REPRODUCTIVE HEALTH NEEDS OF URBAN AND RURAL OUT OF SCHOOL ADOLESCENTS IN EAST GOJJAM: A CROSS-SECTIONAL COMPARATIVE STUDY

By

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DEDICATION

This paper is dedicated to my wife, S/r Amsalework Tesfaye, not only for she has been the very source of inspiration from the beginning to join this program but also for she sacrificed the most by taking care of our small kids, our daughter Bethlehem since her birth, and our son Samuel since only three years old in my absence for such a long time.

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LIST OF ABBREVIATIONS

AAU	Addis Ababa University
AIDS	Acquired Immunodeficiency Syndrome
CBRHAs	Community Based reproductive Health Agents
CDC	Center for Disease Control
CSW	Commercial Sex Workers
DCH	Department of Community Health
DHS	Demographic and Health Surveys
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
MF	Medical Faculty
MOH	Ministry of Health
NGOs	Non-governmental Organizations
RH	Reproductive Health
STD	Sexually Transmitted Disease
WHO	World Health Organization

ABSTRACT

A cross sectional comparative study involving adolescents aged 10-19 years was carried out in East Gojjam in May 2001 to assess reproductive health needs of rural and urban out of school adolescents. A total of 12 kebeles were selected from four woredas by cluster sampling. A modified random walk method was used to identify households. Data were collected from a total of 1001(96.3%) adolescents, of which 51% were from rural areas and 57% of the participants were females. About 60% of them were found to be illiterate. Out of the respondents 45% of them reported they had started sex already. The mean age at first sex was much lower than several previous studies. Moreover, 47% of the sexually active claimed to have more than one sexual partner. Though, knowledge on modern contraceptives and STD and HIV/AIDS seems good, 78% and 84% respectively, several misconceptions abound. Most of the study subjects belief that they are invulnerable for HIV. Only 21% and 13% of the sexually active reported to have ever used contraceptives and condoms respectively. Sexual activity was significantly higher among rural adolescents even after controlling for potential confounding variables, OR=3.0, 95%CI (1.9, 6.2). However, modern contraceptive use was ten times lower among rural adolescents in relation to urban, (OR= 0.10 95%CI = 0.04, 0.3). Forty three percent of the sexually active female adolescents had ever been pregnant, of which about 15% had a history of abortion. Despite having all these health problems, only 8.7% of the participants had visited health institutions in three months prior to the study, of which 70% of them were urban dwellers. Based on these findings, it can be concluded that the majority of adolescents had incomplete knowledge and most of them particularly those from rural areas were found to be at greater risk of reproductive and sexual health problems including HIV. Finally, programs that comprise both promotional activities and reproductive health services that could serve the hard to reach out of school adolescents should be designed and implemented as a matter of priority.

1. INTRODUCTION

Adolescents are defined by World Health Organization (WHO) as those aged between 10 and 19 years (1). The period of adolescence is traditionally regarded as a period relatively free of health problems (2), and health service for adolescents were somewhat neglected in the past (3). However, recent estimates indicate that one out of five adolescents aged 10-19 has at least one serious health problem (4). This high prevalence along with several recent highly publicized reviews have made the health needs of adolescents more salient.

Adolescents are characterized by immature behavioral decision-making, exploration, experimentation, subjection to peer influences, and lack of knowledge about disease and protective measures against it. Moreover, behavior, which starts in adolescence frequently, leads to health problems that only emerge in later life at increased cost to both the individuals themselves and their societies (3). Above all, if influenced properly, they are the most likely group to show favorable and deep-rooted behavioral changes (5). Another reason why we should focus on these groups of people is that they are future parents and if intervention, be it educational or otherwise, brings about cultural and behavioral changes in them, and then, they can influence the practices of the next generation, and many more after. In addition, as adolescents are future hopes of a nation, promoting and protecting adolescent health is, in fact, an excellent investment for a nation both in the short and long term

In many countries, concern about adolescent sexual and reproductive health is growing, in part because of real or perceived increases in their sexual activity and rates of pregnancy outside marriage, and in part because of high rates of the Human Immunodeficiency Virus (HIV) infection and Acquired Immunodeficiency Syndrome (AIDS) among adolescents (6).

A number of factors operating in developing countries have contributed to changes in reproduction related health risks in adolescents. These include lowering of age of menarche, an increase in age at marriage, changes in values brought about by increasing urbanization, exposure to foreign cultures, through tourism, migration and mass media and decline in the extended family (2).

Of the estimated 333 million new sexually transmitted diseases (STDs) that occur in the world every year at least 111 million occurred in young people less than 25 years. Globally more than half of all new HIV infections are among 15-24 years old (3). Adolescent marriage is very high in most developing countries. In Bangladesh, this is exceptionally high with about half of women aged 10-19 ever married (7). In India, despite laws stipulating the legal age at marriage as 18 for females, early marriage continues to be the norm and the median age at marriage was 16 years and 40% of all women aged 10-19 are already married (8). Adolescents are becoming sexually active at increasingly earlier ages and have multiple sexual partners more than ever. In some African countries a quarter of children aged 10 said they already had sex, and the figure rose to 60% among 14 years old (9).

While certain characteristics and developmental needs are peculiar to all adolescents, some groups within adolescent population have specific needs and/or vulnerability (3). In order to provide equitable services to adolescents there is need to make focused efforts to reach the very vulnerable and disadvantaged ones. Several studies conducted in developed and developing countries alike, showed that adolescents high-risk behaviors are more common among out of school adolescents compared with those who are attending school (8). There is increasing concern for young people who are disconnected from social institutions such as

schools, youth clubs and workplace. The UN- estimates that 404 million or 38% of youth under the ages of 18 in less developing countries do not attend school (10). These youths are vulnerable to sexual exploitation and are at a disproportionately high risk of unintended pregnancy and STIs including HIV/AIDS. These adolescents are often lack access to health information, counseling, legal protections, and health and other services. Counting these group of people is as difficult as reaching them with assistance. Variations in relative health and well being of adolescents are also related to where they live. It is a general finding that rural youths involve in such behaviors like marriage and sex earlier than their urban counterparts (11). To the extent that rural youths initiate these behaviors at younger ages they may be at increased risk of negative outcomes. For example, modern contraceptive use is less common among younger than older adolescents. Thus, adolescents who begin to have sexual intercourse at younger ages may be at increased risk of pregnancy and STDs. There are also several evidences that early marriage and teenage pregnancy are more common among rural adolescents of both developed and developing countries than their urban counterparts (11).

Adolescent RH issues were given particular attention after the 1994 International Conference on Population and Development (ICPD) carried out in Cairo. The ICPD program of action recommended " comprehensive and factual information and a range of reproductive services including family planning, accessible, affordable and convenient to all users, including adolescents" (12). In addition, it clearly stated that countries should, where appropriate, remove legal, regulatory, and social barriers to RH information and care for adolescents.

Ethiopia is one of the countries that have agreed and signed the ICPD program of action. Moreover, most of health related policies realized so far in Ethiopia like, the health policy of

the transitional government (13), the National Population Policy of the country (14), and the national HIV/AIDS policy (15), have tried at least to include in their document important adolescent reproductive health issues. However, most sensitive issues like special health needs of adolescents were not properly addressed particularly in the health policy. Moreover, the practical activities addressing adolescent reproductive health in the country are invisible and fragmented particularly at the grass root level. It is worth to mention, however, the efforts ever made by the Family Health Department (FHD) of the Ministry of Health (MOH) at the macro level. Some of the important activities were promoting adolescent reproductive health, conducting national and international conferences, better budget allocation, and creating partnership with NGO and other organizations (16). There are only handfuls of studies on RH in Ethiopia. Of few studies carried out on adolescent RH in the country, most are school based (5, 17-19). Though there are very limited number of studies conducted based on out school adolescents, most were carried out in bigger urban centers (20–23). Therefore, there is lack of systematically collected and sound information on the reproductive health needs of adolescents in general and out of school and rural adolescents in particular.

This study is expected to give insight into reproductive health needs of out of school adolescents. At the same time it tries to identify differences in the reproductive health needs of rural and urban study subjects. In general the study is expected to generate relevant information that could help to design appropriate RH programs for this segment of population.

2. LITERATURE REVIEW

2.1 BACKGROUND

Adolescence is the rapidest of growth (after infancy) in the human life span. An individual's weight doubles and his/her height increased by 25% (24). Adolescence is the process whereby an individual makes the gradual transition from childhood to adulthood (1). However, chronology of adolescence is often slippery to grasp partly because it varies from culture to culture, and indeed, from individual to individual.

Depending on the purpose of which they are made, definitions vary as to the exact age range of adolescence and physiological and psychological events that characterize it (25). An entirely biological definition, starting with some index of puberty and ending with the ability to reproduce effectively, would leave out social considerations of practical importance (1). Puberty is a biological process universal to children everywhere. Adolescence on the other hand, is a cultural phenomenon unique to each civilization or society (24). However, it is difficult to utilize the above definitions for general population statistics relevant for health planning. For this and other functions the term adolescence has been defined by WHO as including those aged 10 to 19 years (1).

The period of adolescence is further subdivided into three stages of Early (10-13 years), Middle (14-16 years) and Late (17-19 years) (26). The exact age ranges are arbitrary and approximate. These classifications are used to identify common tendencies among young people as they develop from childhood to adulthood and help to design adequate and individualized health care to adolescents. At early stages of adolescence young people develop primary and secondary sexual characteristics. They consider themselves as focus of

other people's attention and conclude that they are invulnerable to harm. The young people in middle stage of adolescence begin to develop their capacity for abstract thinking, while adolescents in the third or late stage are able to consider problems systematically and abstractly. As successful progression through each of these developmental tasks of adolescence is necessary for healthy adulthood, one should recognize the individual needs of adolescents in these various phases of development.

As they explore the world and try to discover their place in it, adolescents are often unaware of the risks their behavior involves (26). As adolescence is a time of choices it involves gaining autonomy, assuming responsibility and making choices about health, family, career, peer and school. The ability to confront these decisions effectively are important to teens well being (27). However, because adolescents are more mature physically than mentally or emotionally, they are often ill prepared to make the serious decisions they face (6).

Over the past 100-150 years, there have been changes in the physical aspects of adolescence. The age of onset of sexual maturation has been decreasing, growth and physical development are proceeding at an accelerated pace, and there has been a trend towards ultimate adult size (28). The secular trend in menarche and later age of marriage has resulted in an increase in the period between reproductive maturity and marriage (29). This fact was substantiated from historical data in United States of America and several European countries which showed a secular trend, with age at menarche declining at rate of two to three months per decade since the nineteenth century, resulting in an overall decline of three years (30). Many aspects of this acceleration remain obscure, although such factors as better nutrition and improved social and economic conditions are probably relevant.

Adolescence is traditionally regarded as a period of relatively free of health problems (2). But health is clearly more than the lack of illness. That is, in addition to surviving it also encompasses thriving (31). Long-standing views of adolescent as period of optimal physical health and therefore topic undeserving of research attention have been challenged by recent empirical reports (4). The dramatic biological changes that accompany this transition are essentially the same as they have been for millennia, but the social context in which they occur is very different from earlier times and continues to change rapidly (32). Changes in the economic structure, the media and the community have all affected the way adolescents live and interact with peers and with the rest of the society. The reasons for this rising interest include an increased focus on education and concern about industrialization of developing countries, which has disproportionate impact on young people. Moreover, social environments like the existence or lack of favorable policies, attitudes and norms including religious and cultural beliefs; relations with family, friends, and other adults have important implications on adolescent health (3).

In addition to social changes that influence adolescent RH, there are several individual behavioral factors. Adolescents frequently participate in behaviors that place their health at risk or impair their social competence, often called risk taking or health compromising behaviors. Risk taking behaviors relatively common among adolescents include early and unsafe sexual activities, premarital sex, having multiple sexual partners, use of alcohol and drugs, violence and school underachievement and school dropout (26).

In the following few paragraphs we will see some of these behavioral and social factors affecting adolescent sexual and reproductive health.

2. 2 SEXUALITY

To perceive young people as sexual beings seems to be one of the hardest things to accept in most societies. However, sexuality is a pivotal component of adolescent development and the hallmark achievement of adolescent sexuality is the establishment of intimacy with another human being (24). No matter how much adults might like to ignore it, sex has great meaning in the lives of youth, whether they have had any sexual experience or not. Adolescents are becoming sexually active at increasingly earlier ages. It has been extensively documented that premarital sexual intercourse is relatively common in many industrialized nations, with the majority experiencing their sexual debut during their teen years. In untied states, for example, approximately 70% of women have had intercourse by the age of 18 years (31). In another study in the same country, 18% of 15 years old, 28% 16-year-old females are sexually active, representing increases of 24% and 34% respectively from the early 1970s (32).

A general overview shows that the circumstances of adolescents in developing countries with respect to sexual behavior vary tremendously both across and within regions (6). Adolescents aged 15 -19 years who had practiced sexual intercourse in Latin America varies from 18.4% in Peru to 30.1% in Paraguay (6). Similarly, in Sub –Saharan Africa this ranges from 14. 2% in Rwanda to 68.5% in Cameroon. In Guinea, overall, 50% of female and 76% male participants of 15 – 24 years were sexually experienced (33). In same country, it was found that female pupil had had fewer partners than their out of school counterparts, however, among young men the reverse was true. Moreover out of school males reported fewer sexual encounters in the previous month than did those in school, but the opposite were the case among women.

Several studies, in Ethiopia, have shown up to 50% school adolescents to be sexually active. Males and students in major urban centers were prone to sexual activity compared to females and those in rural centers (18-22). Study conducted on out of school adolescents of different areas have shown relatively higher sexual activity rate of about 50-60% (21-23).

Initiating sexual activity is a natural transition made nearly by all humans. It is not the occurrence of this transition but its timing and the circumstances under which it occurs that has significant implications (34). Adolescents who initiate sexual intercourse at younger ages are more likely to have greater number of sexual partners. A study among adolescents attending teen health clinics in USA showed that in a one year period 40.3% of females and 69.4% of males aged 14-19 had more than one sexual partners (35). A recent study done among Jimma high school adolescents revealed a negative correlation between mean age at first sexual intercourse and lifetime number of sexual partners (36). They are also at high risk for becoming infected with STDs because they are poor users of barrier methods of contraception and due to biological reasons (26).

2.3 SEXUALLY TRANSMITTED DISEASES AND HIV/AIDS

A more accurate indicator for trends of HIV infection may be STD rates, since behaviors associated with the acquisition and transmission of STDs are identical to behaviors associated with HIV transmission (35). It is estimated that over 60% of the STD cases reported yearly are individuals under the age of 24 with one fourth between ages 15-19. In Ethiopia, it was reported that 6.5% and 4% of out of school adolescents in southern part of the country had history of STD in 1995 and in 1998 respectively (23,37). This prevalence was 3.7% among school adolescents in Addis Ababa (38).

