HARAMAYA UNIVERSITY

DIRECTOR OF POST GRADUATE PROGRAMS

Magnitude of Pregnancy and Associated Factors among Female Sex Workers in Dire Dawa City, Eastern Ethiopia

A Thesis Submitted to the School of Public Health,

School of Graduate Studies

In Partial Fulfillment of the Requirements for the Degree of
MASTERS IN REPRODUCTIVE HEALTH

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I hereby certify that I have read and evaluated this thesis entitled magnitude of pregnancy and associated factors among female sex workers in Diredawa city, Eastern Ethiopia, prepared under my guidance by Abel Kassahun. I recommend it to be submitted as fulfilling the thesis requirement.

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As a member of the board of examiners of MPH thesis open defense examination, I certify that I have read and evaluated the thesis prepared by Abel Kassahun and examined the candidate. I recommend that the thesis be accepted as fulfilling the thesis requirement for the degree of Master of Public Health in Reproductive Health.

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By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical and technical principles of scholarship in the preparation, data collection, data analysis and compilation of this thesis. Any scholarly matter that is included in the thesis has been given recognition through citation.

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BIOGRAPHICAL SKETCH

My name is Abel Kassahun. I was born in North Shewa Zone, Ensaro Woreda in 1992. I have completed my elementary education at Lij Siyoum G/hiwot primary school from 1999-2006 and secondary and preparatory education at Muketuri high school and preparatory school from 2007-2010. In 2011, I have joined Ambo University and graduated in 2014 with Bachelor of Science in public health officer. Then, I have employed in Somali region and work for the last five years. In 2017, I have joined Haramaya University for postgraduate program in public health Reproductive Health.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AOR	Adjusted Odd Ratio
CHANGE	Center for Health and Gender Equity
CI	Confidence Interval
COR	Crude Odd Ratio
CSA	Central Statistical Agency
ECO	Emergency Contraceptive
FGAE	Family Guidance Association of Ethiopia
FSWs	Female Sex Workers
HIV	Human Immune Virus
HU-IRERC	Haramaya University Institutional Research Ethics Review Committee
IUCD	Intra-Uterine Contraceptive Device
NGOs	Non-Governmental Organizations
NRR	Non-Response Rate
PI	Principal Investigator
PP	Paying Partner
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health Right
STIs	Sexually Transmitted Infections
TOP	Termination of Pregnancy
UN	United Nation

ABSTRACT

Background: Pregnancy and its related complications are an important public health issue in both developed and developing countries with more pronounced risks in particular populations like female sex workers. Research and programs for female sex workers tend to focus exclusively on human immune deficiency virus prevention, with little attention paid on how pregnancy affects their lives. Despite the need for information, no study is available on the level of pregnancy among female sex workers in the study area.

Objective: To assess the magnitude of pregnancy and associated factors among female sex workers in Diredawa city, Eastern Ethiopia, from June 15-August 10, 2019.

Methods: - A community based cross-sectional study design was used. Snowball sampling technique was used to recruit 409 female sex workers. Data were collected through face to face interview by using semi-structured questionnaire. Data were entered and stored in Epi data version 3.1 and analaysed using statistical package for social sciences version 21 software. Descriptive statistics were used to estimate the magnitude of pregnancy. Bivairiate and multivariate logistic regression was used to assess the factors associated with pregnancy. In multivariate analyses p-value less than 0.05 considered as statistically significant.

Results: - A total of 182 (47.5%) [95 % CI=42.6 %, 52.5%] of the respondents had experienced at least one pregnancy after they start sex work. Pregnancy experience was positively associated with having emotional partner [AOR = 2.4, 95 % CI; 1.48, 3.95]; longer duration of sex work (5-8 years) [AOR=2.8, 95% CI; 1.2, 6.51] and (>=8years) [AOR= 7.1, 95% CI; 2.32, 21.9]; Substance use [AOR = 2.0; 95 % CI=1.12, 3.56] and sexual violence [AOR=2.23; 95% 1.4, 3.37].

Conclusion: -Pregnancy is found to be a common experience of female sex workers and most pregnancies are unintended. Factors like having emotional partner, substance use, and sexual violence were positively associated with pregnancy. Continuous counseling on negative consequences of substance use, safe sex practice including correct/consistent use of condoms with both paying and non paying partners is important to reduce the burden of pregnancy including the unintended ones.

Keywords: - pregnancy, Female sex workers, Magnitude, Ethiopia.

1. INTRODUCTION

1.1. Background

Unintended Pregnancy is any pregnancy that is either mistimed (i.e. occurred earlier than desired) or unwanted (pregnancy occurring when no children or no more children is desired) at the time of conception (Santelli *et al.*, 2003). It is an important public health issue in both developed and developing countries because of its negative social and health outcomes for both mothers & children. Although several international declarations were passed to address the problem, many women in sub-Saharan Africa are still suffering from unwanted pregnancies and its resultant unsafe abortion (UN, 2009). The problem is more pronounced in a particular subgroup of populations like female sex workers (FSWs). Unlike women in the general population, many FSWs are prone to maternal morbidity and mortality, especially HIV-related mortality and complications and death from unsafe abortions resulted from unintended pregnancy (Willis *et al.*, 2016).

Female sex workers in sub-Saharan Africa are most likely having the highest risk of maternal morbidity and mortality because of their high rates of HIV prevalence, unintended pregnancies, and abortions, along with the region's high maternal mortality (Baral *et al.*, 2012; Schwartz *et al.*, 2015). The desire for children and support for safer conception and a healthy pregnancy are often overlooked aspects of these populations' reproductive health. Particularly in countries where sex work is criminalized, women who are engaged in commercial sex are vulnerable to police harassment, violence, and human rights abuses. These factors often impede their access to high-quality family planning services and compromise their ability to practice safer sex and protect themselves from unintended pregnancy (CHANGE, 2016).

