ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

INSTITUTE OF POPULATION STUDIES
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SEXUAL BEHAVIOR AND VULNERABILITY TO HIV INFECTION AMONG YOUNG MIGRANT WORKING WOMEN IN ZIWAY: A CASE STUDY OF SHER-ETHIOPA FLOWER FARM

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CSA	Central Statistics Authority
EDHS	Ethiopian Demographic and Health Survey
HIV	Human Immuno Deficiency Virus
IDI	In-depth Interview
ILO	International Labor Organization
MOH	Ministry of Health
HAPCO	HIV/AIDS Program Control Office
NLFS	National Labor Force Survey
STD's	Sexually Transmitted Diseases
STI's	Sexually Transmitted Infections
UNAIDS	Unite nations Joint Program on HIV/AIDS
UNICEF	United Nations Children's Fund
UN	United Nations

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Abstract

The study has dealt with sexual behavior and vulnerability to HIV infection among young migrant working women in Ziway. It is tried to examine factors contributing to risk behavior and make migrant young women vulnerable to HIV infection.

The data was collected from single migrant women in the age group 15-28 years in Ziway, Sher-Ethiopia flower farms, using cross- sectional study. A total sample size was 423 females selected by employing simple random sampling method and 8 key-informants were involved in in- depth interview.

The data was entered and analyzed using SPSS Soft-ware. Descriptive statistics used to describe the respondents characteristics. The binary logistic regression model was used to establish relation ship between the risk factor and various independent variables.

The study revealed that 63.8% of the respondents had an experience of sexual intercourse and for 48.2% of the respondents age at first sex was bellow18 years. Among 244 females, who had sexual intercourse in the last 6 months 12.3% (30 females) had multiple sexual partners. About 2.4% of the l respondents had experienced at least one sign/ symptom of STIs or STIs episodes.

By using logistic regression model, the dependent variable, risk factors measured by the number of sexual partners and STIs signs' Symptoms Reported. The finding revealed that young and single migrant women were found to be influenced by high risk behavior, duration of stay in Ziway, living arrangement, religion and religiosity, income, occupation, family relation media exposure, being member of social group /club, and exposure to pornographic materials came out as significant determinant of the risk of HIV infection among the study group at the study area.

Finally recommended that the role and the way to disseminate information by mass media needs to be re-consider. And the planners and concerned body should give attention towards illegal pornographic show houses and renting shops. And governmental and non-governmental organization should give attention to establish and consolidate social groups or clubs.

1. Introduction

1.1. Background

Increasing in international migration is associated with economic and political transitions in countries of Asia, Africa, Latin American and Pacific. United Nations estimated that there are between 120 and 130 million People living outside their countries of origin. According to the International Labors Organization about 70 to 80 million people worldwide estimated to be infected with HIV/AIDS and among this 25 million are workers (ILO, 2008 and Gurumu et. al 2000 and UNAIDS/WHO, 2007).

In Sub-Saharan Africa countries there is a consensus that improvement in economic Conditions is the primary motivation for internal migration. African migration is fundamentally a family affair, rather than an individual, activity (Adepoju, 1995). Accordingly, individual migration enables the household to maximize its source of income and spreading its risks. That is why mobile population expecting to be at high risk for contracting HIV infection. And there are several factors contribute to this risk including high prevalence of risky behaviors (Stark and Bloom, 1985 and UNESCO, 2002).

When people migrate, they are exposed to change their behaviors and norms that tend to be different from their place of origin. Analysis in the interaction between risk of HIV infection and vulnerability of migrants, including exploitation, harassment (physical and sexual), poverty, low status and disempowerment, isolation, job insecurity, stress, gender imbalance, etc. According to Fernandez (1998), isolation leads to increase in sexual needs. In addition, migrant people rank highly in these formal descriptions of vulnerability (Woofers and Fernandez, 2000; Aral and Homes, 1999).

In 2007, about 1.2 Billion working women are found through out the world. This is almost 200m (18.4%) more than that of 10 years ago. On the other hand, unemployed women also grew from 70.2 to 81.6 million over the same period and 2007. As for women who do find work, they are often confined to work in the less productive sectors that carry higher economic risk (ILO, 2008).

Most of the young migrant women are entering into different sectors of the economy without the protection of their family. Usually most of them are engaged on elementary activities. According to National Labor Force Survey of Ethiopia (NLFS, 2005), the highest proportion (42.8%) of employed persons are engaged on elementary occupations such as daily laborers in agriculture, mining and constructions (NLFS, 2005 and ILO, 2008).

Being single by itself is not a risk factor, it is the activities undertaken and the behavior possibly engaged that are the risk factor (UNAIDS, 2001; Decosas and Adrin, 1997). At destinations, for single migrant workers, changing Circumstances may have to increase personal risk. And those women could be placed at low socio-economic level, unfamiliarity with culture and low income. Similarly, loneliness, frustration, difficulties in situational adjustments, adoption to environmental change and peer pressure may make it hard for some to resist risky behavior (Decosas and Adrin, 1997; Ibidun Fakoya, 2006 and Anu Realo and Robin Godwin, 2005).

Ethiopia is one of the developing countries in Africa with a relatively high level of internal migration and population re-distribution. The significant factor for this are economic transition and political change since 1970's, civil war, famine, relative poverty etc. In various migration streams, several young females were migrated. Important dimension of internal population movement is linked to urbanization and various job opportunities in these urban areas (EDHS, 2005; Kiros and White, 2001 and Fernandez, 1998).

In many countries, including Ethiopia, the first consensual sexual experience occurs before age 18 and young people may not have the knowledge or experience to reduce their risk for exposure to HIV/AIDS. Many young women may lack knowledge about pregnancy and STI or HIV/AIDS transmission and less likely to recognize potentially risky situations or negotiate safer sex behavior. In addition, peer pressure, drug and alcohol use may increases young female likelihood of engaging in high-risk behavior that exposed them for HIV infection (Stark and Bloom, 1985 and Donvan and Richardes, 1985).

1.2. Statement of the Problem

HIV/AIDS is one of the critical health problems in the world that caused for millions death and also millions have been suffering from the epidemic. The AIDS epidemic updated global summary (UNAIDS, 2007) estimated that in 2007, about 3.1 million globally became newly infected with HIV, moreover more than 30million people in the world living with HIV/AIDS. The prevalence of HIV/AIDS infection is higher among females than males, and the number of women living with HIV/ADS continues to rise in every region of the world (UNAIDS, 2004 and UNAIDS/WHO, 2007).

Sub Saharan African countries remain the most affected region in the world. More than two-third of all HIV positive people live in this region, where more than three fourth of all AIDS deaths in 2007 occurred (UNAIDS/ WHO, 2007). It is estimated that in Sub Saharan African countries about 1.7 million people were newly infected with HIV in 2007. Moreover, AIDS continues to be the single largest cause of mortality in sub-Saharan Africa. Among 21 million adult and child, global death 1.6 million occurred in this region (UNAIDS/ WHO, 2007) and there are estimated 11.4 million orphans due to AIDS in this region. The estimated 154 million women living with HIV/AIDS in 2007 is in Sub Saharan African countries almost 61% of adult living with HIV/AIDS are women (UNAIDS/ WHO, 2007).

The changing trends in the global HIV/AIDS pandemic indicate that women and girls were facing different types of vulnerability. We can look at this vulnerability from the biological perspective in that physiological differences between male and female sex make women more physically susceptible to HIV infection than men. Due to this and different other factors male to female HIV transmission during sex is about twice as likely to occur than female to male (UNAIDS, 2004; Sharon, Bridgette, Allanise and Alice, 2005).

Ethiopia is facing HIV/AIDS pandemic, since the first two reported AIDS cases in 1986 and has spread at an alarming rate through out the country. According to the fifth HIV/AIDS report in Ethiopia, the number of people living with HIV/AIDS in 2003 is about 1.5 million and 817,000 of them are women (EFEDRE: HAPCD, 2006).

Therefore, the present study examines the pattern and extent of risk behavior among young migrant female workers and the major contributing factors for risky behavior in the study area. In addition to this it explores the level of knowledge about reproductive heath issues, attitude and behaviors that put young women migrants at risk.

1.4. Objectives of the study

1.4.1 General Objective

The major objective of the study is to explore demographic and socio-economic factors contributing to risky behavior and make them vulnerable to HIV infection.

1.4.2 Specific Objectives

1. Examine socio-economic and demographic characteristics of young migrant women in the study area.
2. To assess knowledge, Attitude and practice (KAP) about HIV/AIDS in the study population.
3. To explore factors contributing to risk behavior and make them vulnerable to HIV infection in the sub-group of the study area; and
4. To examine the relationship between migration and risky behavior to HIV infection.

1.5. Research questions

To fulfill the aforementioned objectives, the study attempt to answer the following research questions:

1. What proportion of young migrant female workers are involved in reproductive risk behavior?
2. Do young migrant female workers perceive themselves to be at risk of contracting HIV? Why? Why not?
3. What is the relationship between migrant women, their risk behavior and vulnerability to HIV infection?
4. How do they deal with the risk of STI's?

1.6. Research Hypothesis

1. At destination, migrants face different culture, tradition or norm from their place of origin that have an impact on sexual behavior.
2. Migration put migrants to face new culture, society, working and living conditions forcing to develop stress, and loneliness that leads to develop risky behavior.
3. Lack of knowledge of contraception in turn leads to experience of adverse health out comes, (STI's or HIV/AIDS).
4. Religiosity and participation in social groups/clubs expecting to minimize the risk behavior.

1.7. Definition of terms

- **Pandemic:** - A disease occurring over a wide area, a whole country or large parts of the world and affecting an exceptionally high proportion of the population.
- **Migration:** - Human migration denotes any movement by human from one locality to another considering purpose, time and distance travel.
- **HIV:**- Human immune deficiency virus, it is a retrovirus that can lead to acquired immune deficiency syndrome (AIDS)
- **AIDS:** -is acquired immune deficiency syndrome a conditionin humans in which the immune system begins to fall, leading to life threatening opportunistic infections.
- **Vulnerability:** - is the susceptibility to physical or emotional injury or attack. a concept that links the relation ship that people have with their environment to social forces, institutions and the cultural values that sustain and contest them.
- **Human sexual behavior:** - in relation to the search for a partner or Partners, interactions between individuals, physical or emotional intimacy, and sexual contact.

1.8. Limitations

Study on Sexual behaviors will pose several constraints in relation to culture, tradition and norms. One of the significant problems was financial constraint that restricts the sample size. In addition to this, it was too difficult to get reliable information regarding their pre-marital sexual activity and experience of STI's. That is why some of the respondents were reluctant to participate in the study, especially for in depth interviews and not willing to provide complete.

2. Review of Related Literatures

Migration: - Theoretically, migration can be seen as a simple process consisting of three phases: where a person come from? Where he/she is going? And where he/she is born and grew up? (Knipe, 2000). Migration also considers how a person travels? The length of the time he/she is away? Why he/she left the first place or last residence? And how far away from home? (Ibdun Fakoya, 2007 and Knipe, 2000).

Migration is often cyclical or seasonal, as people return home for periods of time (Ibdun fakoye, 2007). When a person is deciding on whether to leave their country / Place of origin a combination of " push" and " pull" factors determine where to go, how to go and for how long (Knipe, 2000).

Migration and sexual health: - Being migrant by it self is not a risk factor for sexual health. Indeed, migrants from different other places are more likely to be healthier, younger, energetic and more economically active than those who do not migrate (remain at home) (Decosas, 1997). However, there are many factors that put migrants at a high risk of poor health in general (Shcharba Kopva.N, 2002 and Zheng.et.al, 2001)).

Migration and HIV infection: - In the context of HIV/AIDS, risk is defined as the probability that a person may acquire HIV infection. Such behavior become cause and increases the risk of contracting HIV (ILO, 2000). Generally, there are several factors that make individuals as well as a society vulnerable to HIV/AIDS. The factors could derive from socio-cultural, economic and individual or personal (UNAIDS, 1999 and 2003 and Anu Realo and Robin Godwin, 2005).

