Condom utilization and sexual behavior of female sex workers in Northwest Ethiopia: A cross-sectional study

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Abstract

Introduction: Sexually transmitted infections are among the most important public health problems in the world. People who indulge in unsafe sex, such as female sex workers are the most at risk population groups due to multiple sexual partners and inconsistent condom use. The aim of this study was to assess condom utilization and sexual behavior of female sex workers in Gondar town, Northwest Ethiopia. Methods: A quantitative cross-sectional study triangulated with qualitative method was conducted from March 20 - April 10, 2014 in Gondar town. The quantitative data were collected through interviewing 488 female sex workers while in-depth interview was administered to collect qualitative data from 10 female sex workers. The collected data were entered into EPI-INFO version 3.5.3 and exported to SPSS version 20.0 software for analysis. Logistic regression analysis was done to determine the association between condom utilization and independent variables. Results: This study revealed that less than half (47.7%) of the respondents utilized condom with any type of client. Secondary education or above, perceiving themselves at risk of HIV/AIDS infection, having awareness that sexually transmitted infections could increase HIV infection, being tested for HIV/AIDS in the last 12 months, and having lower number of clients in a month were positively associated with condom utilization. Conclusion: This finding depicted that condom utilization was low among female sex workers. Thus, developing and implementing target oriented behavioral change and communication strategies are needed to prevent the risk of acquiring HIV/AIDS and other sexually transmitted infections in female sex workers.

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Introduction

Globally an estimated 35.3 million people are living with HIV/AIDS with 2.3 million new infections. About 69% of these populations live in sub-Saharan Africa. Striking gains have been made towards many of the 2015 targets and elimination commitments, although significant challenges remain [1, 2]. Moreover, 92% of all pregnant women living with HIV and 90% of the world’s children living with HIV reside in this sub-Saharan region. In the year 2011, 71% of all AIDS related deaths worldwide were recorded in Sub-Saharan Africa [2, 3]. According to the 2011 Ethiopia Demographic and Health Survey (EDHS), the HIV prevalence in the general population is 1.5%, with urban and rural prevalence of 4.2% and rural 0.6%, respectively. The country carries one of the largest HIV disease burdens in the world [4, 5]. The Ethiopian government has identified populations who are at risk of and/or highly vulnerable populations (MARPs) to HIV infection. MARP is defined as a group in a community with an elevated risk for HIV, often because group members engage in some form of high-risk behavior; in some cases the behaviors or HIV sero-status of their sex partner may place them at risk [6]. Within any HIV epidemic, sex workers have been one of the groups most vulnerable and at risk of HIV infection due to their multiple sexual partners spanning multiple sexual networks. High rates of other sexually transmitted infections and unsafe sexual practices further increase the probability of HIV transmission in sex workers. As a result of the risks involved and their vulnerabilities, HIV prevalence among female sex workers (FSWs) is often much higher than the general population [4, 7]. The epidemic continues to have a profound effect on female, male and transgender sex workers. FSWs are 13.5 times more likely to be living with HIV than other women. In 2008, 37% of FSWs in Amhara region were found to be HIV positive [4, 6]. Sex workers face stigma and discrimination in different forms. It is also very common for FSWs to face violence from a range of sources including clients, employers, community members, partners and other sex workers [5, 6]. Condom programming is an integral component of effective HIV prevention [1]. HIV preventive interventions targeted toward FSWs have typically focused on increasing FSWs’ condom use with commercial clients, since the contribution of commercial sex partnerships of FSWs and clients to HIV epidemics is believed to be high in many settings [8]. When used correctly and consistently, a condom is effective in preventing HIV and other STIs. Scientific evidence showed that male condom has 80% or greater protective effect against STIs including HIV [9]. However, recent surveys in several sub-Saharan Africa countries have detected a decrement in condom use and an increase in the number of sexual partners. Efforts to reduce HIV and other STI transmission related to sex work remain insufficient [2]. If FSWs do not use condoms, they will place themselves, their clients and the general population at risk of contracting HIV and other STIs since they are core transmitters in STI transmission dynamics. Despite the fact that the government has implemented different programs to educate people regarding HIV/AIDS and different preventive methods, in Ethiopia infection rate remains high, especially among MARPs. Therefore, determining condom utilization and sexual behavior of female sex workers would have strong relevance to targeted HIV prevention policies, programs, and strategies that would benefit FSWs, their clients and the general population.

