Lugalla et al., 2004) in which pupils interviewed were using condoms and could even indicate their condom type preference. Furthermore, the school-based HIV prevention interventions that target on the use of contraception are opposed by some of teachers and education policy makers because they contradict with the traditional social norms and school regulations, which demand sexual abstinence as the only solution of HIV prevention among adolescent-girls.

It was also noted that the rate of best friends' support (70.9%) is much relatively higher. This may suggest that adolescents especially those in secondary schools discuss much matters pertaining to contraception. Social support to contraception use by friends has also been found to predict intentions to use contraception among adolescents (Whitaker & Miller,2000; Wang et al;2004; Brown, Diclemente, & Park, 1992; Lugoe & Rise, 1999). Moreover, adolescents who believe their peers are using contraception are also more likely to use contraception compared to teens who do not believe their peers use contraception (DiClemente, 1991, 1992). As also (Gage, 1998) highlighted, adolescent decision making around sexuality issues are motivated by peer influence.

5.6. Control beliefs about contraception

The findings of the present study showed that the large proportion of the study participants were more likely to agree that 'contraception would be difficult for the girls who feel shy to buy (86.2%) and sexual partners who feel shy' (77.2%). This finding concur with the study conducted in South Africa where the individuals with external locus of control (beliefs that have little or no influence on what happens to them) were more likely to perceive that they are at low risk hence less likely to use contraception.

It was also noted that majority (50.9%) of the participants were more likely to dis-agreed that 'contraception would be difficult for the regular sexual partners'. Being in a long-term or steady relationship was associated with sex without contraception (Crosby et al, 2003b; Koniak-Griffin et al, 2003b).

Moreover, the findings of the present study revealed that, large proportion (74.1%) of the study participants disagreed that 'the higher price of contraception would cause girls to have sexual intercourse without contraception'. This indicates that regardless of the cost of contraceptives adolescent girls perceived that they would contracept. The contraceptive use and safer sex behaviors is affected by (locus of control) the extent to which the individuals believe that their behaviors will have an impact on their situation (Lester & Cook, 1998; Venier, 1997). Moreover, studies (Mott, 1996 & Edward, 19930) in Europe and America indicate that self-esteem is associated with the timing of first intercourse.

5.7. Relationship between perceptions and intentions to use contraceptives and Socio- demographic characteristics

Consistently, the association between the contraceptive intention and contraceptive beliefs variables of the positive outcome (perceived benefits) of the contraception use noted. The intenders evaluated the positive outcome as significantly more favorable than did non- intenders. The findings are similar with the research conducted by Christina & Jeannette, (2005) in USA where individuals indicated to have positive attitudes were found to have contraceptive intention of repeating the contraceptive use. Similar studies (Villurruel et al, 2004; Koniak-Griffin & Stein, 2006; Wang et al, 2004) have shown that attitude was a significant predictor of contraceptive intention to use contraceptive among adolescents.

The association between religiosity and contraceptive beliefs was also noted. This reflects that those individuals who perceived themselves as religious had a significant association with contraceptives beliefs as opposed to those individuals who perceived themselves as non religious. Some religions such as Christians are arguing that freely available contraceptives encourages sexual license, promotes hedonism, and alienates people from God's intentions with the sexual and procreative processes (Austin, 1998) . A Study by Manlove et al, (2006) have shown that a strong parental religious beliefs and more frequent participation in family religious activities are associated with contraceptive use at first sex, in a negative direction. Similar research (Studer et al,1987) have shown that subjects who reported regularly attending religious services

were less likely to have used an effective method of contraception than those who rarely attended religious services. Studies in Spanish (Elder, et al, 2008) have shown that there is no significant difference in the use of contraception in relation to the level of religiosity. The study revealed a high level of condom use (more than 80%) among both religious and non-religious youths.

Moreover, the association between the intention to use contraceptives and normative contraceptive beliefs was noted. The findings are similar with studies (Fekadu & Kraft, 2001; Whitaker & Miller, 2000; Wang et al, 2004; Jemmott et al, 2002) which show that parents, teachers, and relatives are important persons for adolescents as they can exert pressure on adolescents behaviors, hence their contraceptive approval was significant predictor of contraceptive use intention among adolescents. Similarly, the results concur with the argument raised in the theory of reasoned action (TRA). The TRA (Ajzen & Fishbein, 1980) proposes that a social influence is directly correlated with contraceptive intention.

Furthermore, intention to use contraceptives was significantly associated with one contraceptive control beliefs where intenders were more likely indicated to contracept in the future. This reflected that intenders feel vulnerable to un-intended pregnancy risk are likely to adopt contraception in their future. Similar findings have been showed with the study conducted by Fekadu & Kraft (2001) where intender's more than non intenders were likely to contracept in the future even though they happen to have casual sex with someone they like to date.

Nevertheless, the findings of the present study revealed a significant association between intention to use contraceptives and contraceptive beliefs, normative contraceptive beliefs and contraceptive control beliefs. The findings are similar with the study conducted by Wang et al, (2007) in Taiwan in which social influences affected contraceptive intention indirectly through the contraceptive attitude and self-efficacy for contraception. Contraceptive attitude and self-efficacy for contraception affected contraceptive intention directly. Contraceptive attitude also affected contraceptive intention indirectly through the mediation of self-efficacy for contraception.

5.8. Discussion of methodological issues

The present study has some limitations that have to be noted. The limitations are related to validity of the findings, theoretical aspects and ethical issues.

5.8.1. Validity

"Validity is the ability of an instrument to measure what it is designed to measure" (Kumar, 2005). In this study, the aspect of validity was considered in two ways. First, through administering the instrument in Kiswahili, the language that was familiar and well understood by all students participated in this study. Second, the pilot study was carried out prior to the main study so as to ensure that the questions were clear and to test the content of data collection instrument.