Gender, Sexual division of labor and HIV infection

According to Connell's (1987) Theory of Gender and Power, the sexual division of labor, the sexual division of power, and the structure are three overlapping but distinct structures that serve to maintain persistent gender inequalities at the societal and relational levels. Extending the theory of Gender and Power, Wingood & DiClemente (2000) conceptualize women's heightened HIV risk as a function of the three structural gender disparities that generate

different exposures (influences external to a woman) and risk factors (individual level influences) for HIV (Wingood & DiClemente 2000).

However, literature on Western societies shows that absolute economic disadvantages of women such as living below the poverty line or being underemployed/unemployed increase women's vulnerability to HIV (Wingood & DiClemente, 2000). It is well documented that poorer women in sub-Saharan Africa may be at increased risk for HIV infection (Wojcicki, 2005). Closely related to the sexual division of labour is the sexual division of power that is maintained by the abuse of authority and control in relationships (Wingood & DiClemente, 2000).

Women's economic dependency on men exacerbates their vulnerability to male control and abuse of power. Sexual division of power intertwined with sexual division of labour, increases women's 'physical exposures' to HIV infection, particularly through physical and sexual violence. Hypothesize that violence increases women's risk for HIV in three ways.

For one, sexual violence by an infected partner can directly result in HIV infection, because violent men are more likely than non-violent men to be HIV positive (Dunkle et al., 2004). Young girls who are sexually abused may be more susceptible to HIV infection due to their immature genital system. Second; violence may increase a woman's HIV risks indirectly by limiting her ability to negotiate safe sex. In sub-Saharan Africa, fears of violence may prevent women from requesting condom use and refusing sex. Sexual violence also results from women's negotiation for risk protection (Koenig et al., 2004a). Third, women who have experienced sexual abuse as a child or coerced sexual initiation are more likely to engage in high-risk sexual behaviours later in life (Dunkle et al. and Koenig et al., 2004b).

The structure of social norms and affective attachments (the 'structure of cathexis' according to Connell (1987)) refers to social and cultural norms that dictate gender-based sexual behaviors and expressions shaping women's 'social exposures' to HIV (Wingood & DiClemente, 2000).

The theory assumes that women who are more accepting of traditional norms and beliefs have higher risk for HIV. For instance, in most societies, cultural norms dictate women's ignorance about sex and passiveness in sexual interactions, making it difficult for women to perceive risk or to negotiate safe Gender inequality and women's risk of HIV infection sex (Rao Gupta, 2000). In societies where the status of motherhood is highly valued and related to women's economic livelihood, the desire to reproduce undermines risk protection thus increasing women's risk for HIV (Wingood & DiClemente, 2000).

Why young people so vulnerable to HIV infection

Young people are much more vulnerable to HIV/AIDS than older people. This is because of social, emotional and psychological development is incomplete. As a result, they tend to experiment with little of the danger. In fact, risky sexual behavior often is part of a larger pattern of adolescent's behavior which includes alcohol and drug use, delinquency and challenging authority (Menscn and Kandel, 1992).

Adolescent is a period of unpredictable behavior lacking the judgment that comes with experience, often can't appreciate those adverse consequences of their actions. The risk HIV/AIDS may be particularly hard for young people to grasp. Because HIV has a long incubation period, a person risky behavior does not have immediately apparent consequences. At the same time, the potential social costs to a young person of presenting HIV infection including loss of the relation ships, loss of trust and loss of peer acceptance can be too high a price for most young people to bear. Moreover, many young people are unaware of what constitute risky sexual behavior. Even if they appreciate the risks for HIV/AIDS in general; many young people believe that they are invulnerable themselves. For example in Tanzania only 2.6% of male students' interviewers felt that they were of "high risk" for HIV/AIDS. Eventhough, 8% felt that their friends were at high risk (UNAIDS, 2003 and Donvan, 1985).

A. Individual factors

Health seeking behaviors;- A person health beliefs often has an impact on their health seeking behaviors. Many migrants do not access health service including reproductive health unless they have symptom of an illness (Dixon-Muleller, 1993).

Exploitation:- Migrants are often subjected to exploitation for those who find themselves in need of money or survive. This may turn to selling or doing unprotected sex in order to survive (ILO, 2000, UNAIDS, 2007).

B. Socio- Economic and environmental factors

Socio- economic deprivation:- Migrants who are fleeing poverty may find themselves in similar situations where they arrived at their destinations. As well as putting a person at exploitation, problems such as poor housing and lack of food are likely to be far more pressing than poor Sexual health. These factors may also push migrants in to risky situation or behavior (Decosas and Adrin, 1997; Delemete, 1992).

Education:- There is a direct relation ship between level of educating and knowledge or awareness about HIV prevention. So, there is an expectation when education increase rate of infection to be decrease. But the reality today is different from this. According to 2005 EDHS report, HIV infection level increase directly with education among both women and men. And markedly higher among those who have a secondary or higher education compared with less education (EDHS, 2005).

Income /wealth:- Income and wealth are directly related with HIV infection (EDHS, 2005). In India, young migrant women who earned high were more vulnerable to STI's infection and leisure activities (Ruchi, kamla and Ajay, 2005).

Peer opinion:- Most young people are strongly sensitive to peer opinion. Especially among elder adolescents, perception of what peers think often have a great influence on sexual and other behavior than the opinion of parents and others. When adolescents believe that, even their peer think that unprotected sex is not risky, then they are more likely to have unprotected sex themselves (Donvan, 1985; UNAIDS, 2003 and Morgan, 1989).

Substance/drug abuse:- According to a number of researches, drug and alcohol use is related to a higher risk of HIV infection. These different alcohol and other stimulants can increase the

high risk behavior (ILO, 2000). In India, young migrant women (15-29) who smoke and drank alcohol three (3) times more likely than others to contract STI's (Ruchi, Kamla and Ajay, 2005).

Sexual intercourse when one or both partner are under the influence of alcohol is more likely to be unplanned than others, and partners, are less likely to use condom (EDHS, 2005).

Religiosity: - Religion means all sorts of morality and ethics. That is why religiosity and high risk behaviors usually inversely related (Ruchi, Kamala and Ajay, 2005).

Generally, personal factors such as age, sex , educational status, income as well as living arrangement have strong tie with individuals sexual behavior (UNAIDS, 2001and EDHS, 2005).

HIV/AIDS risk weariness

In sub-Saharan Africa (SSA): The spread of HIV/AIDS epidemic is still fueled by ignorance. This lack of knowledge is often unevenly distributed in the population. UNAIDS updated report (2005) notes that: "Data from 35 of 48 countries in SSA show that on average, young men 20% more likely to have knowledge about HIV than young women (UNAIDS, 2005).

In Ethiopia: - Most of Ethiopian people, at high risk of HIV/AIDS. According to the study, Most of Ethiopians still fail to take precaution against contracting the disease which is devastating the country (Taffa, sandy and Holm et al, 2002). In Ethiopia, young women age 15-24 are generally somewhat more knowledgeable of the various modes of prevention than older women. Considering the relation ship with marital status among women, knowledge of HIV prevention method is highest among never married group and lowest among currently in union. Knowledge about HIV transmition and ways to prevent it are of little use if peoples feel powerless to negotiate safer sex practices with their partners (EDHS, 2006).

Sexually transmitted infection (STI) in Ethiopia

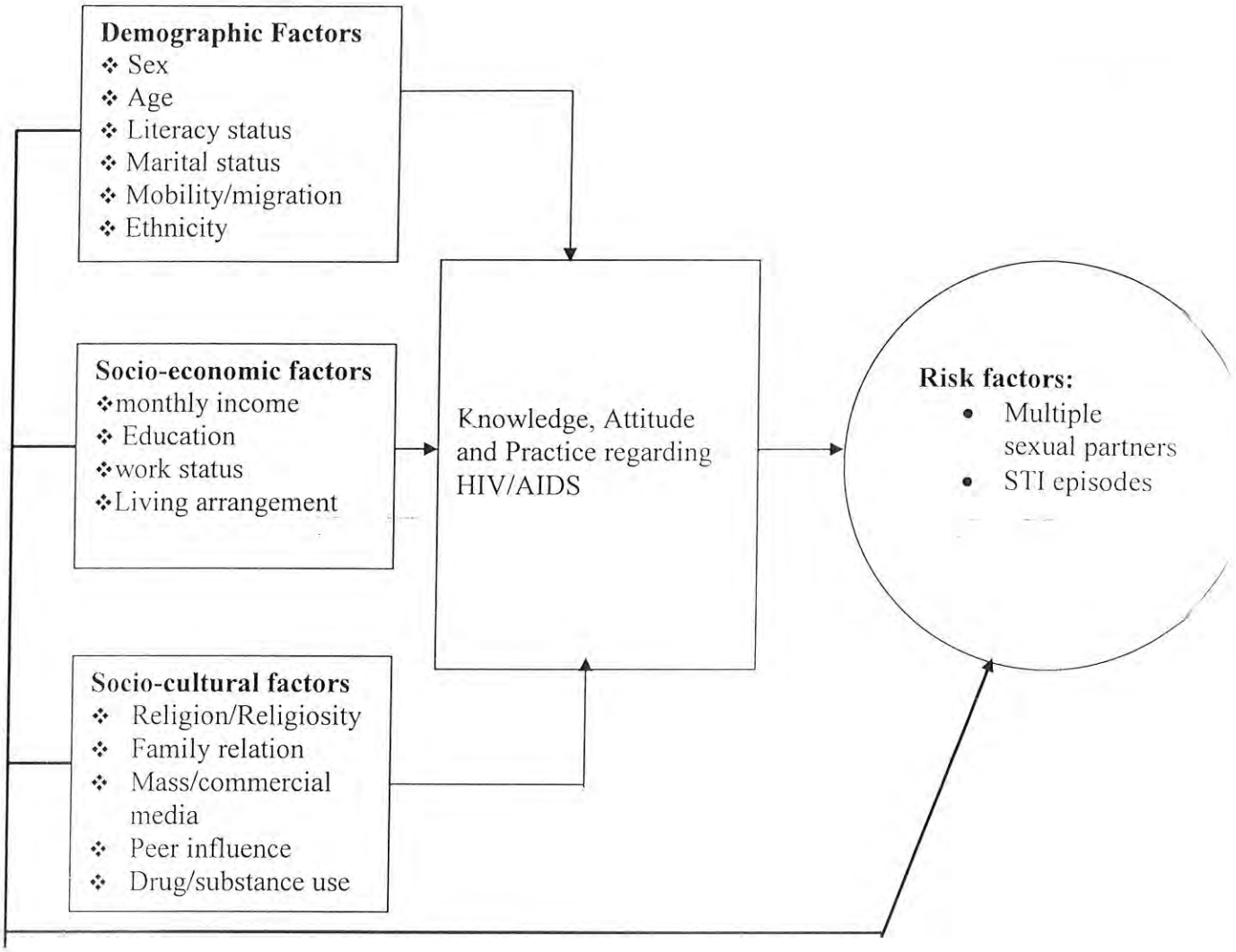
Information about the incidence of sexually transmitted infection (STI's) is not only useful as a mark of unprotected sex, but also as a co-factor for HIV transmition. According to EDHS (2005), 2% of who have ever been sexually active had an STI's and/ or STI symptoms in the last 12 moths prior to the survey (EDHS, 2006).

2.1. Conceptual framework

Dependent variable: the most important risk factor in relation to the spread of HIV/AIDS infections are having multiple sexual partners and sexually transmitted infections (UNAIDS 2007). The respondents were asked about the number of sexual partners in the last six months. And the other dependent variable is STI's occurrence among the respondents and they were asked whether they have STI's signs/symptoms in the last six months.

Independent variables: these variables are found to be important in relation to risk factors in various previous studies as crucial predicator as well as theoretical reasons. For data analysis, these independent variables are categorical in nature.

Intermediate variable: These variables mediate between dependent and independent variables. These are knowledge, attitude and practice regarding HIV/AIDS, which are directly affect the dependent variable directly and mediate between independent and dependent outcomes.



Legend: ——→ Path that would be analyzed

——→ Path that would not be analyzed

Source: **Researcher developed based on previous literatures**

3. Study Method

3.1 Profile of the study area

Ziway is a town in central Ethiopia with in the rift valley. It is located on the road connecting Addis Ababa to Awassa in East Showa Zone of the Oromia region. Ziway has a longitude and latitude of 7°56'N and 38° 43'E south an elevation of 1643 meters above sea level. Based on figures from central statistical agency (CSA) in 2005, Ziway has an estimated total population of 35,931 of whom 19,034 were male and 16,897 were female. According to the 1994 national census, it has a population of 20,056 people (CSA, 2005).