Methods

Study design, area and period: a quantitative cross sectional study design triangulated with qualitative in-depth interview approach was conducted from March 20 to April 10, 2014 to determine condom utilization rate and sexual behavior of female sex workers in Gondar town, Northwest Ethiopia. Gondar town is one of the tourist centers in Ethiopia where many visitors arrive throughout the year.

Sample size and sampling techniques: Single population proportion formula was used to compute sample size by considering the following assumptions: proportion of condom utilization among female sex workers (p) = 88% [10], 95% confidence level, 3% marginal error.

\[
n = \frac{(Z_{\alpha/2})^2 \times P \times (1-P)}{d^2} = \frac{(1.96)^2 \times (0.88)(1-0.88)}{0.03^2} = 450.
\]

Then, by adding 10% non-response rate, the final sample size (n) = 495 FSWs. For all establishments both licensed and non-licensed mapping was conducted to enumerate the number of establishments and number of FSW. We used the data which was collected by Save the Children International (SCI) and Organization for Rehabilitation and Development in Amhara region (ORDA) and HIV/AIDS Prevention and Coordination Office (HPCO) as reference. To develop sampling frame of FSWs in each establishment, we conducted our own census by involving volunteer FSWs who had experience in HaPICO, SCI, and ORDA project. After conducting enumeration and having a frame of FSWs in each establishment, we took 495 FSWs from hotels, bars, night clubs, red lights and local drinking houses proportionally. A sample of FSWs were selected purposefully for the qualitative study saturation.

Data collection tools, procedures and quality control: Pre-tested and structured questionnaire was administered to collect the quantitative data through interviewing FSWs. The questionnaire was first prepared in English and then translated to Amharic (local language) and back to English by different language experts to check consistency and conceptual equivalence. The Amharic version was used during the actual data collection. Twelve diploma nurses and two BSc (1 in nurse and 1 in environmental health) were involved in data collection and field supervision, respectively. Data collectors and field supervisors were trained for 3 consecutive days on data collection techniques. Five FSWs were recruited as guider to reach sampled FSWs. The collected data were checked for completeness and relevance on daily basis by field supervisors. In addition, in-depth interviews were conducted on a total of ten female sex workers until saturation had been reached using semi-structured interview guide. The interviews were conducted in places where there were no interruptions, and tape recorded.

Data processing and analysis: Data were coded and entered into Epi-info version 3.5.3 and exported to and analyzed using SPSS version 20.0 software package. Both bivariate and multivariate logistic regression analysis were done to determine the effect of various independent variables on condom utilization. The results were presented in the form of tables, figures and text using frequencies and summary statistics such as mean, median, standard deviation and percentage to describe the study population in relation to relevant variables. The degree of association between dependent and independent variables were assessed using odds ratio with 95% confidence interval and p-value 0.05. For the qualitative part, data collected through in-depth interviews were transcribed and cleaned manually after being recorded into the computer. Then, these data were coded and categorized using open code software version 3.4. Finally, the data were sorted and
descriptive analysis was carried out to find the core meanings. The findings were interpreted using thematic analysis.

**Ethical consideration:** Ethical clearance was obtained from the Research and Ethical Review Committee of the Institute of Public Health, University of Gondar. Formal letters of cooperation were also obtained from Gondar Town Administration Mayor Office, Health office, Women, Children, Youth and Social Affairs Office. Informed verbal consent was obtained from each FSW after giving clear explanations about the objective and importance of the study. Confidentiality was maintained by using codes instead of any personal identifiers.

**Results**

**Socio demographic and economic characteristics of female sex workers:** Out of 495 selected FSW, 488 were involved in the study (response rate = 98%). The mean age of the respondent was 25.63 (SD=5.6) of which nearly one third of them were found in the age range of 20-24 years. Concerning their educational status, 115(23.6%) were unable to read and write (Table 1).