5.8.2. Generalizability of findings

Inferential statistics in research involves taking a group of participants and make generalization to the whole population (Coolican, 2004). This may largely depend on a sample selected. The sample of the schools in this study was not randomly selected. The main criteria used for sample selection included school enrollment, location and residential status. These criteria may not capture all the important characteristics of secondary schools students in all secondary schools in Dar es Salaam region with respect to their sexual behaviour and use of contraceptives. The sample may largely reflect those schools studied. Hence, the generalizability of the results of the present study to all secondary school adolescent girls in Tanzania or to the Dar es Salaam region may be uncertain. Secondary school students in Tanzania constitute a selected and well educated group of young people. Furthermore, we expect lower levels of behaviors such as premarital sex, alcohol use among secondary school students compared to adolescents out of school because of sanctions in the school. As such, secondary school adolescent girls do not represent the general Tanzania adolescent girl's population.

5.8.3. Likelihood of response bias

Sexual behavior studies may be constrained by reporting bias. Sexual activity and other related issues are highly private in that participants may intentionally give an incorrect answer to a survey question. Moreover, the targeted populations in the present study are adolescent school girls who are not expected by their conventional institutions including

families, schools and religious bodies, to practice premarital sex. Thus, difficulties in the truthfulness of self reported sexual behaviors among students may arise. They may largely occur due to the private nature of sexual activity, suspiciousness of the interviewer, guilt regarding involvement in early sexual activity and fear of being reproached by school authorities. Furthermore, students may also be inclined to give socially desirable responses. For instance, females tend to over report their use of contraceptives (Wilson et al; 1992). However, as discussed elsewhere, one way to reduce this effect was to stress confidentiality and anonymity when the study was being introduced to the participants. For this reason, only members of the research team were allowed to be present when participating pupils were filling in questionnaire.

5.8.4. Application of TPB

The present study used the three components of the TPB. However, the study did not use the theory per se. Only behavioural beliefs, normative beliefs and control beliefs were employed. As such, this may have limited comparison between this study and other studies that employed this theory.

5.8.5. Ethical challenges

Research ethics covers a number of concerns including ensuring the welfare of those who participate in the research (Field, 2004). As for this study, the consent given by students may raise moral challenges because of student's inability to consent or refuse to participate in the research. As such, there are some chances that pupils were likely to

participate in the study mainly because their school authorities had agreed about their participation. Due to this, students might have consented to something that was not in their interest. Nonetheless, the purpose of the study was explained and students were given the opportunity to ask questions to the investigators prior to their participation. Student's consent was therefore regarded as voluntary and free since there was no any form of coercion.

CHAPTER SIX

6.0. CONCLUSION AND RECOMMENDATIONS

6.1. CONCLUSION

The findings of the present study are relevance in promoting contraceptive use for the prevention and control of un-intended teenage pregnancy, STDs including HIV/AIDS among young people in secondary schools in Tanzania. Condoms were mostly used by adolescent girls as a contraceptive method. Moreover, students had moderate knowledge of contraception and were more likely to believe in the positive outcomes of using contraceptives. Best friends and classmates were more likely to approve on their contraception. Furthermore, the hypothesis linking intention to use contraceptives to contraceptive beliefs, normative beliefs toward contraception and contraceptive control beliefs were upheld. This suggests that initiating and consolidating favorable contraceptive beliefs is paramount among secondary school girls.

6.2. RECOMMENDATIONS

The study provides information about which beliefs should be targeted for change when promoting contraceptive use among sexually active adolescents girls in Tanzanian schools. In order to promote contraception in this group of adolescents, persuasive arguments need to maintain a clear focus on enhancement of contraceptive beliefs and normative support and influencing students significant others. With regard to behavioral

beliefs, one should address the health benefits which accrue from the use of contraception, thus framing the messages in positive terms.

The results of the present study emphasize the urgent need for pregnancy prevention among adolescences; STDs including HIV and AIDS-related health promotion and prevention efforts targeting adolescent girls in Tanzania. Such interventions are deemed necessary in order to improve the sexual health of adolescents and to help them establish behavioral patterns that will reduce their risk of illegal abortion, STI's and HIV infections. As such, there is a need to make sure that the education content related to contraception and its effects on pregnancy and STDs including HIV and AIDS prevention is taught in primary schools since most of Tanzanian adolescents do not continue with secondary level of education after they have completed primary education.

The onset of sexual activity among students takes place before they join secondary education. Un-intended pregnancy, STI including HIV/AIDS educational prevention efforts should start at lower grades before students become sexually active.

Pro-contraception use norms are important steps in enhancing positive perceptions towards contraception among adolescent pupils and ultimately increasing the actual use of contraception. Moreover, parents and peers have to do away with taboos about silence on sexual issues and openly support reproductive health education in all formal and

informal institutions, rather than pretending that adolescents do abstain sex, while in fact they do practice sex, worse still unsafe sex.

The results of this study may largely be applied to secondary school adolescent girls in cities and towns that are similar to Dar es Salaam where the study was carried out. With this remark, there seems a need to accomplish a similar study that addresses Tanzanian secondary school adolescent girls in rural areas.

Furthermore, the findings of the study revealed that the individuals who perceived themselves as religious had a significant association with contraceptives beliefs as opposed to those individuals who perceived themselves as non religious. Further studies should be done to explore the extent to which religiosity has effects towards contraception behavioral beliefs. As such, some religions such as Christians are arguing that freely available contraceptives encourage sexual practices, separate people from God's intentions with the sexual and procreative processes.

Moreover, the persuasive arguments through peers should be engaged to promote contraceptive beliefs and normative beliefs and contraceptive control beliefs.

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