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Sexual Behavior and Risk Perception of HIV Infection

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Abstract
Ethiopia is a developing country with a demographic profile dominated by a young population. Due to biological, psychological, socio cultural and economic factors, young people, particularly those aged 15-29 years, are generally at a high risk of HIV/AIDS and other reproductive health problems. This paper presented results of a cross-sectional descriptive study conducted in Bahir Dar Town, northwest Ethiopia, to assess sexual behavior and risk perception of HIV infection among youths .Both quantitative and qualitative method of data-collection methods were employed to conduct the study. For quantitative data collection, a household questioner survey was conducted among 232 youth, aged 15-29 years, within the 4kebeles (villages) of the town. Qualitative data were collected by conducting focus-group discussions and in-depth interviews with 17 participants. Descriptive statistics was used to characterize socio-economic, demographic and behavioral variables and the level of risk perception of HIV. Chi-square was used to examine the association of socio-economic, demographic and behavioral variables to HIV risk perception. Logistic regression model was used further examined to identify the prediction independent variables to risk perception. Data obtained by interview and focus group discussion were qualitatively analyzed. The minimum mean age at first sexual commencement was 16.71($\pm$1.45) years and the maximum is 26.25($\pm$1.18).Socio-economic and demographic variables such as Job(x^2=4.7151, p=0.03), alcohol use(x^2=16.8405, p=0.001), monthly income(x^2=12.769,p=0.026), gender(x^2=9.4788, p=0.002) and education status(x^2=11.8883, p=0.003) were significantly associated with risk perception of HIV among the youth. Behavioral variables such as sex ever had (^{2}=10.1561,p=0.001), age at first sex (x^2=7.524, p=0.023), no of sexual partners(^{2}=7.2156, p=0.002 and knowledge of HIV status(x^2=16.0624, p=0.000) were also significantly associated with risk perception of HIV among the youths. IN logistic regression model, age (z=-2.13, p=0.033), education status (z=-4.36, p=0.000), marital status (z=-2.48, p=0.013), alcohol use (z=4.88, p=0.000), and knowledge of HIV status (z=-3.69, p=0.000) were significantly and independently predicted HIV risk perception. In conclusion, further research should be conducted to better understand the nature of association between the above socio-economic and demographic, and sexual behavioral variables with risk perception of HIV/AIDS Staking behaviors.
Keywords: sexual behavior, risk perceptions,

1. Introduction

HIV and AIDS, since it appeared in 1981, has become one of the most devastating epidemics in human history. Since then more than 20 million people have lost their lives, and more 80 million people are projected to die of it by 2010. Currently there are about 33 million carriers across the worldwide. HIV/AIDS have become a serious threat with its adverse consequences on people and all sectors of economic development (UNAIDS, 2007).

Among the HIV/AIDS infected people, more than 90% of them live in the developing countries. Of the 33 million people living with the virus worldwide, Africa hosts about 22 million and Sub-Saharan Africa, with over 10 % of the world‘s population, is a home to two - thirds of HIV/AIDS carriers. When the spread of AIDS is seen on gender bases, the prevalence is high among women. Usually they are being infected at an earlier age than men. The main reasons behind this difference are wide spread poverty among women, gender inequality, and social and political inertia. Especially, in developing countries these factors have widened the gap of AIDS prevalence between both sexes (UNFPA, 2008).

There are many ways by which AIDS can spread from one person to the other. But of all, unsafe sex has been identified to be the leading cause of HIV infection globally. From this, it is obvious that the epidemic affects more the youth group than the other segment of society. Studies indicate that young people under the age of 25 are estimated to account for half of all new HIV infections worldwide, with an average of two young people being infected every hour of a day (Doll LS, Beeker, 1996).

HIV/AIDS is rapidly spreading across the world, and has claimed millions of lives and billions of dollars to humanity. Studies have shown that despite biological factors like sexual relationships, drug injection, blood transfusion, that intensify the speared of this disease there are also other underlying psychological factors like anxiety, stress, depression, lack of communication, posttraumatic stress disorder, negative effect, domestic problems, and others that make someone vulnerable to HIV infection. Keeping this in mind, contemporary researchers have considered some more relevant psychological factors that seem more influential in expanding HIV infection. These are HIV risk perception, peer pressure and drug abuse behaviors (Fisher , Byrne , White , 1988).

Ethiopia, the third largest country in Sub-Saharan Africa, is located in the horn neighboring countries like

Sudan, Eritrea, Djibouti, Somalia and Kenya. It has a total area of 1.13 million sq km with an estimated 80 million population. It is one of the Sub-Saharan African countries that are seriously hit by HIV/AIDS. In this country too it has indiscriminately affected all groups of the community, especially the young, children, and women.

The first evidence of HIV/AIDS infection was found in 1984 while the first two cases were reported in 1986 from Addis Ababa hospitals to the Ministry Of Health /MOH/. Since then, for more than two decades, the epidemic has continued to spread at a rapid pace both in urban and rural areas (UNAIDS, 2007). This time, Ethiopia is the 16th country with highest HIV and AIDS prevalence in the world, and the third largest with numbers of HIV/AIDS carriers in Africa.

HIV/AIDS pandemic has hit the country with catastrophic consequences. The average national prevalence rate among the adult population is estimated to be 3.51 % (10.5 % urban and 1.94 % rural) with a steadily rise in the rural areas. Nationally, the estimated prevalence among males is 3.8 %. The number of people living with HIV/AIDS in 2006 is estimated at 1.3 million, of which 96,000 are children. In 2006 some 207,270 new People living with HIV/AIDS were in need of antiretroviral (ART) throughout the country (UN AIDS Rport-2008).

The Amhara regional state is one of the nine regions of Ethiopia in which the spread of HIV/AIDS spread in this region is one of the worst in the country with high prevalence in urban areas in particular. The AIDS prevalence in this region was estimated at 6.1%, 6.5%, 6.7%, and 7% for 2003, 2004, 2005 and 2006 respectively.

In this region, while the spread of the epidemic seems to be stabilizing in urban areas since 1996/97, it shows a rising trend in its rural part. Hence, the overall trend of AIDS prevalence in the region shows an increasing rate; where in 2006 it was estimated at 15% and 5.9% for urban and rural areas respectively (HAPCO, 2007).

Currently, the number of people living with HIV/AIDS in this region is estimated to be 673,488. Even though, there is no study showing reasons for the wider variation between the national and the regional figures of HIV carriers, there are some speculations like high rate of poverty, drought and famine, illiteracy, unemployment, rural to urban migration, silence about HIV/AIDS among family members, harmful traditional practices like early marriage and female genital mutilation, and the polygamous culture in the region to be the possible causes (ADA, 2008).

The HIV/AIDS epidemic shows great variation between urban and rural areas of the Amhara region. The prevalence is at least five times higher in urban areas than in rural. In 2005, the infection level was ranging from 0.5 percent in rural areas to 20 percent in urban areas such as in the town of Bahir Dar (ADA, 2008).

As stated above, though the prevalence and spread of the disease is high, studies conducted on assessing the behavioral risk factors of its transmission and prevention among the various segments of the society in Ethiopia are so scarce. But it is obvious that in order to plan intervention measures, it is important to assess people's knowledge of HIV infection, sexual behaviors, perceived risks of infection, and attitude on VCT. Therefore, this research paper will be conducted in view of these basic issues by targeting the youth group in Bahir Dar Town.

2. Review of Related Literature

2.1 Sexuality in adolescents

Attitudes towards particular aspects of sexuality are always changing. For instance, since the recent times, Masturbation and premarital sex have become more usual. Not only this, but also there is a greater openness about sexual orientations, alternative behavior, and gender identities, with a significant degree of debate about their acceptability (Kelly Gary F, 1998). This seems something related to an increasing human awareness on sexuality. According to Kelly (1998), children move from a generalized awareness of their sexual nature to more specific experiences of sexual feelings. Likewise, adolescents explore their sexuality through relationships with others and there is evidence that they have become sexually active at increasingly younger ages. And he came to the conclusion that sexuality is a universal phenomenon in all-young people.

Psychologically adolescents become sexually active at earlier ages due to peer pressure, and avoidance and resistance to behavior changes through various forms of denial and rationalism (*Adolescent Reproductive Health Task Force, August 2003*). Initiating sexual activity is a natural transition of a human being. Nevertheless, it is not the occurrence of this transition, but its timing and the circumstances under which it occurs that has significant implication (Dawud , 2002).