**Knowledge about HIV/AIDS and STI transmission and prevention methods:** One hundred eight three (37.5%) of the respondents had knowledge about HIV and STI transmission and prevention methods. Also, 170(34.8%) of them knew at least the three major signs and symptoms of STI. About 70% of the respondents reported that STI increases HIV infection. A 21 year old FSW said "I was visiting the clinic for STI treatment. STI and HIV are similar in mode of transmission and STI will be treated if we are infected with it". Both HIV and STI transmission methods are unsafe sex, having multiple sexual partners and the prevention methods are abstain, faithful and proper condom utilization and avoiding using sharp objects in common". Another 21 years old FSW said "HIV can be transmitted through unsafe sex. However, STI transmission is not the same as HIV; it is transmitted through seating on hot stone or place and urinating towards the moon and its treatment is traditional than modern". All the respondents had heard about the condom before; Friends 77.5%, health professionals 76% and mass media 74.2% were among the top sources of information. Though 64 and 25 FSWs practiced anal and oral sex respectively with their partners, only 34 and 3 of them used condoms, respectively. Among those who used condoms, 99.2% FSWs used it for HIV/AIDS prevention, while 80.1% used it for the prevention of other STIs. Nearly 44% of the respondents perceived that they were at risk of HIV infection (Table 2). An 18 years old FSW said that "......doing as sex worker by itself is at risk of getting HIV infection due to multiple sexual partner; there may be condom breakage and slipping during sex and also we may have unsafe sex by the influence of different factors." In contrary, 24 years old FSW said "...... I am not at risk of getting HIV/AIDS because I use condom properly with any of my sex clients throughout this work. So, I think that I am safe from HIV/AIDS; the main thing is using condom properly."

**Service Utilization:** Majority (85%) of FSWs had ever used any type of reproductive health services, and 381(78.5%) were tested for HIV in the last 12 months. "....... I have used reproductive health services like HIV testing and family planning counseling; also I got condom from health institutions and I can access information about HIV/AIDS ""...The reason I undergone HIV test is to know my status and it encourages me to use condom (25 years FSW)." "......I have parted in peer education session which was led by our friend and I got a lot of things on it about condom utilization, benefits of testing HIV and STI , and how to negotiate with clients and about methods of transmission and prevention of STI(21 years old FSW)." Majority (91.8%) of the respondents recalled shops as places where there was availability of condoms (Table 3).

**Condom utilization and sexual behavior:** Of the total FSWs who had sex in the past one month, 411(84.2%), 351(71.9%), and 160(32.8%) utilized condom with their non-regular partners, regular partners, boyfriends/husbands, respectively. The overall consistent and correct condom utilization among FSWs was 233(47.7%). ".....I ask every client to use condom. If he accepts we use it. If he does not, I cannot force him. Whether to use condom or not depends on the client." (FSW aged 30 years). On the other hand, 19 year old FSW "I used condom all the time with any clients. If a boy asked me to have sex without condom I consider he is HIV/AIDS positive and I would gave attention in any sexual action." The number of a FSWs clients range from 3 to 70, with median of 13 clients per month. Within the last one month, 32% and 22.3% of FSWs faced incidence of condom breakage and slipping during sexual intercourse, respectively. In this study, 360(73.8%) of the respondents had drunk alcohol in the last month of which 119(33.1) had drunk on daily basis. Violence was common among FSWs. In this study, 120(64.8%) of FSWs banned payment after the intercourse, and 104(55.6%) sustained physical violence (Table 4). A 21 year old FSW said "...I check to drink a lot to avoid sleeping and to easily say ok my sex client...... I would be intoxicated when I drank a lot though I tried to avoid drinking much. Any how it is difficult; I would be intoxicated unintentionally; after that I couldn't know what is going to happen." ... We are also forced by establishment owner to drink much...." Sexual intercourse other than vaginal was reported by the study participants. "I had been asked by my clients to suck his penis and to have anal sex. I underwent anal sex with condom but I refused to practice oral sex with him ...." 19 years old FSW. Another FSW said "I consider that anal and oral sex could not transmit HIV. So, I am inconsistent with condom use."