AIDS challenges our ethical and moral foundations as no other disease has ever done (39). HIV/AIDS outranks every other disease as the top killer in Africa (40). The continent has lost nearly 15 million people to AIDS since the early 1980s. An estimated 860000 children in sub Saharan Africa had lost their teachers to AIDS in 1999, 51000 of them were Ethiopian children. In our country, out of cases officially reported to WHO in 1998, 5% (2% of males and 10% of females) were adolescents (41). This figure raised to 44 % among those aged 20-29. As the report from the MOH in 2000 indicated the peak ages for AIDS cases are 20-29 years for females and 25-34 years for males (42).

On average, worldwide, it takes about 8-10 years to progress from initial HIV infection to AIDS (33,39). Considering an average incubation period for HIV infection to develop to AIDS as mentioned above, this means that most of new HIV infections in Ethiopia occur in the period of adolescence. These have been the facts; there is a great lack of knowledge among young people about how they can protect themselves from HIV/AIDS and other STDs. The results of survey in 17 countries revealed this fact (9). In Mozambique, where HIV prevalence is a high 13%, 74% of girls and 62% of boys between 15-19 years were unable to name a single way to protect themselves from the infection. Knowledge, however, may be a necessary but insufficient requirement to reduce high-risk activities. Adolescents, who have knowledge of how to protect themselves, still do not consider that they are at any risk of getting AIDS. For instance, both in Zambia and Zimbabwe, where HIV prevalence is very high (19% and 25% respectively), though a relatively high proportion of girls can name ways to protect themselves, they still do not consider that they are at risk of acquiring AIDS (9)

2.4 THE PRACTICE OF CONDOM USE

Several misconceptions abound among adolescents concerning condom use. In Zimbabwe, for example, concerns that condom are off-putting that insisting on condom use suggests that one has AIDS were important predictors of intended condom non-use among males (43). Some girls feel that a partner's wish to use condom suggests that they, the girls, are not clean, that they are commercial sex workers or that they have involved in extra relationship sexual activity (43). In Ethiopia, a study conducted among high school students in Addis Ababa revealed that only 43.2% of the sexually active ones knew about condom on their first coital encounter and a small proportion, 17.6% of them used it on their first sexual encounter (5). A study in northwest Ethiopia, found that 45.7% of rural high school adolescents were found using condom (19). Survey on out of school youths in Bahir Dar, revealed that 30. 5% of youths were using condom (22). Similarly, a study on out of school youth in Awassa, revealed that only 27.6%of the sexually active adolescents used condom during their most recent sexual intercourse while their knowledge about HIV/AIDS was found to be 90% (23). A recent study among out of school adolescents in Addis Ababa found that 57.2% study subjects reported having had used condom (21). Negligence, embarrassment in buying from shops and pharmacies, lack of knowledge about its importance and fear of reduced sexual pleasure are frequently mentioned in these reports as reasons for non use of condom (6,23).

2.5 THE PRACTICE OF USING MODERN CONTRACEPTIVES

Relatively few adolescent women are currently using contraceptives. Analysis of data from health surveys show consistently high level of knowledge about contraceptive methods among adolescents in developing countries but relatively low level of contraceptive use (43). In sub- Saharan Africa, the proportion of women aged 15-19 who reported that they were using family planning methods ranged from 2% in Niger, Rwanda, and Senegal to 23% in Cameroon (7). In India, only 7.1% of married women aged 15-19 were using contraceptives (8). A study conducted to assess determinants of contraceptive use among urban youths in Ethiopia, reported that there is a large discrepancy between knowledge and actual practice of contraception. In this study the most widely (90%) known contraceptive method among sexually active male respondents was condom while pill was the most (87%) widely known among females. However, only 15% of males and 39% of females had used condom and contraceptives respectively (44). Similarly, it was found that nearly two thirds of young respondents (69.3% males and 63.9%of females) in Harar reported that to have known, at least, one contraceptive method while only about one fourth (27% males and 22.6%females) reported having ever used a method (45). In one of the survey conducted in northwest Ethiopia showed that only 25% of sexually active females used modern contraceptive at the time of study (19). Most adolescents mentioned, fear of side effects, believe that pregnancy could not occur particularly at first coital encounter; partner opposed, and desire to have children to be the most important reasons for not using modern contraceptives (18,44)

2.6 EARLY MARRIAGE, PREGNANCY AND ABORTION

Early marriage is also one of the most important problems adolescents are facing. In many parts of developing world especially in rural areas, girls marry shortly after puberty and sometimes even before. There is a considerable pressure on the young married woman to bear a child immediately (46). Globally, more than 10% of all births are to women 15 to 19 years (3). Young women who have not reached full physical and physiological maturity are almost three times as likely to die from complications in childbirth as older women. It has also been found that pregnant women under 15 are 4-8 times more likely to die during pregnancy and childbirth than those aged 15-19. Women in Algeria, Bangladesh, Ethiopia, Indonesia and Nigeria who become pregnant when aged 15-19 ran a greater risk of dying, sometimes twice as high as those in their twenties (46). Demographic health surveys of 11 Sub-Saharan African countries showed, in many cases, sexual experience precedes marriage. Early marriage is particularly common in Mali, Mozambique and Uganda. In Mali, 70% of young women first married before age 18. In all of the countries surveyed, more than one fifth of recent births were being reported as unintended (47). Similarly, in Ethiopia, unintended pregnancy was found to be 15% in Harar (45), 30% in Gondar (48) and 50 % in Koladiba around Gondar (19).

A study conducted in Addis Ababa among youth reported that 50% female respondents were pregnant in the past, of which 74% end in illicit abortion (20). In another study conducted in southern Ethiopia, the lifelong prevalence of teenage pregnancy among adolescents was estimated to be 37%(38). Though these may not be representative, a study done to assess induced abortion and prevalence of STDs and contraceptive behavior among abortion cases in

Gambella Hospital revealed that all of the induced abortion cases were less than 30 years of age (49). Similarly out of 148 abortion cases admitted to Debremarkos Hospital from July 1999 to June 2000, 140 (94.6%) were induced abortions under 30 years of ages (50).

In developed countries the issue of early marriage is not the case. The trend over the past decades, in United States, has been towards increasing births outside marriage. In 1970, 30% of all births to adolescents occurred outside of marriage, this figure has now risen to 67% (26). In rural community in USA, 20% of girls became pregnant as teenagers and 12% were mothers before age 20 while in the suburban community there was virtually no adolescent child bearing (26)

2.7 INFORMATION SOURCE ON ADOLESCENT REPRODUCTIVE HEALTH.

The most critical element in creating a safe and supportive environment is to engage adults as positive actors in young people's lives. Little can be done to improve the sexual and reproductive health of adolescents without support of adults (6). Moreover, when they are surveyed many parents and young people alike reported that they prefer parents to be the main source of adolescents` information about sexuality and RH (6). However, studies also indicate that parents, in fact, do not talk to their children because they feel confused, ill informed, or embarrassed about these topics. Many adult relatives have failed to discuss sexual issues with their ward or that young people prefer not to discuss such issues with their adult relatives (51).

Most adolescents reported that they felt it is culturally shameful to discuss about physical and psychological changes during adolescence with adults (52,53). The large proportion of respondents, 46% of males and 39% of females in Nigeria said their source of such information was friends and schoolmate (52). The second most common source of information

was the mass media. Reports of most adolescent RH studies in Ethiopia revealed that the most common source of information on HIV/ AIDS was the media (20,36,38). Survey results also revealed that information about reproduction that young people receive from friends and the media might often be incomplete or incorrect. Because fewer than half urban young people- only 43% of females and 38% of males who had reported their common source of information on RH was media, realized that there is a chance of pregnancy at first intercourse. As many as 15 % of females and 16% of males stated that pregnancy could not occur at first intercourse (51). It is an accepted fact that social norms shape the behavior and attitude of young people about appropriate sexual activity. It has been said; a loving but firm environment that encourages a gradually increasing degree of independence will build self-esteem in the adolescent. How ever, with neither the guidance of traditional cultures, the information to make educated choices, nor the facilities for reproductive health services, adolescents are left on their own. They often experiment with their sexuality sometimes with immediate disastrous results (54).

2.8 HEALTH SERVICE UTILIZATION OF ADOLESCENTS AND THEIR PREFERENCES

Viewing adolescents as specific group with their own needs is a relatively recent practice, especially in developing countries. Young unmarried people in the past were not expected to need reproductive health services. If young women –no matter how young – were married they received the same services as older women, except no body assumed the young women need pregnancy prevention (52). Adolescents avoid using existing RH services for a variety of reasons, including policy constraints, operational barriers, lack of information and feeling of discomfort. Laws in many countries restrict access to certain kinds of health services according to age, marital status, or both. Operational barriers like inconvenient hours of operation lack of convenient transportation and high costs of services were considered the

most important reasons adolescents avoid using existing health services even though policies allowed them to use (52) Moreover, feelings of discomfort, like belief that the services are not intended for them, concern that staff will be hostile or judgmental, fear that their parents learn of their visit are also considered important barriers. Current programs and health personnel in many developing counties are usually ill equipped to reach and assist such young people.

Case studies from Senegal and South Africa, for example, indicate that when adolescents approached clinics for help, they are often scolded, refused of information, or turned away (6). A need assessment report among NGOs in Ethiopia involved in RH revealed that with few exceptions, health care providers and social sector professionals agree that the existing health care services do not meet the needs of today's young people (55). Few studies conducted on service utilization patterns of adolescents in the country revealed the same fact. An interview of students at Bahir Dar provide reasons why their friends do not seek RH information or services: shy, shame, or believe that it is against the traditional culture think or unaware of services available were reported to be the major ones (56). As school adolescents in Addis Ababa had mentioned, fear of being seen by parents and others, embarrassment at needing RH services and expensive services to be the major barriers to use RH services by adolescents (38). In addition, 70% of them preferred special hours for adolescents, 44.3% young provider of the same sex and 53% special discount on service fees for adolescents (38). It was also found that the concept of RH had not properly understood by health care providers and health administrators at different positions in the country (50,55,57).

In summary, though adolescents are considered by the societies relatively disease free, they are at greater risk of various health problems, like early and unsafe sexual activity, unintended pregnancy, STDs and AIDS. There are also several misconceptions abound concerning HIV/AIDS, pregnancy, condom and contraceptive. Moreover, they lack adequate sexual and RH information to make appropriate decisions. There are rapid social changes resulting in decreasing age at menarche, increasing age at first marriage, unemployment and urbanization. There are also western cultural diffusions and erosions of traditional cultures in the developing world all of which have a disproportionate effect on the adolescents' health. Due to fear of social disapproval and lack of convenient health services for them, only very small numbers of adolescents were found utilizing health services in many developing countries. Most of these problems were found to be more sever among the out of school and rural adolescents than their school and urban counterparts. This study will try to answer questions like what are the reproductive health needs of out of school adolescents? Are there differences in these needs among urban and rural? It also intended to assess their health service utilization patterns and to describe socioculrural factors affecting adolescent RH.

3 OBJECTIVES

General

To assess and compare reproductive health needs of rural and urban out of school adolescents so that information will be generated that could help policy makers and programs managers to design appropriate reproductive health services.

Specific

1. To identify differences in reproductive health needs of rural and urban out of school adolescents.
2. To assess knowledge and behavior of out of school adolescents on sexual health, pregnancy and contraception, STDs and HIV/AIDS.
3. To assess health service utilization patterns and health service preferences of out of school adolescents.
4. To describe socio- cultural factors influencing reproductive health needs of rural and urban out of school adolescents.

4. METHODOLOGY

4.1. THE STUDY AREA

The study area is East Gojjam Administrative zone, which is one of the 11 Zones in the Amhara National Regional State. The capital of the zone, Debremarkos is located 300 kilometers northwest of Addis Ababa along the high way that extends from Addis to Bahir Dar. East Gojjam zone has a total area of 13809 square kilometers, of which 51% is arable land Out of the total area 27% is lowland (500- 1500 Meters above see level), 54% is Temperate (1501-2500 Meters above see level), 17% is Highland (2501-3500 Meters above see level) while 2% is Cool (>3500 meters above see level). The zone is situated between 10^{o} 6^{1} 36^{11} and 11^{o} 6^{1} 00^{11} North latitude and between 37^{o} 5^{1} 18^{11} and 38^{o} 26^{1} 36^{11} East longitude.

Based on the 1994 National population and housing census of Ethiopia, the population of the zone as projected for July 2001 was approximately 2 million (58). Out of these, 90.4% live in rural areas where as 9.6% are urban dwellers. Of the total population about 24% are in the age range of 10-19 years. Most people of the zone (90.4%) are economically dependent on traditional rain fed agriculture. The gross primary school enrollment rate and the physical health service coverage of the zone were 46 % and 36% respectively in the year 2000 (59).

The capital of the zone, Debremarkos, was selected to represent the urban community for this study because it is the largest town in the zone and it has large number of out of school adolescents due to various reasons. One of these reasons may be that it may serve as home for rural migrants of the zone. The town is subdivided into 12 kebeles and has a council that is responsible for political and administrative affairs. As of July 2001, there are 68600 people

living in the town, of which 28% were adolescents. There are a total of 6 different health institutions in the town. Three of these are privately owned. Two are under public ownership (one health center and one hospital). One clinic is under Non Governmental Organization (NGO). In addition there are two pharmacies and three drug vendors in the town. According to the report of woreda education office, there are five public and two private primary schools and two public secondary schools in the town. The gross primary school enrolment rate at the end of June 2001was 69%.

Excluding Debremarkos and Guzamin woreda whose most kebeles are semi-urban, three woredas namely, Bibugne, Basoliben and Enarj Enawga were selected from the rest of twelve woredas in the zone through cluster sampling. Basoliben is situated on the southern part of the zone about 30kms away from the zonal capital. Bibugne and Enarj Enawga are 80 kms and 125 kms away from Deberemarkos on the western and eastern part of the zone respectively. There are about 142000 people in Basoliben, 104700 in Bibugne, and 158000 in Enarj Enawga in the year 2001. The physical health service coverage ranges from 30% for Bibugne, 36% for Basoliben to 39 % for Enarj, where as the primary school enrollment rate ranges from 44% in Basoliben, 53% in Enarj to 65% in Bibugne in the same year. The six selected rural kebeles are on average 5 to 16kms away from the capital town of respective woredas.

4.2 STUDY DESIGN

The study design is a cross sectional comparative survey planned to assess and compare reproductive heath needs of out of school adolescents in rural and urban settings of East Gojjam.

4.3 STUDY POPULATION

The Source population is all out of school adolescents in Debremarkos town and three rural woredas, namely, Bibugne, Basoliben and Enarj Enawga. Study population is all adolescents in 12 (6 Urban and 6 Rural) kebeles not attending regular day school at the time of the study.

Inclusion criteria: Those aged 10 – 19 years, both sexes, school dropouts, working in the informal and formal sectors, and those who are attending night schools.