Most of the time, the perception of sexual intercourse among youths doesn't come along with an awareness of practicing safe sex. Globally, unprotected sexual intercourse between men and women is the predominant mode of transmission of the AIDS virus. Young peoples in both developing and developed countries begin sex relatively early. In Nigeria, for example, the lowest median age of first sexual contact among men is 15 years (Dawud, 2002).

Similarly, a study conducted on high-risk sexual behavior among youths in Tanzania revealed that 0.3% of girls and 3.2 % of boys included in a survey had their first sexual debut at the age of 9, and 10% of both sex at

the age of 13. In this study the largest group, 55% of girls and 45% of boys, had their first sexual intercourse experience between the ages of 14 and 17 (Ikamba L. and Ovedraogo B 2003). Another study also shows that 30% of respondents were sexually experienced at an average age of 12.7 (Family Planning perspective, 2000; 32(1)).

The situation in Ethiopia is not unique. A study conducted on the determinants of high risk sexual behavior towards HIV/AIDS among out-of school youths in Addis Ababa indicates that 52.2% of boys and 47.8% of girls have had sexual experience at a mean age of 17.7(+sd 2.3) years (Abate , 1999). Another study conducted by the Family Guidance Association of Ethiopia on adolescent sexuality revealed that 71.9% of boys and 71.4% of girls have had their first sexual contact at the ages of 15-17. A similar study conducted in Bahir Dar also shows that 53% of male and 24% of female among out- of-school youths were sexually active with 16.9+2.3 years being the mean age at first sexual contact (Fantahun . and Chala , 1996).

Another study conducted on sexual activity of out-of-school youths and their knowledge and attitude towards STDs and HIV/AIDS in southern Ethiopia revealed that 49% of the respondents have had their first sexual contact within the mean age of 17+-2 years (it should be plus or minus, if not make it 19). It is also found out that the median age for first sexual intercourse was 16.3 years (MoH, 2000). A study conducted on the attitude of students, parents and teachers towards the promotion and provision of condoms for adolescents in Addis Ababa shows that the earliest reported age of onset of sexual intercourse for girls was 14 years with mean age of onset being 15.3(+sd 5.39) (26). Likewise, the earliest age of sexual intercourse for boys was 12 years with a mean age of onset being 16.45 (+ sd 4.02).

A similar study on adolescent reproductive health indicates that the age at first sexual intercourse was 13 years for 77% of males and 76% of females (Eshetu , Zakus and Kebede , 1997). Another study done in Harar also shows nearly half of the participating males and one-fifth of females have experienced sexual intercourse at the mean age of 16.9, which indicates also that males become sexually active earlier than females (Karra . and Haile , 1999). Another study conducted on casual sex-debuts among female adolescents shows the average age at sex debut was 16.7 years (+ sd 1.7) where the respondents initiated sex as early as the age of 11 (Fekadu , 2001). Some of the reasons behind this were identified to be; for maintaining relations with male partners (51%), due to passionate love (45.8%), and to overcome loneliness (40%(Ibid).

In a study conducted on sexual behavior among secondary school students in Ethiopia, it is reported that one third (33.3%) of them have had sexual intercourse with the mean age of sexual initiation being 15.3(+ sd 0.5) (Adamu , Samuel and Ingidushet , 2003). A similar study on the same issue among high school students in Kolla Diba Town of the Amhara regional state revealed that the mean age of sexual commencement was 16.4 years (+ sd 2.3), with two sexual partners on average in the past six months. Of the youths included in the study, about ten (9.3) % had sex with commercial sex workers during those times (Ismail , Bitsuamlak , and Alemu , 1997*)*. Also, a study conducted on school anti-AIDS club members and non members revealed that about one third of the members and a quarter of non- members admitted to have practiced sexual intercourse at the mean age of 16.8(+ 1.9) and 16.8(+ 2.1)years, respectively (Yazachew ,2003).

2.2 Socio-Economic and Demographic factors affecting risk perception

Young people are not a homogenous group. They have different needs owing to lots of factors like gender, age, marital status, income or employment status, cognitive development stage, educational level, access to media, and cultural norms. Despite the various factors for youth heterogeneity, different studies have shown that there are consistent trend towards sex outside marriage among the youth. There are also other common observations including weakening of social ties, late marriage, and changing sexual norms. In many instances, economic pressures and social norms are found to be among the major factors that force young people into sexual activity (Hughes and McCauley, 1998).

Young people who are sexually active cannot be in a stable sexual relationship and may have frequent changes of partner. They are often ignorant of the health risk of their sexual behavior, and they may have poor access to health care services. In addition, they are sensitive to messages from the media and other sex focusing films and magazines. Those who are engaged in drug use (including alcohol) may become more vulnerable to sex related infections including HIV/AIDS. These facts have helped to explain the reason why in many countries 60 percent of all new HIV infections are among people of 15-24 years old. The highest rates of STIs are usually found in the age range of 20-24 years, followed by 15-19 years (UNAIDS, 1997).

One of the potential negative consequences of practicing unsafe sex with multiple partners by the young people is high risk of contracting HIV/AIDS (Encarta, 2006). As the AIDS epidemic continues to spread across Asia and Africa, there is a growing concern that the prevalence of risky sexual activity among young people may be rising. A UNAIDS report (2004) says that such concerns are prominent in the these continents as a whole, where the market reforms that were initiated during the late 1980s have introduced a variety of new media from abroad, and encouraged the growth of consumer culture and migration to urban areas among the young people.

Langer, et al., (2001) identified six significant predictors of risky sexual practices using regression analysis. These included the number of partners in last six months, religious values, and attitudes toward condom, age at

first sex, alcohol intake, and residential locus. These writers have also identified nine risk factors, which have shown significant correlation with risky sexual attitudes and behaviors. These factors include age (sexual practices increase as youths get older), gender, race/ethnicity (ethnic minorities tend to engage in more risky sexual practices), age at first sex, number of sex partners, age of first alcohol use, alcohol consumption (defined as having four or more drinks on a single occasion), and self-esteem (low self-esteem has been found to correlate with risky sexual behavior) (Langer *et al*, 2001).

2.3 Risk perception of HIV/AIDS and STDs

Various literatures written on health related behavior consider the perception of being at risk of infection to be one of the necessary conditions for behavioral change (Lavra , 2002). Moreover, the degree of the perceived risk seems to affect individual actual control in adopting preventive measures. Individual risk perception is dependent on the perception of other members in a given network. Individual risk perception as well as individual knowledge is likely to be influenced by a social environment as long as social interaction allows information exchange, facilitates common evaluation and definition of the meaning and its validity.

Risk perception depends on the individual's perceived capability to take preventive measures against the infection. It depends on the capability to assess the relationship between behavior and the mode of transmission of the virus (Lavra , 2002). When it comes to the spread of HIV/AIDS, various factors affect the risk perception towards it. According to a UNAIDS report (2001) Poverty, underdevelopment, lack of choices and the inability to determine one's own destiny fuel the epidemic. Vulnerability to HIV is a measure of an individual's or community's inability to control their risk of perception.

For knowledge to help to bring behavioral change requires a feeling of personal vulnerability to HIV infection. HIV has been characterized as a disease of' others' from the earliest reports of infection, and this has created a perception which doesn't help to bring behavioral change. A review of school based HIV/AIDS risk reduction programmes for youth in Africa suggests that knowledge and attitudes are easiest to change, but behaviors are much more challenging (Melanie . and Eleanor .,2004). The Perception of personal risk or susceptibility appears to be the most difficult to change. Both of the evaluations that measured these found no change.

However, self-efficacy in abstaining from sex and/ or using condoms was examined in two evaluations and both have shown positive results (Melanie . and Eleanor ., 2004). Similarly, a study conducted in Uganda revealed that the risk perception on HIV/AIDS is associated with condom use, religion, educational attainment, marital status, residence, number of sexual partners and having contracted an STD (Ahimbisibwe ., Odwee .and Ayiga , 2003). A similar study conducted on knowledge, risk perception of AIDS and reported sexual behavior among students in secondary schools and colleges in Tanzania showed that students engaging in risky sexual behavior were aware of the risk, even though they failed to change their behavior (Masulanya , Moji K I Hariguchi, et.al., 1999). Only 25% of students felt that they themselves were personally at risk of acquiring HIV and 41% thought that friends were at greatest risk than themselves. Sixty-six percent were prepared to take an HIV test.