**Factors associated with condom utilization among female sex workers:** In the bivariate logistic regression analysis age; place of growth, marital status, having additional job, educational status, years worked as FSW, monthly income, knowledge about HIV/AIDS and STI transmission and prevention methods, knowledge about sign and symptoms of STIs, having awareness that STI will increase HIV infection, HIV testing, and family planning counseling; respondents who have good knowledge of HIV/AIDS and STI transmission and prevention had about 2 times higher odds of using condom than who didn't (AOR: 1.9, 95%CI (1.04, 3.32)). Those FSWs who reported STI can increase HIV infection had about 3 times higher odds of using condom than those who were not able to read and write (AOR:3.7, 95%CI (1.69, 8.25)). Having good knowledge of HIV/AIDS and STI transmission and prevention were associated with condom utilization; respondents who have good knowledge of HIV/AIDS and STI transmission and prevention had about 2 times higher odds of using condom than who did not (AOR: 1.9, 95%CI (1.04, 3.32)). Those FSWs who reported STI can increase HIV infection had about 3 times higher odds of using condom than those who didn't (AOR:3.11, 95%CI (1.63, 5.94)). Those FSWs who did not perceive themselves at risk of getting HIV/AIDS had about 6 times higher odds of using condom than those who who perceive themselves at risk of HIV infection (AOR: 5.8, 95%CI (3.18,10.53)). FSWs who participated in HIV/AIDS prevention program had about 13 times higher odds of using condom than those who did not (AOR:13.3, 95%CI(7.33,24.10)). Those FSWs who were tested for HIV/AIDS in the last 12 months had 3.4 times higher odds of using......
condom than who were not tested (AOR:3.4, 95%CI(1.51,7.78)). FSWs who had less clients in a month than the median were 2.5 times the odds of using condom than those who had more clients than median (AOR:2.5, 95% CI (1.42,4.25)) (Table 5).

Discussion

This study aimed to assess condom utilization and sexual behavior of female sex workers in Gondar town. The result showed that 47.7% (CI 42.8%, 52.4%) of the respondents utilized condom with any type of client. This result is similar with a study conducted in Ghana 49.6% [11], North Mexico (43%) [12] and South Africa (43%) [13]. However, this finding is lower than studies conducted in South Asia (86.9%) [14], South Indian (81.7%) [15], Hubel-China (74.9%) [16] and Bangladesh (58.9%) [17]. The possible reasons for this difference might be linked to differences in socio-demographic and economic characteristics. Similar with other studies [11, 14, 17], trust of client, client objection, seeking better satisfaction and substance use were amongst the major reasons acknowledged by FSWs for their non consistent condom use. Educated SFWs had higher odds of using condom, which might be due to the fact that education may provide confidence to use condoms with clients. In addition, education might increase ability to condom negotiation. This finding is in line with studies done in Mexico [12], South Asia [14], Ghana [11], South Africa [13] and Central Ethiopia [8]. Among the determinants explored, knowledge about HIV/AIDS and STI transmission and prevention methods were identified as factors determining whether to use or not to use condoms consistently. The respondents reported that knowledge about the transmission and prevention methods of HIV/AIDS and STI affects significantly the utilization of condom. Therefore this study revealed that having knowledge about the transmission and prevention of both HIV and STI have positive effect on utilization of condom. That means if they had knowledge of both they try to use condom consistently and correctly. This result was supported by a study conducted in Bangladesh [17] and Ghana [11]. Possible reasons would be that the knowledge would increase utilization of condom correctly and consistently.