Ziway is a largest town in Adami Tullu and Jido Kombolcna Woreda, adjacent to Lake Ziway, the economy of the town based on fishery and horticulture. And also home to a federal prison and Caustic soda factory. Near to the town, there are a wide flower and vegetable farms. Sher Ethiopia owns these farms with more than 5000 workers. Sher Ethiopia plc, a company established by Dutch investors constructed a 200-hectare green house for flower and vegetable development at a cost of 540 million birr. The company has started leasing green house constructed outside Ziway. Sher began constructing the greenhouse in late 2005 receiving state-owned agricultural plot from the Oromia Regional State Administration. According to the information from the company, it needs an additional 18 months to cover a total 500ha of plot with greenhouses.

Belgian VERMAKO and Israeli Azrom made the construction and supply machineries for the Ziway greenhouses. The Dutch company, ATS, installed its water supply facilities.

Meskel Flower Plc, the first company to engage in flower farming in Ethiopia, has so far leased a portion of land at the greenhouse. Other companies like Experience and Prince Vegetable also have commenced growing vegetables in the greenhouse leasing plots from Sher. Sher collects lease payments from such companies for eight consecutive years and afterwards the plots will be transferred to the companies themselves (Sher-Ethiopia document center,Ziway)

3.2. Rationale for selecting the study area

The study area, Ziway is one of the industrial towns in Oromia where wide flower and vegetable farming is flourishing. It is selected as my area of study for the following reasons.

- A significant number of young female migrants have been arrived the town from the surrounding rural and other nearby and far urban areas to be employee on farms.
- Most of them are single, young and looking for daily laborer or having low social-economic level.
- In addition, personal enthusiasm on the part of the researcher is involved.

3.3 Study Design

The study design of this project is a cross-sectional study on sexual risk behavior and vulnerability to HIV infection among young migrant female workers on flower farms in the study area.

Totally, there are 5013 workers are found under Sher-Ethiopia company, Ziway. Among this 3470 were females and the rest 1543 were males. After listing on the field, the desired 423 samples were selected by employing simple random sampling. The importance of sampling frame is to identify the marital status of the respondents, which were not available on the document.

3.4. Data sources and instruments

Data for this study drew to explore on sexual risk behavior. The respondents are unmarried young female migrant workers staying in Ziway for at least six months and currently working in Sher-Ethiopia green houses. Basically, the study is based on primary data where by the necessary data on individual characteristics are collected from the field survey. The instrument employed for data collections include structured interviews, questionnaire and in-depth interviews. The purpose of in-depth interviews is to get more and detail information on some key issues.

3.5 Methodology

The study adopted both quantitative and qualitative approach.

A. *Quantitative study:* - In the quantitative study, structured individual interviews of 423 young migrant working women was conducted in the study area.

B. *Qualitative study:* - In the qualitative study, in-depth interview was conducted to supplement or support the finding of the quantitative method.

3.6. Sample size and sampling procedures

The following formula is adopted from Dever (1980) which utilize prevalence rate for sample size determination. Assumptions used to calculate the sample size are:

❖ Maximum tolerable error (E) in estimating the parameter P (Proportion of population involved in risky behavior) using 95% confidence interval (P) is 5% and (1-p) = 0.5

❖ Since π (prevalence of STI in the study area) is unknown, we assume it to be half (50%).

There fore, sample size **(n),**

$$n = \frac{Z^2_{\alpha/2} p(1-p)}{E^2}$$

$$\mathbf{n = ((1.96)^2 X \frac{0.5\ (1\text{-}0.5))}{(0.05)^2}}$$

n = 385

Where, E = Maximum tolerable error

Z = The 95 percentile point of a standard normal distribution

P= Proportion of population involved in risky behaviors

N.B. To reduce the possibility of bias due to non-response, additional 10% of sample size (0.1 X 385) approximately 38, of the total will be included in the sample. Hence, the minimum sample size required will be approximately 423.

3.7 Data collection and processing

Questionnaire development: - In order to develop the questionnaire, questionnaires model with standard format were reviewed. The questionnaire divided into five sections: Migration related, socio- economic and other demographic characteristics, Attitude towards substance use, sexuality and reproductive health physiology, awareness of STI's/AIDS and sexual behavior and experience, knowledge and use of condom and finally risk perception of HIV/AIDS.

Recruitment and training:- A team of 10 female research assistant and 2 male supervisors were hired for data collection. All interviewers are above second year university students. This is to obtain respondents confidence, free and frank responses. They have taken a day intensive training on sampling procedures, administration of structured questionnaires and conduct of in-depth interviews. As the questionnaires have both open ended and closed ended questions, the investigators were adequately trained on the administration of specific questions.

Pre-test:- After completing the training, the local language version of the questionnaire was used to conduct the pre-test on 20 female workers on the study area. This was useful for re-phrase some questions and helped to estimate the actual time required to fill the questionnaire. On the bases of pre-test results, the interview schedule was further improved.

***Fieldwork*:** - the field survey for the present research was conducted during the period February-April 2008. A good rapport with the town local officers, farm leaders and respondents was first established. This was feasible because of frequent visits to the field, acquaintances with the respondents and controlling contact with them. This helps the investigator in obtaining fairly reliable and valid information from the respondents. Eventhough, researchers faced typical problems in collecting data from the field were able to pick up the respondents regarding to sampling framework.

3.8 Data entry and Method of Analysis

After the completion of survey, questioners were edited and cheeked skipping pattern and consistency. Then data were entered in to the computer using SPSS software. In case of open ended questions, coding has done, and the data cleaning case by case and variable by variable. Regarding the independent variables, the significant ones were sorted out for model specification by using χ^2 -tests. Here the bi-variate out put was important in order to assess the significant association between the dependent variables and a number of predictors.

❖ ***Model of analysis:*** - In order to present the pattern and the relation ship between a dependent and several independent variables, Multivariate analysis is an appropriate model, because logistic regression is important to predict a dependent variable explained by the independents. It is also useful to rank relative importance of independents, to assess interaction effects, and understand the impact of covariate control variables.

Logistic regression modeling is applied when the dependent variable is dichotomous. The results of the model can be expressed as odds ratio, that is P(X) / (1-p(x)), where P (X) is the probability that event X occurs while 1-p(X) is the probability that event X does not occur.

There for, the corresponding multiplicative model for the odds is

$(P/1-p) = exp\ (B_0 + B_1 X_1 + B_2\ X_2 + \text{-------}\ B_n X_n)$

Where, **B:** Regression coefficients, i = 1, 2 ---n

X: Set of independent variables

P: the probability of STIs infection will occur

1-P: the probability of STI's will not occur.

❖ Variable specification

Dependent variable name	Categories	coding
Risk Factors	Yes	0
I. Multiple sexual partners	No	1
II.Have you ever contracted STI's		

Independent variable names	Categories	
Duration stay in Ziway	6 month to one year	0
	1 to 3 years	1
	3 years and above	2
Close friends	Male	0
	Female	1
Monthly income	<400	0
	>400	1
Living arrangement	With relatives	0
	With friends/alone	1
Family relation	Very close/medium	0
	Less/no relation	1
Are you member of any social group or club	Yes	0
	No	1
Do you attend religious services/events/?	Yes	0
	No	1
Religion	Christian	0
	Muslim/others	1
Do you have an exposure to Mass media(radio, TV, cinema, newspaper etc)	Yes	0
	No	1
Have you ever seen or read any films or magazines that focused on sex	Yes	0
	No	1
Occupation/types of work	Skilled	0
	Unskilled	1

3.9. Ethical consideration

Participants involve in in-depth interviews and sample survey were fully informed about the nature of the study, research objective and confidentiality of the data. Participant's full consent was obtained regarding their participation in the study. Moreover, they were told that their name or identity was not going to be publicized. A consent form was used that described the study objective, nature of the participant's involvement and confidentiality as well.

4. Demographic and Socio-Economic Characteristics of the study population

A total number of 423 respondents were involved in this study in the age group 15-28. This chapter presents demographic and socio-economic Characteristics as well as knowledge, attitude and practice regarding HIV/AIDS and STI's are included.

4.1 Demographic Characteristics

Based on the reported demographic information of the study population from the survey, among the total Female respondents, 9.6 %(41 females) fall in the age group 15-18, 45.4 %(192 Females) in the age group 19-23 years and 190 women (45%) are found in the age group 24-28 years old. The mean age of the respondents is 21.6 years.

Table 4.1 Percentage distribution of respondents according to various migration related characteristics, Ziway-2008

Age	**frequency**	**%**
15-18	41	9.6
19-23	192	45.4
24-28	190	45.0
Total	423	100
Movement to Ziway		
First move	116	27.4
Second move	264	62.4
Third or more moves	43	10.2
Total	423	100.0
Place of residence prior to Ziway		
Rural area	155	36.6
Town/City	268	63.4
Total	423	100.0
Duration of stay in Ziway		
Six month to one year	34	8.0
One to three years	193	45.6
More than three years	196	46.3
Total	423	100.0
Persons helped in migration		
Came by self	65	15.4
Family members	176	41.6
Relatives	171	40.4
Friends	11	2.6
Total	423	100.0
Reasons move to Ziway		
Diversified employment opportunities	79	18.7
Higher aspiration towards career	223	52.7
Motivated by friend's job and salary	15	3.5
Better educational facilities	106	25.1
Total	423	100.0

An increasing movement of the people as single in search of employment is either due to lack of job opportunities at the origin or seeking better conditions from their destination. These may lead to high degree of vulnerability to socioeconomic as well as health problems. Significantly migrants are often unaware of whether they have been exposed to HIV and the potential risk (UNAIDS 2007).

As the data indicated that majority of the respondents (63.4%) were from other urban areas and the remaining 36.6% respondents were from rural areas. Regarding the movement to

Ziway, the majority (62%) made second move to Ziway and the significant proportion (27.4%) were made first move and for the rest (10.2%) it was third and more move when they came to Ziway.

Duration of stay is likely to affect sexual behavior of the respondents through socialization process. Most of the respondents (46.3%) were living in Ziway for the last 3 or more years. 45.6% of all were stay in Ziway between 1 to 3 years. And the smallest proportion (8%) of the respondent, not more than year after came to Ziway.

Only 15.4% of the respondents were migrated on their own, their family members to Ziway helped about 42% of the respondents. Either their friends helped around 40% of the respondents. As the data showed the majority of migrants migrated either with the help of family or friends, this fact showed how the role of social network in migration is strong.

Regarding the reasons for their move, slightly more than half of the respondents to Ziway were due to higher aspiration towards career. Nearly one- forth of all for better educational facility and the remains 18.7% and 3.5% due to diversified employment opportunities and motivated by friend's job and salary respectively.

4.2 Socio-economic Characteristics of the study area

Table 4.2 Percentage distribution of respondents by selected socio-economic characteristics, Ziway-2008

Educational status	**frequency**	**%**
Illiterate	28	6.6
Primary	203	48
Secondary	169	40
Certificate/diploma	19	4.5
Degree/above	4	.9
Total	423	100
Present occupation		
Professional/Technical workers	42	9.9
Administrative	32	7.6
Skilled graduate	81	19.1
Unskilled	268	63.4
Total	423	100
Monthly income (in birr)		
250-400	282	66.7
400-750	78	18.4
750-1000	62	14.7
Above 1000	1	.2
Total	423	100
Ethnicity		
Amahara	132	31.2
Oromo	72	17
Guraghe	91	21.5
Wolayta	87	20.6
Other	41	9.7
Total	423	100

According to the information of socio-economic characteristics of the respondents, literacy status is the prominent one. Most of the respondents (48%) received only primary education and while 6.6% of the respondent were with out any education. And it is not worthy that very few young female migrants of the study population having certificate or diploma (4.5%) and Degree (0.4%).

The Young migrant women workers are involved in various occupations such as technical works, administrative, and daily laborers. The table 4.2 showed that over whelming large proportion of the women (63.4%) was engaged on non-professional workers or as daily laborers. They had been working collecting flowers from farm, preparing for packing and

packing the ready made flowers for export purpose. Another 19.1% were professional /graduates (non-technical), 9.9% of the respondents were technical workers and the remaining 7.6% of them were on administrative areas.