Students seemed to have a good understanding of AIDS as a social problem, but not as an issue in their personal lives (Masulanya , Moji K I Hariguchi, et.al., 1999). Another study showed that an accurate assessment of potential partners risk for HIV or other STDs may assist individuals in making decisions to avoid sexual contact, or to adopt protective behaviors within the partnership (for example condom use). However, methods to assess the validity and reliability of self reported behavior or perceived risk behavior of sex partners have not been standardized (Stoner . WLH Whittington Aral , et.al, 2003).

Likewise, a study conducted on the perception of risks of sexual activities among out of-school adolescents in south Gondar of Ethiopia shows that the participants' attitude towards HIV risk perception was 5.3% for rural and 11.2% for the urban youths(Kidane .,2004). According to him, adolescents engage in sexual practices at their early age, be exposed to high-risk sexual behavior and their perception of risk acquision is weak. Another study conducted in the Jima town of Ethiopia revealed that 6.7% of female students and 11.2% of male students have been involved in sexual activity with a worst lifetime sexual behavior index (Lemma E., 2000). A similar study in the Kolla Diba Town of Ethiopia revealed that only 65 of the respondents (18.6 %/) felt that they could acquire HIV infections (Ismail , Bitsuamlak , and Alemu ., 1997).

Focus group discussions conducted in Uganda revealed that one of the factors facilitating the spread of AIDS in African societies is having multiple sexual partners (Has HIV/AIDS Epidemic, 2001). And there are different reasons for that. Peer pressure, a lot of sexual urge, and attraction to beauty, prestige and experimentation were the reasons for many sexual partners reported by adolescents including street children. The responses on risk perception of HIV revealed that participants in all groups perceived people with multiple sexual partners as being highly at risk of contracting HIV/AIDS (Hapco, 2001).

2.4 Sexual Behavior and Risk Perception

Several studies have found that perception of risk is strongly related to the self protecting behavior of individuals (Adih and Alexander, 1999; Diamond and Madise, 2001). This is largely because of the adoption of protective behaviors, which is unlikely to occur unless the person is well aware of the risk of HIV infection. Studies show that people can judge their risk of HIV infection (Maharaj, 2004). However, sometimes those who are at risk may not perceive their risk and are less motivated to protect themselves (Varga, 2001).

A study conducted in Nepal found out that in a high HIV prevalence situation, over four-fifth of the young factory workers (82 percent) think that they have no risk of getting AIDS, seven percent perceive that they have little chance, about three percent think they have moderate chance). Out two percent believe they have a great chance of getting HIV. A similar study conducted in Kenya depicts that the majority of men and women perceived themselves at risk of HIV infection. Nearly 46% of women and 28% of men perceived themselves at a medium or high risk of HIV infection (Mahesh, 2002

Individuals who feel that they have little or no influence over what happens to them are more likely to engage in risky sexual behavior where women are more likely to feel that they do not have control over their situation (Mahesh, 2002). The risk of HIV infection may also appear vague and distant. For instance, in South Africa, underground workers on the gold mines did not use condom because they perceive the risk of being infected with AIDS is minimal as compared to the risk they face while living and working on the mine (Campbell, 1997). Two garage mechanics in their twenties in a study in Africa, said that AIDS is not a danger for them. They justify the reasons this way; “we are too poor to travel to all those foreign places. Any way, our girl friends are young and healthy school girls" (Ibid).

In Sub-Saharan Africa, socio-cultural norms and practices are the major determinant factors for sexual risk taking behavior (Caldwell, et al., 1999). A study conducted in South Africa has revealed that the level of perceived HIV risk was fairly low with 58% of males perceived no risk and 31% small risk. The proportions among females were 60% and 29% respectively. Only 5% of males and females perceived their risk as great (Kermyt et al; 2007). A study by Prata et al. (2005) highlights the relationship between young people’s assessments of their HIV risk with assessments based on current and past sexual behavior. It indicated that more male than female considered themselves to have no risk or a small risk of contracting HIV where they are actually at moderate or high risk in relation to unprotected sex.

2.5 Knowledge about HIV/AIDS and Sexual Behavior

Individual's knowledge of HIV transmission and accurate assessment of their own risk seem to be among the key factors in adoption of safer sexual practice (UNAIDS 2001). Knowledge of HIV/AIDS and related sexual behavior among the youths within the age range of 15-29 is of particular interest because the period between sexual initiation and marriage is a time of sexual experimentation that may involve high-risk behaviors. As indicated in EDHS (2005) only around one –fifth of women and one-third of men within the age of 15-24 know all of the basic facts about this disease, and the level of knowledge about it does not vary greatly among the young people.

As revealed in EDHS (2005) Knowledge about HIV/AIDS is much more common among urban than rural youths. Knowledge about HIV/AIDS rises with the level of education; and youth in the highest wealth quintile are much more likely to have better knowledge than the others. A cross-sectional study using DHS data from Uganda, Kenya and Zambia has shown that knowing somebody with AIDS was predictive of protective sexual behavior, as were knowledge of HIV prevention method and correct beliefs regarding AIDS patients (Macintyre15 et al., 2001). Knowledge of someone who had AIDS or who had died of AIDS may increase an individual's awareness of the consequences of HIV/AIDS and may lead to safer sexual practices including taking voluntary counseling and testing (Ndola et al., 2006). A study in Nepal has found out that about 74% of the respondents felt to know that a healthy looking person can have AIDS, 15% did not think so and 24% are not sure about it (Mahesh, 2002).

2.6 Knowledge of HIV Status

Knowledge of HIV status helps HIV-negative individuals to make specific decisions to reduce risk and practice safer sex. For those who are HIV positive, knowledge of their status allows them to take action to protect their sexual partner, access treatment and plan for their future life. A study in South Africa depicts that young men who had been tested for HIV were more likely to have used condom than those who had not been tested ($p=0.001$). Testing for HIV/AIDS during pregnancy is especially important to prevent a mother to child transmission. However, in Ethiopia, as revealed in the EDHS (2005), knowledge of HIV status among the community is very low, where only 6% of men and 2% of women have been tested.

A research conducted by Ellen et al (2006) on predictors of condom use among young adults in south Africa have revealed that young men who had been tested for HIV were significantly more likely to have used condom during their recent sexual intercourse ($p=0.001$) whereas young women who had been tested for HIV

were less likely to have used condom during their most recent intercourse than those who had not been tested (p=0.012).

2.7 The role of non-sexual risk behaviors for HIV infection

A study conducted on adolescent reproductive health indicates that having ever used alcohol and drugs was a risk factor for ever having had sex, having more sexual partners over life time, and having more than one partner during the last three months (Adolescent Reproductive Health Task Force, August 2003). Taking alcohol and some drugs is a common practice among the youths both in the urban and rural areas of Ethiopia. The effect of taking alcohol and using chat regularly was observed on sexual behavior. Amongst the youth who were reported to have had risky sex in a previous 12 months, 44% of them had used alcohol and chat regularly (HIV/AIDS Behavioral Surveillance Survey (BSS), Round one, Ethiopia, 2002). A study conducted on casual sex-debuts among female adolescents in Addis Ababa also shows that 'alcohol' and 'chat' use have strong links with the incidence of 'rape' as a factor contributing to early sex initiation (Fekadu .,2001).

There are always cultural clash among the different segments of society that have been exposed to and are influenced by modernization. Especially this is commonly visible between the youth and the rest of the community. There are common practices which are considered to be signs of modernization among the youth. Chat chewing and alcohol consumption often in combination provide fertile environment for the execution of pre contemplated ideas on sex.

These practices were reported to be common among groups of young people who describe themselves as 'modernized' (Taffa , Johanne , Carolo . and Gunnar ., 2002). A study conducted to assess this issue shows that students who used alcohol or drugs were more likely to practice sex with out condom than those who didn't take these things (Family Planning perspectives 2000; (Ibid)). This fact was backed by a finding which shows that alcohol and chat consumption have shown effects on risky sexual practices among school anti-AIDS club member and non member youths in Jima and Agaro towns of Ethiopia (Yazachew ., 2003).

2.8 Misperception about HIV/AIDS

The routes of HIV transmission are well documented by scientists, but health officials and concerned social behavioral scientists continually grapple with the public's unfounded fears concerning the potential for HIV transmission by other means. HIV differs from other infectious viruses in that it dies quickly if exposed to the environment. No evidence has linked HIV transmission to casual contact with an infected person, such as a handshake, hugging, or kissing, or even sharing dishes or bathroom facilities. Studies have been unable to identify HIV transmission from modes common to other infectious diseases, such as an insect bite or inhaling virus-infected droplets from an infected person's sneeze or cough (Encarta, 2006).