This study identifies that awareness of the fact that STI will increase the probability of HIV acquisition was positively associated with condom utilization. A similar was obtained in a study conducted in Andhra Pradesh [18]. This might be explained by awareness of precursors for HIV acquisition will encourage them to use condom consistently. This study revealed that FSW utilization of health care system especially being tested for HIV in the last 12 months significantly associated with condom utilization. Those who had got HIV/AIDS testing were more likely to use condom than who were not tested. This could be as the result of the counseling they got in health institutions and the motivation to reduce risk by using condom consistently and correctly. This is similar a study in Cambodia-South Asia [14]. Numbers of clients were the determinant factors of condom utilization, in this study we used the median as a cut of point as most studies used to know the effect of client number to condom utilization. Those FSWs who had less number of clients had more odds of using condom than who had more clients. This finding is supported with the studies conducted at Cambodia [14], India [18], and Central Ethiopia [8]. This might be as the number of client increases their negotiation skill will be decreased due to tiredness and to satisfy their clients’ need. They may consider themselves at high risk of infection due to multiple sex partners. FSWs reported that their common clients were; driver merchant, daily laborer and civil servants were the commonest client who visited FSW. This is similar with other studies in our country.

Conclusion

This finding depicted that female sex workers condom utilization was low with any type of client whether non regular, regular or boyfriend/husband, which places not only FSW but also the general population at high risk of HIV/AIDS and STIs. Moreover, Primary and secondary or above education, knowledge about HIV and STI prevention and transmission methods, Perceiving at risk of HIV infection, awareness of STI will increase HIV infection, participating in any HIV prevention program, being tested for HIV, and having lower number of clients were positively associated with condom utilization.

Competing interests

The authors declare no competing interests.

Authors’ contributions

MMT wrote the proposal, participated in data collection, analyzed the data and drafted the paper. GKB and GAT approved the proposal with some revisions, participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

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### Table 1: socio demographic characteristic of FSW in Gondar Northwest Ethiopia, 2014

| Variables                          | Frequency | percent |
|-----------------------------------|-----------|---------|
| **Age group**                     |           |         |
| 15-19                             | 59        | 12.9    |
| 20-24                             | 164       | 33.6    |
| 25-29                             | 164       | 33.6    |
| 30-34                             | 58        | 11.9    |
| > 35                              | 43        | 8.8     |
| **Type of working establishments**|           |         |
| Hotel                             | 107       | 21.9    |
| Bar                               | 138       | 28.3    |
| Night club                        | 22        | 4.5     |
| Red light                         | 77        | 15.8    |
| Local drinking house              | 144       | 29.5    |
| **Place of growth**               |           |         |
| Rural                             | 247       | 50.6    |
| Urban                             | 241       | 49.4    |
| **Educational status**            |           |         |
| Unable to read & write            | 115       | 23.6    |
| Able to read and write            | 116       | 23.8    |
| Primary education                 | 139       | 28.5    |
| Secondary or above                | 118       | 24.2    |
| **Marital status**                |           |         |
| Single                            | 274       | 56.1    |
| Married                           | 27        | 5.5     |
| Divorced                          | 137       | 28.1    |
| Widowed                           | 34        | 7.0     |
| Separated                         | 16        | 3.3     |
| **Given birth**                   |           |         |
| Yes                               | 202       | 41.4    |
| No                                | 286       | 58.6    |
| **Family size of FSW**            |           |         |
| ≤5                                | 476       | 97.5    |
| >5                                | 12        | 2.5     |
| **Family occupation before engaged in sex work** | | |
| Farmer                            | 229       | 46.9    |
| Daily Laborer                     | 95        | 19.5    |
| Civil servant                     | 55        | 11.3    |
| Merchant                          | 74        | 15.2    |
| Driver                            | 20        | 4.1     |
| Others                            | 15        | 3.1     |
| **Monthly income of FSW(ETB)**    |           |         |
| ≤1500                             | 140       | 28.7    |
| 1501-2500                         | 110       | 22.5    |
| 2501-4000                         | 127       | 26      |
| >4001                             | 111       | 22.7    |
Table 2: Knowledge of FSWs about HIV/AIDS and STI transmission and prevention methods, Gondar town, Northwest Ethiopia, 2014