Unintended pregnancy is common and is a major public health problem among female sex workers with high rate of risky sexual behavior. Due to their involvement in frequent sex acts and a high number of sexual partners, women who trade sex for money, goods or services are highly vulnerable to both STIs and unintended pregnancy than general-population women (Scorgie *et al.*, 2012; Yam *et al.*, 2013). Thus the burden of unintended pregnancy is a high priority issue for many FSWs (Khana *et al.*, 2009; Luchters *et al.*, 2016) and for whom pregnancy may increase financial dependence on sex work and add to already high levels of

stigmatization. In a context where sex work is highly stigmatized, generating an income may be difficult, as clients offended by pregnancy (Luchters *et al.*, 2016).

Unmet need for family planning contributes to high burden of unintended pregnancy and poor reproductive health outcomes, including risk of maternal morbidity and mortality (Khana *et al.*, 2009; Petruney *et al.*, 2012). In many countries particularly in sub-Saharan Africa, few FSWs use long-acting reversible contraceptives (intrauterine devices and implants), and methods such as injections, condoms, and pills are used inconsistently or incorrectly, rendering them less effective (Schwartz *et al.*, 2015; Luchters *et al.*, 2016). Most FSWs relied on condom alone as a method of pregnancy prevention and gains have been made on condom use with paying clients (Yam *et al.*, 2016). However, the rates of condom and other contraceptive use are consistently lower with emotional (non-paying) partners (Rishan *et al.*, 2015 ; Willis *et al.*, 2016).

Unintended pregnancy affects a large number of FSWs in low-income and middle-income countries (LMICs) and can have significant impacts on maternal and child health (Ampt *et al.*, 2018). It causes many FSWs to undergo unsafe abortion, particularly in countries where abortion is legally restricted or otherwise inaccessible like Ethiopia(CHANGE, 2016). In such places where abortion is legally restricted, FSW opts to use self-induced and unregulated termination of pregnancy, despite their knowledge of the associated psychological and physical damages (Luchters *et al.*, 2016). As a result, many face serious complications associated with unsafe abortion that ranges from substantial loss of blood and/or hemorrhage to prolonged pain and illness, immobility and infertility (Schwartz *et al.*, 2015). Therefore, enabling female sex workers to achieve their reproductive intentions offers far-reaching health benefits. Reducing unintended and high-risk pregnancies contributes to optimal birth spacing and reduces maternal and newborn mortality (Ippoliti *et al.*, 2017).

1.2. Statement of the problem

Female sex workers face a wide range of social, economic, and political barriers to health care. As compared to the general population, these populations are disproportionately affected by violence, particularly sexual violence from sex-seeking clients, nonpaying partners, and police (Ippoliti *et al.,* 2017). They often experience stigma and discrimination in health care settings, and punitive laws restrict their ability to advocate for their health and human rights including their reproductive rights and fertility intentions. Factors at multiple levels, including structural environments and interpersonal dynamics, potentiate this elevated risk among FSWs (Baral *et al.*, 2012; Shannon *et al.*, 2015).

Pregnancy among FSWs has been reported to be high in various settings, given the nature of their work. In sub-Saharan Africa pregnancy experience among FSWs ranges from 25.8 % in Kenya to 84.1% in Zambia and most of these pregnancies are unintended which ends up with abortion (Luchters *et al.*, 2016; Chandaa *et al.*, 2017). Establishment of an organized family planning program has been the central rationale for the prevention of unintended pregnancy. By increasing access to contraception unplanned pregnancy could reduce, which could, in turn, lead to reduced maternal mortality and improved birth outcomes (Chandaa *et al.*, 2017). However, FSWs have a large unmet need for family planning than the general population that allows them to be protected from STI/HIV, unintended pregnancy and the related complications (Petruney *et al.*, 2012; Shannon *et al.*, 2015).

For example, in Madagascar, 30% of female sex workers had an unmet need for contraception. Although they reported that pregnancy prevention was very important to them, they used no contraceptive method at the last sex act. This Unmet need translates to a woman's inability to control her reproductive intentions and, to excess morbidity and mortality resulting from complications during pregnancy or delivery and unsafe abortion (Khana *et al.*, 2009).

Different factors can prone FSWs for pregnancy. It can result from non-use of contraceptives that stems from lack of knowledge, incorrect use or method failure, and sexual violence (rape). Condoms breakage/slippage, miss information about contraceptives and inconsistency (pronounced in FSW having emotional partner) contributes a lot for method failure and incorrect use (Rishan *et al.*, 2015 ; Luchters *et al.*,2016; Yam *et al.*, 2017). Besides, the low level of

economic conditions faced by these populations often force them to engage in risky sexual behavior that places their reproductive health and intentions in jeopardy (Ippoliti *et al.*, 2017).

Pregnancy can cause serious consequences particularly the unintended ones and can impose appreciable burdens on children, women, families, and their societies. Women who have unintended pregnancy are more likely to delay antenatal care or have fewer visits, maternal morbidity and mortality as well as have few educational and development opportunities. Unintended children are more likely to have low birth weight, premature birth, infant morbidity and mortality, poor mental wellbeing, poor utilization of antenatal and postnatal care, acute respiratory infection and diarrhea and less likely to receive vaccinations, breastfeeding, and poor nutritional status. They also had limited educational/economic prospects and discrimination at school. Moreover, these unintended births contribute significantly to unwanted population growth, which consequently compromises the provision of adequate social services. Additionally, many daughters of these sex workers are trafficked while other children are stolen and sold (Santelli *et al.*, 2003; Willis *et al.*, 2016).