But there still exist misperceptions and fears on the modes of transmission of the virus among people of the world. With regards to this disease, not only there are misperceptions on the modes of transmission but there are also misperceptions on people whether they are carriers or not. A study in Nepal has found out that about 74% of the respondents felt to know that a healthy looking person can have AIDS, 15% did not think so and 24% were not sure about it (Mahesh, 2002). Similarly, many Ethiopian adults lack accurate knowledge on the modes of AIDS virus transmission (EDHS, 2005). Particularly this issue is critical when it comes to the fact that 51% of women and 69% of men perceive a healthy-looking person can have, and thus transmit, the virus. Many of them speciously believe that AIDS can be transmitted by mosquito bites. The same study has found that only 47% of women and 57% of men rejected these common misconceptions while the majority are aware that it is not caused by a super natural means (70% and 84% respectively) and by sharing food (63% and 80%respectively).

Generally speaking in Ethiopia the association between individuals' risk perception and their sexual behavior is complex and is poorly investigated and understood. Many studies conducted in different cultures have associated HIV risk perception with a range of variables such as sex with CSW, age at first sex, number of sex partners, condom use, knowledge of HIV status, and other socioeconomic and cultural variables like exposure to media, religiosity, monthly income and educational level. Thus, this study attempts to assess the relationship between the risk perception of HIV infection and the sexual experience of young adolescents existing currently in Bahir Dar town.

2.9 Condom use

According to some studies, although the majority of young people have heard of AIDS, many of them do not know how it is transmitted and do not believe that they are at risk. Those who know something of HIV often do not protect themselves because they lack the knowledge, the support or the means to adopt safe behavior (Young people and HIV/AIDS opportunity in crisis, 2002). For instance, young girls and women are regularly and repeatedly denied information about and access to condoms.

On top of this, often they do not have the power to negotiate condom use. And it is obvious that these practices aggravate the problem while taking actions against these and other similar practices can bring about a

positive change in hampering the spread of AIDS. For instance, a recent analysis of the AIDS epidemic in Uganda has confirmed that increased condom use in conjunction with a delay in the age of first sexual intercourse and a reduction in sexual partners were important factors in the decline of HIV prevalence in the 1990s. Thailand's efforts to de-stigmatize condom and its targeted condom promotion for sex workers and their clients dramatically reduced HIV infection.

A study conducted in Uganda on the risk perception and condom use has revealed that “Ever use of condom” was at 46% among males and 27% among females (African population studies vol. 18 (1) :). According to a review of school based HIV/AIDS risk reduction programmes for youth in Africa that 10 of the 11 studies have shown reported a significant knowledge improvement. Of the respondents in that study it was found that seven of them have shown some degree of change towards risk reduction. Similarly, in studies targeted sexual behaviors and condom use it has been observed that there were delays in sexual debut, a reduction in the number of sexual partners and improvements in condom use (Melanie . and Eleanor , 2004).

3. The Methods

3.1 Sampling Method

The population of this study covers youths living and working in Bahir Dar City administrations which are divided into 9 kebeles. After grouping the kebeles in to three strata, the first strata which represent the central zone of the town was taken using purposive sampling based on the points mentioned above. Then the sample size was distributed proportionally to the four kebeles under these strata and samples were selected using systematic random sampling. Eventually, the quantitative data was gathered by way of survey questionnaire.

In addition to distributing questionnaire to 247 young people, key informant interview and group discussion with politicians, community leaders, parents, and other stakeholders were also conducted to get adequate information about the problem. In this case also availability and snowball sampling was employed to draw the participants in these techniques. Accordingly, the 4 kebeles administrators, one representative from the regional HIV/AIDS prevention and control secretariat, four youth group leaders, 4 parents from both sexes, and two representatives from NGOs working on this area were interviewed for a more insight into the complex pattern of sexual behavior and risk perception of the youth about HIV/AIDS in the study area.

3.2 Data Collection Tools

The data required for this study was collected using both qualitative and quantitative methods. Preparing and distributing a structured questionnaire was the instrument for collecting the quantitative data.

Survey questionnaire: a well organized and structured questionnaire was prepared for the data collection process. The questionnaire was first developed in English, translated to Amharic and translated back into English so that accuracy and consistency in the wording are ensured. The questionnaire contained three main parts. The first Part of the questionnaire was contained demographic and socio-economic characteristics of participants; the second part was dealt about sexual behaviors of participants,; the third part was about the knowledge of the respondents concerning HIV\AIDS and STIs, knowledge and use of condoms, and the level of risk perception of HIV infection among the youth.

Focus group discussion (FGD): was conducted to generate qualitative data that can Supplement the results of the questionnaire. And because of the sensitiveness and personal nature of the issue under investigation, conducting FGDs play irreplaceable role. There was one group include representatives from at each kebele. The participants were selected from those young adults, politicians, community leaders, and repsentatives from governmental and nongovernmental organizations who were willing to participate on discussion. Six FGDs with a group of 8-10 discussants participated in the discussion. The principal investigator was the facilitator for the FGDs. Unstructured questionnaire with open ended questions were also distributed to some stakeholders in order to receive their views and understanding on the problem. Most discussion guides are open ended to give more opportunity for discussion. Discussions were held in local language- Amharic, recorded by a tape recorder and later translated into English and analyzed by the researcher. **In-depth interviews** with selected key informants were also made to substantiate and crosscheck the information obtained from the questionnaire.

3.3 Data Collection Procedures

Four enumerators who have diploma or above educational level, with better understanding of the issue and the study area, who can speak the local language, and were interested to participate in this study was selected and trained to administer the survey questioner. Training manual and working guideline had been prepared for this purpose. The questionnaires were prepared in English but were translated into the local language, Amharic, so that the enumerators can understand it better and explain fully to their interviewees.

One supervisor from the town health office was selected and trained to control the overall data collection process. The writer was supervise everything daily and would give orientation and supervision to all the enumerators and supervisors on how the work was going on. The key informant interviews and group discussion

was conducted by the researcher himself based on the action plan of the study. In this process interview checklists were used to go through all the relevant points and exploit the views and opinions of the participants.

The questionnaires were pre-tested in one kebele prior to the actual data collection on 15 respondents those who will not be included in the main survey. The result of the pre-test was used to revise the questionnaires based on the responses from the interviewees. During the actual data collection times the principal investigator and the supervisor was check whether the questionnaires were filled correctly or not. And accordingly, some advises was given to the enumerators so that they continue filling the questionnaires without any problem.

3.4 Variables Treated in the Study

The variables for HIV/AIDS risk perception; sexual behavior and awareness were defined. The information was collected on variables such as score of socio-economic and demographic characteristics, sexual behavior, and risk perception of the participants. The variables are basically of two types, dependent and independent variables.

Dependent Variable

The dependent variable in this study was individual's level of risk perception of HIV infection. In order to measure the risk perception of getting infected by HIV, respondents were asked a key question '*do you consider your chance of getting HIV to be high, medium*, *low or no chance at all*?' For the purpose of analysis, respondents were divided into high risk, medium risk and low or no risk categories depending on their responses.

Independent variables

The explanatory variables that influence perceived risk of HIV infection were selected based on the literature review. These factors were categorized into socio-economic, demographic and behavioral factors. The socio-economic variables included level of education, monthly income, chat chewing, smoking and alcohol use. The demographic factors included in this study were age, sex, marital status. And the behavioral factors included were age at first sex, number of life time sex partners, contact with CSW, condom use, ever having an STDs, knowledge of HIV status, and age difference with sex partner. Most of the variables mentioned above are self explanatory variables.

3.5 Methods of Data Analysis

Following the data collection in the field using various instruments, the data was analyzed by using Stata version 10 computer software packages. Analysis of frequencies of different variables and chi- squared test for some selected variables were done. Logistic regression was used in the analysis to examine the relationship between risky sexual behavior and perception of HIV risk in categorical variables based on gender while controlling for other factors that are likely to influence sexual behavior.

4. Results and Discussions

4.1. Results

In this study the sample size was distributed based on selected demographic and socio-economic characteristics which include sex, age, level of education, monthly income, alcohol drink, smoking, and chat chewing. Hence, 247 individuals were drawn as samples from the total population and they were addressed using questionnaires. Of the 247 questionnaires distributed to gather information from the determined sample size the researcher collected 232 fully completed questionnaires. And the remaining 15 questionnaires were missing or inappropriately filled and hence rejected by the researcher.