| Variable                                                                 | Frequency | Percent |
|--------------------------------------------------------------------------|-----------|---------|
| **Had knowledge about HIV and STI transmission and prevention methods**   |           |         |
| Yes                                                                      | 183       | 37.5    |
| No                                                                       | 305       | 62.5    |
| **Knowledge of at least three STI sign and symptoms**                    |           |         |
| Yes                                                                      | 170       | 34.8    |
| No                                                                       | 318       | 65.2    |
| **Other STIs increase HIV infection**                                    |           |         |
| Yes                                                                      | 341       | 69.9    |
| No                                                                       | 147       | 30.1    |
| **Source of information about condom**                                   |           |         |
| Health professional                                                     | 371       | 76.0    |
| From friend                                                              | 378       | 77.5    |
| Client                                                                   | 316       | 64.8    |
| Health institution                                                      | 334       | 68.8    |
| Mass media                                                               | 362       | 74.2    |
| Family                                                                   | 77        | 15.8    |
| Others                                                                   | 10        | 2.0     |
| **Type of sex practiced**                                               |           |         |
| Vaginal                                                                  | 488       | 100.0   |
| Anal                                                                     | 64        | 13.1    |
| Oral                                                                     | 25        | 5.1     |
| **Reason for using condom**                                             |           |         |
| HIV prevention                                                           | 484       | 99.2    |
| STI prevention                                                           | 391       | 80.1    |
| To avoid unwanted pregnancy                                             | 423       | 86.7    |
| **Perceive that they are at risk of HIV**                               |           |         |
| Yes                                                                      | 213       | 43.6    |
| No                                                                       | 275       | 56.4    |
| Variables                                      | Frequency | Percent |
|------------------------------------------------|-----------|---------|
| **Use reproductive health services**           |           |         |
| Yes                                            | 415       | 85.0    |
| No                                             | 73        | 15.0    |
| **Had access to get condom**                   |           |         |
| Yes                                            | 457       | 93.6    |
| No                                             | 31        | 6.4     |
| **Know places where to get condom**            |           |         |
| Yes                                            | 467       | 95.7    |
| No                                             | 21        | 4.3     |
| **Can access condom at working establishment** |           |         |
| Yes                                            | 421       | 86.3    |
| No                                             | 67        | 13.7    |
| **Place where condoms were available**         |           |         |
| Shop                                           | 448       | 91.8    |
| Pharmacy                                       | 334       | 68.4    |
| Health institution                             | 342       | 70.1    |
| Hotel                                          | 316       | 64.8    |
| Friend                                         | 261       | 53.5    |
| health professional                            | 195       | 40.0    |
| **Tested for HIV in the last 12 months**       |           |         |
| Yes                                            | 381       | 78.1    |
| No                                             | 107       | 21.9    |
| **Reasons why underwent HIV test (n=381)**     |           |         |
| To know my status                              | 305       | 62.5    |
| Due to Illness                                 | 71        | 14.5    |
| For pregnancy                                  | 25        | 5.1     |
Table 4: condom utilization and Sexual behavior of FSWs in Gondar town, Northwest Ethiopia, 2014