Most of the workers (66.7%) get their wage per hour, for working on the field. The average salary for them was 300 birr-per-month.18.4% of the respondents earned between 400-750 birr, other 14.4% were paid between 750-1000 birr and a very small proportion earned above 1000 birr. Generally, the salaries of the respondents were ranging from 300 to 1750 birr.

From the table it can be seen that, the majority of the respondents (31.2%) belong to Amhara. The Oromo constitute 17%, Wolayta (20.6%), Gurage (21.5%) and the portion of other groups were 9.7%.

Table 4.3. Percentage distribution of respondents by religion and religiosity, Ziway-2008

Religion	no **frequency**	%
Orthodox	188	44.4
Islam	43	10.2
Protestant	143	33.8
Catholic	35	8.3
Other	14	3.3
Total	423	100.0
Do you attend religious services/events in the last 6 months		
Yes	251	59.3
No	172	40.7
Total	423	100.0
How do you often attend		
Daily	30	7.1
At least once in a week	200	47.3
Rarely	142	33.6
Occasionally	48	11.3
Total	420	99.3

The respondents were asked about their religion and religiosity. The large numbers of the respondents were Orthodox (44.4%) followed by protestant (33.8%). 8.3% of all were catholic, 10.2% were Islam and the rest 3.3% belonging to others.

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When the respondents asked whether they were attending any religious services/events, 59.3% virtually had been attending. Among them 7.1% of them attending daily, 47.3% at least once in a week, the remains 33.6% and 11.3% had been attending rarely or occasionally respectively.

4.3 Socio- environmental characteristics of the study population

The information collected on living arrangement suggest that majority of the respondents (48%) living with their friends, which were most likely exposed for strong peer influence. A bout 39% of them had been living alone in rented house and the remaining 13% of them were living with their relatives.

They were asked about their relation with their family, more than half of (51.1%) reported that they had strong relationship (contact) with their family 28.4% had medium relation, 12.8% weak and 7.35% of all had no any relationship with their family.

Social club provide young people with avenues for recreation, socialization or experience sharing. Recognizing the benefits of social clubs for young people, governments and other organization have promoted the establishment of clubs for young people. The respondents were asked if they belonged to a social club group. As shown in the above table, nearly one-third of the respondent involved. Moreover, among those of who involved in any social club group, 14.7% of them holds a leader ship position.

In the case of parents' literacy status, 63.9% of the respondent, their mother /father had at least primary level education and 8.7% respondent's mother/ father achieved secondary and above level education, but 27.4% of the respondents came for illiterate family at all.

Table 4.4 Percentage distribution of respondents by selected socio-environmental characteristics, Ziway-2008

Living arrangement	**frequency**	%
With relative	59	13
With friends	200	48
Alone	164	39
Total	423	100
Relation with your family		
Very close	218	51.5
Medium	120	28.4
Weak	54	12.8
Not at all	31	7.3
Total	423	100.0
Member of any social group or club		
Yes	116	27.4
No	307	72.6
Total	423	100.0
If yes, are you holds a leadership position		
Yes	17	14.7
No	99	85.3
Total	116	100
Father/mother education		
No education	116	27.4
Primary	270	63.9
Secondary and above	37	8.7
Your close friends		
Male	134	31.7
Female	220	52.0
No	69	16.3
Total	423	100.0
Number of your close female friends		
One	74	18.1
More than one	319	75.4
Not at all	15	3.5
Total	408	96.5

Respondent were asked about their close friends and 31.7% of the respondents close friends were male, 52% female and the remaining16.3% had not any close friends. Also regarding to the number friends, both who having either male or female, most of them had more than one close friend. This shows that there was high socialization to the respondents.

4.4 Exposure to mass/commercial Media

The media play a significant role in increasing awareness and knowledge of various aspects of life. It is also an instrument in brining about attitudinal changes both in of individual and societal level. Among the surveyed young female workers, 53.9% had an exposure to media but had not 46% of the respondent.

Table 4.5 Percentage distributions of respondents by exposure to commercial/mass media, Ziway-2008

Exposure to commercial media radio, TV, newspaper,Cinema etc	**frequency**	%
Yes	228	53.9
No	195	46.1
Total	423	100.0
If yes, what is the extent of your exposure		
Daily	110	48.3
Rarely	102	44.7
Occasionally	16	7
Total	228	100
Have you ever seen or read any films or magazines that focused on sex		
Yes	200	47.3
No	217	51.3
Total	417	98.6
Do you think watching films focused on sex is normal		
Yes	55	13.8
No	369	87.2
Total	423	100.0

Regarding the frequency of their exposure, 48.3% had daily exposure to mass media, 44.7% rarely and 7% of the case occasionally. In addition to this they were asked whether they had ever seen/read any films/magazines that focused on Sex and nearly half of them (47.3%) had such type of experience. Obviously, watching or reading such type of films /magazines most likely to initiate the young people to practice or exercise.

Beside to this, they were requested their attitude towards having such type of experience. But, the response and the reality were different. That means, even, those of who had such type of experience, feel doing such things is not good (87.2%).

4.5 Risk behavior of the study population

The respondents were asked a series of questions about their attitude towards substance use and sexuality. These questions about taking drug /alcohol, sexual behavior and circumstances under which sex occurs. The attitude towards substance use, 14.9% of the respondent feel that taking drugs for women is acceptable and 9.2% appreciated smoking for women. Also, 79.4% the women agreed to have opposite sex friendship, 69.7% of women agreed that women could think and talk about sex.

Table 4.6 Percentage distributions of respondents by knowledge and sexuality, Ziway-2008

Statements	Agreed
	%
Smoking for women is acceptable	9.2
Taking other drugs for women is acceptable	14.9
Women can have opposite-sex friendships	79.4
Women can think and talk about sex	69.7
Women can have sex before marriage	14.4
Women can initiate sexual activity	32.6
Women can have sex with another man after marriage	14.7
A woman can become pregnant at first Intercourse	7.8
Woman can become pregnant if she did not wash herself thoroughly immediately after sex	83.7 26.2
Woman can become pregnant if a man withdraws before ejaculating	30
Knows there are certain days when a woman is more likely to become pregnant	89.4
Condoms are effective way of protecting from STI's and pregnancy	66.2

On the other hand 21% of the respondents feel women can have sex before marriage, 32.6% of women agreed that women can initiate sexual activity. But only 7.8 of the case accept women can have sex after marriage. This indicates that most of the respondents had respect for marriage.

Regarding some questions of reproductive health knowledge, 83.7% of the respondent agreed pregnancy can occurs at first sexual intercourse. And surprisingly 26.2% of the respondent

thought that there is a relation ship between pregnancy and washing female sex organ after sex, plus to this 66.2% of the respondents believed that condoms are effective way of protecting STI's and pregnancy.

4.4.4 Use of Substances

Table 4.7 Percentage distributions of respondents by alcohol/drug use, Ziway-2008

Do you take alcoholic drinks?	no	%
Rarely	114	27.0
Usually	51	12.1
Never	256	60.5
Total	421	99.5
Did you have a habit of taking any substance/drugs		
Yes	48	11.3
No	375	88.7
Total	423	100.0
If yes		
Chat	46	10.9
Cigarette	7	1.7
Shisha	14	3.3
Other	6	1.4

The table shows 39% of the respondents took alcoholic drinks and among them, 12.1% took usually and 27% rarely /occasionally. But the majority of the case had not any experience of taking alcoholic dirks.

Similarly, the respondents asked about whether they took any drug. About 11.3% were did it and among the total of 46 respondents having an experience of taking drugs, 46% of them took chat, 14 of 48 women took Shisha. Here, taking Chat and Shisha some how has an association.

Table 4.8 Percentage distributions of respondents by Alcohol use according to selected characteristics

ALCOHOL USE	Category	Rarely		Usually		Not at all	
Background characteristics		no	%	no	%	no	%
Age	15-21	60	50.4	3	5.6	142	57.3
	22-28	59	49.6	51	94.4	106	42.7
	Total	119	100	54	100	248	100
Occupation	Unskilled/daily laborers	88	73.9	44	81.5	161	64.9
	Skilled/professional	31	26.1	10	18.5	87	35.1
	Total	119	100	54	100	248	100
Education	No/primary education	66	55.5	33	61.1	125	50.4
	Secondary and above	53	44.5	21	38.9	123	49.6
	Total	119	100	54	100	248	100

ALCOHOL USE (YES) =165

In order to understand the relationship between such substances against basic background characteristics has done in the above table. Accordingly, the age group 22-28 took alcohol usually than the younger (94% and 5.6% respectively).

Regarding occupation, unskilled group (81.5%) took alcohol usually but only 18.5% from skilled workers. On the other hand, less education and frequent alcohol usage has strong association as the finding shows. From less educated group 61.1% but 38.9% from secondary and above level of education were took alcohol usually. There fore, the age group 22-28, unskilled laborers and having less education most likely has strong tie with frequent alcohol usage.

Table 4.9 Percentage distributions of respondents by Drug use according to selected characteristics

	Age	frequency	%
Substance/drug use story	15-21	21	43.7
	22-28	27	56.3
	Occupation		
	Unskilled	4	8.3
	Skilled	44	91.7
	Education		
	Primary	19	39.6
	Secondary and above	29	60.4

When we assess drug use against important background characteristics, from the age group 22-28(56.3%), skilled professionals from type of occupation (91.7%) and secondary education (60.4%) were drug users than the comparative category. That means, teenagers, low economic activity and low education are negatively related with drug use and vice versa.

4.6 Sexual practice of the study population

The first sexual event has clear health implications, since it marks initiation in to the sexual act that is unprotected, and carries a risk of adverse out comes. Such as: unplanned pregnancy, HIV and sexually transmitted disease /STDs (welling et al, 1994).

Table 4.10 Percentage distribution of respondents according sexual practice, Ziway-2008

Do you have an experience of sexual intercourse	**frequency**	%
Yes	270	63.8
No	153	36.2
Total	423	100.0
Age at first sex		
Below 18 years	130	48.2
18 and above	140	51.8
Total	270	100
Reasons for the first sex		
Love/ Curiosity	241	89.3
Partner insisted	9	3.3
Getting carried away/being drunk	1	0.4
forced	19	7
Total	270	100
Relationship with the first sex partner		
Boyfriend	245	90.7
I meet him at an occasion	4	4.1
A person help me financially	6	1.4
I do not know him	15	3.8
Total	270	63.8
Have you had sexual intercourse in the past 6 months		
Yes	244	90.3
No	26	9.7
Total	270	100
If yes, number of sex partners in the last 6 months		
One	214	87.7
More than one	30	12.3
Total	244	100
Ever Experienced unwanted pregnancies		
Yes	67	24.8
No5	203	75.2
Total	270	100

The respondents were asked whether they have ever had any sexual intercourse. In total of 270 women (63.5%) of the respondents reported ever-experienced sexual intercourse. The mean age of sexual intercourse was found to be 18 years. The explanation respecting to age at first sex, virtually half of the respondents have had an experience of premature sexual activity. This is most likely exposing to higher risk like unwanted pregnancy and STI's as well.
The young migrant working women, who had the first sexual experience, had varied relation with their first sexual partners. Among those of who ever had sex, the majority (90.7%) of the female had their first sexual intercourse with their boy friends. The other 3.5% did not know about their first sexual partners well, 1 47% of them with a person who helped them financially and 1.1% with a person meet them at some occasion.

In addition to this they were asked about their reason for their first sex. Among them the large majority of them due to love /Curiosity, 4.5% forced sex, 2.1% due to partners insisted and the remaining 0.2% as result of being drunk or getting carried away.

Also as the table indicated, out of 270 who ever had sexual intercourse, 90.3% (244) women reported to have had sex in the last 6 months prior to survey, and 12.3% of them had more than one partner, that may put them at high risk for STI's. In addition to this they were asked whether they had an experience of unwanted pregnancy ever before. And 67 women (24.8%) had this experience.