Exclusion criteria: Those who are attending regular day school at the time of the study.

4.4 OPERATIONAL DEFINITION

Adolescents: All young people in the age group 10-19 years. (1)

Out of school adolescents: Adolescents who are not currently attending regular day school.

Reproductive health: A state of complete physical, mental and social well being not merely absence of disease or infirmity, in all matters relating to reproductive system and its functions and processes (12).

Need: Requiring services and information because they are important or useful for betterment of health and not simply one would like to have them.

Perceived needs: Needs that an adolescent himself recognized.

Unperceived needs: needs the adolescent himself does not recognize

Reproductive health needs: perceived and unperceived health needs related to sexuality, contraception, pregnancy, STDs, HIV/AIDS, access to services and reproductive health information.

Sexual Activity: Is defined in this study as relation of two adolescents of opposite sexes, which involves sexual intercourse. It is synonymous with the expressions like sexual experience and has had sex that is used in this paper

4.5 SAMPLE SIZE DETERMINATION

The prevalence of knowledge of reproductive health needs among study subjects are not known from previous surveys. Therefore, it is assumed that these prevalence to be 50% for rural out of school adolescents (P_1) and 65 % for urban ones (P2) based on the assumption that the difference in this prevalence between rural and urban to be 15%. Level of significance α = .05 and β = 0.10.

Formula for calculating the sample size

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

P = Pooled or weighted average of P_1 and P_2, n_1 = rural out of school adolescents,

n_2 = urban out of school adolescents, with $n_1 = n_2$, $r = 1$

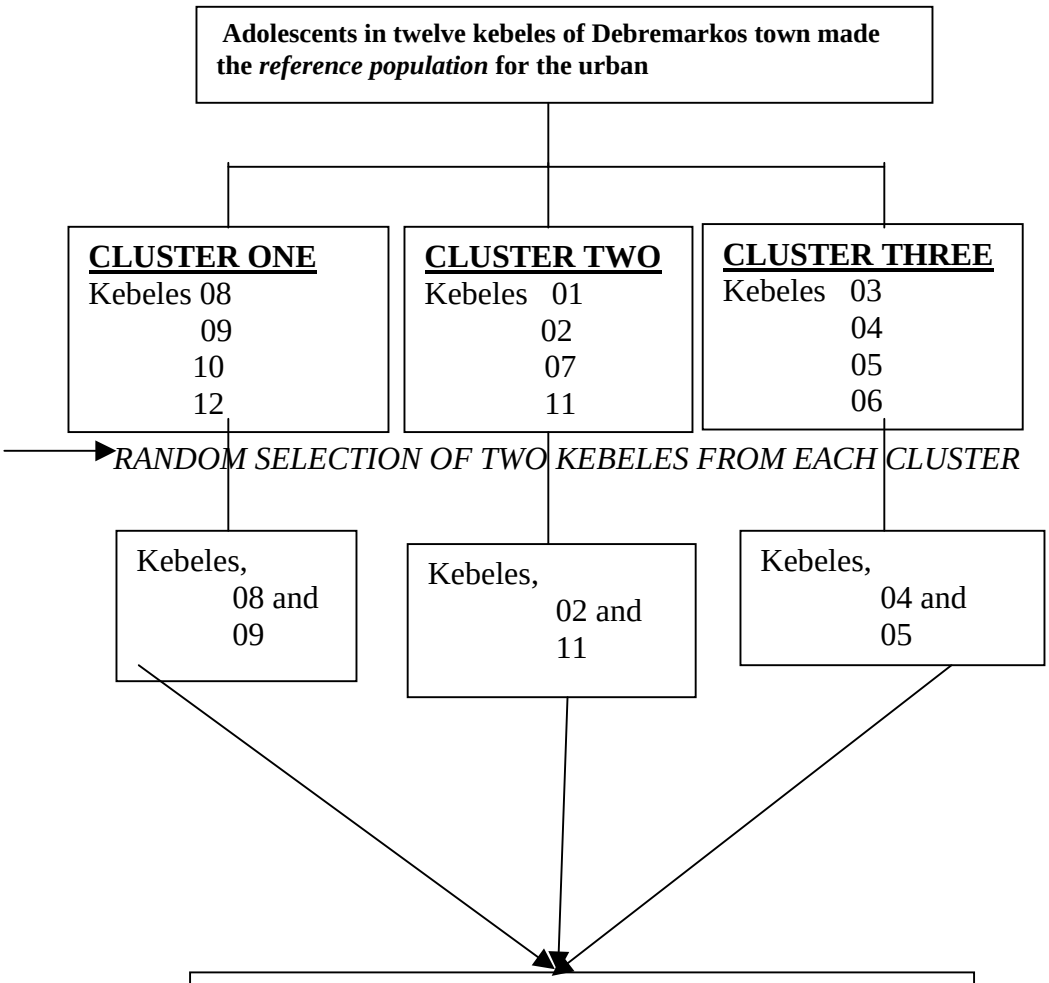
$Z_{\alpha/2}$ = The Z - score corresponding to the probability with which it is desired to be able to conclude that an observed difference of size (P_1-P_2) of variable between rural and urban out of school adolescents would not occur by chance.

$Z_{1-\beta}$ = The Z- score corresponding to the degree of confidence with which it is desired to be certain of detecting a difference of size $(P_1 - P_2)$ between variables if that actually present. With the above assumptions $n_1 = n_2$ = **226.** Since the sampling procedure is a cluster sampling and involved more than one stage a design effect of 2 is taken. The interview involves private life questions and hence a relatively large proportion of non- response rate is expected. Therefore, 15% non- response rate is added to the total calculated sample size. These make the over all sample size of **1040.** Then, the number of subjects to be interviewed was allocated to each kebele using the principle of probability proportional to size (**P.P.S**.).

4.6 SAMPLING PROCEDURES

Twelve kebeles in Debremarkos town were grouped into three clusters of each consisting four kebeles based on their neighborhood. Then, from each cluster two kebeles were selected randomly making a total of six urban kebeles. Estimated number of the total population was taken from the woreda council of the town just before the study. The sample size for the urban, 520 was divided and allocated to each of the selected kebeles according to the principle of probability proportional to size. Which means kebeles that were found to have large number of adolescents, based on the measure of size, were given greater probabilities. (See next Figure 1). Exc*l*uding Debremarkos town and Guzamin woreda, whose most kebeles are semi-urban, the rest 12 rural woredas were grouped into three clusters of each consisting four woredas based on woreda boundaries. For resource constraints and logistic reasons, extremely remote and inaccessible kebeles from each woreda were excluded. To have good representative rural community urban and semi - urban kebeles were also excluded. From the remaining kebeles two were selected from each woreda. Estimated total population for each selected rural kebeles was found from the zonal health department. Then, the sample size of rural community, 520, was allocated according to the principle of probability proportional to size to each of the selected kebeles as it was done for the urban kebeles. (See Figure 2)

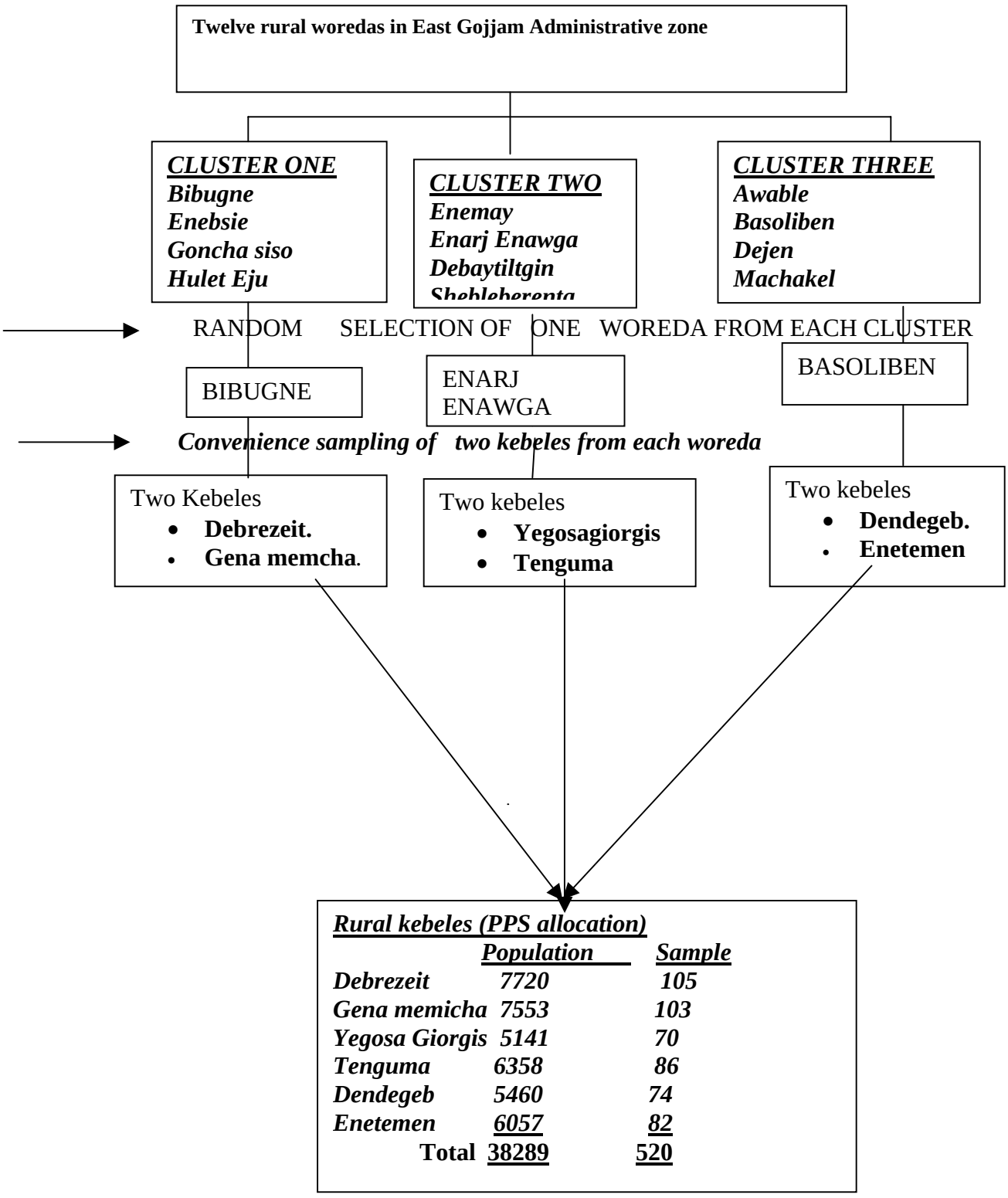
FIGURE 1: Schematic representation of the sampling procedure _ Urban



Urban Kebeles (PPS allocation)

	Population	***Sample***
02	***4245***	***71***
04	***6176***	***104***
05	***6263***	***105***
08	***6685***	***112***
09	***4503***	***75***
11	***3146***	***53***
TOTAL	**31018**	**520**

FIGURE 2*:* **Schematic representation of the sampling procedure - Rural**



4.7 PROCEDURE OF IDENTIFYING HOUSEHOLDS AND INTERVIEWING

In each of the 12 kebeles, a modified random walk method was followed to identify households and interview adolescents (60, 61). That is, after at least four starting points (such as rivers, roads, churches, schools etc.) were identified for each kebele using the map of each woreda and by communicating with a knowledgeable person in each kebele, two starting points were selected randomly together with direction of walk. We prefer to have two starting points to reduce the clustering effect if only one starting point was selected. Then the total sample size for that particular kebele was divided into two. Half was interviewed beginning from the first starting point and half starting from the second**.** From the first randomly chosen starting point and direction of walk, the nearest household had been visited as the first sampled household. After completing interview(s)in this household, we have chosen the household whose front door was nearest the first sampled household as the second household. After each interview we continued to choose the nearest household and interview eligible until the target number of adolescents have been obtained. When eligible respondent was identified that for some reason could not be easily interviewed (eg.when he or she was not at home) we made at least three more attempts to interview each eligible respondent identified rather than simply skipping them. If after three attempts it was not possible to interview the individual, the case should be dropped out as a non-response.

4.8 QUESTIONNAIRE DEVELOPMENT

After review of relevant literatures, a great number of questions that can address the objectives of the study were gathered and adapted from previous similar studies and other materials (38, 60). The questions and statements were grouped and arranged according to the particular objectives that they can address. Then, the first draft of the questionnaire was produced and submitted to the advisors and colleagues including sponsoring organizations for comments. Valuable suggestions were taken from these individuals to improve the instrument. Accordingly, redundancy, vagueness, and logical flow of the questions were corrected. After extensive revision, the final version of the English questionnaire was developed. An individual who have a very good ability of both English and Amharic languages translated this final English version to Amharic. Another individual of similar ability then translated the final or the agreed Amharic version of the questionnaire back to English with the first to see consistency in the content of the instrument.

4.9 MEASUREMENT VARIABLES

Questions were developed and organized in such a way that to assure measurement of the following variables. Sociodemographic variables, variables on sexual health, pregnancy and contraception, variables on reproductive and sexual health information, socio-cultural influences on adolescent reproductive health and variables on health service utilization and preferences.

Dependent variables: Sexual activity, pregnancy, contraceptive use, condom use, health service utilization, and health service preferences.

Independent variables: Socio-demographic variables (sex, age, educational status, income, family status and parents education), residency, knowledge and attitude.

4.10 PRETEST

Pretest of the questionnaire was carried out in one rural and one urban kebeles that have similar sociodemographic characteristics with the people of the study area. A total of 60 subjects (33 females and 27 males) were interviewed of which 31 were from a rural kebele named Wenka in Guzamin woreda and 29 were from kebele three of Debremarkos town. On average it took 44 minutes (range 35 to 58) minuets to complete an interview. During the interviewing for the pretest the questions frequently asked were documented for further consideration. Both the interviewers and supervisors assessed clarity, understandability and completeness of questions. After the result of the pretest was discussed with the advisors, some corrections and changes were made on the questionnaire. Some of the corrections were;

- Written consent was replaced by verbal consent because some of the participants were signing by writing their names and became suspicious of being identified later on.
- Some questions like 56 and those from 82 to 86 were modified so that alternative responses to be read to the respondents by the interviewers.
- Missing responses like “Do not know “and “neighbors” and “schools” on question 18 and skipping patterns were also corrected
- The number of kebels to be selected from each cluster were increased from one to two based on the findings of the pretest that had indicated larger number of households to be visited than expected to interview one eligible.

4.11 DATA COLLECTION

Both the interviewers and supervisors were given an interview guide prepared in Amharic, which was developed during the training. Data were collected using an interview questionnaire, which consists 86 variables categorized into five parts. The actual data collection was done from April 23 – May 9, 2001 using ten-trained 12^{th} grade complete students. Data on income for the rural adolescents were collected in kind. All types of production like crops, vegetables, milk and milk products, honey, all types of animals that an individual had reported to have for that particular year were registered on the back side of the questionnaire during the process of data collection using locally accepted measurements like " Sahin, Madaberia, Mankorkoria etc." Registered productions in kind were converted to cash using local market price to get the annual income for an individual. We registered the monthly income for each respondent dividing the annual figure by 12.