The participants considered in this study were both males 134 (57.75%) & females 98 (38.79%). As can be seen from table 4.1 below, 93 (40.09 %) of the respondents were in the age group of 15-19, 93 (40.09%) of them were between 20 and 24, and the remaining 46 (19.83%) were in the age group of 25-29. With regard to their educational status, 45 of them (19.40%) were of grade 1-8,113 (48.71%) grade 9-12, 74 of them (31.90%) were diploma holders and above. The sample distribution based on their religion shows that 156 (67.24%) were Orthodox Christians, 61 (26.29%) were Muslims, whereas the proportion of Protestants and followers of other religions were 11(4.74%) and 4(1.72%) respectively.

Speaking about their source of income, the participants of this study reported that they have various forms of income generating activities. Accordingly, 62 (26.72%) of the respondents earn a monthly income of below 300 Birr, 85 (36.64%) of them earn between 301 and 500, 48(20.69%) of them earn 501-1000, 24(10.34%) earn 1001-1500, 10(4.31%) earn 1501-2000 and the rest 3(1.29%) earn a monthly income of 2000 birr and above. It is also found out that 138(59.48%), 38(16.38%) and 60(25.86%) of the participants drink alcohol, smoke cigarette and chew chat respectively.

Table1.Percentage distribution of respondents by selected background characteristics

Respondents Characteristics		Sex of respondents				total	
		Male		female			
		frequency	%	frequency	%	frequency	%
Age	15-19	56	41.79	37	37.76	93	40.09
	20-24	52	38.81	41	41.84	93	40.09
	25-29	26	19.40	20	20.41	46	19.83
Marital status	Single	106	79.10	58	59.18	164	70.69
	Married	26	19.40	27	27.55	53	22.84
	Divorced	2	1.49	9	9.18	11	4.74
	widowed	___	__	4	4.08	4	1.72
Have a job	Yes	68	50.75	60	61.22	128	55.17
	No	66	49.25	38	38.78	104	44.83
Level of education	Can't read & write	__	__	__	__	__	__
	Can read & write	__	__	__	__	__	__
	Grade 1-8	30	22.39	15	15.31	45	19.40
	Grade 9-12	65	48.51	48	48.98	113	48.71
	Diploma & above	39	29.10	35	35.75	74	31.90
Monthly income	Below 300 birr	33	24.63	29	29.59	62	26.72
	301-600	35	26.12	50	51.02	85	36.64
	601-1000	34	25.37	14	14.29	48	20.69
	1001-1500	21	15.67	3	3.06	24	10.34
	1501-2000	8	5.97	2	2.04	10	4.31
	Above 2000	3	2.24	__	__	3	1.29

The assessment of family profile of the respondents indicate that 79 (34.05%) and Sixty five (28.08%) of their mothers and fathers respectively were able to read and write. Likewise, the mothers of 25.43% of the participants were householders while the fathers of 58 (25.43%) of the respondents were found to be civil servants.

4.2. Sexual behavior of participants

This part shows the percentage distribution of some risk related factors which will further be investigated using chi-square test and then binary logistic regression to discuss the net effect of individual factors on risk perception of HIV infection. The sexual behavior of participants has been shown using various methods. Table 2. below shows that 208(89.66%) of the respondents reported to have ever had sex where the percentage was slightly higher among males (90.3%) than among females (88.78%).

Table 2. Distribution of respondents by variables related to risky sexual behavior

Respondents characteristics		**Sex of respondents**				total	
		male		female			
		frequency	%	frequency	%	frequency	%
Ever had sex	Yes	121	90.30	87	88.78	208	89.66
	No	13	9.70	11	11.22	24	10.34
Age at first sexual intercourse	15-19 years	78	64.46	51	52.04	129	62.02
	20-24 years	35	28.93	28	28.57	63	30.29
	25-29 years	8	6.61	8	8.16	16	7.69
Reason to have sex	Fell in love	41	33.88	28	32.18	69	33.17
	Sexual desire	51	42.15	35	40.23	86	41.35
	Marriage	11	9.09	8	9.20	19	9.13
	Rap	-	-	-	-	-	-
	Peer pressure	1	0.83	4	4.60	5	2.40
	Get drunk	11	9.09	6	6.90	17	8.17
	Others	6	4.96	6	6.90	12	5.77
First sexual relationship	Lover	58	47.93	42	48.28	100	48.08
	Causal partner	49	40.50	34	39.08	83	39.90
	Partner	12	9.92	10	11.49	22	10.58
	others	2	1.65	1	1.15	3	1.44
No of sexual partners ever had	1	43	35,54	30	34.48	73	35.10
	2	21	17.36	17	19.54	38	18,27
	3	30	24.79	24	27.59	54	25.96
	4	10	8.26	8	9.20	18	8.65
	Above 4	17	14.05	8	9.20	25	12.02

In this study the minimum and maximum ages of first sex have been reported to be 14 and 26 respectively. Among those 232 respondents who ever had sex, 73(35.10%) of them had at least 1 sexual partner, 38 respondents(18.27%) reported to have two sexual partners, 54 of them (25.96%) had exactly 3 partners, 18 respondents(8.65%) had four, and the rest 25 (12.02%) respondents had four and above sex partners.

Among the respondents who ever had sex, 100 of them (48.08%) did their first sex with their lover, 83 respondents (39.90%) with causal partner, while 22 (10.58%) and 3(1.44%) of the sexually active respondents did their first sex with partners and others respectively. Assessment of the major reasons for beginning sex among the respondents show that falling in love (33.17%), sexual desire (41.35%), marriage (9.13%), peer pressure (2.40%), get drunk (8.17%) and others (5.77%) respectively, while the other 24(10.34%) respondents have never started sex so far.

4.3 Knowledge about HIV/AIDS and Other STDs

Knowledge about sexually transmitted diseases is vital to protect oneself from risky sexual behavior. In this study assessment has been done to find out the status and level of knowledge about HIV/AIDS and other STDs among the youths in the study area. Based on the finding in this study almost 100 percent of the respondents have information and knowledge about HIV/AIDS.

Regarding the HIV prevention methods more than 13% of the respondents have an understanding that abstinence from sex and 18.97% faithfulness to one sex partner prevents from being infected by HIV. Although most of the respondents also believe that using condom is one method of protecting the infection, it was found out that only about 59% of them use it consistently and 7.76% claim to prevent AIDS transmission by other methods.

Table 3. HIV/AIDS related preventive practice perceived by the respondents

knowledge about HIV/AIDS	**frequency**	**Percent**
HIV/Aids can be cured/prevented		
1.Yes	232	100
2.No	0	0
Preventive method		
1. Abstinence	32	13.79
2. being faithful to one partner	44	18.97
3. condom use	138	59.48
4. others	18	7.76

Due to the presence of a highly organized national and local HIV risk reduction campaign and the existence of more than two decades history of the epidemic, only 214(92.24 %) of the respondents reported that it is difficult to identify HIV carriers by looking at some one. Moreover 224(96.55%) of the respondents knew that the presence of STDs can increase the risk towards HIV infection, while about 55% believe that HIV can be transmitted in the first time of sexual contact. Furthermore almost 100% of them know that HIV/AIDS can be treated, and no one responded that the pandemic has no cure at all.

The participants of this study were asked if they have ever faced STDs. Accordingly, 8 respondents (3.45%) said that they were hit at least once with 138 (59.48%) participants believing that condom use is a practical protective option against HIV/AIDS and other STDs. Although use of condom is popular among the youths, 46 (19.83%) respondents believe that using condom is a sign of mistrusting partners while 47 (20.26%) respondents said that discussing about condom with young people could promote promiscuity (please see table 4.5). Moreover, 175(75.43%) respondents agreed that alcohol consumption and drug use can lead to HIV acquisition while 220 (94.83%) of the participants reported that multiple sexual contact leads to this problem.