Nevertheless, efforts to address the problem amongst this subpopulation have been limited. The global response to the health of FSWs has focused principally on HIV with emphasis is given for HIV testing and condom promotion. Despite its need, there is a paucity of information concerning the level of pregnancy among FSWs in developing countries. In Ethiopia little is known about the extent of pregnancy among FSWs, but it seems to be a very widespread problem. A recent study of FSWs in Ethiopia carried out in 2015 found that 33.2 % of FSW had been experienced at least one pregnancy of which 28.6% of them are unintended (Rishan *et al.*, 2015). On the other hand, there is no data concerning level of pregnancy among FSWs in the study area. Therefore, this study was aimed to assess the magnitude of pregnancy and associated factors among FSWs after starting sex worker in Diredawa city, eastern Ethiopia.

1.3. Significance of the Study

Female sex workers face significant health burden associated with pregnancies, especially those unintended pregnancies that end in abortions and carried out in unsafe conditions. Developing a more complete understanding of pregnancy experience of these populations will advance efforts to improve the health of FSWs. The findings from this study will have an important public health implication for Diredawa health bureau, stakeholders and local non-governmental organizations (NGOs) for programming of sexual and other reproductive health services and to take preventive measures on the identified constraints. On top of these, no available data is found concerning the level of pregnancy among these populations in the survey area, this study can serve as springboard for those who are interested to extend it for further investigation in depth.

1.4. Objectives

1.4.1. General Objective

- The general objective of this study was to assess the magnitude of pregnancy and associated factors among female sex workers in Diredawa city, eastern Ethiopia from June 15, 2019, to August 10, 2019.

1.4.2. Specific Objectives

- To estimate the magnitude of pregnancy among female sex workers.
- To assess factors associated with pregnancy among female sex workers.

2. LITERATURE REVIEW

2.1. Magnitude of Pregnancy among Female Sex Workers

Studies indicate that unmet need for family planning and pregnancy are common experiences of female sex workers and it varies across countries. Regional data from Asia reveal that FSWs have a higher average unmet need for family planning compared to the general population and are prone to unwanted pregnancy (Petruney *et al.*, 2012). A cross-sectional study of FSW in Afghanistan found that 83.3 % of them had become pregnant at least once, of which 36.3 % are unintended and 32 .3 % are terminated (Todd *et al.*, 2010).

Similar trends are observed in Africa. A study of female sex workers in Madagascar reported that pregnancy and induced abortion are common. Around 52 % of FSWs had experienced pregnancy and of all women, 45% of them reported at least one prior induced abortion (Khana *et al.*, 2009). In Zambia it is reported that 84.1% FSWs had been pregnant at least once, and among those 61.6% had an unplanned pregnancy and 47.7% had been terminated (Chandaa *et al.*, 2017). A similar study conducted in Côte d'Ivoire also showed that 86.6% of FSWs had ever previous pregenancy experience and nearly 70 percent of them ever had experienced an unplanned pregnancy (Schwartz *et al.*, 2015). In Swaziland, 78 % FSW had ever been pregnant once and nearly half (49%) had an unplanned pregnancy of which 12 % had an abortion (Yam *et al.*, 2013). A study aimed to examine the correlates of unintended pregnancies among female sex workers in northern Uganda shows that 43.8% of FSWs had reported at least one pregnancy experience (Duff *et al.*, 2017). A similar study of female sex workers conducted in Kenya Mombasa found that 25.8 % of FSWs reported ever having experienced pregnancy (Luchters *et al.*, 2016).

Similar to other African countries data suggest that pregnancy following unprotected sex is common among Ethiopian female sex workers. One recent study that examined family planning needs among FSWs in Ethiopia took place in Mekelle city found that 33.2 % of women had experienced at least one pregnancy of them 29 percent of the pregnany are unintended (Rishan *et al.*, 2015).

2.2. Factor Associated with Pregnancy among Female Sex Workers

2.2.1. Socio-Demographic Factors

Age

Few studies suggest the positive association between age of FSWs and pregnancy intention so that pregnancies happening in the youngest age group are likely to be unintended. This is indicated in a study conducted in Kenya, in which FSWs in the youngest age group (< 24 years) are three times more likely to experience pregnancy than women in the oldest group (30 years and older) (Luchters *et al.*, 2016). Similarly, a study from Cambodia also corroborates the above idea in which younger age is independently associated with pregnancy among FSWs (Duff *et al.*, 2018). Another study conducted in the Caribbean shows that older aged FSWs are protected against unintended pregnancy by 10 % (Deschamps *et al.*, 2016).

Having Emotional Partner

Relationship intimacy between FSWs and their sexual partners is an important determinant of pregnancy intention among them. As suggested by a study conducted in Swaziland FSWs who have noncommercial and often more intimate partners are less likely than others to be protected against STIs and pregnancy (Yam *et al.*, 2013). A cross-sectional study conducted in Mekelle city, northern Ethiopia suggests that FSW with emotional partner are three times more likely to experience pregnancy than those FSW without emotional partner (Rishan *et al.*, 2015). Moreover, a study of FSW conducted in Kenya also indicates that having an emotional partner doubles odds of pregnancy than there counter parts (Luchters *et al.*, 2016). Similarly, one study conducted in the Caribbean's also shows that having an emotional partner increases the likelihood of pregnancy (Deschamps *et al.*, 2016).