4.12 DATA QUALITY ISSUES

The quality of data was assured through careful design, translation and retranslation, and pretsting of the questionnaire, proper training of the interviewers and supervisors, close supervision of the data collecting procedures proper categorization and coding of the data.

Recruitment and training: The data collectors were recruited based on the following general criteria. Both sexes, 12th grade completed and above, unmarried, age of 20 years and above, free of any addiction, physically fit, those who have similar experience and fluent in Amharic language. Based on this general criteria six female and four male interviewers who have similar experience were selected. Gender matched selection was preferred since the study involves private and personal issues and it is assumed that this procedure would help to

reduce communication difficulties and hence non response rate during data collection. The recruitment of supervisors was done together with the zonal health department. Very great attention was given to recruit efficient and genuine individuals. Accordingly, two nurses who have better experience were selected. After recruitment, a thorough training was given for both the interviewers and supervisors for three days before the pretest and for a day after the pretest. The training includes discussing the questions one by one, briefing on the general objective of the study, discussing about general techniques of interviewing and how to approach the respondents, how could one keep confidentiality and privacy, and role-playing practices.

Supervision: During the actual data collection, each supervisor has to supervise five data collectors. The supervisors had checked the activities of each data collector by moving with them in each kebele and sometimes by revisiting households. Each night the supervisors have checked all the questionnaires filled for completion, clarity and proper identification of the respondent. Then the principal investigator randomly checked at least 10% of the supervisors work each day. Incomplete and unclear questionnaires were returned to the interviewer the next morning to get it completed. When data collection from a particular kebele was completed a thorough checkup was made before leaving that area.

4.13 DATA MANAGEMENT AND ANALYSIS

After data collection, each questionnaire was coded for rural and urban areas separately. Almost all the variables in the questionnaire were followed by end coding, that is, the use of the right margin of the questionnaire for writing the code numbers and each variable was coded accordingly. The layout scheme for data entry was developed and was pretested for

ranges, skipping patterns and allowed legal values by entering 50 questionnaires. After this validation the principal investigator and an individual that has a good deal of experience entered data using EPI INFO version 6.04 statistical package. Computer frequencies were used to check for missed variables and outliers. Any errors identified at this time were corrected after revision of the original questionnaire retrieved using the code numbers.

Data Analysis: Frequencies, proportions, measures of central tendencies and measures of variation were used to describe the study population in relation to socio-demographic and other relevant variables. Contingency table analysis of the association between the out come variables and explanatory variable was carried out. The χ^2 test was used to assess associations between variables. The degree of associations between dependent and independent variables were assessed using crude Odds ratio with 95% confidence interval using EPI INFO. Multiple logistic regression analysis was performed using SPSS version 10 statistical program to control potential confounding variables. After data was checked for normal distribution **t** test was used to compare differences between two means on different variables. Mann – Whitney U test was used for non-normally distributed and skewed data.

4.14 ETHICAL ISSUES

After the Department of Community Health (DCH) has evaluated the proposal, ethical clearance was obtained from the Medical Faculty (MF) of Addis Ababa University (AAU) ethical committee. Then, the objective of the study had been discussed with zonal administration and zonal health department and letter of agreement was obtained from the zonal administration. Each woreda also agreed on the objective of the study and wrote a letter of agreement for the particular kebeles selected for the study. Similarly, each kebele council was approached and the purpose of the study briefed before any attempt to collect data. During the actual data collection the purpose of the study and the benefits the respondents as a group could acquire like improving health services for adolescents based on the result of the study had been explained thoroughly to the respondents and their parents or guardians when required. The right of the respondents to refuse to participate in the study without any adverse consequences, and the right to refuse to answer any of the questions were discussed clearly. It was tried to assure confidentiality by minimizing disclosure of personally sensitive information through appropriate training of the interviewers on the issue, maintaining strict privacy during interviewing and by making the questionnaire anonymous. Informed consent was obtained from study subjects directly and from parents and guardians when need aroused. However, some of the adolescents were uninterested to tell their sexual histories. Out of the 39 individuals who refused to participate in the interview, most of them reported that they were not old enough to tell about their sexual history. Some of them even refused after they have responded to the first 18 questions and when questions on sexual history started. Some of the guardians feared that discussing such an issue would lead their children to involve in sex. However, these did not affect our data collection activity.

5 RESULTS

5.1 SOCIO - DEMOGRAPHIC CHARACTERISTICS

A total of 2806 households were visited in the six urban kebeles, of which only 492 households were found to have eligible (out of school adolescents aged 10-19 years). In the 492 households, 520 eligible were identified. However, only 490 (94.2%) agreed to be interviewed. In the six rural kebeles, 1134 households were visited, out of which only 514 households were found to have eligible. In the 514 households, 520 adolescents were identified, of which only 511(98.3%) had volunteered to be interviewed. Totally 1001 (96.3%) of them responded for the interview.

Out of the study subjects, 51% were from rural areas while the rest were from urban. More than half, 56.5% of the respondents were females with male to female ratio of 0.77: 1. The mean (±SD) age of the study subjects was 16 (± 2.55) years and the median was 16.0 years. Out of the total 437 (43.7%) had ever married, of which 236 (54%) had already divorced. (Table1).

The majority, 663(66.2%) of adolescents' fathers were illiterate, of which 62% were from rural areas. Of the fathers, those who were able to read and write comprise 17% while 16.8% of them had formal education. About 95% of those who had formal education were from urban areas. Similarly, most, 83 %of the adolescents' mothers were illiterate, out of which 60% were rural and 40% were urban dwellers. The rest 5% and 12% were able to read and write and had formal education in that order. More than half, 54% of the fathers were farmers while about 11% and 9% were civil servants and have private business respectively. Six hundred seventy one (67%) of the mothers were housewives.

Table 1: Socio demographic characteristics of out of school adolescents by place of residence in East Gojjam, May 2001.

VARIABLES	RURAL (n = 511 n	%	URBAN (n = 490) n	%	TOTAL (n = 1001) n	%
Sex						
Male	235	46.2	200	40.8	435	43.5
Female	276	53.8	290	59.2	566	56.5
Age						
10-14	144	28.2	111	22.7	256	25.6
15-19	367	71.8	379	77.3	745	74.4
Religion						
Orthodox	506	99.0	480	98.0	986	98.5
Others	5	1.0	10	2.0	15	1.5
Ethnic group						
Amhara	511	100.0	486	99.2	997	99.6
Others	----	-----	4	0.8	4	0.4
Marital status						
Never married	170	33.3	394	80.4	564	56.3
Currently married	162	31.7	19	3.9	181	18.1
Divorced	160	31.3	76	15.5	236	23.6
Separated/widowed	19	3.7	1	0.2	20	2.0
Educational level						
Illiterate	428	83.8	167	34.1	595	59.4
Read and write	36	7.0	15	3.1	51	5.1
Primary	44	8.6	138	28.2	182	18.2
Secondary	3	0.6	170	34.7	173	17.3
Occupation						
Unemployed	286	56.0	239	48.8	525	52.4
Daily laborer	2	0.4	46	9.4	48	4.8
Maid servant	22	4.3	83	17.0	105	10.5
Farmer	134	26.2	--	--	134	13.4
In private sector	1	0.2	29	5.9	30	3.0
Private business	21	4.1	82	16.7	103	10.3
Others	45	8.8	11	2.2	56	5.6
Income (in Birr)						
None	308	60.3	257	52.4	565	56.4
3-50	59	11.5	176	35.9	235	23.5
51-100	32	6.3	33	6.7	65	6.5
101-150	39	7.6	14	2.9	53	5.3
151+	73	14.3	10	2.0	83	8.3
Perceived family econom status						
Poor	148	29.0	230	46.9	378	37.8
Medium	292	57.1	243	49.6	535	53.4
Rich	71	13.9	17	3.5	88	8.8
Living most of the time with						
Both parents	245	48.0	118	24.1	363	36.2
Single parent family	42	8.2	147	30.0	189	18.9
Others	74	14.5	210	42.9	284	28.4
Husband or wife	150	29.4	15	3.1	165	16.5

5.2 KNOWLEDGE ON REPRODUCTIVE AND SEXUAL HEALTH

Out of the study subjects only 80(8.0%)of them answered that a woman is most likely to become pregnant halfway between two periods, of which the majority, 80% were from urban areas (Table2). The proportion of male and female adolescents who replied correctly to this question was 8.3% and 11.3% respectively. Out of the total study subjects, 784 (78.3%) of them had reported that they know at least one means of avoiding pregnancy. Knowledge of urban adolescents was three times higher than the rural ones. Oral pills, injectables, and condoms were the most recognized contraceptive methods that were reported by 93%, 59% and 48% respectively. Moreover, a sizable proportion, 17.6% of the participants agreed douching to be one of the alternative methods of contraception and only 46% of them know that a girl could get pregnant the first time she had sex. Eight hundred thirty seven (83.6%) of the participants knew diseases that a person can acquire through sexual intercourse. Knowledge of adolescents on this question was found to be about four times higher for urban adolescents. Among 837 respondents who know at least one of the diseases that can be transmitted through sexual intercourse, the majority, 801 (96%) of them mentioned AIDS and 45.3% mentioned gonorrhea and almost an equal proportion of them stated syphilis. Whereas only 19% and 17% of them mentioned lymphogranulom venereum and chancroid respectively. It is interesting to state that 29 and 5 of the participants mentioned tuberculosis and hemorrhoids to be STDs respectively. Out of 781 participants who mentioned there is means of preventing STDs and AIDS, most, 79% mentioned abstinence, 43% to use condom, 29% to remain faithful to a partner and 11% to avoid sex with Commercial Sex Workers (CSW) to be ways that a person should follow to avoid getting these diseases. Out of nine hundred twenty two (92%) of the respondents who

had reported that they have heard about HIV/AIDS, 89% stated unsafe sex, 53% sharing syringes and needles, 22% transfusion of infected blood and 2.3% and vertically from mother to child to be the major means of HIV transmission. Only 53% of them know that a healthy looking person can have HIV. The proportion of participants who agreed that a person can get HIV the first time he or she had sex was found to be very small, only 40%

5.3 SOURCE OF INFORMATION ON REPRODUCTIVE HEALTH

Parents (48%), peers (26%), heath workers (11%) and media (10%) were mentioned to be the common source of information on sexual maturation in that order of importance. Female respondents had reported that they prefer parents (52%), health workers (34%), peers (18%) and partner (13%) to discuss with to get more information about pregnancy respectively. More urban female adolescents want to discuss the issue with health professionals and peers where as most rural adolescents prefer it to be with parents and partner. Media (37%), peers (35%), parents (31%); neighbor (28%) and health workers (21%) were reported to be the major source of information on STDs/AIDS. Out 99 respondents who stated media to be their source of information on sexual maturation, only 13% of them were from rural areas. Similarly out of 371 respondents who stated media to be their source of information on STDs and AIDS, only 18% were from rural areas (Figure 3).

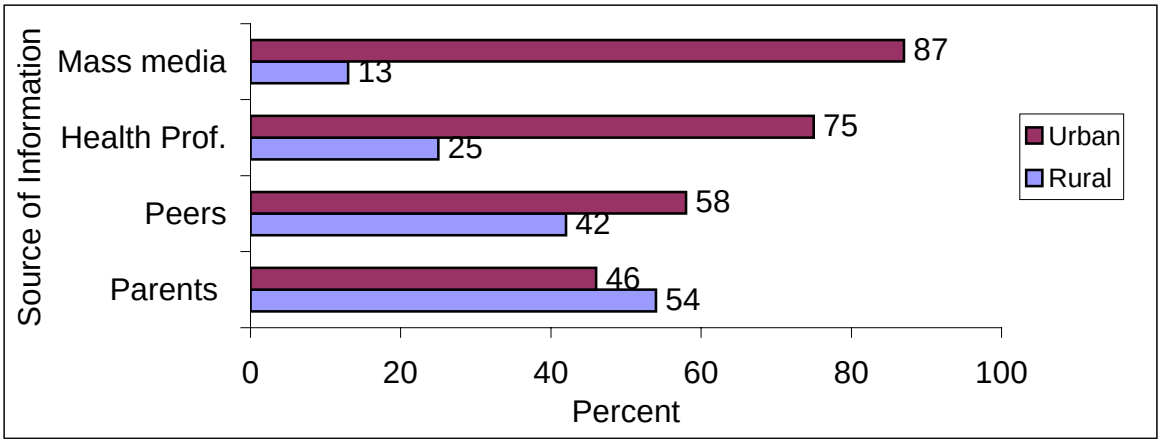
Table 2: Comparison of reproductive health knowledge of out of school adolescents between rural and urban in East Gojjam, May 2001. (n=1001)

Variables	Rural (n=511)		Urban (n=490)		OR (95% CI)
	n	%	n	%	
Knowledge of the likelihood occurrence pregnancy during menstrual cycle					
In the middle of her cycle	16	3.1	64	13.1	1.00
During her period	57	11.2	51	10.4	4.47 (2.19, 9.21)*
Right after period is ended	192	37.6	137	28.0	5.61(3.00, 10.58)*
Just before her period begins	47	9.2	72	14.7	2.61 (1.29, 5.34)*
The same throughout	7	1.4	17	3.5	1.65 (0.52, 5.18)
Don' know	192	37.6	149	30.4	5.15 (2.77, 9.71)*
Know means of avoiding pregnancy					
Yes	355	69.5	429	87.6	0.32 (0.23, 0.45)*
No	156	30.5	61	12.4	1.00
Know diseases that can be transmitted through sexual intercourse					
Yes	382	74.8	455	92.9	0.23(0.15, 0.34)*
No	129	25.2	35	7.1	1.00
Know means of STD and HIV/AIDS prevention					
Yes	353	69.1	428	87.3	0.32 (0.23, 0.45)*
No	158	30.9	62	12.7	1.00
Have heard about HIV/AIDS					
Yes	450	88.1	472	96.3	0.28(0.16, 0.50)*
No	61	11.9	18	3.9	1.00
Know what safe sex mean					
Abstinence	86	16.8	142	29.0	1.00
Using condom during every sex	12	2.3	42	8.6	0.49 (0.23, 1.03)
Avoiding multiple sex partners	35	6.8	89	18.2	0.68 (0.41, 1.11)
Avoiding sex with prostitutes	16	3.3	4	0.8	6.88 (2.07, 25.25)*
Having sex with a faithful partner	51	10.0	47	9.6	1.87 (1.13, 3.10)*
Others	5	1.0	2	0.4	4.3 (0.72, 32.78)
Do not know	306	59.9	164	33.5	3.21 (2.29, 4.51)*