Table 4.11 Percentage distribution of respondents who have ever had sexual intercourse by selected characteristics

	Age	**frequency**	%
Have ever had sexual intercourse	15-21	70	25.9
	22-28	200	74.1
	Occupation		
	Unskilled	181	67
	Skilled	89	33
	Education		
	No/primary	132	48.9
	Secondary and above	138	51.1

YES=270

(36.7%). Type of occupation also one of the important differential of multiple sexual partners in the last six months. Unskilled young women workers (80%) more likely have had multiple sexual partners than skilled /professionals (20%).

Education differential of multiple sexual partners, as showed in the above table, less education is directly related with having multiple sexual partners, but the opposite is true for with better education, about 60% and 40% respectively. Regarding to duration stayed in Ziway as migrant and having multiple sexual partners are directly related. When duration stayed increased, the probability to have multiple sexual partners also increases. According to the information collected, those stayed 3 years and above most likely to have multiple sexual partners (86.7%), one to three years (10%) and only 3.3% for women migrant in Ziway less than six months.

On other hand, living arrangement of the respondent's found to be important differential of multiple sexual partners. Based on the finding of this study, living with friends is most likely to have multiple sexual partners (50%), followed by living alone (33.3%). The concrete evidence may indicate that peer influence is the significant factor to involve in such risky activities.

4.7 Attitude and use of condoms

Young people tend to be poorly informed regarding their own sexuality and physical well being, whether knowledge they have, obviously incomplete and confused.

Table 4.13.A Percentage distribution of respondents by attitude and use of condoms, Ziway-2008

Have you ever had the following about condoms	No.	%
Heard about condoms?	142	33.6
Seen a condom	84	19.9
Used a condom	186	44.0
Total	412	97.4
If you used, with who did you used condom		
Boy friend	124	66.7
With both boy friend/other	62	33.3
Total	186	100
How often did you use condoms with non-regular partners		
Always	48	77.4
Rarely	14	22.6
No	62	100
Total		
Did you use condom the first time you had sexual intercourse		
Yes	42	15.6
No	170	63
I do not know	58	21.4
Total	270	100
Did you use condom in the last 6 months		
Always	144	59
Sometimes	62	25.4
Not at all	38	15.7
Total	244	100
Have used condom in the last intercourse you had		
Yes	190	77.9
No	54	22.1
Total	244	100

The respondents were asked any experience have they had about condom. Among those who had sexual intercourse, 44% used condom, 33.6% only heard about and 19.9% have seen condom. And among used condom, 66.7% used it with their boy friends, but 33.3% used condom with both (boy friends and non – regular partners).

Also they were asked how often they used condom with their non-regular partners. Among the total of 62 respondents, having non-regular partners, 48 women (77.4%) used always and the

remain 22.6% used condom rarely. Most probably the use of condom with non-regular partners has a great significance to contract or not HIV infection.

The respondents were also requested whether they were used condom for the first time they had sexual intercourse. 15.6% of the participant did it, 63% did not use and 21.4% they don't know whether they used or not. Plus to this they were asked whether they used condom in the last 6 months, 59% of the respondent always used condom during sexual intercourse, 25.3% rarely used and 15.7 not used at all. Finally, they were asked whether they used condom in the last sexual intercourse. As listed in the table 4.13, 77.9% used condom at last sexual intercourse.

Table 4.13.B Percentage distribution of respondents by attitude and use of condoms, Ziway-2008

Why did you use condom?	**No.**	**%**
To prevent pregnancy	*185*	*43.7*
To prevent STI	*151*	*35.7*
To prevent HIV	*170*	*40.2*
Other reason	*124*	*29.3*
Why did not used condom?	**No.**	**%**
Condom was not available	*45*	*10.6*
Ashamed to ask my partners	*41*	*9.7*
I wanted to get pregnant	*18*	*4.3*
I do not like it	*15*	*3.5*
I trust my partner	*92*	*21.7*
It decrease satisfaction	*48*	*11.3*
My religion prohibit	*47*	*11.1*
I was drunk	*36*	*8.5*
Other factors	*111*	*26.2*

In order to investigate the reasons of the respondents, they were asked why or why not used condom in the last six months. For those of used condom, the major reason for the majority,

used to prevent pregnancy followed by to prevent STI's and HIV infection. On the other hand, for those who were not used condom, their major reasons were trust of their partners, followed by due to unavailability of condom and for fear of decreasing sexual satisfaction.

4.8 Knowledge, Attitude and Practice about HIV/AIDS and STI's

Knowledge about STI's and HIV/AIDS is often considered to be associated with behavior. However, the link between knowledge doesn't always meet the behavior (WHO, 1997). This section examines the extent of knowledge, attitude and practice about STI's, and AIDS among young migrant female workers in flower farms, Ziway.

4.8.1 Knowledge of HIV/AIDS and Related issues

4.8.1.1 Knowledge of HIV/AIDS of the study population

Recently, the knowledge of HIV/AIDS in the population is expecting to be high on the general population. And it is supposing to have strong relation with the prevention of HIV/AIDS (EDHS 2005). The respondent were asked whether a health looking person could be HIV positive, about 65.7% of the respondent believed that a health looking person could have HIV virus in his/her blood.

Table 4.15 Percentage distributions of respondents regarding HIV/AIDS knowledge, Ziway-2008

Have ever heard about HIV/AIDS	**No.**	**%**
Yes	423	100.0
Can a healthy looking person be HIV positive		
Yes	278	65.7
No	145	34.3
Total	423	100.0
Can a person get HIV by the first time he /she has a sex		T
Yes	377	89.1
No	30	7.1
Men and women have equal chance of getting HIV in a single sexual intercourse		
Yes	83	19.6
No	340	80.4
Total	423	100.0
Can HIV/AIDS be treated		
Yes	393	92.9
No	30	7.1
Total	423	100.0
Can HIV/AIDS be cured		
Yes	56	13.2
No	367	86.8
Total	423	100.0

The above table showed that, the large majority of the respondents (89.1%) believed that a person can get HIV/AIDS by the first sexual intercourse beside to this 80% of the respondents believed there is no equal chance between men and women to contract HIV/AIDS. About 92.9% of the respondents know HIV/AIDS can be treated. But surprisingly, some respondents (13.2%) believed that HIV could be cured.

Regarding knowledge about HIV transmition method, overwhelmingly, almost all (98%) of the respondent recognized two or more ways of HIV transmition. So, it is clear that the knowledge of the respondent as well as the total population as a whole is high (EDHS, 2000).

Table 4.16 Percentage distribution of respondents regarding knowledge about HIV/AIDS transmit ion methods, Ziway-2008

Statements		Agreed	
		No.	%
By sexual intercourse		395	93.4
By sharing needles and sharp materials		423	100.0
By blood transfusion		423	100.0
From mother to child		390	92.1
By sharing food with HIV +ve person		44	10.4
By Kissing		21	5.0
Curse from God		129	30.5
Other		36	8.5
	Methods		
Knowledge of HIV /AIDS transmit ion Method	1 way	9	1.2
	2 or more	411	98.8

According to the report from survey, related to ways to HIV prevention mechanisms, once again 90.3% of the respondents know two or more ways of HIV prevention methods.

Table 4.17 Percentage distribution of respondents regarding knowledge about HIV/AIDS prevention methods, Ziway-2008

Statements		Agreed	
		No.	%
By abstinence		384	90.8
Faith fullness		396	93.6
By Condom use		341	80.6
Avoid sex with causal person		389	92.0
Avoid sharing sharp edge materials		420	99.2
Avoid untested blood transfusion		423	100.0
Other		380	89.8
	Methods		
Knowledge of HIV /AIDS prevention method	1 way	382	90.3
	2 or more	41	9.7

4.8.1.2 Knowledge of STI's

4.18. Percentage distribution of respondents Knowledge by occurrence of sexually transmitted infection

Have ever heard about HIV/AIDS		**No.**	**%**
Yes		423	100.0
You believe that the presence of STI's has an impact on HIV infection			
Yes		191	45.2
No		218	51.5
Total		409	96.7
Which of STI's have you ever heard about?			
Syphilis		397	93.9
Gonorrhea		373	88.2
Cancroids		394	93.1
Other		423	100.0
	Methods		
Types of STI's known by the respondent	One Two and above	405 18	95.7 4.3

The whole respondents know AIDS as the most common STI's. The same was true about knowledge of other STI's. The whole respondents know about STI's, in addition to this, they were asked whether the presence of STI's has an impact on HIV infection or not. And 45.2% believed that the occurrence of STI's has an impact to contract HIV/AIDS. Plus to this, the majority of the respondents (95.7%) know more than one type of STI's.

In order to assess the occurrence of STI's, the respondents were asked whether they had experienced symptoms of STI's during the last 6 months preceding the survey.

Have you ever had contracted one of the STI's	No.	%
Yes	10	2.4
No	413	97.6
Total	423	100.0

The table shows that among the respondents who have experienced sexual contact, only 2.4% (10 women) reported that suffered from at least one symptom. Accordingly, 80% among have

ever had symptoms, at least suffered from one and the remain 20% suffered from two or more sign/symptoms of STI's.

Table 4.19 Percent distribution of respondents reporting any symptoms of STI's during the last 6 months, Ziway-2008

RTI/STI symptoms		no	%
Itching over vulva		*8*	*1.9*
Pain during urination		*9*	*2.1*
Painful ulcer/genital sore		*1*	*0.2*
Pain in lower abdomen not related to menses		*1*	*0.2*
Bleeding/abnormal discharge from vagina		*9*	*2.1*
Genital swelling		*2*	*0.5*
Total	**Methods**	*10*	*100*
Signs/symptoms observed	One	8	80
	Two and above	2	20
Total		10	100

4.9 Risk perception

There is a significant difference regarding perceived risk of contracting HIV/AIDS among those of who have ever had and had not sexual experience ever before.

Table 4.20 percentage distribution of respondents by perceived risk of getting HIV/AIDS among respondents.

Perceived risk of getting HIV/AIDS	**Women had experience of sexual intercourse**		**Women had no experience of sexual intercourse**	
	no	**%**	**No**	**%**
High risk	64	23.7	-	-
Moderate risk	27	10	17	11.1
Small risk	99	36.7	64	41.8
No risk at all	80	29.6	72	47.1
No	270	100	153	100

As the above table shows, 23.7% from age group 22-28 years perceived that there were at high risk among who had an experience of sexual intercourse. But, no one perceived at high risk among had not sexual intercourse. And 10% and 36.7% perceived moderate and small risk from the former and 11.1% and 41.8% from the later category respectively. And 29.6% from the first and 47.1 from the second category, Perceived that they are at no risk.

When we assess high perception against the selected characteristics showed in the table below.

Table 4.21 Percentage distribution of respondents by Risk perception of the study population, Ziway, 2008

Do you believe you have done any thing that may have put you at risk of HIV infection		**YES**			
		High or moderate		**Low**	
Age		no	%	no	%
	15-21	27	25	78	47.9
	22-28	81	75	85	52.1
	TOTAL	108	100	163	100
Occupation	*Skilled/professional*	57	52.8	115	70.6
	Unskilled/daily laborers	51	47.2	48	29.4
	TOTAL	108	100	163	100
Education	*No/primary education*	*61*	*56.5*	81	49.7
	Secondary and above	*47*	*43.5*	82	50.3
	TOTAL	*108*	*100*	163	100
Duration of stay in Ziway	Six month to one year	*42*	*38.9*	72	44.2
	One to three years	*29*	*26.9*	42	25.8
	Three and above years	*37*	*34.2*	49	30
	TOTAL	*67*	*100*	163	100

According to the above table 75% in age group 22-28 year, 52-8% of skilled/professionals, 56.5% from illiterate or having primary education, 38.9% of the respondents who stayed less than 1 year in Ziway, perceived that they were at high risk. Therefore, age, occupation and duration stayed in Ziway are directly related to high risk perception, but education and high risk perception are inversely related.

5. Descriptive Analysis of the Risk factor for HIV infection

5.1. Bivariate analysis of multiple sexual partners

One of the risk factors related to HIV infection is having multiple sexual partners. The chi-square outputs has been testing the association between dependent variable (Multiple Sexual Partners) with some demographic and socio-economic variables below.