Table 4. Awareness and beliefs towards risks of sexual activities and HIV/AIDS among adolescents

	Variable		Male		Female		Total	
			Frequency	%	Frequency	%	Frequency	%
1	Person can get HIV when he/she has sex the first time	yes	79	58.96	48	48.98	127	54.74
		No	36	26.87	30	30.61	66	28.45
		I don't know	19	14.18	20	20.41	39	16.81
2	By looking carefully you can know if she/he has HIV	Yes	11	8.25	7	7.14	18	7.76
		No	123	91.79	91	92.86	214	92.24
		I don't know						
3	Using condom is a sign of not trusting your partner	Agree	27	20.15	19	19.39	46	19.83
		Disagree	93	69.40	71	72.45	164	70.69
		Not sure	14	10.45	8	8.16	22	9.48
4	Discussing condom or contraception with young people promotes promiscuity	Agree	85	63.43	70	71.43	47	20.26
		Disagree	34	25.37	13	13.27	155	66.81
		Not sure	15	11.19	15	15.31	30	12.93
5	Is AIDS curable	Yes	0	0	0	0	0	0
		No	134	100	98	100	232	100
		I don't know	0	0	0	0	0	0
6	Do you believe having multiple sexual contact leads to HIV acquisition	Yes	126	94.03	94	95.92	220	94.83
		No	8	5.97	4	4.08	12	5.17
7	Do you believe alcohol consumption and drug use can predispose to HIV acquisition	Yes	98	73.13	77	78.57	175	75.43
		No	24	17.91	21	21.43	45	19.40
		Don't know	12	8.96	--	--	12	5.17

4.4. Condom use

Using condom is one of the methods of preventing STDs including HIV/AIDS. Condom, which is ubiquitous and easy to use, is especially one of the three methods being used to safeguard sexually active youths from the risk of HIV infection. Use of condom, as a means of safer sex practice, has gained greater significance especially at a time when the spread of HIV/AIDS is increasing rapidly. In this context, it is imperative for men and women to be aware of the importance of condom use. This study has tried to assess the attitude of respondents towards condom use its effectiveness in preventing HIV transmission.

As can be seen from table 4.6 below, among the sexually active respondents 164(78.85%) had ever used condom with only 35(44.9%) respondents claiming to have used it consistently during the last 12 months. on the other hand 46 (54.8%) respondents reported that they have used condom only in their first sexual intercourse and 64(76.2%) of them have used condom in their last sexual intercourse. Out of those who used condom 59(70.2%) respondents used it while doing sex with friends, 15(17.9%) with casual partners and 4(4.8%) with commercial sex workers. When asked why they use condom during sexual intercourse, they replied to avoid HIV/AIDS (48.17%), prevent pregnancy (1.22%), and for both reasons (50.61%).

Table 5.Condom use among adolescents by sex

Variables	Male		Female		Total	
	frequency	percent	frequency	percent	frequency	Percent
Ever used condom						
1.yes	103	85.12	61	70.11	164	78.85
2.No	18	14.88	26	29.89	44	21.15
Condom use in the last 12 months						
1.alwys	55	53.40	24	39.34	79	48.17
2.most of the time	26	25.24	30	49.18	56	34.15
3.sometimes	22	21.36	7	11.48	29	17.68
Condom use during the first sexual intercourse	7	6.80	1	1.64	8	4.88
1.yes	96	93.20	60	98.36	156	98.12
2.No						
Condom use during the last sexual intercourse	59	57.28	28	45.90	87	53.05
1.yes	44	42.72	33	54.10	77	46.95
2.No						
Reason for condom use						
1.avoid HIV/AIDS & STD	78	75.73	1	1.64	79	48.17
2.avoide pregnancy	-	-	2	3.28	2	1.22
3.Both	25	24.27	58	95.08	83	50.61

4.5 Risk perception of respondents

In the assessment done to know the risk perception of respondents, this study has found out that 48(21.64%) of the male participants and 26(15.31%) of female participants have perceived themselves to be at high risk of HIV infection, while 34(25.37%) of the males and 40(40.82%) of females have perceived a medium chance of getting HIV. Similarly there were respondents who perceived themselves to be at a less or no risk of getting infected with this epidemic.

This study shows that 23(17.16%) of the male and 17(17.35%) of the female respondents believe to have low chance of acquiring the virus while 48(35.82%) of the male and 15(15.31%) of the female respondents replied that they have no chance of getting HIV. In general it was found out that the male respondents were considering themselves to be at a higher risk of HIV infection than the female respondents(Table: 6)

Table 6. Percent distributions of respondents by HIV risk perception

variable	male		female		Total	
	frequency	percent	frequency	percent	frequency	Percent
Chance of acquiring HIV:						
None	48	35.82	15	15.31	63	27.16
Low	23	17.16	17	17.35	40	17.24
Medium	34	25.37	40	40.82	74	31.90
High	29	21.64	26	26.53	55	23.71

4.6 Demographic and socio-economic characteristics and perceived level of HIV risk among the youths

As partly this study is aimed at highlighting the relationship of variables and interpreting the implication, Chi square method has been used to examine the association between demographic and socio-economic characteristics and the risk perception of HIV among the youths in the study area.

The table below shows that there are various levels of association between demographic and socio-economic characteristics and risk perception of HIV among the youths. Accordingly, age level was not found to have a significant association with risk perception of HIV among the youths (χ^2= 7.0930, P= 0.29). A better association was observed between the job variable and risk perception. In this study job was found to be significantly associated with risk perception of HIV among the youths (χ^2=4.7151, P= 0.03).This means that youths who had job had high risk perception as compared to the jobless ones.

Alcohol use was the other variable which has shown a significant association with risk perception of HIV among the youths (χ^2= 16.8405, P=0.001). The alcoholic youths were found to have high risk perception than those who did not use. The level of monthly income was significantly associated with risk perception of HIV (χ^2=12.7690, P=0.026) where the statistics show that youths with high monthly income had a relatively better risk perception.

The same is true with the sex variable which was significantly associated with risk perception of HIV

among the youths (χ^2= 9.4788, P= 0.002). Hence the level of risk perception among males was found to be higher than the female respondents. A significant association has also been observed between youth level of education and risk perception of HIV (=χ^2 11.8883, P=0.003), where the level of risk perception was better among those with higher educational level than those who are otherwise.

Table 7. Demographic and socio-economic characteristics and perceived level of HIV risk among the youths

Variables		Perceived chance of getting HIV		χ^2	P-value
		Lower chance (low risk +no risk)	Higher chance (high +medium risk)		
Age	15-19 20-24 25-29	32 50 21	61 43 25	7.0930	0.29
Job	Yes No	65 38	63 66	4.7151*	0.03
Drinking alcohol	No Once &twice Sometimes daily	57 4 28 14	40 3 66 20	16.8405**	0.001
Monthly income	Below 300 301-500 501-1000 1001-1500 1501-2000 Above 2000	27 31 22 18 3 2	35 54 26 6 7 1	12.7690*	0.026
Sex	Male Female	71 32	63 66	9.4788**	0.002
Level of education	1-8 9-12 Above diploma	17 41 45	28 72 29	11.8883**	0.003

P<0.05 p<0.01

4.7 Behavioral factors and Risk Perception among the Youth

The chi square method used to examine the association between behavioral factors and risk perception of HIV among the youths has shown various results. As seen in the table below, the behavioral factors have shown some level of association with risk perception of HIV. The results indicate that sexual practice was significantly associated to risk perception (t=10.1561, P= 0.001), where the risk perception of people who had ever practiced sex was greater than those who didn't.

Table 8. Association of behavioral factors and risk perception of HIV infection

Variables		Perceived chance of getting HIV		χ^2	p-value
		Low risk	High risk		
Ever had sex	Yes No	85 18	123 6	10.1561**	0.001
No of sexual partners ever had	1 2 3 4 Above 4	43 14 19 3 6	31 24 34 15 19	17.2151**	0.002
Age at first sex	15-19 20-24 25-29	60 23 2	69 40 14	7.5240*	0.023
Condom use	Yes No	68 17	96 27	0.1147	0.735
Ever had STDs	Yes No	3 100	5 124	0.1596	0.689
Knowledge of HIV status	Tested Not tested	51 78	16 87	16.0624**	0.000

P* < 0.05 p**< 0.01

Similarly, the number of sexual partners someone ever had was found to be significantly associated with risk perception of HIV among the youths (χ^2=17.2151, P= 0.002). This means that the risk perception of people

who had multiple sexual partners was found to be lower as compared to those who didn't. Likewise, the age of first sexual practice has shown a significant association with risk perception of HIV among the youths(χ^2=7.5240, P= 0.023), where the level of risk perception of people who started sexual intercourse earlier was found to be lower than those who started in their later ages.

This study has found out that condom use has no significant association with risk perception of HIV among youths (χ^2= 0.1147P= 0.735). Similarly, STDs experience had no significant association with risk perception of this epidemic (χ^2=0.1596, P= 0.689). But knowledge of HIV status has shown significant association with risk perception of HIV where youths who knew their status had better risk perception than those who did not (χ^2=16.0624, p= 0.000).

4.8 Demographic and Behavioral Variables of HIV Risk Perception

This study has used multinomial logistic regression method of analysis to determine the prediction of socio demographic and behavioral variables of risk perception.