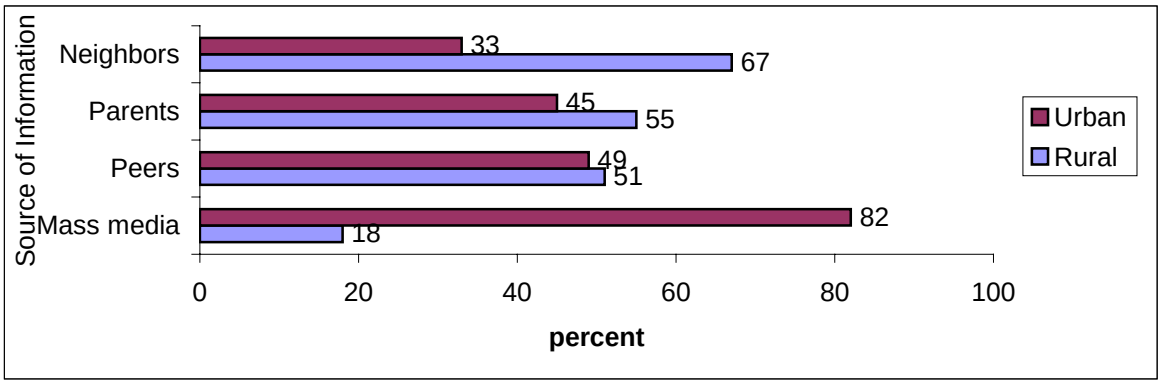
N.B * = Significance difference

Figure 3: Source of information on selected reproductive health issues

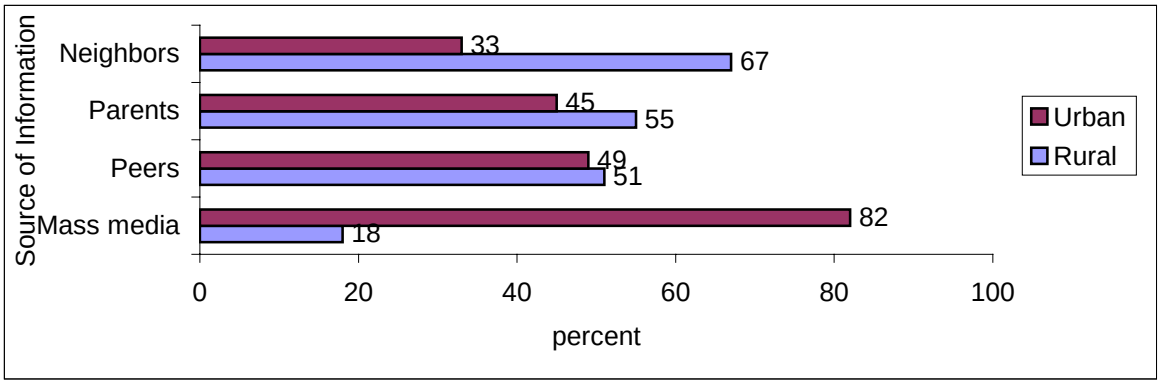
1. Source of information on sexual maturation



2. Prefers to discuss about pregnancy with



3. Source of information on STDs and HIV/AIDS



ATTITUDE TOWARDS SELECTED SEXUAL AND RH HEALTH ISSUES

Most of the results on attitude questions were summarized in Table 3 and the rest were as follows. Six hundred ninety five (69%)of the study subjects replied that they definitely could to have sexual relations only with a single person, while about two thirds 66% of those who were not sexually active reported they could abstain from sex for the next 12 months. About 18% of the participants said it is difficult for adolescents to get condom. Out of the reasons mentioned, about 40 % reported it is difficult to obtain, 12% said parents and providers disapproved, 10% said too far to get condom and 8% mentioned it is shame for adolescents to ask condom. The study participants were asked their opinion on the ideal age for a girl and a boy to marry. The mean ages at marriage as stated by the participants were 16.1 and 19.9 years for girls and boys respectively. Rural adolescents have mentioned lower ages at marriage, mean age at marriage = 13.9 years for girls and 17.8 years for boys than the urban adolescents who reported mean age = 18.2 years for girls and 22 years for boys $t = 19.5$, $P < .0001$ and $t = 14.64$; $P < 0.0001$ respectively. Moreover, 44% of the participants agreed that a girl should marry at or before age 15, while only 13% of them agreed a boy should marry at this same age.

Table 3: Attitudes of out of school adolescents towards selected sexual and reproductive health issues by place of residence in East Gojjam, May 2001.

Variables	Rural (n=511)		Urban (n=490)		Total		χ^2
	n	%	N	%	n	%	
Using condom is a sign of not trusting your partner							
Agree	192	37.6	171	34.9	363	36.3	57.6***
Not sure	198	38.7	103	21.0	301	30.1	
Disagree	121	23.7	216	44.1	337	33.6	
A boy should have sex before he gets married.							
Agree	126	24.7	77	15.7	203	20.0	23.5***
Not sure	79	15.4	49	10.0	128	32.8	
Disagree	306	59.9	364	74.3	670	67.0	
Discussing condom or contraceptive with young people promotes promiscuity							
Agree	93	18.2	112	22.9	205	20.5	69.0***
Not sure	193	37.8	72	14.7	265	26.5	
Disagree	225	44.0	306	62.4	531	53.0	
Believe that they have done somethir that put at risk of getting AIDS.							
Yes	12	2.4	37	7.6	49	4.9	13.5**
No	499	97.6	453	92.4	952	95.1	
Believe that they are at risk of getting the AIDS virus in the next 12 month.							
Yes	39	7.6	61	12.4	100	10.0	5.93*
No	472	92.4	429	87.6	901	90.0	

N.B * = P <0.05, ** = P <0.001, *** = P <0.0001

5.4 REPRODUCTIVE AND SEXUAL HEALTH BEHAVIORS

Out of 1001 participants, 45% have reported to be sexually active at least once before the time of the study, out of which 141(31%) were males while 311 (69%) were females. Only 34 of 311 (10.9%) never married male adolescents were sexually experienced compared to 57 of 253 (22.5%) never married females. The mean (±SD) age of sexually active participants at sexual onset was 13.6 (± 2.7) years. Rural adolescents had earlier sexual onset compared to the urban ones. (Mean = 13.1 versus 14.7 years; $t = 5.71$; $P < 0.0001$). Similarly females had earlier sexual engagement (mean = 12.7 years) than males (mean=15.5 years) $t = 11.68$, $P < 0.0001$. Out of 452 sexually active out of school adolescents 212 (46.9%) had more than one lifetime sexual partner. (Table4). The mean (±SD) lifetime number of sexual partner per sexually active participants was 3.1 (±14.4). After controlling for possible confounding variables sexual activity was found to be significantly associated with many of the independent variables (Table5). Those who live in rural areas have three times greater risk of sexual engagement than the urban ones. The older the age has almost five times risk to be engaged in sex. Similarly females have more than three times risk of sexual engagement compared to males. The number of sexual partners was higher for females than males. Applying Mann – Whitney- U test, the difference is found to be significant (mean rank for males =195.6 and for females = 235.7; $Z = -3.37$, $P = 0.001$).

Among the reasons for engaging in sexual debut the first time, being married was mentioned by 68% of the sexually active participants, have desire to do so by 11%, fall in love by 10%, want to get married by 9%, and to get gifts by 4% to be the major reasons. However, 27 (6%) of the respondents, all of whom were females, mentioned that they were forced to do so.

Table 4: Comparison of sexual and reproductive health behaviors of rural and urban out of school adolescents in East Gojjam, May 2001.

VARIABLES	Rural (n=511)		Urban (n=490)		
	n	%	n	%	OR (95% CI)
Ever had sexual intercourse (n=1001)					
Yes	308	60.3	144	29.3	3.7 (2.8, 4.8)*
No	203	39.7	346	70.6	1.00
Life time number of sexual partner					
One	166	53.9	74	51.4	1.00
Two to five	140	45.5	51	35.4	1.22 (0,8, 2.0)
More than five	2	0.65	19	13.2	0.05 (0.01, 0.22)*
Sexual intercourse in the last six months (n=452)					
Yes	109	35.4	72	50.0	0.55(0.4, 0.8)*
No	199	64.6	72	50.0	1.00
Ever used modern contraceptives (n=452					
Yes	16	5.2	80	55.6	0.04(0.02, 0.08)*
No	292	94.8	64	44.4	1.00
Ever used condom (n=452)					
Yes	6	2.0	51	35.4	0.04 (0.01, 0. 2)*
No	302	98.0	93	64.6	1.00
Condom use during last sexual Intercourse (n=452)					
Yes	4	1.3	44	30.6	0.03 (.01, 0.09)*
No	304	98.7	100	69.4	1.00
Had ever been pregnant (n=311)					
Yes	97	49.7	38	32.8	2.03 (1.23, 3.4)*
No	98	50.3	78	67.2	1.00
Ever had STIs (n=452)					
Yes	8	2.6	16	11.1	0.21 (0.08, 0.6)*
No	300	97.4	128	88.9	1.00

N.B * = Significant difference

Modern contraceptive use was found to be very low among the study subjects. Only 96 (21%) of the sexually active had ever used modern contraceptives. Out of which the majority, 83% were from urban areas. Only 34(7.5%) of the sexually active had used contraceptive during their first sexual engagement. During bivariate analysis modern contraceptive use was significantly associated with place of residence, age, secondary education, marital status, living with single parent family and with non-parent family and for other variables (Table 6). However, after controlling for confounding variables through logistic regression, only place of residence and mothers education remain significant (OR = 0.10; 95%CI (0.036, 0.25) and (OR = 2.4; 95%CI = 1.1, 5.7) respectively.

The proportion of sexually active never married adolescents who used modern contraceptives was 52 (57%) compared to only 44 (12%) of those who had ever married. Pills 54(56%), condoms 30 (31%) and injectables 11(12%) were reported to be the most frequently used methods of contraceptives. Out of the reasons mentioned for not using contraceptives among non-users, desire to have children was mentioned by 32%, was being so kid by 19%, lack of knowledge on contraceptives by 15%, not married and have infrequent sex by 6%. However, 15% of them could not name a single reason for not using contraceptive.

Only 57 (13%), 2% of rural sexually active and 35% of urban sexually active, had ever used condom. The proportion of adolescents who have used condom during the most recent sexual intercourse was found to be as low as ever users. Only forty-eight, (11%)of the sexually active had used condom during their most recent sexual début, of which 44 (92%) of them were urban dwellers.

Table 5: Association of sexual activity of out of school adolescents with socio demographic factors in East Gojjam, May 2001 (n=1001).

	Ever had sexual inter course			
	Yes	No		Adjusted
VARIABLES			**OR (95% CI)**	**OR 95%cI**
Place of Residence				
Urban	144	346	1.00	1.00
Rural	308	203	3.65(2.78,4.78)*	3.0 (1.93, 6.24)*
Age				
10-14	36	220	1.00	1.00
15-19	416	329	7.73(5.2, 11.53)*	4.80 (2.82, 8.14)*
Sex				
Male	141	294	1.00	1.00
Female	311	255	2.54(1.94,3.33)*	3.24(2.0, 5.3)*
Education				
Illiterate	332	263	1.00	1.00
Read and write	20	31	0.51 (0.27,0.95)*	2.21 (1.1, 4.6)*
Primary	49	133	0.29(0.20,0.43)*	2.89(0.9, 9.8)
Secondary	51	122	0.33(0.23,0.48)*	1 78(0.90, 3.51)
Marital status				
Never married	91	473	1.00	1.00
Ever married	361	76	24.69(17.45,35.0)*	18.06(10.9, 30)*
Income				
None	199	366	1.00	1.00
3-50	96	139	1.27 (0.92, 1.76)	4.44(1.5, 12.9)*
51-100	40	25	2.94 (1.68, 5.16)*	5.12 (1.8, 14.3)*
101-150	44	9	8.99(4.12, 20.21)*	1.09 (0.3, 3.7)
150+	73	10	13.43 (6.54, 28.30)	0.50 (0.12, 2.0)
Living most of the time				
With both parents	137	226	1.00	1.00
With single parent family	49	140	0.73(0.38, 0.87)*	2.55(1.6,14.0)*
With others	266	183	2.4 (1.79, 3.22)*	2.19(1.33.78)*
Father's education				
Illiterate	324	339	1.00	1.00
Literate	128	210	0.64(0.5, 0.8)*	1.0(0.6,1.5)
Mother's education				
Illiterate	402	429	1.00	1.00
Literate	50	120	0.44 (0.3, 0.6)	1.7 (1.0, 2.9)*

N.B * = Significance Difference, OR = Odds Ratio, CI = Confidence Interval

Out of the most important reasons mentioned for not using condom among the non- users, negligence was mentioned by the majority 63 %, while want to get children and condom was not available were also reported.

Out of 311 sexually active female participants, 135 (43.4%) of them had ever been pregnant. Thirty-eight, 28.1% were urban adolescents while 71.9% were from rural areas. Twenty of the 135 pregnancies were among never married females. After adjusting for confounding variables, rural adolescents were found to have three and half times higher rate of teenage pregnancy than the urban ones (OR = 3.45; 95%CI = 1.4, 8.53) and those who live with single parent family have about three times higher chance of becoming pregnant compared with those who live with both parents (OR = 2.82; 95%CI =1.41, 5.63)(See Table 7).

The mean (± SD) age at first pregnancy was 15.33 (± 1.56) years. Occurrence of pregnancy was found to be earlier for rural adolescents (mean =14.98 years) than the urban ones (mean =16.22 years, $t = 4.36$, $p < 0.001$). Out of 135 adolescents who have been pregnant 49 (36.3%) of them had at least one unwanted pregnancy, of which 40 (81.6%) did not want their first pregnancy. Twenty (14.8%) of those who had ever been pregnant had abortion at least once in the past, of which the majority 18 (90%) had only one history of abortion. Out of the sexually active study subjects 24 (5.3%) of them reported that they have ever had STD symptoms. What actions have been taken when having such symptoms was also asked. Nine (37.5%)were mentioned they went to public health institution, 6(25%) reported no action was taken, 6 (25%) said they had self-treatment at home.