5.1.1. Demographic differential

According to the table bellow, those migrants in the age group 15-18 (7%), the age group 19-23(37%) was more likely to have multiple sexual partners than the previous and the age group 24-28(58%) was found to be at the highest risk. The χ^2-test revealed that multiple sexual partners have high statistical significance to the age of respondents. The association is significant at P-value 0.002. When age increases the likelihood to have multiple sexual partners also increase or they are positively related.

Table 5.1. Chi-square out put of multiple sexual partners by migration related differential

Independent variables	**%**	χ^2	**p-value**
Age			
15-18	1	5.48	0.046
19-23	42		
24-28	57		
Place of residence prior to Ziway			
Rural area	80		
Town or City	20	8.9	0.000
Duration stay in Ziway			
Six to one year	3.3	10.2	0.006
One to three years	10		
Three and more	86.7		

Level of significance<0.05

Regarding the place of residence prior to Ziway, those who came from rural areas were more likely to have multiple sexual partners (80%) than from urban (20%). The level of significance here is 0.000, which means the net influence of the variable is strong.

Duration stay in Ziway, as the table shows, has statistically significant association of having multiple sexual partners. As the table portrays that as duration increase more likely to have multiple sexual partners and vice versa. According to the finding 3.3% of the respondent who have multiple sexual partners were stays in Ziway not more than one year. 10.7% of the respondent among this domain stayed in Ziway one to three years and the majority of the respondent (80%) who have multiple sexual partners were stay in Ziway more than 3 years. This shows that a longer stay in Ziway more likely to have multiple sexual partners. The level of significance of the association is 0.006. Also the information from in-depth interview sports this finding.

An 18 Years old respondent:

"At the early days of my arrival in Ziway, a person who is working here (on the farm) inviting me to take tea frequently after work. I accepted his invitation after some days. Through time, we had been going to his home and my home too. One day while we were in his home, he asked me to do sex. At that time, if I refused, I was afraid to loss his friend ship---to accept I was afraid the out come... However, I did it. Finally, after 2 or 3 more days he started to turn his face and then totally ignored me at all. Now I realized that we were not knew each other, but the reason why I did that was for fear of loneliness..."

5.1.2. Socio-economic differential of multiple sexual partners

Table 5.2. Chi-square out put of multiple sexual partners by selected socio economic differential

Independent variables	%	χ^2	p-value
Literacy status			
No education or primary	30	7.1	0.029
Secondary education	63.3		
Above secondary	6.7		
Income			
<400	30	16.6	0.000
400-750	50		
above 750	20		
Attend religious services			
yes	13		
no	87	11.7	0.000

Level of significance<0.05

Educational level of the respondent categorized in to three. Moreover, it is found to be statistically significant. As the level of education increase from illiterate to primary and from primary to secondary, the risk of having multiple sexual partners also increases. This shows that those of who had secondary education were found to be at the highest risk. Nevertheless, those who had above secondary were found to be at lower risk (30%, 63.3% and 6.7% respectively).

Income is also one of the factors of risk behavior in different circumstances. The present finding showed that amount of income and the risk of having multiple sexual partners are directly related. Respondents, which where earned less than 400 birr income category (20%), less likely to have multiple sexual partners than the income group above 750. Nevertheless, those who earned 400-750 were found to be the most risked group (50%).

Rather than religion, religiosity shows a very significant association with risk factor of having multiple sexual partners. Respondents who were not religious or less religious were at higher risk than that of more religious respondents to have multiple sexual partners (87% and 13%

respectively). In addition, the p-value for their association is 0.000. Therefore, religiosity and the risk of having multiple sexual partners have strong inverse relationship. Therefore, it is possible to suggest being religious, more likely reduce the risk of having multiple sexual partners.

5.3 Chi-square out put of multiple sexual partners by selected socio environmental differential

Independent variables	**%**	χ^2	**p-value**
Living arrangement With relatives With my friends/alone	10 90	13.4	0.000
Media exposure Daily/usually Rarely/no	65 35	14.5	0.002
Ever seen pornographic film/magazines Yes No	90 10	11.35	0.001
Alcohol use Usually Rarely Never	27 53 20	15.7	0.000

Level of significance<0.05

Living arrangement is strong independent variable with the statistical significance of 0.000, to have multiple sexual partners. Accordingly, those migrants who had been living alone/with friends were more likely to have multiple sexual partners than the reference (90% and 10% respectively). This is most likely from high exposure of peer influence and to adopt adverse habits. Also the information from in-depth interview sports this finding.

A26 year in women said:

"---I have been living alone in rented houses for the last 8 months with poor door and window... Plus to this, it is found roadside with out fence. Rarely some drunken persons and others knock my door/ window after mid-night. So always I am frustrating for that matter, for fear of sexual harassment---"

A 19 Years respondent:

"... I am living with my friend, she is working in cafe. A number of her friends are coming to our house frequently. Always, they talk a lot, especially about sexual issues. Rarely, her boy friend come and doing sex with her. Now I am being convinced by what I have seen and heard".

Exposure to mass media is expecting to increase the knowledge/awareness related to risk behavior. Though, the χ^2 – test is significant (0.008), its impact is seems to be negative. Among the respondent who had an exposure to mass media daily/usually more likely to have multiple sexual partner than who follow rarely (65% and 35% at risk respectively). Contrary to the truth, having more and more exposure to mass media has no impact to decrease the risk of having multiple sexual partners.

On the other hand, exposure to pornographic films or magazines has a very strong association with the risk of having multiple sexual partners. When any one, specially young people see or read such type of materials, most probably initiate to do or to have the experience. In this study 90% of the respondent who have ever seen pornographic films or magazines found to be at higher risk than the reference (10%). Therefore, it is possible to say, avoiding such type of exposure has a crucial role to minimize this risk. Also the information from in-depth interview sports this finding

A 23 years women response:

"...I saw sex film for the first time hassled by my friend. One day we want to her boyfriend rented house. No one was therewhile we see sex film. When I started to see what is going on, I feel so hot...And after that moment I had highly inspired for long time by thinking what I have seen..."

Alcohol/substance is not simply convince to take wrong decision or action in tempting situations, but also has strong correlation with the development of other risk behavior. However, there is a significant association in the χ^2-test, the relation ship between alcohol use and the given risk does not show a regular pattern or direction. This most likely has not direct relationship, it might be significant while together with other variables.

5.2. Bivariate analysis of STI's

The other dependent variable as a risk factor is contracting sexually transmitted infections (STI's). This is explained by have ever had one or more signs/symptoms of STI's in the past 6 months prior to the survey.

5.2.1. Demographic deferential of Risk (STI's)

Based on the finding, ages of the respondents were found to be important to the occurrence of STI episodes. Especially, the age group 22-28 was found to be at the highest risk. The significant association (0.002) between age and STI may fall under various explanations. Moreover, this may put them at high risk of contracting STI's. In the present study the whole respondents (100%), who have ever had STI signs/symptoms, were in the age group of 22-28 years.

Table 5.4 Chi-square out put of STI's by migration related differential

Independent variables	**%**	χ^2	**p-value**
Age			
15-21	0	9.8	.002
22-28	100		
Duration of stay in Ziway			
Six to one year	70		
One to three years	0	13.6	.000
More than three yeares	30		
Independent variables	%	χ 2	p-value
Literacy status			
No education or primary	20		
Secondary	50	12.4	0.002
Above secondary	30		
Present occupation			
Unskilled/daily laborers	20	8.29	0.004
Skilled/graduate	80		
Income			
<400	30	6.19	0.013
400 and above	70		

Level of significance<0.05

Duration of stay in Ziway and STI episodes have significant association (p-value=0.000). About 70% from who were stays in Ziway 6 months to one year, no one from 1 up to 3 years category and 30% more than three years were at risk of STI's episodes in the last 6 months. This indicated that at the early days of arrival or for some months migrants could be in trouble, suffering from loneliness and it may put them at risk of wrong engagement with unfamiliar person. Moreover, it might lead to contract STI's.

Usually, level of education and STI's knowledge of the population are expecting to relate directly. On the other hand level of education and being at risk has strong association (UNAIDS, 2007). Nevertheless, the opposite is true here, in the study. Among the respondents who suffering from STI episodes 20% of them had only primary education or illiterate. But, the majority (80%) of the respondents who ever had STI signs/symptoms had secondary and

above level of education, the association is significant at p-value 0.028. However, here more knowledge and being at risk are directly related.

Regarding the type of job/occupation, unskilled respondents were safer than skilled/professional graduates (20% and 80% at risk respectively). Therefore, appropriate explanation here is better occupation and STI episodes has direct relationship.

Once again, income and the risk of contracting STI are directly related. The appropriate explanation is getting more income, more likely to have more leisure activity and risky behavior like alcohol or drug taking. This condition obviously forced an individual to loss the right decision.

Table 5.5 Chi-square out put of STI by selected socio environmental differential

Independent variables	**%**	χ^2	**p-value**
Relation with family			
Very close	40		
Medium	0	9.25	0.025
Weak/not at all	60		
Ever seen pornographic film/magazines			
Yes	90	5.74	0.017
No	10		
Alcohol use			
Rarely	60	11.01	.004
Usually	30		
Never	10		

Level of significance<0.05

The other socio-economic variable which significantly associated with the risk of STI's is family relation. As the χ^2-test shows having very close relation ship and STI episodes are

inversely related. Here 40% of the respondents having strong family relation, any respondent from the medium category and 60% of the respondent who had weak family intact were at risk of STI's (p-value=0.025).

In addition to this, another important variable is an exposure to pornographic film/magazines. One important thing here is the respondents were young, migrant, single and who are far from their families. Obviously, exposed to such materials is expecting to develop some risky behavior. According to the finding, who were suffer from the STI's within 6 months, only 10% from unexposed category and the rest 90% of the respondent from the category in which ever had seen pornographic materials.

One of the significant cofactor for risk behavior is taking alcohol or substance. If one take such type of substance/alcohol, most probably put out of his/her control of own self. In addition, most probably did wrong action and decision while under the influence of substances. Here the χ^2-test justifies the above explanation. Among who had STI's episode, 10% never took alcohol and 30% took usually and 60% of them took rarely (P-value=0.004), but there is no regular relationship.

5.3. Multivariate analysis

Logistic regression model has fitted to identify various explanatory variables associated with the dependent variable. The dependent variable in the model is the risk factors (multiple sexual partners and an experience of STI's). The regression coefficient (β), the p-value (level of significance) and the odds ratio (Exp (β)) have given in the table below. The odds ratio indicates how the likelihood of vulnerability for a specific category varies from that of the reference category, once the effect of all other variables in the model has been controlled.

In the previous discussion, χ^2-test made. However, using only the χ^2-test doesn't show the exact association between dependent and independent variables, because the impact of other explanatory variables in the model, was not controlled to see the effect.

5.3.1. Multivariate analysis of the Multiple Sexual Partners

Table 5.6. Logistic regression for multiple sexual partners by selected characteristics

Selected Variables	B	Sig	Exp(β)
Duration of stay			
6 month-1 year®	----	.106	1.00
1-3 year	-1.453	294	.234
>3 years	0.263	.872	1.232
Religion			
Christian®			1.00
Muslim/other	-1.017	0.370	0.362
Income			
400 and above®			1.00
< 400	-0.287	0.024	0.751
Living arrangement			
With my friends/alone®			1.00
With relatives	-2.362	0.004	0.094
Your close friends			
Male®	----	0.888	1.00
Female	-0.136	0.830	1.301
No	0.263	0.775	10.548
Type of work			
Skilled®			1.00
Unskilled	0.530	0.682	1.699
Do you attend religious service/event			
yes®			1.00
no	2.356	0.001	10.548
Are you member of any social group			
Yes®			1.00
No	-0.872	0.251	0.418
Exposure to mass/commercial media			
Yes®			1.00
No	0.982	0.106	2.670
Ever seen pornographic film/magazine			
yes®			1.00
No	-2.649	0.001	0.071

® =*reference category,*

Level of significance<0.05

The χ^2-test, it revealed that more number of independent variables have significant association with having multiple sexual partners. However, under the control of other variables in the model, the associations have not found to be significant, except few (income, living arrangement, attending religious services and exposure to pornographic materials).

Income is one of the important variables in the χ^2-test with a high significant association. In addition, under the control of other variables in the model, its impact was found to be significant (at p-value=0.024). As the finding shows high income group were more likely to have multiple sexual partners. But, that low income group was found to be at lower risk by 25%.Hence, income and the risk of having multiple sexual partners has direct relationship.