Income

Some studies documented the positive association between higher income and the likelihoods of pregnancy among FSWs. For example, one study conducted among Kenyan FSWs found that FSWs earning higher weekly income from sex work had two times more likely to experience pregnancy than their counterparts (Luchters *et al.*, 2016). On the other hand, a study finding from Cambodia contradicts the above statements, in which lower-income is independently associated with pregnancy (Duff *et al.*, 2018).

2.2.2. **Individual Factors**

Alcohol or Substance Use

A study from Afghanistan reported that alcohol or any substance use by FSWs increases the risk of pregnancy by two-fold (Todd *et al.,* 2010). A similar association is documented across many settings in sub-Saharan Africa. For example, a study conducted in Uganda shows that having used alcohol/drugs is positively associated with pregnancy (Duff *et al.,* 2017). In Ethiopia, FSWs who are drug users had three times more likely to have pregnancy than those who didn't use (Rishan *et al.,* 2015). On the other hand, negative association between substance use and pregnancy experience is found in a study conducted in the Caribbean's. In this study the likelihood of having pregnancy was decreased by 40 % in those FSWs who used recreational substances (Deschamps *et al.,* 2016).

Duration of Sex Work

Some studies indicated that duration of engaging in sex work is a significant predictor of pregnancy. In Cambodia, for example, FSWs working longer duration (>53 months) as a sex worker have more likely to experience pregnancy than those FSWs working for short duration (<24 months) (Yi *et al.,* 2015). On the other hand, one study that contradicts the above idea found that year of practicing prostitution is negatively associated with pregnancy. According to woldegebrel et al, FSWs whose duration of sex work in the interval of 60–96 months are 67% less likely to experience pregnancy than those FSWs with <12 months duration of sex work (Rishan *et al.,* 2015).

2.2.3. **Work-Related Factors**

Condom Availability at Work Place

Structural interventions like increasing condom availability in work places and decriminalizing sex work can improve reproductive health outcomes of FSW. A study of FSWs in Zambia reported that condom availability at workplaces decreases the odds of pregnancy by 37 % (Chandaa *et al.,* 2017). On the other hand, a study conducted in Cambodia shows that odds pregnancy among those FSWs who able to find condom at work place is two times more than their counterparts (Yi *et al.,* 2015).

Sexual violence

A study conducted in China reported that sexual violence is positively associated with more frequent reports of pregnancy particularly unintended ones and less likely to use public health facilities (Zhang *et al.,* 2016). Sexual violence against Ethiopian female sex workers is also common. A study conducted in northern Ethiopia showed that the prevalence of sexual violence among commercial sex workers is high (75.6%) and a significant number of the respondents face violence by forceful sexual intercourse (Gebregizabeher *et al.,* 2015). Qualitative narratives by sex workers in Adama Ethiopia illustrate that some female sex workers had gotten pregnant as a result of rape (Yam *et al.*, 2017).

2.2.4. **Practice of Contraceptive**

Non-Use of Contraceptive

Contraceptive use among sex workers is significantly increasing, however, reports indicate that failure to use contraceptive is the leading causes of unintended pregnancy among sex workers. A study from Kenya suggests that FSW using no contraceptive method are three times more likely to have unintended pregnancy than their counterparts (Luchters *et al.*, 2016). A study of FSWs in Madagascar also suggests that non-uses of contraceptive and self-reported unprotected sex is associated with higher odds of pregnancy (Feldblum *et al.*, 2007). On the other hand, positive association between modern contraceptives use and pregnancy is found in a study conducted in Uganda. In this study FSWs who ever used modern contraception for pregnancy prevention had more likely to have an unintended pregnancy than those who don't (Duff *et al.*, 2017).

Inconsistent Condom Use

FSWs are challenged by side effects of non-barrier contraceptives methods, which interfere with their engagement in sex trade. In this case it is advisable for FSWs to use condoms correctly and consistently for STI/HIV and pregnancy prevention (Luchters *et al.,* 2016). This is proved in a research finding conducted in Cambodian female sex workers which shows higher self-reported consistent condom use reduced the odds of pregnancy by 11 (Duff *et al.,* 2018). However, high but inconsistent condom use was reported among surveyed FSWs in both Asia and Africa. For example, a study conducted in Chinese and Cambodian FSWs found that inconsistent use of condom increased the odds of pregnancy (Zhang *et al.*, 2014; Yi *et al.*, 2015).

2.3. Conceptual Framework

On the bases of the literature review, a set of conceptual framework is formulated about predictors of pregnancy. The conceptual framework is designed to show the influence of independent and intervening variables on the out come variable. The framework consists of three domains of independent variables and one domain of intermediate variables. The independent variables are categorised under socio-demographic factors, individual factors and work-related factors. The intermediate variable is the practice of contraception.