Table 6: Association of practices of modern contraceptive use by out of school adolescents and socio demographic factors in East Gojjam, May, 2001 (n=452)

	Ever used modern contraceptives			
	Yes	No		Adjusted
Variable			**OR (95% CI)**	**OR (95% CI)**
Place of residence				
Urban	80	64	1.00	1.00
Rural	16	292	0.04 (0.02, 0.08)*	0.10 (0.04,0.3)*
Sex				
Male	25	116	1.00	1.00
Female	71	240	1.37 (0.8, 2.35**)**	1.08(0.4, 2.8)
Age				
10-14	2	34	1.00	1.00
15-19	94	322	4.96(1.13, 30.44)*	2.56(0.40, 18.5)
Education				
Illiterate	2	18	1.00	1.00
Read and write	37	295	1.13(0.24, 7.34)	2.3 (0.8, 7.0)
A Primary	25	24	9.38 (1.78, 65.64)*	1.6 (0.2, 11.1)
Secondary	32	19	15.16(2.86, 6.65)*	0.6 (0.2,1.7)
Marital status				
Never married	52	39	1.00	1.00
Ever married	44	317	0.10(0.06, 0.18)*	0.9 (0.4,2.3)
Occupation				
None	42	170	1.00	1.00
Have some income	54	186	1.18(0.73, 1.90)	0.7 (0.2,1.9)
Income				
None	42	157	1.00	1.00
3 – 50	33	63	1.96 (1.1, 3.49)*	0.6 (0.16,2.45)
51 – 100	9	31	1.09(0.44,2.61)	0.7(0.19, 3.2.63)
101 – 150	5	39	0.48 (0.16, 1.38)	0.4(0.10,1.96)
150+	7	66	0.40 (0.15 0.98)	1.2 (0.23,6.25)
Living most of the time				
With both family	19	118	1.00	1.00
With single parent family	14	35	2.48 (1.05, 5.85)*	1.9 (0.8, 4.4)
With others	63	203	1.93 (1.07, 3.52)*	1.9 (0.7, 4.5)
Mother's education				
Illiterate	64	338	1.00	1.00
Literate	32	18	9.4 (4.8, 18.7)*	2.4 (1.1,5.7)*
Father's education				
Illiterate	49	275	1.00	1.00
Literate	47	81	3.3(2.0, 5.4)*	1.1 (0.5, 2.0)

Table 7: Association of occurrence of pregnancy with socio demographic factors among out of school adolescents in East Gojjam, May 2001(n=311).

Variables	Ever had pregnancy			Adjusted
	Yes	No	OR (95% CI)	OR (95% CI)
Place of residence				
Urban	38	78	1.00	1.00
Rural	97	98	2.03(1.23, 3.38)*	3.4(1.40 – 8.5)*
Education				
Illiterate	107	137	1.00	1.00
Primary+ Read and writ	13	23	0.72(0.33, 1.58)	2.7 (0.8,9.6)
Secondary	15	16	1.2(0.53, 2.70)	3.16(0.9,11.3)
Income				
None	56	105	1.00	1.00
3 – 50	27	47	1.08 (0.58, 1.99)	2.11(0.8,5.9)
51 – 100	11	8	2.58 (0.9, 7.82)	1.2(0.4,3.7)
101 –150	20	3	12.5(3.31, 55.43)*	1.07 (0.3, 4.0)
150+	21	13	3.0 (1.33, 6.98)*	0.15(0.03, 0.9)*
Occupation				
None	82	110	1.00	1.00
Have some occupation	53	66	1.08 (0.66,1.75)	0.70 (0.3, 1.7)
Living most of the time				
With both parents	22	61	1.00	1.00
With single parent famil	15	20	2.08(0.84,5.17)	2.8(1.4, 5.6)*
With others	98	95	2.86 (1.57,5.23)	1.03 (0.4,42.6)
Mother's education				
Illiterate	125	154	1.00	1.00
Literate	10	22	0.6(0.2, 1.3)	0.9 (0.3, 2.2)
Father's education				
Illiterate	101	121	1.00	1.00
Literate	34	55	0.7(0.4, 1.3)	0.8(0.5,1.5)
Marital status				
Never marred	20	37	1.00	1.00
Ever married	115	139	1.53(0.81, 2.91)	0.93 (0.4. 2.5)

N.B * = Significance Difference, OR = Odds Ratio, CI = Confidence Interval

5.6 HEALTH SERVICE UTILIZATION

Out of 1001 participants, only 87 (8.7%) of them reported that they have visited health institutions in three months time prior to the study. The majority, 61 of them were urban adolescents and more than 60% of them were females. Moreover, the older the age the higher is the health institution visit, that is, 77 (88.5%) who visited health institutions in three months time were in the age group of 15-19 years.

More than half, 48(55.2%) of the participants had reported that they had visited health institutions for reproductive health reasons. The majority, 70(82.6%) have visited public health institutions and 10 (11.5%) of them visited Family Guidance Association of Ethiopia' clinic and an equal proportion of them visited private health institutions. Among the common reasons for preference to visit such health institutions, proximity was mentioned by 30 (34.5%), effectiveness of treatment by 25 (28.7%), free or low cost of treatment by 23 (26,4%) and parents prefer the place by 9 (10.6%).

Too expensive services (23%), too far health institutions (11%), poor handling and failure to keep privacy and confidentiality by health workers (8%), too much waiting time (6%), and it is shame for adolescents to visit health institutions (4%) were reported to be the major reasons that prevent adolescents from visiting health institutions. The majority 53% the adolescents had reported that they prefer health services for adolescents to be delivered during usual working hours. And about 56% of them reported service fees for adolescents to be free (Table 8**)**

Table 8: Preference on Reproductive Health Service Arrangements of out of School Adolescents by Place of Residence in East Gojjam, May 2001(n =1001)

Variables	URBAN		RURAL		TOTAL		
	n	%	n	%	n	%	χ^2
Preference by place							
In existing health institutions, with special approach to adolescents	123	25.1	113	23.2	236	23.6	56.9***
In special rooms in the existing health services.	111	22.7	72	14.1	183	18.3	
In specially organized separate Health institutions.	147	30.0	127	24.9	274	27.4	
Others	2	0.4	2	0.4	4	0.4	
Do not know	107	21.8	197	38.6	304	30.4	
Preference by time							
During the usual working hours	242	49.4	288	56.4	530	52.9	18.5***
On the special hours for adolescents.	164	33.5	119	23.3	283	28.3	
Others	23	4.7	14	2.7	37	3.7	
Do not know	61	12.4	90	17.6	151	15.1	
Preference by service provider							
Young provider of the same sex	167	34.1	161	31.5	328	32.7	9.8
Young provider of any sex	29	5.9	25	4.9	54	5.4	
Adult provider of the same sex	81	16.5	106	20.7	187	18.7	
Adult provider of any sex	58	11.8	82	16.0	140	14.0	
Any provider	140	28.6	118	23.1	258	25.7	
Others	15	3.1	19	3.7	34	3.4	
Preference on service fees							
At the usual rate	83	16.9	109	21.3	192	19.2	6.2
With special discount for adole.	115	23.5	97	19.0	212	21.2	
Free for adolescents	275	56.1	280	54.8	555	55.4	
Don't know.	17	3.5	25	4.9	42	4.2	
Preference on distance from residence							
Near my residence	321	65.5	428	83.8	749	74.8	65.1***
Far away from my residence	147	30.0	65	12.7	212	21.2	
Others	6	1.2	17	3.3	23	2.3	
Don't know	16	3.3	1	0.2	17	1.7	

N.B *** = P< 0.001

5.7 SOCIAL INFLUENCE ON ADOLESCENT RH.

Only 15.6% of the participants have reported that there is pressure from their peers to have premarital sex. The majority, 75.7% of the study subjects out of which 54% of them were from urban areas, mentioned that there is support from their family members not to have premarital sex. More, 48% and 37% of sexually active adolescents who reported to have had peer influence to have premarital sex had ever used modern contraceptive methods and condom compared to only 15% and 7% of those who did not. Almost an equal proportion, 38.2% and 39.7% have reported that female adult and male adult family members would answer helpfully for sex related questions they raised respectively, while the rest reported in the negative. Seventy-six of them had mentioned that it is shame or culturally not acceptable to raise such questions for adult family members. Seventy percent of the study subjects agreed that they have a lot of respect for their parents' ideas and opinions about sex and only 64% of them agreed that their religion prohibits premarital sexual intercourse.

5 DISCUSSION

This study has revealed the reproductive health problems like lack of adequate information, and the existents of high-risk sexual and RH behaviors and patterns of health service utilization among out of school adolescents in East Gojjam. More urban adolescents were using both contraceptives and general health services than their rural counterparts. It has also shown differences in reproductive health problems of urban and rural study subjects. Moreover, it has tried to give some insight to socio cultural factors affecting adolescent reproductive health such as participants' general social characteristics, early marriage, divorce and teenage pregnancy. In addition, large proportion of teenage marriage, high divorce rate, and low level of school enrolment were also identified in this study. However, we couldn't identify specific reasons for these problems. Hence the author suggested a detailed study to be done on this issue.

Caution should be taken when interpreting some of the results of this study, particularly differences between rural and urban. The large difference between rural and urban on some reproductive health issues like sexual activity may be due to most of the rural adolescents had ever been married compared to their urban counterparts.

Females outnumbered males in both rural and urban settings. The difference has slightly been pronounced in urban areas. The most probable reasons could be since our study has excluded adolescents attending regular day school and, as in any parts of Ethiopia particularly in rural areas males are more likely to attend school than females (62), this may reduce the number of males.

Customs in Ethiopia show early marriage in several ethnic groups, where girls are given away as early as seven years of age and most women have their first pregnancy as adolescents (63). Pregnancy that occurs before the adolescent is physically fully developed can result in sever damage to reproductive tract, elevate risks of maternal mortality and pregnancy complications (8, 63). The majority, (43.7%) of adolescents in this study had ever been married. In 5 sub-Saharan African countries like Cameroon, Burkina Faso, Uganda, Mali, and Niger the proportion of adolescents ever married ranges from 44% to 59% (7). This high proportion of marriage may be due to lower school involvement of our study subjects, which is in agreement with other authors' finding that the less the educational level the higher the proportion, and the earlier is marriage (30). There is also a high rate of divorce. A divorce rate of 54% at this significantly earlier ages indicates the presence of social problems among adolescents in relation to their consensual unions, which, in fact have negative impact on their reproductive health. Though this may be the consequence of early and forced marriage, which is common in rural community of Ethiopia, it is an issue that needs further investigation.

Nearly half of the respondents agreed that a girl should marry at or before age 15, while only 13% of them stated that a boy should marry at this same age. The mean age for a girl and a boy to marry as stated by the respondents is 16.1 and 19.9 years for girls and boys respectively, which is lower than a finding from that of Harar, that reported, 22 and 27 years for females and males respectively (45). As adolescents are the product of their communities' culture, this response is a clear reflection of the existing cultural practices of early marriage in that community mostly affecting females, which needs attention from policy makers to design strategies, which help to curb this practice. These may include in addition to enforce the family law of Ethiopia that states the minimum age of marriage for both girls and boys to be 18 years

(64), perhaps it needs to change the prospectus of these groups of people particularly those of females through promoting school enrolment. Because in some countries where the legal age at marriage is very low, 12 years, but female school, enrolment is as high as 70%, only small proportion, (16%) of girls were married while still in their teens (65).

In this study we found a significant proportion, about 60% of out of school adolescents to be illiterate, of which 72% were from rural areas. As illiteracy is a personal tragedy and powerful force in preserving inequalities in several life patterns (65), improving school enrolment should be taken as one the important steps in improving adolescent RH. In addition, more than half of them were found to be jobless. Globally, 5 out of every 10 unemployed are young people (3). Even those who have reported that they have some jobs, more than two thirds were involved in very small scale activities like working as daily laborers, working in tea and “tella” rooms, participate in vending and working as maidservants. This is not unusual. UNICEF had reported that 100 million youth in less developing countries work on streets involving in very low scale activities (10). This indicates that prevailing social problems affecting out of school adolescents in East Gojjam.

Adolescents tend to be extremely poorly informed regarding their own sexuality and physical well-being, their health and their bodies (8). This study has also revealed the same. Only 8.0% of the study subjects, of whom 80% of them were from urban areas, knew that a woman is most likely to become pregnant half way between two periods, which is lower than a similar report from adolescents in Addis Ababa (20). However, when only female adolescents are considered, the result is almost similar with that of reports of Demographic and Health Survey (DHS) of Ethiopia (62), in which 12.2% of all women of DHS participants and 11.3% of

female adolescents in this study correctly replied on this question respectively. It is also comparable with a study finding from southern Ethiopia (53).

Contraceptive knowledge in previous several studies ranged from 60% in Nigeria (51), and 66% in Harar (47) to 75% in Gondar (48). In this study more than three quarter of the participants reported that they knew means of avoiding pregnancy. Pills, injectables and condom in that order were the three most commonly known methods. This is exactly similar with the findings from Nigeria (51). However, the proportion of adolescents who ever used modern contraceptives did not go parallel with their knowledge of methods, which is consistent with other several studies (22,23,44). Though the discrepancy with knowledge is similar with other studies in Ethiopia (44,45) and Nigeria (51), the proportion of ever users in this study were found to be much lower. Concerning specific method use, pills and condom were reported to be the most popular methods ever used by the participants which is similar with findings of Gondar (48), Harar (45) and Nigeria (51) except condom had appeared first in all of the previous studies that can be explained by differences in composition of the study subjects.

For adolescents to engage in sexual activity and to use contraceptives including condom may be based on their judgments about their personal risk. For girls, perception of pregnancy risk may serve as deterrent to sexual activity, especially if pregnancy is seen in negative terms. As the same time, distorted perceptions of risk, like too young to become pregnant, incorrect knowledge on the fertile period, STDs and so on could lead to faulty decision making about sexual activity and to non-decision making about contraceptive and condom use (40). Desire to have children, lack of knowledge on the methods and was being so kid, probably to mean

not need contraceptives, were the three most common reasons sited by sexually active participants of this study for not using contraceptives. This is in agreement with the findings of studies conducted elsewhere in the country (45) and that in Nigeria (51). This shows that very little attention has been given to educate this segment of population on relations of sexuality, contraception and the risk of pregnancy. Hence, all that concerned should cooperate to provide such information as early as possible, since program experiences from several counties suggest that information can be most effective when provided more earlier particularly before the onset of sex (47).

Most, 92% participants in this study had admitted that they have heard of HIV/AIDS, which is consistent with previous similar studies conducted in Ethiopia (21,23, 44,45) and elsewhere (8). Unsafe sex, sharing infected syringes and needles and transfusion of infected blood in that order of importance were the three common means of HIV transmission stated by the participants which is exactly similar with the finding from Bahir Dar out of school study (22). The great majority, 89% reported that unsafe sex to be one of the major means of transmission, which is almost similar with the result of study in Awassa (23) but much higher than that in India (8). However, in many studies it was found that most young people have superficial knowledge of STDs including HIV/AIDS. Although awareness that HIV/ AIDS is sexually transmitted has penetrated most segment of adolescent population, misconception abound. For example, recent household survey in Kenya found that one third of respondents aged 15-19 years believed that HIV/AIDS could be transmitted via mosquito bites (66). Similarly in India, 20% adolescents believe that AIDS is a curable disease (8). The finding of this study that 13.3% of those who have heard about HIV had mentioned causal contacts like shaking hands, eating together etc. to be means of HIV transmission is in favor of the above fact and is

in agreement with the finding from Awassa (22). Moreover, only 53% of the participants agreed that a health looking person can have HIV and only 40% of them agreed that a person can get HIV the first time he or she had sex. All these indicate that though the majority has reported they had heard about the disease only a few of them properly understood it.