Multivariate analysis assesses the living arrangements of the respondent and it was found to be significant. According to the result, those of who had been living with their relatives were less likely at risk by 91% than that of who had been living alone or their friends. Usually, the living arrangement has strong tie with sexual behavior of a person. Because, it supposing to exposed for peer influence and to adopt adverse habits (smoking, chat chewing, drinking alcohol, and sexual practice). There fore, living arrangement, unable the respondents to put on various risk behavior.

Attending religious services/events, or religiosity has strong association with the dependent variable in the model. (P-value=0.001). As the odds ratio (10.548) shows, those respondents who had been attended religious services, found to be at lower risk. On the other hand, those of who had not been attending have been found to be at higher risk by more than 10 times than the reference category. There fore, being religious, gaining more moral/ethical know how. This intern helps to have relatively less risky sexual behavior.

The other important variable that explains variations in the likelihood of having multiple sexual partners is an exposure to pornographic materials. The level of significant in the model is 0.001. The odds ratio revealed that those migrant women workers, who have exposed to

such materials, have found to be at higher risk. Nevertheless, those respondents, never ever seen such materials were found to be at lower risk by 93% from the reference category.

5.3.2. Multivariate analysis of STI episodes

In this section, an attempt is made to show that whether the dependent variable (STI signs/symptoms) is related or not with independent variables in the model.

Table 5.7. Logistic regression for signs/symptoms of STI's infection by selected characteristics

Selected Variables	B	Sig	Exp(β)
Duration of stay			
6 month-1 year®	----	.718	1.00
1-3 year	-0.529	.436	2.232
>3 years	-0.509	.467	2.366
Religion			
Christian®			1.00
Muslim/other	1.593	0.18	3.395
Income			
			1.00
< 400®	1.593	0.42	4.918
400 and above			
Living arrangement			
With my friends/alone®			1.00
With relatives	-0.357	0.576	0.700
Your close friends			
Male®	----	0.130	1.00
Female	-0.161	0.729	0.851
No	-1.663	0.050	0.195
Type of work			
Skilled®			1.00
Unskilled	-2.252	0.003	0.105
Do you attend religious service/event			
yes®			1.00
no	1.430	0.002	4.180
Are you member of any social group			
Yes®			1.00
No	2.143	0.000	8.527
Exposure to mass/commercial media			
Yes®			1.00
No	-1.221	0.010	0.295
Ever seen pornographic film/magazine			
Yes ®			1.00
No	-3.899	0.000	0.020
Family relation			
Very close®	----	0.000	1.00
Medium	-0.928	0.180	0.395
Weak	1.686	0.003	5.399
No at all	1.601	0.005	4.960

® =reference category.

Level of significance<0.05

Occupation/types of work is one of the important variables in the χ^2-test. Also, under the control of other variables in the model, its impact was found to be significant (at p-value=0.003). As the finding showed those female workers, which were engaged on elementary (as daily laborers) activities, have found to be at lower risk by 90% than professionals, administrative and technical workers. However, those non-daily laborers were found to be at higher risk than daily laborers. According to the present finding, type of work and STI's episodes shows direct relation ship. Therefore, better occupation means better income and better income may lead to more leisure activity. Doing leisure activities, unsafe sex may involved. Since, unsafe sex and STI's has strong correlation, those migrants had been suffering from STI's, where most probably because of this fact.

Most of the time religiosity and risk behavior have inverse relationship and the same is true here in the model. Religious respondents were found to be at lower risk than non-religious respondents. As the odds ratio shows those respondents who had not been attending religious services were found to be at higher risk by nearly 4 times than the references groups at p-value=0.002. Hence, religious people most likely become less disobedience various moral rules. Moreover, it may helps to have less risky behavior

Being member of social group/club believed to have an impact on individuals' sexual behavior under different conditions. For instance, to share ideas, to discuss the cause and consequences of various sexual issues. As the model showed, being member of social group/club and STI's episodes have an association. Thus, those respondents, which were member of social group/club, found to be at lower risk. However, those who were not member of social group/club have found to be nearly 9 times more, contracted with STI's episodes.

Having an exposure to mass media believed to have an impact on individuals' sexual behavior under different conditions. According to the χ^2-test, the net effect of the media exposure was significant the same is true in the model but they were relating directly. Based on the results in the model, those of who had more exposure to mass media have found to be at higher risk than

the reference category. Hence, respondents who had not exposure to mass media found to be at lower risk by 71% than who had exposure to mass media.

The most important variable having strong association in the model is an exposure to pornographic materials. The majority of young people are unable to know the potential risks. Hence, watch sex films may inspire them to do unsafe sex as what they have seen. The level of significant in the model is 0.000. The odds ratio revealed that migrant women workers, who have exposed to such materials, have found to be at higher risk. In addition, respondents who had not watch pornographic materials were at lower risk by 98% than who had watch.

Family relation of the respondent is a very important factor in the model. The significant level is 0.000. In addition, as the odds ratio shows, medium family relation reduces the risk of contracting STI. And which means, those respondents who had weak or no relation with their family were found to be at higher risk (nearly 5 times than the reference).

6. Summary, Conclusion, and Recommendations

6.1 Summary

This study is conducted in Ziway, a case study of Sher-Ethiopia flower farm. It attempts to understand sexual risk behavior and vulnerability to HIV infection among young migrant working women. It begins to address demographic and socio-economic information. Then bivariate and multivariate analysis will be summarized.

In the study, a total number of 423 respondents were involved. Based on their age group, 9.6% in the age group 15-18, 21% in the age group 19-23 and 45% belongs to the age group 24-28 Years. About 36.6% of the respondents were migrated from rural areas and 63.4% from other urban areas. In-depth interview (IDI), Eight (8) participants were participated. And they were asked that being migrant, single and young whether put them at risk or not. 5 of them agreed that the those conditions has a substantial contribution to develop some risk behavior The major reason they gave were stress and loneliness, specially during the early days of arrival.

They explained that to avoid frustration they preferred to start causal relation ship with unfamiliar persons. And that may put them at high risk, such as sexual harassment, rape and the like.

Regarding other migration related findings, most of the respondents had been living in Ziway above three (3) years. These respondents were migrated to Ziway for different reason. One of the important factors that affect migration is literacy status as migration is a selected process. According to the data, the majority of migrants was illiterate or had low educational level.

In relation to their educational level, the great majority of respondents were engaged on low earned works (daily laborers). Because of low income, large number of single migrant women forced to live together in rented houses, which have poor quality and less security. This type of living arrangement has strong impact on these young women to adopt or develop some risky behaviors. This is most likely due to peer pressure and boundless freedom to do whatever they want.

IDI participants asked whether there is any relation ship between living arrangement and risky behaviors that makes them vulnerable to HIV/STI's infections. Most of them realized that their living condition with poor quality and less security due to less income has strong influence and enable to expose to a number of adverse effects.

Regarding to ethnic groups, most of them belonging to Amhara, Guraghe, Wolayta, and Oromo respectively. And related to religion, most of them were Orthodox Christian followed by protestant and Islam. According to the report, more than half of them had been attend religious services rarely, once a week or daily. It has strong impact to minimize the risk behavior.

The finding from IDI shows that, majority of the participant explained that being religious gave them relives, confidence and remind them what they have not supposing to do.

Other important variable in the study was participating in any social group/club. Involving in such clubs, expecting to give an opportunity to share ideas, to get experiences and to introduce different peoples. Among the respondents in the study, ¼ of them were involved in such clubs.

Among the respondents who had close friends. More than half of them had female friends rather than men but those of who had only men or both also significant in number.

Exposure to mass media (Radio, TV, cinema, magazines---) was found to be important to affect once sexual behavior, it could be adverse or positive. Especially, an exposure to pornographic materials has strong association with risk behaviors. As the finding shows among those of who had multiple sexual partners (90%) and also who ever had STI's episodes partners 90% were seen these materials.

Regarding their attitude towards risk behavior, majority of the respondent were not agree to do risk behaviors. Such as, Smoking, alcohol taking, multiple sexual partners, premarital sex a well as sex after marriage with other person.

In related to alcohol and substance drug use, 60% of the respondent replied that they were never used alcohol and against drug 88% of them.

As the bivariate analysis indicated that alcohol/ substance use and the risky behavior has strong association. Moreover, report from the IDI supported the quantitative evidence. Approximately, 90% of IDI participants reported that suppose, while they are under the influence of alcohol they might not take a right decision. There fore, they thought if it is happen, might be they forced to take wrong action, like unsafe sex.

Knowledge and use of condom among the respondent were assessed. Based on the finding, among 270 of the total respondent who had an experience of sexual intercourse, 60% were used condoms. But an over all assessment indicated that there is misused and misconception about condom.

Of the total respondents, 63% had an experience of sexual intercourse. The median age for first sex was found to be 18 years. And the major reason for first sex was love/curiosity. Among the respondents who ever had sexual intercourse in the last 6 months. 90% of them have sexual partners. And among those respondents, 12.3% had multiple sexual partners. Regarding to unwanted pregnancy ever before 24.8 had faced this risk.

In IDI, they were asked about their attitude towards contraceptive use, unwanted pregnancy and abortion related to HIV infection. Most of them agreed that the best contraceptive method to protect themselves from AIDS/STI's is condom. But, they doubt efficiency and effectiveness during sex.

Regarding unwanted pregnancy and induced abortion, half of the respondents in IDI said that, if they face unwanted pregnancy they can take immediate action against the fetus/abortion/.And they do not want to realize whether it is safe or not.

Once again, IDI participants were asked whether pre-marital sex is acceptable and what they observe from the surrounding in Ziway. They considered pre- marital sex is normal. But they realize that ¾ of them had sexual partner and they felt that it is safe .But ignored pre- marital sex has and adverse impact or not

Relating to HIV/AIDS knowledge and related issues all respondents had the information and found to be high. And also have sufficient idea about STI's, types STI's and the transmition and prevention methods.

Regarding to risk perception, age directly related but occupation were found to be inversely related with moderate risk perception.

The χ^2-test was made in order to asses the net effects of independent variables with the dependent (Risk factor). These variables are age, duration of stay in Ziway, education, occupation, and religiosity; involved in social group/club, place of residence before came in to Ziway, living arrangement and alcohol use. Some variables directly related with the risk factors (age, income, education...) the others inversely related (Religiosity, participation in social group/club...)

So, the risk factors, STI's episodes and multiple sexual partners were affected by those variables at various degrees in χ^2- test. The most important step of the study is multivariate analysis of the selected model. Under logistic regression, the analysis was made. For some variable the level of significant is different in χ^2 -test and in the model. In χ^2 - test the impact of each independent variable was seen separately. But in the model the effect of independent variable is under the control of the independent variables. That is why a real association can be observed in the model rather than the χ^2 - test.

Hence, in the present study the dependent variable is risk factors such as multiple sexual partners and STI's episode. Risk factors in the model have run separately, but, independent variables were almost similar. As the finding shows, the pattern/direction of the association between dependent and independent found to be almost similar. However, the level of significance of the association is found to be different.

6.2 Conclusion

The study has shown that the substantial proportion of young migrant female workers experienced risky behavior. The result from the study indicated that knowledge and attitude about HIV/AIDS is found to be high. Nevertheless, while women are aware of HIV/AIDS, pregnancy and means of protection, yet they are inadequately aware of the specifics and they hold a number of misconceptions. As a result, some women take risks partially due to some misconceptions.

Therefore, most of the respondents have developed relation with men and engaged in pre-marital sexual activity that is not acceptable and risky. Therefor an attempt is needed to correct such myths and misconceptions.

Age, education, alcohol use and pornographic exposures were found to be directly related. When age increases the probability to develop risk behavior will increase. Based on the finding the whole STI's episodes and majority of respondent who had multiple sexual partners were categorized in the group 22- 28. Therefor age is very significant factor for migrant women workers.

Income, also directly related with risk factors. Those of who earned more were more likely to have STI's episodes. Substance and alcohol use has direct relation ship with risk factors. As frequency of usage increase, the rate to develop risk behavior also increases. The pornographic exposure also strongly associated with the development of risk behavior. Since, the respondents were young, single and live out side their family; the impact is adversely affecting the respondent's sexual behavior.