Number of obs = 208 LR chi2 (9) = 89.40
Prob > chi2 = 0.0000 Log likelihood = -98.510904
Pseudo R2 = 0.3121

This method of analysis was used to determine the predictor of perceived chance of getting HIV/AIDS. Accordingly, the table below shows that age and educational status were found to be independent and significant predictors of risk perception with (z=-2.13, p= 0.033) and (z=-4.36, p=0.000) respectively. Likewise, marital status and alcoholism were found to be independent and significant predictors of risk perception with (z=-2.48, p=0.013) and (z= 04.88, p=0.000). Knowledge of HIV status has also been found to be an independent and significant predictor of risk perception (z= -3.69, p= 0.000), while sexual practice was not found to be an independent and significant predictor of risk perception (z= -0.10, p= 0.919).

Table 8. Logistic regression on demographic and behavioral variables of risk perception

Variable	Un standardized Beta	SEB	Standardized Beta	Z- test	Sign.
Sex	.946	.543	-.055	-.10	0.919
Age	.398	.435	-.928	-2.13*	0.033
Education level	.148	.439	-1.914	-4.36**	0.000
Marital status	.424	.346	-.857	-2.48*	0.013
Job	1.471	.503	.387	.77	0.442
Monthly income	.949	.175	-.052	-.30	0.765
Alcohol use	5.476	.348	1.701	4.88**	0.000
Knowledge of HIV status	.204	.431	-1.591	-3.69**	0.000
Condom use	1.180	.448	.169	2.37	0.711
Constant	274.717	1.884	5.616	2.98	0.003

P* < 0.05 p < 0.01**

The same analysis shows that job and monthly income were not found to be independent and significant predictors of risk perception with values (z=0.7, p=0.442) and (z=-0.30, p=0.765). And also Condom use was not found to be an independent and significant predictor of risk perception (z= 2.37, p=0.711).

4.9 Results of focus-group discussion and in-depth interviews

As it has been mentioned in the methodology part, this study is conducted using both quantitative and qualitative methods. Hence the information obtained using the survey questionnaire was backed by group discussion and in-depth interview. For this purpose a total of 17 participants were involved in four focus group discussions and in the in-depth interview. The discussion centered on youths' general knowledge on HIV/AIDS, sexuality behavior such as causes and consequences of early sex and multiple sexual partners, youths' risk perception of HIV/AIDS, use of condom and willingness to undergo VCT as well as the HIV prevention methods practiced by the youth.

Knowledge of HIV/AIDS

The group discussion started with the general question on the meaning of HIV/AIDS. According to the participants, AIDS is a hidden epidemic, a disease of behaviour and cause of premature death. Furthermore, the participants showed high level of knowledge about transmission and spread of HIV. They all knew that HIV is transmitted through unprotected sexual intercourse, using unsterilized equipments, multiple sexual partners, mothers who have HIV in their blood to their child and blood contact with person who live with the virus. Majority of the respondents stated that abstinence, being faithful to one partner, use of condom, voluntary counseling and testing before marriage is the only prevention methods for HIV.

Current sexual behavior

The discussants in the focus group were asked about causes and consequences of early sex. Both female and male groups generally agreed on the most common age at first sexual intercourse is 12 years and above for girls

and 14 years and above for males. Majority of participants stated that girls start sex earlier than boys. According to the participants, the main reason for early sex are early marriage, peer pressure, illegal video house (watching pornography film), rape and abduction, alcohol, khat and economic problems. The participants also stated that due to early sex females are exposed to unwanted pregnancy, abortion and other complications like fistula. Generally, the participants agreed that early sex predisposes to HIV/AIDS and finally death. Majority of the participants stated that sexual intercourse should be started after marriage and if possible after 18 years and after getting their own income. One of the factors facilitating the spread of HIV is having multiple sexual partners. To be able to assess this, the participants were asked whether people had many sexual partners and reasons for this attitude. Different reasons were given for many sexual partners in the era of AIDS. Peer pressures, experimentation by the youth and intensive sexual urge were the reasons for many sexual partners. A male discussant also said "*absence of recreation place for the youth is the main reason for youth sexuality as sex is one method of recreation for the youth*". Another issue discussed by the participants as a cause of youth sexuality is unemployment and excess free time. Majority of participants agreed on the fact that multiple sexual partners predispose to HIV/AIDS except a young female discussant, who strongly argued that multiple sexual partners does not predispose to HIV, if safe sex is practiced.

Risk perception of HIV/AIDS

The discussants in the focus groups were asked about what they perceive to be the risk of contracting HIV/AIDS among people who had multiple sexual partners and how do the youth perceive risk of HIV/AIDS. Almost all participants in the groups perceived that people with multiple sexual partners are at high risk of contracting HIV/AIDS. According to the participants, all the youth seemed to fear HIV/AIDS, but still chose to participate in unprotected sex. A 17 year old male said "*Some of the youth perceive there is no infection of HIV after 10 pm."* Most of the participants stated that the reasons why youth do not perceive themselves at risk of HIV are due to over indulgence in alcohol and khat. Alcohol and khat make the youth not to think of risk perception, not to be open in the sexual matter, feel hopelessness and the nature of the disease not causing sudden death. According to participants, even though youth have high knowledge on HIV/AIDS they don't bring behavior change because of peer pressure, poverty, absence of recreation area, khat and drug abuse, no vision, unemployment and generally they don't give attention due to their ages.

Condom use

Majority of the group didn't consider the use of condom as acceptable means of prevention because of perceived reduction in sexual pleasure. According to the participants, some of the reasons for non-use of condom are perceived reduction in sexual pleasure, shame to buy, create tension, feeling that condom may contain the virus and over indulgence in alcohol. Explaining the situation a young boy said, *" Using condom during sexual intercourse is as if having banana with its cover."* Another male participant also said "*Using condom is walking in the rain with umbrella, because the rain may wet some part of the body.*" Another issue raised in the discussion was the difference of price for different types of condom that influence the youth understanding on the protective capacity of condom. Regarding where condoms were obtained from, all groups reported the sources of condom distribution were from shop, health institution, hotels and pharmacy. Majority of participants agreed that condom should be distributed in recreation area, meeting places, schools, public offices, and kebele associations and bus stations in addition to previous distribution.

Willingness to undergo VCT

The study obtained information on various aspects of HIV testing including perception of the youth about HIV testing and knowledge of VCT. Majority of the discussants have knowledge on the importance of VCT. Almost all groups indicate that, even though youth have knowledge on VCT, they are afraid to be tested. According to the participants, voluntary counseling and testing is necessary to plan for the future, to know status, for marriage, for DV and to prevent transmission of HIV.

Generally almost all participants of in the focused-group discussions and in-depth interviews agreed that the pattern of HIV/AIDS epidemic is getting worse over time, and is seriously affecting the young which is the productive population group in the town.

All the participants in the focus-group discussions and in-depth interviews agreed that the key risk factor putting youths at risk of HIV/AIDS in the central part of the Town is the increasing number of places for consuming alcohol and *chat*. The participants in these methods have also witnessed that there is a trend of taking too much alcohol among youths aiming at avoiding the problem of sleep disturbance and anxiety that usually follow chewing of *chat*. And it is obvious that taking of too much alcohol, in turn, results in practicing unprotected sex.

4.2 Discussions

This study has examined the association of variables using the chi-squire test which has shown variables like sexual practice, multiple sexual partners, age ate first sex, and knowledge of HIV status were found to have significant association with risk perception of HIV of among the youths. A similar study conducted in Uganda

has revealed that the risk perception on HIV/AIDS is associated with condom use, educational attainment, marital status, and number of sexual partners (Ahimbisibwe, Odwee and Ayiga, 2003).

In this study some variables like job and alcoholism have shown significantly association with risk perception where people who have jobs and do not consume alcohol were found to have high risk perception than those who do otherwise. This finding similarity and consistency with previous studies conducted on this area. For instance, various studies conducted on adolescent reproductive health indicate that use of alcohol and drugs was a risk factor for having had sex, and having multiple sexual partners over life time (Adolescent Reproductive Health Task Force, August 2003). A study conducted on this area in 2002 backs this finding. Among youths who were reported to have had risky sex during 12 months time, 44% of them had used alcohol and chat regularly (HIV/AIDS Behavioral Surveillance Survey (BSS), Round one, Ethiopia, 2002). Similarly, Fekadu (2001) reported that 'alcohol' and 'chat' use have strong links with the incidence of 'rape' as which is again a factor contributing to early sex initiation among female adolescents in Addis Ababa.