Knowledge, however, may be necessary but insufficient requirement to reduce high-risk activities (22-23), and information alone is insufficient to change risky behaviors among teens (67). Even if they are informed of STDs and HIV /AIDS, many young people may not protect themselves adequately. In Uganda, 42 % of in school and out of school adolescents aged 12-19 said they did not know where they could get condoms (66). A similar proportion, 41.7% of out of school adolescents in this study reported that they did not know a place or a person from where they can get condom, which indicates ignorance from both providers and adolescents themselves, which will definitely have a negative impact on adolescent sexual and RH.

In our study, the majority, about 96% who had knowledge on sexually transmitted diseases mentioned AIDS while only 45.3% and 45.4% stated gonorrhea and syphilis respectively. Other investigators had reported similar results too (8,23). Moreover, 2.9% of the study subjects mentioned tuberculosis to be a sexually transmitted disease. All these generally indicate that knowledge and awareness of STDs including AIDS and the relations between the two among the respondents are incomplete and insufficient to bring about the minimum behavioral changes needed.

Adolescents' ignorance about sexual and reproductive behavior is compounded by reluctance among parents and teachers to impart relevant information (8). However, in many developing countries when surveyed, many parents and young people alike report that they would prefer

parents to be the main source of adolescent information about sexuality and reproduction (6). When the respondents in this study were asked about their source of information on sexual maturation, they mentioned family and peers to be the two most important. As it was reported by studies elsewhere peers and the family are equally poorly informed on sexuality and RH health issues (6,51). Hence, health education strategies should target, in addition to adolescents themselves, these groups of people as well. They were also mentioned media, family and neighbor as the three most important source of information on HIV/AIDS in that order. The involvement of family members in disseminating information on HIV/AIDS among these study subjects as opposed to the findings of other studies (35, 53) is encouraging. Media to be a source of information on sexual maturation and HIV in rural areas is found to be very minimal. Of those who mentioned media to be their source of information on sexual maturation and STDs/AIDS, only 13% and 18% were from rural areas respectively. In addition, the number of people who can get radio and television in that set up were very minimal and, the majority, 84% of, rural out of school adolescents in this study have reported to be illiterate and unable to use written messages, if at all available. All these indicate that awareness creation programs that will be designed should have, as diversified channels as possible and in addition to media there should be an alternative community based means of disseminating HIV and other reproductive health information for the rural areas.

In our study over 45% of the respondents admitted to have had sexual experience at least once prior to the time of the study. The finding is much higher than rates reported from similar studies among school adolescents in Ethiopia (5,18, 34,37). This may be due to differences in marital status between school and out of school adolescents. When compared with previous reports from out of school adolescents the rate of sexual activity among our study subjects is

slightly lower (20-22). The difference may be attributable to differences in the study areas and composition of study subjects. The mean age at first sexual debut among respondents was found to be very low compared to the previous studies in Ethiopia (18, 22, 37) and elsewhere (35). We have also found that more rural adolescents have had sexual experience compared to their urban counterparts even after controlling for potential confounding variables. In previous several studies (5,17, 21,23,45) the proportion of sexually active males was persistently higher, ranging from 49% - 84% compared to that of females, 14 % - 48%. Opposed to this fact, more female adolescents, 55% of compared to 32% of males had experienced sexual intercourse in our study. All these can be attributable to rural youths' earlier involvement in adult behaviors and societal attitudes towards early marriage, which is a common practice in most sub-Saharan African countries (11, 36, 51). These facts can also be substantiated from this study that great majority of study subjects had already been married. The other reason could be economic. Young out of school male adolescents may not get money and less attractive for sex relationships, while females might involve in sex to get money particularly in urban areas. This assumption had also been forwarded by other author (36). However, underreporting of urban female adolescents of their sexual experience due to fear of social stigma attached to premarital sex compared to their rural counterparts who may not hide this information since most of them had ever been married may also help to explain the difference.

A significant proportion, 47% of the sexually active respondents had reported that they had two or more lifetime sexual partners. This may be associated with their early sexual on set, as it was reported in one of recent study in Ethiopia, there is a negative correlation between age at sexual onset and number of sexual partners among adolescents (35).

One of the interesting findings of this study is that 76 (17.4%) of married study subjects, of which 59(77.6%) were females, had reported that they have not had history of sexual intercourse. Though it needs further investigation, this may be due to cultural practices of early marriage in that community locally called “Madego” in which a girl was given to her husband’s family as early as five years and remained sexually “inactive” until puberty.

Several studies in the sub-Saharan Africa had reported that sexually active, unmarried adolescents are more likely than are married adolescents to be relying on modern contraception (7, 44, 47,). This seems true of our study, since 57% of unmarried sexually active adolescents had reported having used modern contraceptive as opposed to only 12% of those married, though the difference was not significant. This may be due to the fact that married adolescents in most developing countries particularly in rural areas are not expected to use modern contraceptives but to bear a child as immediately as possible (46,47).

For adolescents to reduce their risk behaviors, specifically to avoid HIV infection, they must feel personally vulnerable to contracting AIDS. Perception abound among adolescents that AIDS is a disease of prostitutes, foreigners and promiscuous people lead them to continue to feel that they themselves are invulnerable (9,66). When participants in this study were asked their believe that they have done something that has put them at risk of getting AIDS and their believe that they are at risk of getting the AIDS virus in the next 12 months, only a very small proportion, 5% and 10% of them replied affirmatively respectively. However, majority of them had experienced sex at significantly earlier ages and most have had more than a single sexual partner. In addition, there was a very low level of condom use rate, only 13% among the sexually active, which is the lowest compared to many of the previous studies in country (5, 19,21-23,45,35). Despite all these, the subjects considered themselves low risk for HIV,

unless curbed which will definitely have a negative impact on the efforts to be made to prevent and control this devastating disease, HIV.

A total of 24% of female adolescents have reported that had ever been pregnant the prevalence that raised to 43.4% when only sexually active adolescents are considered. Out of which 15% were among those who had never married. This result seems slightly lower than a similar finding from the study carried out in Southern Ethiopia (37). However, our study subjects had ever been pregnant earlier than those in southern Ethiopia (mean age at first pregnancy 15.3 versus 17.7 years). Since contraceptive and condom use among the sexually active respondents in this study was found to be very low. In addition only 46% of the participants agreed that girl could get pregnant the first time she has sex. These indicate that not only the sexually active but also those who were not are continuing to be exposed to unsafe sex and its negative outcomes. This signals a need to design strategies, which help to provide adequate information on sexuality and pregnancy.

More than a third, 36.3% of all the pregnancies in this study were reported to be unwanted which is more than two times higher than a report from that in Harar (45). This, in addition to low level of contraceptive use, indicates that there is high rate of contraceptive unmet need among adolescents in this area.

Health is both a personal and collective behavior. There is a natural link between adolescents health related behaviors and the peer relationships (68). As part of their decision making process adolescents often look to peers for clues regarding various aspects of sexual behavior and to evaluate the degree to which their beliefs agree or disagree with group norms (30). Only very small proportion, about 16% of adolescents in this study, reported that they had a peer

pressure to have premarital sex, which is significantly lower than reports of other study among school adolescents in Addis Ababa (5). This may be due to more than half of our study subjects were from very remote rural communities where peer interaction considered to be low as a result of low school enrolment and rapid transition to adulthood, which is common among rural community (11,30). However, modern contraceptive was significantly higher among those who have peer pressure to have premarital sex than those who do not have. This supports the finding from Harar in that adolescents who discuss the issue of sex among themselves use contraceptives more than those who did not (45)

In our study only about 9% of the respondents had visited health institutions in three months time prior to the time of the study. Out of these more than 70% of them were from urban areas and an equal proportion of them had visited public health institutions. In most developing countries there are several barriers to utilization of health service by adolescents, of which operational and social factors to be the major ones (3,52). In others, like India, very little is known about adolescent's utilization of reproductive health services and the constraints, both sociocultural and program related, adolescents face in acquiring services (8). A study conducted among school adolescents in Addis Ababa had revealed that a significant number of students reported that reproductive health services are not affordable, accessible and/ or acceptable to them (38).

Nearly half of them being sexually active and almost more than four fifths experiencing unsafe sex practice that put them at a variety of health risks, the proportion of adolescents that had visited health institutions in this study are extremely low. Too expensive services, too far health institutions, lack of privacy and confidentiality, too much waiting time and shame in that order of importance were reported to be the major problems that prevent adolescents from

visiting health institutions. Moreover, about 55% and 75% reported that they prefer health service fees for adolescents to be free and health institutions to be located near their residence. This signals that policy and decision makers should revise the existing health programs as far as cost and location of health services for adolescent reproductive health is considered.

In addition, those who know specific health services and methods may not use them as a result of other reasons, one of which could be services may not be available and/ or accessible to them especially in rural areas. In this study a significant difference was found between rural and urban in their modern contraceptive use. Only very small proportion, 5% of rural adolescents had ever used contraceptives as opposed to 55% of their urban counterparts though their difference in knowledge is not as such great. This implies that in addition to improving knowledge on reproductive health, there should be appropriate and feasible services that could reach adolescents at the grass root level. There were similar recommendations from previous studies in Ethiopia (22,23)

STRENGTH OF THE STUDY

This study had tried to compare reproductive health needs of out of school adolescents of urban and rural areas at the same time. Including very remote woredas to represent rural community in this study has paramount importance in fulfilling the objective of the study. In addition, the large sample size represented in the study has helped to determine significant differences between the two study groups. We had made great efforts to maintain the quality of our work through out the study period.

LIMITATION

Though strict procedures were followed to identify the participants, some sort of error in selecting the individuals may not be excluded. In addition, excluding very remote Kebeles may lead to some sort of accessibility bias. Since sexual behavior is personally sensitive issue, determining its magnitude and risky behaviors associated with it among adolescents especially the unmarried ones in such face-to-face interview is difficult. Hence, even though we have tried to minimize it, some sort of desirability bias may not be eliminated.

GENERALIZABILITY

The selection procedure we had followed and the limited geographic area of the study may influence the generalizabilty of the study. Even then the result of the study can be genralizable to out of school adolescents in the four study woredas and to other similar set up in the zone and in region.

7. CONCLUSIONS

- There is a great lack of information and knowledge among out of school adolescents on sexuality, contraception, and HIV/AIDS and several misconceptions abound.
- Though most participants found to be involved in risky sexual behaviors, the great majority of them considered themselves low risk for HIV.
- There is no single dominant source of information for adolescents on selected sexual and reproductive health issues and mass media as source of reproductive health information was found to serve only very small number of rural adolescents.
- A substantial number of adolescents were found to be sexually active. The majority had involved in risky sexual behaviors, like early sexual engagement, having multiple sexual partners and very low level of condom and contraceptive use.
- The number of adolescents utilizing health services including modern contraceptives is very low particularly in rural areas.
- There are cultural practices like early marriage, divorce, teenage pregnancy, and illiteracy disproportionately affecting rural and female adolescents.
- The magnitudes of sexual and reproductive health problems are found to be significantly higher among rural adolescents

8 RECOMMENDATION S

- Design programs that comprise both promotional activities and feasible sexual and RH services that could serve the hard to reach out of school adolescents
- To increase awareness and knowledge, carefully worded, non - threatening to the cultural norms and simple messages on reproductive physiology, sexuality, STD and HIV/AIDS, condom and contraception should be developed and disseminated to the public in general and to adolescents in particular through community based approaches like, training and improving the capacity of CBRHAs, strengthening it through backup and out reach services by health workers and integration with kebele AIDS committees.
- Channels that will be used to disseminate sexual and RH information should be as diversified as possible. In addition to media there should be other means of disseminating adolescent sexual and RH information for the rural areas like involving peer communicators and educators, integrated health education campaigns and mass mobilization.
- Programs on adolescent RH should be individualized based on rural – urban and gender differences
- Sensitization and orientation for health workers at different levels so that they understand and provide appropriate RH services to out of school adolescents.
- There are three things that require government concern:
  - To enforce the legislation that prohibits marriage for girls and boys less than 18 years as it is clearly stated in the revised family law of Ethiopia.
  - To revise the national health policy to suite to the health needs and preferences of adolescents particularly to the out of schools
  - To improve school enrolment for adolescents in general for rural and female adolescents in particular.
- There should be a detailed study to identify socio cultural factors affecting adolescent RH

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APPENDIX A

Respondents code number ----------

QUESTIONNAIRE ON

Reproductive Health Needs of Rural and Urban out of School Adolescents

My Name is _____. I came from _____. I am a member of the research team of Addis Ababa University, MOH and GTZ. I would like to tell you that you and me would have a short discussion concerning this study. Before we directly go to our discussion, I will request you to listen carefully to what I am going to read to you about the purpose and general condition of the study and tell me your opinion whether you agree or disagree to participate in the study.

Consent form

The purpose of this study is to assess the reproductive health needs of out of school adolescents age-19 living in this and the neighboring kebeles. Of your peers, you are selected to be one of the participants in the study. The study will be conducted through interviews. We are asking you for a little of your time, about forty five minutes, to help in this study. In the end, it is hoped that the information you give us could help to design appropriate reproductive health services for adolescents. The interview involves intimate and private life questions. So private setting is needed in that you and the interviewer will carry out the interview. We would like to assure you that this privacy should strictly be secured throughout. All your information will be numbered and your name will not be used. Your answers to any of the questions will not be given to anyone else and no reports of the study will ever identify you. If a report of results is published, only information about the total group will appear.

The interview is voluntary. Your participation/ non-participation, or refusal to answer questions will have no effect now or in the future on services that you or any member of your family may receive from health service providers

Are you willing to participate in this study?