Being religious and being member of social group/club significantly explain in the risk (having multiple sexual partner and STI's episodes). In this study, also the effect of religiosity and being member of social group/club found to be strong as various previous studies showed. Religiosity was found to be important to minimize the risk. According to the finding,

respondents that are more religious were less likely to develop risk behaviors than the comparative category; the same is true for being member of social group/club.

Most of the respondents considered them selves to be at risk were low educated and in elder age group. There is also substantial difference in risk perception is observed between ever had sexual intercourse and had not such type of experience. The other important thing found to be in the study is living arrangement, Loneliness and peer influence. Generally, the finding supported the given hypothesis.

6.3. Recommendation

I. Appropriate and convincing reproductive health information should be promoted through an appropriate channel. Now a day's, improper usage of mass media or the programs may not be conducive to bring behavioral change. There fore, it needs more and appropriate effort towards this issue. Then, it helps to internalize the information and enable to bring the desired behavioral change.

II. Appropriate HIV/AIDS awareness program and education related to reproductive health/sexual behavior should be provided and needs follow up whether it addressed the desired target group.

III. Since peer influences were the most important source for molding their behavior, a programmatic response is needed to target such network. Or need special attention to special target group population.

IV. The expanding illegal video show rooms, pornographic DVD renting shops. Shisha and chat chewing homes should need an appropriate and strong legal measure. Otherwise the diverse out comes may increase at alarming rate.

V. The role of social groups/clubs is important to bring behavioral change. There fore, a need to establishing social groups/clubs the effort towards this is expecting to be developed. Moreover, need to organized community meeting in relation to HIV/AIDS prevention and the importance of behavioral change.

Generally, as the problem is deep and wide it need further studies to address different young women in different society and circumstances.

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Appendix: Questionnaire

Structured questionnaire for young migrant female workers in Ziway Town: Sher-Ethiopia flower farm.

Questionnaire no._____

Inclusion criteria: one young migrant female worker (15-28 years) from selected worker.

Part 1: Socio-economic and Demographic Characteristic's of the Respondents

Item No	Questions	Coding categories	Code number
	Age (in complete years)	_____years old	
1	Place of residence prior to Ziway	1.Rural area 2.Town/City	1 2
2	Movement to Ziway	1.first move 2.second move 3.three or more moves	1 2 3
3	Duration of stay in Ziway	1.Six month to one year 2.One to three years 3.More than three years	1 2 3
4	Persons helped in migration	1.came by self 2.family members 3.relatives 4.friends/employer	1 2 3 4
5	Reasons move to Ziway	1.Diversified employment opportunities 2.Higher aspiration towards career 3.Motivated by friend's job and salary 4.Better educational facilities	1 2 3 4
6	Did you attend or are you attending any formal education	1. Yes 2. no	1 2
7	What is the maximum grade you have completed or learning in?	1.Primary 2.Secondary 3.Serteficate or Diploma 4.Digree and above 5.not at all	1 2 3 4 5
8	What is your ethnic group?	1. Amahara 2. Oromo 3. Guraghe 4. Tigre 5.Welayta 5. Other	1 2 3 4 5
9	What is your religion?	1.Orthodox 2.Islam 3.Protestant 4.Catholic 5.Other	1 2 3 4 5

10	How often do you attend religious services/events/? Relation with your family	1.Daily 2.At least once in a week 3.At least once in a month 4.At lest once in a year 5.Not at all	1 2 3 4 5
12	Are you member of any social group or club	1.yes 2.no	1 2
12	If yes, are you holds a leadership position	1.yes 2.no	1 2
13	What is your present occupation	1.Technical workers 2.Administrative 3.Skilled graduate 4.unskilled/daily laborer	1 2 3 4 5
14	How much your monthly income (in birr)	1.250-400 2.400-750 3.750-1000 4.Above 1000	1 2 3 4
15	Living arrangement	1.with relatives 2.with friends 3.alone	1 2 3
16	your close friends	1.Male 2.Female	1 2
17	Number of your close male friends	One More than one	1 2
18	Number of your close female friends	One More than one	1 2
19	Your father/mother literacy status	1.no/primary 2.secondary and above	1 2
20	Do you have an exposure to mass media	1.yes 2.no	1 2
21	If yes, what is the extent of your exposure	1.Daily 2..usually 3.rarely	1 2 3
22	Have you ever seen or read any films or magazines that focused on sex	1.Yes 2.No	1 2
23	Do you think watching films focused on sex is normal	1.yes 2.no	1 2

Part 2 sexual behavior of the respondents and attitude towards substance

24	What is your attitude toward substance use and sexual behavior	-Smoking for women is acceptable -Drinking for women is acceptable -Taking other drugs for women is acceptable. -Women can have opposite-sex friendships -Women can masturbate. -Women can think and talk about sex. -Women can talk about sex. -Women can have sex after marriage with other. -Women can have multiple sexual relations. -Women can initiate sexual activity. -Women can have sex for fun. -Women can have sex with another man after marriage.	Agree(1)	Disagree(2)
25	Do you take alcoholic drinks?	1.Never 2.Rarely usually 3.Once or twice a week 4.Most often		1 2 3 4
26	Did you have a habit of taking any substance/drugs	1.yes 2.no		1 2
27	If yes, which one	Chat -Cigarette -Shisha -Cannabises -Other		1 2 3 4 5
28	What is your attitude about reproductive health or Reproductive physiology	A woman can become pregnant at first Intercourse -A woman can become pregnant if she did not wash herself thoroughly immediately after sex -A woman can become pregnant if a man withdraws before ejaculating -Knows there are certain days when a woman is more likely to become pregnant -Condoms are effective method for	Agree(1)	Disagree(2)

		preventing pregnancy -Condoms are effective way of protecting from STI's and pregnancy -Condoms reduces sexual pleasure -Condoms can be used more than once -STI's and HI V/AIDS It is possible to cure STI -Women are at higher risk of contracting STIs/HIV		
29	Do you have an experience of sexual intercourse	1.yes 2.no		1 2
30	If yes, age at first sexual intercourse	----------years old		
31	Relationship with the first sex partner	1.Boyfriend fiancée 2.I met him at one occasion 3.A person help me financially 4.I do not know him		1 2
32	Reasons for the first sex	1.Love/ Curiosity 2.Partner insisted 3.Getting carried away/being drunk 3.Influence from friends 4.Was forced		1 2 3 4 5
33	Have you had sexual intercourse in the past 6 months?	1.yes 2.no		1 2
34	If yes, number of sex partners in last 6 months	1.one 2.more than one		1 2
35	Relationship to last sex partner	1.Boyfriend fiancée 2.I met him at one occasion 3.A person help me financially 4.I do not know him		1 2 3 4
36	Did you use condom in the last 6 months you had sexual intercourse?	1.yes 2.no 3. Rarely		1 2 3
37	Ever Experienced unwanted pregnancies	1.yes 2.no		1 2

Part 3 Respondents knowledge about HIV/AIDS

38	Have ever heard about HIV/AIDS?	1.Yes 2.No	1 2
39	Have you ever heard about STI?	1.Yes 2.No	1 2
40	If yes which of STI's have you ever heard about?	1.Syphilis 2.Gonorrhea 3.Granule inguinal 4.Cancroids 5.Other	1 2 3 4 5

41	Can a healthy looking person be HIV positive?	1.Yes 2.No	1 2
42	How does HIV transmit? (multiple answer is possible)	-By sexual intercourse -Sharing needles -Blood transfusion -from mother to child -Sharing food with HIV+ person -A curse from God -Other	Agree(1) / Disagree(2)
43	How can one prevent HIV infection	-Abstinence -Faith fullness -Condom use -Avoid sex with causal person -Avoid sex with C.S.W -Avoid sharing sharp edge materials -Avoid untested blood transfusion -Other	Agree(1) / Disagree(2)
44	Can a person get HIV by the first time he /she has a sex	1.Yes 2.No	1 2
45	Do men and women have equal chance of getting HIV in a single sexual intercourse	1.Yes 2.No 3.Not sure	1 2 3
46	Can HIV/AIDS be treated	1.Yes 2.No 3.Not sure	1 2 3
47	Can HIV/AIDS be cured	1.Yes 2.No 3.Not sure	1 2 3

Part 4 condom use among the respondents

48	Have you ever had the following about condoms	-Heard about condoms? -Seen a condom? -Used a condom?	1 2 3
49	With whom did you used condom?	1.Boyfriend fiancée 2.I met him at one occasion 3.A person help me financially 4.I do not know him	1 2 3 4
50	How often did you use condoms with non regular partners?	-Always -Sometimes -Not used yet	1 2 3
51	If you have ever used condoms what is your reason for using it?	-To prevent pregnancy -To prevent STI -To prevent HIV/AIDS -Other	1 2 3 4
52	Did you use condom the first time you had sexual intercourse?	1.Yes 2.No	1 2

53	Did you use condom in the last 6 months you had sexual intercourse?	1.Yes 2.No	1 2	
54	If yes, how often did you use condom in the last 6 months?	1.Always 2.Sometimes 3.Not at all	1 2 3	
55	Have you used condom in the last intercourse you had?	1.Yes 2..No	1 2	
56	What is the probability of using condom while you are under the influence of alcohol?	1.No probability 2. Medium pro. 3. High pro. 4.Other	1 2 3 4	
57	Do you feel that you can use condom successfully?	1.Yes 2.No 3.Not sure	1 2 3	
58	Do you think that condoms are effective method of preventing HIV?	1.Yes 2.No 3.Not sure	1 2 3	
59	Do you think that a condom can be used more than once?	1.Yes 2.No	1 2	
60	If you hadn't used condom at all or hadn't used consistently, what are your reasons?	-Condoms not available -Condoms are expensive -Ashamed to ask my partners -I did not like it -I wanted to get pregnant -I ashamed to buy condom -I trust my partner -It decrease satisfaction -My religion prohibit -I was drunk -Other	Yes(1)	No(2)

Part 5 Risk perception of HIV infection

61	Have you ever had contracted one of the STIs?	Yes No	1 2	
62	Have you ever experienced any sign/symptoms of the following?	-Itching over vulva -Pain during urination -Painful ulcer/genital sore/ -Non Painful ulcer/genital sore -Pain in lower abdomen not related to menses -Bleeding/abnormal discharge from the vagina -Genital swelling -Other	Yes(1)	No(2)
63	Do you believe that the presence of STI's has an impact on HIV infection	1.Yes 2.No 3.Not sure	1 2 3	
64	Do you believe you have done any thing that may have put you at risk of HIV infection	1.Yes 2.No	1 2	

65	Why do you believe like that?	-Had sex without condom -Had more than one partners -My partner may have brought it -Injured by contaminated material -Other	Yes(1)	No(2)
66	Do you believe that your partner may have sexual contact with someone else	1.Yes 2.No 3.Not sure	1 2 3	
67	How often do you use any protection to avoid catching HIV/AIDS	1.Never 2.Some times 3.Mostly 4.always	1 2 3 4	
68	how do you evaluate your risk of being contracted with HIV/AIDS	1.High risk 2.Moderate risk 3.Low risk 4.No risk	1 2 3 4	
69	Why do you believe high to moderate risk?	-Have many sexual partners -Perform unprotected sex -Not believe my partners -My partner has a positive test result -Using contaminated materials -Other	Yes(1)	No(2)

Questions for In-Depth interview

1. Is there any relation ship between being single, young and migrant with risk sexual behaviors or HIV infection?
2. Your place of employment and home necessitates you to expose hostile environment (forced sex, rape, sexual harassment...)?
3. What do think about religion, religiosity and peer influence in relation to sexual behavior?
4. What do think about contraceptive awareness and use, unwanted pregnancy, and induced abortions among migrant working women?
5. What do think about alcohol use in relation to sexual behavior, from your own or your partner's behavior?
6. Is premarital sex is common among unmarried young-migrant working women? Why? Why not?

Declaration

The thesis is my original work, has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Sintayehu Demeke		07/07/2008
Student	Signature	Date

I confirmed that this thesis has been submitted with my approval as the supervisor of the same.

SATHIYA SUSUMAN		07/07/2008
Advisor	Signature	Date