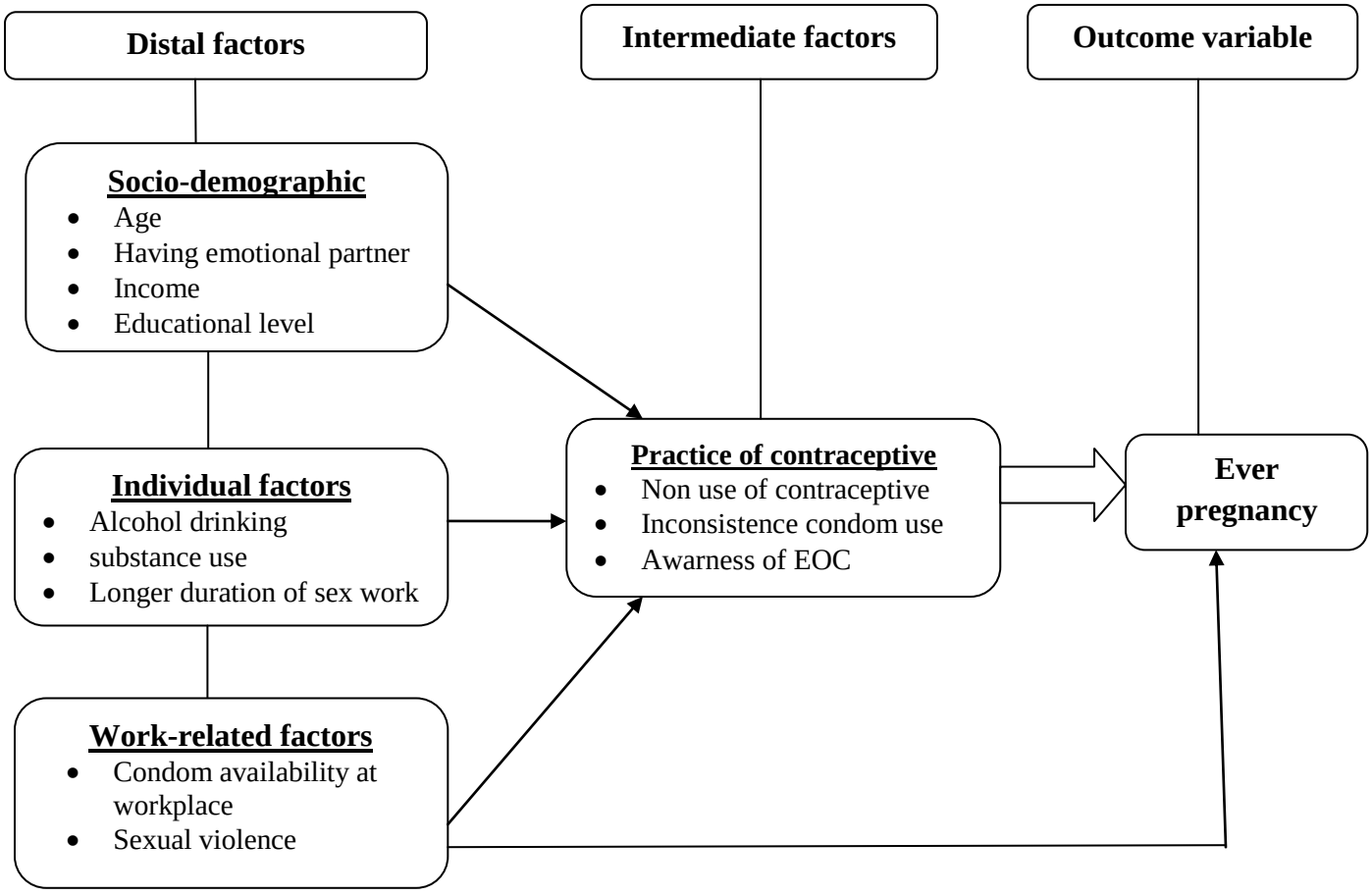

Figure 1: - Schematic presentation of the conceptual framework of the study ***(Source:*** - Adapted from different lirteratures).

3. MATERIALS AND METHODS

3.1. Study Area and Period

The study was conducted in Diredawa city among female sex workers. Diredawa is one of two chartered cities in Ethiopia (the other being the capital, Addis Ababa) which is located in the eastern part of Ethiopia 515 km away from Addis Ababa. Based on the 2007 census conducted by the central statistical agency, Diredawa administration has a total population of 341, 834 of whom171, 461 are men. The population of Dire Dawa city is 233,224, which is subdivided into nine urban kebeles composed of Oromo (33 %), Amhara (29.5%), Somali (23.5 %), Gurage (6.7 %), Tigrayan (1.8 %), Harari (1.6 %), and peoples from southern Ethiopia. In terms of religion Muslim constitutes 57.4 % and orthodox Christians constitute 37.4 % (CSA, 2007). Other than being the second largest city in Ethiopia, Diredawa city is one of the largest and fastest-growing towns in Ethiopia and it is a commercial center for several types of businesses. It has many hotels, bars, nightclubs, and motels. There are approximately 2,500 (1,500 permanent and 1,000 transient) FSWs in Dire Dawa city operating in hotels, bars, breweries, and streets. The Dechatu neighborhood, Dire Dawa's red-light district is where many of these commercial sex workers conduct business (Dereje *et al.*, 2018). There are 2 private and 3 government hospitals and 15 health centers serving the population. There are three family guidance associations of Ethiopia (FGAE) clinics in dire dawa, of which two of them are designed to serve only FSWs. The study was conducted from June 15 to August 10, 2019.

3.2. Study Design

- Community-based cross-sectional method was used.

3.3. Population

3.3.1. Source Population

- All female sex workers found in Diredawa city.

3.3.2. Study Population

- Those female sex workers working in hotels, night clubs, and streets.

3.4. Inclusion Criteria and Exclusion Criteria

3.4.1. Inclusion Criteria

- Women who self reported to have received money or goods in exchange for sex with clients.

3.4.2. Exclusion Criteria

- Age less than 18 years.
- Women who are unable communicate.

3.5. Sample Size Determination

3.5.1. Sample Size for the First Objective

The sample size was calculated using a single population proportion formula, with a 95% confidence interval and a 5% margin of error.