[ ] Yes

[ ] No

Identification

Zone---------- Woreda----------Kebele----------House No.---------

Date of interview -----day-----month-----year

Name and signature of Interviewer----------

Part One **Sociodemographic variables**			
No	**Questions**	**Alternative Choices for Responses**	**Code**
1	Sex of Respondent	1. Male 2. Female	
2	Age (enter number)	---------- Years	
3	Religion	1. Orthodox 2. Protestant 3. Catholic 4. Muslim 88. Others, specify ----------	
4	Ethnic Group	1. Amhara 2. Agew 3. Tigrie 4. Oromo 88. Others, Specify) ----------	
5	Marital status	1. Never Married 2.Currently Married 3.Divorced 4. Widowed 5. Separated	
6	Education status	1. Literate 2. Illiterate ► **skip to Q 8**	
7	Level of education for those who are literate (Grades)	1. Read and write ---------Last grade or level of education completed.	
8	What is your occupation?	1. None 2. Daily laborer 3.Maid servant 4. Farmer 5. Civil Servant 6.Employed in private sector. 7. Have Private business, mention------ 88. Others (specify) ----------	
9	Your monthly income (enter number)	--------- Birr 2. No Income	
10	With whom do you live most of the time?	1. With father and mother 2. With father only 3. With mother only 4. With relatives 5. With friends/peers. 6.With partner/ husband or wife. 7.With boy / girl friend 8. Alone 88. Others specify	
11	What is your father's occupation?	1. No occupation 2. Daily laborer 3. Civil servant 4. Farmer 5. Employed in private sector 6.Has private business, mention 88. Others (specify)----------	

12	What is your mother's occupation?	1. Housewife 2. Daily laborer 3. Maid servant 4. Farmer 5. Civil Servant 6. Employed in private sector. 7. Has private business mention 88. Others (specify) ----------	
13	In your opinion which of the following shows your families' economic status?	1. Rich 2. Medium 3. Poor 98.Do not know	
14	Your father's educational status	1. Illiterate 2. Read and write --------Last grade or level of education completed	
15	Your mother's educational status	1. Illiterate 2. Read and write ---------Last grade or level of education completed.	
Part Two **Concerning Reproductive Health Information (for the following three questions indicate the three most important responses made by the respondent sequentially)**			
16	Which is your major source of information concerning sexual maturation?	1. My parents 2.Friends /peers 3. Mass media 4. Posters and pamphlets 5. Partner/ husband wife 6. CBRHAs 7. Religious leaders 8. Health professionals 9 Nobody 88. Others, specify----------	
17	If you wanted to know more about ways to avoid pregnancy, whom would you talk to? For females only.	1.Father 2. Mother 3. Friend/peers 4.Partner husband / wife 5. Health professionals 6.Religious leaders 7.CBRHAs 8. No body. 88. Others, specify 98.Do not know	
18	Which is your major source of information concerning STDs and HIV / AIDS?	1. My parents 2. Friends/ peers 3. Mass media 4. Posters and pamphlets 5. CBRHAs 6. Health workers 7. Religious leaders 8. Partner/ husband-wife 9. School 10. Neighbor 88. Others, specify----------	

Part three **concerning sexuality, pregnancy and contraception**			
3.1 Concerning Reproductive health practices			
19	Have you ever had sexual intercourse?	1. Yes 2. No →**Skip to Q 45**	
20	If yes, at what age did you first have sexual intercourse? (enter number)	-------- ---Age in years 98. Don't know/ remember	
21	Why did you decide to have sexual intercourse the first time? (More than one answer is possible)	**Yes NO** 1. Fall in love. 1 2 2 Have desire. 1 2 3. Wanted to get married. 1 2 4. I get married 1 2 5 Forced to do so. 1 2 6. To get money and other gifts. 1 2 7. Friends doing it 1 2 88. Others, specify 98 Don' t remember.	
22	With how many partners have you ever had sexual intercourse?	----------Number of partners 98.Don't know / remember	
23	During the last six months, have you had sexual intercourse?	1. Yes 2. No →**Skip to Q 25**	
24	With how many partners have you had sexual intercourse within the last six months? (Enter number)	--------- Number of sexual partners 98. Don't know /remember	
25	Have you ever had sexual intercourse with commercial sex? Workers? (Male respondents only)	1. Yes 2. No	
26	Have you ever used modern contraceptives?	1.Yes 2. No→**Skip to Q 28**	
27	If yes what type? (Probe and indicate that all apply	1 Oral contraceptive pills. 2. Condom 3. Injectables 4. IUDs 5. Sterilization 6. Norplant 88. Others, specify----------	
28	If no, what were the reasons? (More than one answer is possible)	1. I am unmarried and not sexually active. 2. I have infrequent sex 3. Want to have children 4. Husband/partner opposed 5. Religious Prohibition 6. Lack of knowledge about contraceptives. 7. Fear of side effects 8. Difficult to obtain contraceptives 9. Method was expensive 10. Too far to get contraceptives 88.Others, specify----------	
29	Did you use contraceptive the first time you had sexual intercourse?	1. Yes →**Skip to Q 31** 2. No	

30	If no, why not? (more than one answer is possible)	1. Did not believe pregnancy was possible 2. Sex was un planned 3. Did not know any a method 4. Fear of the side effect of a method 5. Method not available 6. Method expensive 7.Partner opposed 88. Others specify ----------	
31	Have you ever had STI, that is, genital ulcer abnormal genital discharge or genital swelling?	1. Yes 2. No. **→Skip to Q** 33 98. Don't know **→Skip to Q 33**	
32	If yes what did you, do first when you had STI?	1.I did nothing 2. Self treatment 3. Went to traditional healer 4. Went to pharmacy, 5. Went to public health institution 6 Went to local healer 7 Went to private health institution 88. Others, specify ----------	
33	Have you ever used condom?	1. Yes 2. No	
34	Did you or your partner use condom the first time you had sexual intercourse?	1. Yes**→Skip to Q 36** 2. No	
35	If no, please give the reasons (indicate all answers that are mentioned)	1.Not available 2. Too expensive 3.Partner objected 4. We don't like them 5.Used other contraceptives 6.Did not think it was necessary 7.Did not think of it 88. Others, specify----------	
Ask the following questions (36- 44) for females only			
36	Have you ever been pregnant?	1 .Yes 2. No **→Skip to Q 45**	
37	If yes, how many times have you been pregnant? (Enter number)	---------- Times	
38	How old were you when you first became pregnant? (Enter number)	Age ----------years 98. Don't know/ remember	
39	If you have been pregnant, were all your pregnancies wanted?	1.Yes 2. No	
40	If no, which pregnancy was unwanted?	1.The first 2. The second 3. The third 4. The fourth 5. All	
41	Have you ever had abortion?	1 yes 2. No **→Skip to Q 45**	
42	If yes, how many times did you have abortion?	_____ Times	

43	If there was abortion, whom did you first discuss the issue with?	1. My partner/husband- 2. My friends peers 3. My parents (mother, father, brother, and sister) 4. Other adult member in the family 5 Health workers 6. Traditional healers 7. For an abortionist 88. Others, specify ----------	
44	Where did you abort?	1. At public health institution 2. At private clinic 3. At abortionist's house 4. I have induced it myself by ingesting different drugs 88. Others, specify ----------	
	3.2 The following questions are concerning attitudes and believes towards reproductive health		
45	Using condom is a sign of not trusting your partner	1. Agree 2. Not sure 3. Disagree	
46	A boy should have sex before he gets married.	1. Agree 2. Not sure 3. Disagree	
47	Discussing condom or contraceptive with young people promotes promiscuity	1. Agree 2. Not sure 3. Disagree	
48	Do you believe you have done anything that may have put you at risk of getting AIDS virus?	1. Yes 2. No 98. Don't know	
49	Do you think you are at risk of getting the AIDS virus in the next 12 months?	1. Yes 2. No 98. Don't know	
50	In your opinion, what is the ideal age for a girl to marry?	Age _____ Years 98 Don't know	
51	In your opinion, what is the ideal age fo boy to marry?	Age_____ years 98 Don't know	
52	Do you think that it is easy or difficult for adolescents of your age to obtain contraceptive or condoms?	1. Easy **Skip to Q 57** 2. Difficult 98. Don't know Skip **to Q 57**	
53	If difficult, why is it difficult? (Probe and indicate one for all that apply two for those not mentioned)	**Yes** **NO** 1. Lack of money to buy. 1 2 2. Difficult to find. 1 2 3. Provider disapproves. 1 2 4.Parents disapprove. 1 2 5. Distribution places are Inconvenient for them 1 2 6. Too far to find 1 2 7. Expensive to buy 1 2 88.Others specify. -------	
	How confident are you that you would be able to:		
54	Have a sexual relation with only one person	1. Definitely could 2. Unsure/ does not know. 3. Definitely could not	
55	Abstain from sex for the next 12 months (For those who are sexually inactive)	1. Definitely could 2. Unsure/ don't know 3. Definitely could not	

	3.3 The following questions are concerning knowledge on reproductive health		
56	During which part of the menstrual cycle dose a woman have the greatest chance of becoming pregnant.	1.During her period 2.Right after period is ended 3.Just before her period begins 4. In the middle of her cycle 5.The same throughout 88. Others, specify---------- 98. Don' know	
57	Do you know any ways to avoid getting pregnant?	1. Yes 2. No. → **Skip to Q62** 98. Do not know →**Skip to Q62**	
58	If yes, what are the ways to avoid getting pregnant	Spontaneous / Probed / Don't Know 1. Oral contraceptive pills 1 2 3 2. Using condoms.. 1 2 3 3. Injectables. 1 2 3 4. Norplant. 1 2 3 5. IUDs. 1 2 3 6.Sterilization. 1 2 3 6.Abstinence 1 2 3 7. Withdrawal. 1 2 3 8.Washing the genitalia. after intercourse 1 2 3 9. Intercourse in the up right position 1 2 3 10. Safe period/abstinence 1 2 3 88. Others, specify-------	
59	Do you know any diseases a person can get through sexual intercourse?	1.Yes 2. No. →**Skip to Q64** 98. Do not know→**Skip to Q 64**	
60	If yes, which diseases do you know about? (Probe and indicate that all apply)	**Yes** **No** 1. Gonorrhea. 1 2 2. HIV/ AIDS. 1 2 3. Chancroid. 1 2 4. Syphilis. 1 2 5. Lymphogranuloma Venereun 1 2 88.Others, specify --------	
61	A girl can get pregnant the first time she had sex.	1. Agree 2. Not sure 3. Disagree	
62	A healthy looking person can have HIV	1. Agree 2. Not sure 3. Disagree	
63	A person can get HIV the first time he or she has sex.	1. Agree 2. Not sure 3. Disagree	
64	Is there anything a person can do to avoid getting STIs and HIV/AIDS?	1. Yes 2. No. →**Skip to Q 66** 98. Don't know →**Skip to Q 66**	

65	If yes, what are they? (Probe and indicate that all apply)	**Yes No** 1. Sexual abstinence. 1 2 2. Avoid casual sex. 1 2 3. Remain faithful to a partner. 1 2 4. Use condoms in every act of sexual Intercourse. 1 2 5. Avoid sex with CSWs. 1 2 88. Others specify ----------.	
66	Do you know any place or person from where you can obtain male condoms?	1. Yes 2. No→ **Skip to Q 68**	
67	Where would you go to get a condom? (Probe and indicate that all apply)	1.Shop 2.Pharmcy 3.Clinic 4. Health center 5.Hospital 6. Family planning clinic 7. Bar / hotel 8. CBRHAs 9. I do not want condom 88. Others, specify----------	
68	What dose safe sexes mean to you? (Probe and indicate all that apply)	1. Abstinence from sexual intercourse 2. Using condom in every sexual intercourse 3. Avoiding multiple sex partners 4. Avoiding sex with prostitutes 5. Having sex with a single faithful partner 88. Others, specify---------- 98. Do not know	
69	Have you heard about a disease called HIV /AIDS?	1. Yes 2 No→**Skip to Q 71**	
70	Please mention all the ways you believe a person can get AIDS (indicate one for that all apply and two for those not mentioned)	**Yes No** 1. Unsafe sexual intercourse. 1 2 2. Sharing needles and syringes. 1 2 3. Blood transfusion. 1 2 4. During pregnancy and childbirth. 1 2 5. Mosquito and other insect bite. 1 2 6. Through breast milk. 1 2 7. Causal contact with a person (hand Shaking, sharing food, coughing etc. 1 2 88.Others specify----------.	
***Part four* Concerning Social Influences on Reproductive Health Needs of Adolescents**			
71	Is there a pressure from your friends so that you have sexual intercourse before marriage?	1. No pressure 2. A little pressure 3. A moderate pressure 4. A lot of pressures.	
72	Do your family members support you to wait until marriage before having sexual intercourse?	1. No support 2. A little support 3.A moderate support 4.A lot of support.	

If you ask your father, mother or other adult family member sex related questions like menstruation, pregnancy, and sexual intercourse what would be his or her response			
73	Mother or other adult female family member	1. Would answer helpfully. 2. Would turn me away without giving an answer 3. Would scold me 4. Not competent enough to answer 88. Others, specify 98. Don't know.	
74	Father or other adult male family member	1. Would answer helpfully 2. Would turn me away without giving an answer 3. Would scold me 4. Not competent enough to answer 88. Others specify 98. Don't know.	
For the next two questions indicate whether you agree or disagree with the statement			
75	I have a lot of respect for my parents ideas and opinions about sex	1. Agree 2. Not sure 3. Disagree.	
76	My religion prohibits premarital sexual intercourse	1. Agree 2. Not sure 3. Disagree	
P*art Five* Concerning Health Service Utilization and Preferences			
77	Have you visited a health institution In the last three months?	1. Yes 2. No →**Skip to Q 81**	
78	If yes, what was the reason for your visit?	**Yes** **No** 1.I had STI. 1 2 2.For abortion. 1 2 3.For delivery. 1 2 4.For antenatal care. 1 2 5.To get oral contraceptives. 1 2 6.To get condom. 1 2 7.For counseling. 1 2 88.Others specify-------.	
79	If your have visited a health institution, where did you go for the first time, second time and the third time? Indicate the three most important answers in order of importance.	1. Pharmacy 2. Private health sector 3. Public health institution. 4. Family Guidance clinic 5. Traditional healer in the neighbor 6. CBRHAs 88. Others specify ---------	
80	Could you tell me why you prefer to seek health care in this place? Indicate that all apply	1. Effectiveness of treatment 2. Free treatment 3 Low cost of treatment 4. Proximity 5. Relative works there 6. I prefer for confidentiality 7. Parents prefer the place 88. Others, specify----------	

81	What are the main obstacles that prevent adolescents from getting clinical and counseling services in health institutions?	1. Too far health institutions 2. Too expensive services 3. Providers fail to keep privacy and confidentiality 4. Poor handling and scolding by health workers 5.Too much waiting time to get the service 6.The health institutions are inconvenient them 88.Others, specify---------- 98. Don't know	
Concerning preferences of adolescents for health service program ***For questions (82-86) read the alternative responses for the respondent before you ask him / her to answer***			
82	How should reproductive health services for adolescents be arranged in the future?	1. Within the existing health institution, but with special approach for adolescents 2. Within existing health institutions but in separate rooms for adolescents. 3. In health institution that is specially arranged for adolescents only 88. Others, specify----------	
83	Which time of the day do you think is convenient for adolescent health services?	1. During the usual health institutions' working hours 2. On the special hours when other users are not around, specify ------- 88. Others, specify---------- 98. Do not know	
84	Who would you prefer the health provider be for adolescent reproductive health services	1. Young provide of the same sex 2. Young provider of any sex 3. Adult provider of the same sex 4. Adult provider of any sex 5. Any provider 98. Do not know	
85	What is your preference concerning health service fees for adolescents	1. At the usual rate 2. With special discount for adolescents 3. Free for adolescents 98. Don't know.	
86	Where do you prefer the health services be located for adolescents?	1. Near their residence 2 .Far away from their residence 88. Others, specify---------- 98. Don't know.	

THANK YOU!