| Variable                                              | Frequency | Percent |
|-------------------------------------------------------|-----------|---------|
| Median number of clients in the last one month        |           |         |
| <13                                                   | 306       | 62.7    |
| >13                                                   | 182       | 37.3    |
| Used condom for sex with non-regular partners in the last one month |         |         |
| Yes                                                   | 411       | 84.2    |
| No                                                    | 77        | 15.8    |
| Used condom for sex with regular partners in the last one month |         |         |
| Yes                                                   | 351       | 71.9    |
| No                                                    | 137       | 28.1    |
| Used condom for sex with boyfriend/husband in the last one month |         |         |
| Yes                                                   | 160       | 39.0    |
| No                                                    | 247       | 50.6    |
| I don’t have boyfriend/husband                        | 81        | 16.6    |
| Used condom for sex with all types of partners        |           |         |
| Yes                                                   | 233       | 47.7    |
| No                                                    | 255       | 52.3    |
| Faced incidence of condom breakage during sex in the last one month |         |         |
| Yes                                                   | 160       | 32.8    |
| No                                                    | 328       | 67.2    |
| Faced incidence of condom slipping during sex in the last one month |         |         |
| Yes                                                   | 109       | 22.3    |
| No                                                    | 379       | 77.7    |
| Amount of payment for one night(ETB)                  |           |         |
| < mean (203)                                          | 322       | 66      |
| > 203                                                 | 166       | 34      |
| Common clients                                        |           |         |
| Driver                                                | 400       | 82.0    |
| Merchant                                              | 375       | 76.8    |
| Daily laborer                                          | 275       | 56.4    |
| Civil servant                                         | 237       | 48.6    |
| Student                                               | 182       | 37.3    |
| Others                                                | 16        | 3.3     |
| Drank alcohol in the last one month                   |           |         |
| Yes                                                   | 360       | 73.8    |
| No                                                    | 128       | 26.2    |
| Faced violence in the last one month                  |           |         |
| Yes                                                   | 185       | 37.9    |
| No                                                    | 303       | 62.1    |
| Type of violence                                      |           |         |
| Physical                                              | 104       | 55.6    |
| Sexual & refusal to pay money                          | 120       | 64.8    |
| Psychological                                         | 90        | 48.1    |
| Variables                        | Condom Use | COR(95% CI) | AOR( 95%CI) |
|---------------------------------|------------|-------------|-------------|
|                                 | Yes        | No          |             |
| Place of birth                  |            |             |             |
| Rural                           | 99         | 148         | 1           |
| Urban                           | 134        | 107         | 1.87(1.31, 2.68) |
| Marital status                  |            |             |             |
| Single                          | 149        | 125         | 1           |
| Married                         | 13         | 14          | 0.78(0.35,1.72) |
| Divorced                        | 51         | 86          | 0.45(0.33,0.76) |
| Widowed                         | 15         | 19          | 0.67(0.32,1.36) |
| Separated                       | 5          | 11          | 0.38(0.13,1.13) |
| Educational status              |            |             |             |
| Unable to read & write          | 28         | 87          | 1           |
| Able to read & write            | 32         | 84          | 1.18(0.66,2.13) |
| Primary education               | 86         | 53          | 5.04(2.92,8.70) |
| Secondary & above               | 87         | 31          | 8.72(4.83,15.75) |
| Number of years worked as FSW   |            |             |             |
| < 1 year                        | 23         | 22          | 1.32(0.68,2.57) |
| 1                               | 41         | 31          | 1.67(0.95,2.94) |
| 2                               | 55         | 75          | 0.93(0.58,1.49) |
| 3                               | 46         | 41          | 1.42(0.84,2.41) |
| >=4                             | 68         | 86          | 1           |
| Monthly income (ETB)            |            |             |             |
| <= 1500                         | 49         | 91          | 1           |
| 1501-2500                       | 53         | 57          | 1.73(1.04,2.88) |
| 2501-4000                       | 66         | 61          | 2.01(1.23,3.29) |
| >=4001                          | 65         | 46          | 2.62(1.57,4.38) |
| HIV & STI transmission & prevention method knowledge computed variable | | | |
| Yes                             | 127        | 56          | 4.26(2.87,6.30) |
| No                              | 106        | 199         | 1           |
| Knowledge of three major sign & symptom of STI | | | |
| Yes                             | 114        | 119         | 3.40(2.30,5.04) |
| No                              | 56         | 199         | 1           |
| Awareness STI will increase HIV infection rate | | | |
| Yes                             | 205        | 136         | 6.41(4.02,10.20) |
| No                              | 28         | 119         | 1           |
| Perceiving at risk of getting HIV | | | |
| Yes                             | 72         | 141         | 1           |
| No                              | 161        | 114         | 2.77(1.91, 4.01) |
| Tested HIV in the last 12 months | | | |
| Yes                             | 219        | 162         | 8.98(4.94,16.32) |
| No                              | 14         | 93          | 1           |
| Number of sex partners per month | | | |
| <=13                            | 148        | 99          | 2.74(1.90,3.96) |
| >13                             | 85         | 156         | 1           |
| Experienced Violence            |            |             |             |
| Yes                             | 75         | 112         | 1           |
| No                              | 158        | 143         | 1.65(1.14,2.39) |