The formula $n = \frac{[Z (\alpha /2)^2 p (1-p)]}{d^2}$ Where;

n = the sample size

Z = the standard normal deviate for the desired confidence interval 1.96 (for 95 % CI)

P = the proportion of pregnancy among FSWs which is 33.2 % (Rishan *et al.*, 2015).

d = the degree of accuracy desired set at 0.05 levels

Therefore, the sample size using the formula above gives $n = \frac{(1.96^2)*0.33(1-0.33)]}{(0.05)^2}*$

n =314; and 10 % non response rate= 31, Thus total sample size = **340**.

3.5.2. Sample Size for the Second Objective

The sample size for the variables is calculated by using Epi info version 7 stat calc. Those variables that show association with the outcome variable are selected from previous literature to calculate the sample size.

Table 1:- The sample sizes calculations for factors associated with pregnancy among FSWs in Diredawa city, Eastern Ethiopia, 2019

Variables	CI (%)	Power	Outcome in…		Sample size with 10% NRR	References
			Exposed	Non Exposed		
Having emotional partner	95	80 %	38.8 %	23.5 %	312*0.1=343	(Rishan *et al.*, 2015)
Inconsistent condom use	95	80%	61 %	42%	236*0.1=250	(Zhang *et al.*, 2014)
Alcohol or substance use	95	80%	75.4 %	24.6 %	271*0.1=298	(Duff *et al.*, 2017)
Age (in year)	95	80%	Age <=24yrs 11.6 %	Age >30 yrs 23.0%	378*0.1=416	(Luchters *et al.*, 2016)

Therefore, the sample size calculated for the variable age is greater than the sample size calculated for the other variables and the first objective. Therfore, the final sample size was **416**.

3.6. Sampling Technique

Since no sampling frame is available regarding the target population in the study area, snowball sampling technique was implemented to recruit subjects. First of all, efforts were made in order to get agents and discussion was made with those agents on how and where to find female sex workers. The agents are FGAE clinic staffs who are giving health service for female sex workers. Thirteen female sex workers who are working in drinking establishments and street were identified through those agents. The principal investigator met each of them for further information in place they would be accessed easily and can ensure privacy to talk. After discussion on the purpose and objective of the study nine of them become voluntary to participate and to invite other FSWs they know to participate in the study. Again, the recruited participants invited other participants they know and come up for an interview and so forth. This recruitment process was continued until the desired sample size is achieved. How ever, the desired sample size is not achieved through this process additional six seeds were identified to invite other FSWs they know to participate in the study. Eligible women who provide oral and

written informed voluntary consent were interviewed through face to face interview in a separate room at FGAE clinics. Each study participants were paid fifty ETB and had gotten free services (like condom provision, HIV counseling, and testing and abortion services) they need from FGAE clinic.

3.7. Data Collection

3.7.1. Data Collectors

Three data collectors were assigned to collect the data. The data collectors were three female diploma nurses. One of the data collectors can read, write and speak Amharic, Oromo and Somali language, and the other two data collectors can read, write and speak Amharic and Oromo language. Two Bsc nurses in conjunction with the principal investigator were assigned to supervise the data collectors on daily bases.

3.7.2. Data Collection tool and procedures

Data were collected through face to face interview by using structured questionnaires with closed-ended questions. The tool was developed based on previous studies and then adapted to the local situation with some modification. The questionnaire includes questions regarding socio-demographics characteristics, individual factors, contraceptive practice and work-related factors. Questions regarding pregnancy experience also included. The tool was first prepared in English and translated to Amharic, Oromo, and Somali languages for data collection, and then back-translated to English for analyses to assure its consistency. The Amharic, Oromo and Somali version was used for collecting the data.

3.8. Variables

3.8.1. Dependent Variable

- Ever pregnancy

3.8.2. Independent Variables

- **Socio-demographic factors**: Age, having emotional partner, Income, educational level
- **Individual factors:** Alcohol, substance use, and duration of sex work
- **Work-related factors:** Condom availability at workplace and sexual violence.
- **Practice of contraceptive**: Contraceptive use, inconsistent condom use and awareness on emergency contraceptive.

3.9. Operational Definitions

Contraceptive use: use of modern contraceptives methods by FSWs like pills, implants, injectables, intrauterine devices, condoms (Chandaa *et al.*, 2017)

Consistent condom use: Is defined as using condom at every sexual intercourse (Rishan *et al.*, 2015).

Emotional partner: Is defined as a person with whom the FSWs have a sexual relationship and an emotional attachment and is not dependent on the exchange of money for sex every time (Luchters *et al.*, 2016).

Sexual violence: Is defined as FSWs physically forced or psychologically intimidated by paying or non- paying sexual partners to undergo unwanted sexual activity without her consent after starting sex work (Zhang *et al.*, 2016).

Pregnancy experience: Is any pregnancy happened among FSWs either intended or unintended after they start sex work.

Unintended pregnancy: Is any pregnancy happened among FSWs who report no intention to become pregnant (either mistimed or unwanted) after starting sex work (Santelli *et al.*, 2003).

3.10. Data quality control

The questionnaire was prepared in English which is adapted from previous similar studies and translated to Amharic, Oromo, and Somali languages by language experts. Before the actual data collection, a pretest was conducted in Harar town by taking 5% of the total sample size on 19 FSWs. The simplicity, flow and consistency of the questionnaire were checked. After pre-test, the reliability of the questionnaire was cheeked cronbach's batch alpha. The data from pretest was not included in the analyses. Furthermore, one-day training was given for data collectors and supervisors by the principal investigator, on the general objective of the study, technique of interview on how to approach and keep confidentiality and privacy of the respondents. The supervisor monitored the activities of each data collection process concurrently with data collectors and checks the filled questionnaires for completeness and its accuracy. The principal investigator has checked the overall activity of the data collectors and supervisor. Besides, to maintain the quality and consistency of the data, double data entry was done by using Epi data version 3.1 software and validation of the entered data was done.