Various literatures written on alcohol use related behavior have considered the perception of being at risk of infection to be one of the necessary conditions for behavioral change (Lavra, 2002). This study has come up with a finding that shows alcohol use is a predictor that explained variation in the likelihood of risk perception of HIV infection. As it is observed from the logistic regression model, respondents' who consume more alcohol were 1.701 times likely to be at a higher risk of being infected by HIV than those who consume less. Another study has indicated that alcohol consumption has shown an effect on risky sexual practices among school anti-AIDS club member and non member youths in Jima and Agaro town of Ethiopia (Yazachew, 2003). Those who are engaged in drug use (including alcohol) may become more vulnerable to sex related infections including HIV/AIDS (UNAIDS 1997). Similarly, Langer, et al., (2001) has identified alcohol intake to be a significant predictor of risky sexual practices using regression analysis.

In addition to this, monthly income was found to be significantly associated with risk perception of HIV among the youths, where respondents with low monthly income had low risk perception of HIV than those with high income youths. Likewise, gender status was found to be significantly associated with risk perception of HIV youths, and that the level of risk perception of males was much higher than female respondents. This finding is somehow similar to previous findings which revealed that the level of HIV risk perception of males was higher than females. According to various studies, the main reason behind this difference are wide spread poverty among women, gender inequality, and social and political inertia. Especially, in developing countries these factors have widened the gap of AIDS prevalence between both sexes (UNFPA, 2008).

Level of education was also found to have a significant association with youths' risk perception of HIV/AIDS. The assessment in this regard shows that people with low level of education had low risk perception of HIV than those with a better educational level, which goes in harmony with previous studies conducted in this area. For example, as revealed in EDHS (2005), knowledge about HIV/AIDS among the youths rises with the level of education, but the level of risk perception declines. In this study educational level was found to be an independent and significant predictor of risk perception towards HIV/AIDS among the youths. As it has been observed from the logistic regression model, respondents' with higher educational status were 1.914 times at a higher risk than those who had lower educational level. Similarly, as revealed in EDHS (2005) the spread of HIV/AIDS rises with the level of education; and youths in the lowest educational level were found to be at a lower risk. Marital status was also found to be a predictor in explaining variation in the likelihood of risk perception of HIV infection in this study. As can be observed from the logistic regression model, married respondents had 0.857 times higher risk perception than the unmarried people who were likely at risk of being infected by HIV. A study conducted by Langer, et al., (2001) in Uganda that revealed marital status to be a significant predictor of risky sexual perception backs this finding. In this study sex experience was also found to be significantly associated with risk perception of HIV among people. The assessment in this regard shows that people who ever practiced sex had low risk perception than those who didn't. A study by Macintyre (2004) has come up with the same finding where he found that Sexually inexperienced youth may perceive such a risk if, for example, they doubt their potential to maintain consistent condom use or to identify partners who are at low risk of infection once they become sexually active. The other variable that has shown a sort of association with risk perception is the number of sexual partners. In this study it has been found that the risk perception towards HIV/AIDS was higher among those who had limited sexual partners than those with multiple partners. And several studies show that this trend can lead to a high AIDS prevalence. For instance, Encarta (2006) stated that the potential negative consequence of practicing unsafe sex with multiple partners is high risk of contracting HIV/AIDS.

According to the finding in this study, the age at first sexual practice of youths was significantly associated with risk perception of HIV, where the youths who had experienced sex at their early age had less level of risk perception than those who practiced sex at their later ages. There are also other studies conducted on this area that support this finding. A study conducted on high-risk sexual behavior among youths in Tanzania has revealed that the largest group, 55% of girls and 45% of boys, had their first sexual intercourse experience between the

ages of 14 and 17 (Ikamba and Ovedraogo, 2003). Another study also shows that 30% of respondents were sexually experienced at an average age of 12.7 (Family Planning perspectives 2000; 32(1*)*). These studies indicate that as people start sexual intercourse at their earlier ages it is highly likely to have less risk perception towards AIDS. And this is the reason why in many countries 60 percent of all new HIV infections are among people of 15-24 years old. That means the highest rates of STDs are usually found in the age range of 20-24 years, followed by 15-19 years (UNAIDS, 1997).Generally as stated by Langer *et al*, 2001**,** the age level of first sex practice determines individual risk perception. Similarly, in this study age was found to be a predictor that explains variation in the likelihood of risk perception of HIV infection. As it is observed from the logistic regression model, respondents' age is 0.9280 times likely to perceive higher risk of being infected by HIV. Langer, et al., (2001) has come up with a finding which identified age as a significant predictor of risky sexual practices.

Knowledge of HIV status was also found to be significantly associated with risk perception of HIV among youths. This means that the risk perception of persons who know of their HIV status was higher than those who did not undergo VCT. A study conducted on high-risk sexual behavior among youth who had the knowledge of HIV status in Tanzania revealed that 11.7% of the participants felt they were at high risk of getting HIV/AIDS and STDS, 25% felt that they had a very low risk, while 53.1% felt that they were not at risk at all (Ikamba and Ovedraogo, 2003). Similarly, knowledge of HIV was found to be a predictor variable that explained variation in the likelihood of risk perception of HIV infection. As it is observed from the logistic regression model, respondents' Knowledge of HIV is 1.591 times likely to predict higher risk than lower risk of being infected by HIV, and a research conducted by Ellen et al (2006) among young adults in South Africa have revealed the same finding. According to her, young men who had been tested for HIV were significantly more likely to have used condom during their recent sexual intercourse.

On the other hand, in this study, condom use was not significantly associated with risk perception of HIV among youths. Likewise, experience of STDs was not significantly associated with risk perception of HIV among youths. Contrary to this finding, different studies revealed that condom use was significantly associated with risk perception of HIV. Therefore, it seems that this new outcome would open a room for further research. Generally speaking**,** the logistic regression in this study reveals that socio demographic and behavioral factors like age, educational level, marital status, alcohol use and Knowledge of AIDS and of HIV status were significant and independent predictors of risk perception. However variables like sex, employment status, monthly income and condom use were not found to be significant and independent predictors of risk perception.

5. Conclusions and Implications

5.1 Conclusions

As it has been mentioned somewhere in the introductory part of this thesis, the main purpose of the study is to investigate the risk perception of HIV among youths in Bahir Dar town. And to address this research problem the following research questions were entertained:

1. Do socio-economic, demographic and behavioral variables predict the level of risk Perception of HIV infection among young adults?
2. How do youths perceive the risks associated with sexual activity?
3. How aware are youths to prevent such risks?

Participants of the study were a sample of 232 youths living in Bahir Dar town of Ethiopia. In addition, 17 concerned officials drawn from government offices, non-governmental organizations, civic societies, and community leaders were participated in this study by way of focused group discussion and key informant interviews. A self administered questionnaire that was designed in a way that includes socio-economic, demographic and behavioral characteristics served to collect data from the youths. On top of this, observation by the researcher has had a vital contribution in substantiating the data collected using the various methods.

While descriptive statistics has been used to characterize socio-economic, demographic and behavioral variables and the level of risk perception of HIV/AIDS, chi square was used to examine the association of socio-economic, demographic and behavioral variables with HIV risk perception. These variables were further examined to identify their independent prediction using the logistic regression model. Finally, the data gathered using interview and focus group discussion was qualitatively analyzed.

Analysis of the quantitative and qualitative data collected for this study has led to generate the following finding.

1. Socio-economic and demographic variables such as Job, alcohol use, monthly income, and gender and educational status were significantly associated with risk perception of HIV among the youths. And behavioral variables like sex experience, age at first sex, no of sexual partners and knowledge of HIV status were significantly associated with risk perception of HIV among the youths.
2. Age, education status, marital status, alcohol use and knowledge of HIV status were significantly and independently predicted HIV risk perception.

5.2 IMPLICATIONS

1. This study provides important information about socio-economic, demographic and behavioral predictors of risk perception of HIV among youths. It also provides important information for further research, as well as implications for preventive strategies and intervention on the sexual behavior of youths to reduce the prevalence of HIV/ AIDS among youths. Being the young are at risk of facing socio-economic, demographic and behavioral related and other problems, it is important to understand the mechanism behind the relationships among these variables. This would definitely help to design appropriate prevention strategies tailored towards this group.
2. This study is primarily conducted based on cross-sectional data collection and analysis; hence it is not possible to make any causal connections between sexual behavior and risk perceptions of HIV or know the direction in their relationship. Furthermore, the measure of risky sexual behavior used in this study is based only on an individual's behavior in the past preceding the study yet actual risk of exposure to HIV is a combination of several factors such as the type and number of lifetime sexual partners; use of condoms by the individual and/or the partner currently and in the past; and the partner's past and current sexual behavior.

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