3.11. Method of Data Analysis

The data were coded, entered, and stored on Epi data 3.1 and exported to SPSS version 21 for further analysis. Descriptive statistics were done using frequency, percentage, tables and the magnitude of pregnancy was estimated. Multi co-linearity between covariates was tested by using standard error (>2) and variance inflation factor (VIF>10) and no co linear variable is detected. Bivariate analyses were done to see if there is an association between each of the independent variables and dependent variable. Variables with P-value < 0.25 in the bivariable analysis were entered to multivariable analysis to control the effects of confounding variables and to determine the independent predictors of the outcome variable. Under the chi square test, contraceptive use is found to have 50% of the expected frequencies are less than 5 and it's excluded from the final multivariate analyses model. The odds ratio along with 95% CI was estimated to assess the association and P-value < 0.05 was considered to declare statistically significant association in multivariable analysis.The fitness of the model was tested by using the Hosmer & Lemeshow goodness of fit test (p-value =0.78).

3.12. Ethical Considerations

Ethical clearance was sought from the Institutional Research Ethics Review Committee (IRERC) of Haramaya University College of Health and Medical Sciences. Cooperation letter obtained from Haramaya University College of Health and Medical Science was provided to Diredawa city administrative office. Moreover, all selected participants were communicated about the objective of study before administering questionnaires and written, signed informed voluntary consent (with their respective Amharic, Oromo, and Somal languages) was obtained from each of the eligible participants. Respondents name and identities was not recorded in the questionnaire in any way. Participants were also informed their full right to withdraw or refuse to participate in the study and the data was collected after getting written and signed informed consent from each of the eligible subjects. Data collection was conducted at convenient and separate room at FGAE clinic to keep the privacy of the participants.

4. RESULTS

4.1. Socio-Demographic Characteristics of FSWs

A total of 409 FSWs were approached throughout the study period. Of these, 383 (92%) FSWs met the eligibility criteria and consented to participate. The mean (±SD) age of the respondents were 25.8 (±5.6) years. A slightly more than half 202 (52.7 %) of the respondents had an emotional partner. Majoriy (63.2%) of the respondents had primary school and 163 (42.6 %) respondents had got monthly income of 1500-3000 ETB (**Table 2**).

Table 2:-Socio-demographic characteristics of FSWs in Diredawa city, Eastern Ethiopia, 2019 (n=383).

Characteristics	Category	Frequency(n)	Percent (%)
Age in years	18-24	179	46.7%
	25-29	116	30.3%
	>=30	88	23.0%
Emotional partner	Yes	202	52.7%
	No	181	47.3%
Educational level	No school	91	23.8%
	Primary school	242	63.2%
	High school & above	50	13.1%
Monthly income (Birr)	<=1500	69	18.0%
	1501-3000	163	42.6%
	3001-4500	76	19.8%
	>=4501	75	19.6%

4.2. Individual and Work-related characteristics of FSWs

More than one third (145/ 37.9%) of the respondents had worked for less than 2 years as a sex worker. Majority (69.2 %) and around half (51.2 %) of FSWs used recreational substances and drinks alcohol daily during their career as a sex worker respectively. Three hundred twenty nine (85.1 %) FSWs responded that condom is available at workplace and 153 (39.9 %) respondents had experienced sexual violence during their career as a sex worker **(Table 3).**

Table 3:-Individual & work-related characteristics of FSWs in Diredawa city, Eastern Ethiopia, 2019 (n=383)

Characteristics	Category	Frequency(n)	Percent (%)
Duration of sex work (in month)	<=24	145	37.9%
	24-48	115	30.0%
	>=48	123	32.1%
Did you used recreational substances	Yes	265	69.2%
	No	118	30.8%
Which substances you are using	Khat only	151	57.0%
	Cigarette only	11	4.2%
	Shisha only	2	0.8%
	Khat with other substances (cigarette, shisha)	101	38.1%
Did you drink alcohol	Yes	196	51.2%
	No	187	48.8%
Condom availability at workplace	Yes	329	85.9%
	No	54	14.1%
Sexual violence	Yes	153	39.9%
	No	230	60.1%
By whom you were abused	Emotional partner	36	23.5%
	By clients	117	76.5%

4.3. Contraceptive Practice and reproductive characteristics of FSWs

Almost all (98.4 %) of the respondents are currently using modern contraceptive methods, of those 291(77.2%) are using dual methods (condom with other hormonal methods) (**Fig. 2**). One hundred seventy-eight (88.6 %) and 55(14.4%) respondents did not used condoms consistently with their emotional partner and paying partner respectively (**Table 4**).

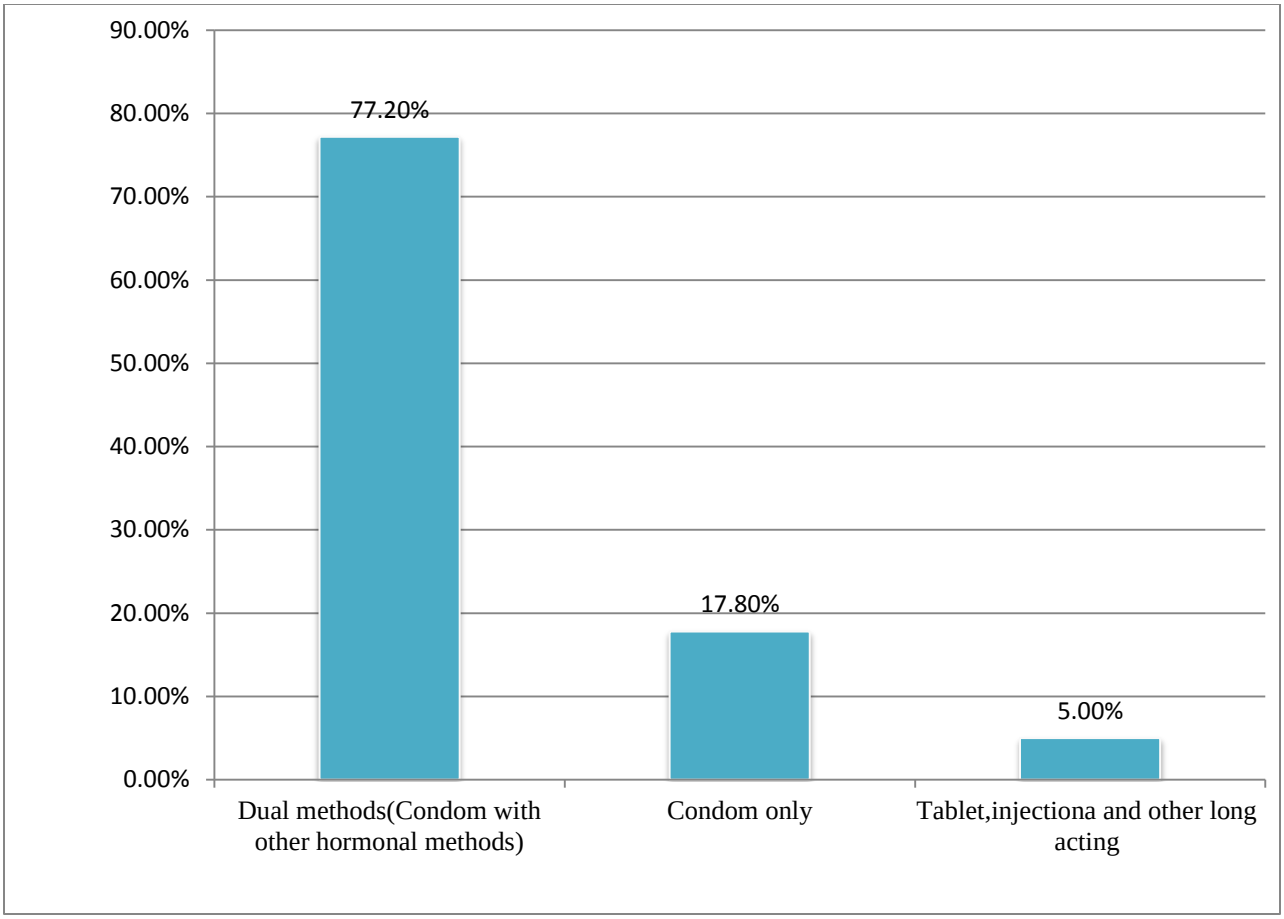

Figure 2:- Type of contraceptive methods used by FSWs in Diredawa City, Eastern Ethiopia, 2019 (N=383)

It appears that the level of awareness of emergency contraceptive is varying among the study participants. Around half (50.9%) of the respondents know/heard about emergency contraceptive before. Of these, 93(47.7 %) had used it before and 156(80%) of them responded that emergency contraceptive should be taken within 120 hrs (5 days) of unprotected sexual intercourse to prevent unintended pregnancy. Currently 167(43.6%) FSWs had a child, of those 48.5 of them had at least one child (**Table 4).**

Table 4:- Contrceptive practice and Reproductive characteristics of FSWs in Diredawa City, Eastern Ethiopia 2019 (n=383).

Characteristics	Category	Frequency(n)	Percent (%)
Modern Contraceptive use	Yes	377	98.4%
	No	6	1.6%
Consistent condom use with emotional partner	Yes	23	11.4%
	No	178	88.6%
Consistent condom use with paying partner	Yes	328	85.6%
	No	55	14.4%
Did you know /hear about emergency contraceptive	Yes	195	50.9%
	No	188	49.1%
Have you used it before	Yes	93	47.7%
	No	102	52.3%
When someone should take emergency contraceptive to prevent unintended pregnancy	Before five days of unprotected sex	156	80.0%
	Even after 5 days of unprotected sex	39	20.0%
Do you have a child	Yes	167	43.6%
	No	216	56.4%
Number of child	1	81	48.5%
	>=2	86	51.5%
Have you experienced pregnancy while you are a sex worker	Yes	182	47.5%
	No	201	52.5%

4.4. Magnitude of Pregnancy among FSWs

A total of 182 (47.5%) [95 % CI=42.6 %, 52.5%] FSWs had experienced at least one pregnancy after they start sex work and 139(76.4%) of them are unintended one. Out of the total unintended pregnancies, 95(68.3%) (Considering the outcome of the last unintended pregnancy) of them end up with abortion. Ninty five (68.3%) FSWs had experienced one unintended pregnancy after initiating sex work and 112(80.6%) of the pregnancies are unwanted. Currently 29 (7.6 %) of FSWs reported that they are pregnant of those, 12(41.4 %) are unintended one (**Table 5**).

Table 5: Magnitude of pregnancy among FSWs in Diredawa city, Eastern Ethiopia, 2019 (n=383)

Characteristics	Category	Frequency(n)	Percent (%)
Ever pregnancy experience after starting sex work	Yes	182	47.5%
	No	201	52.5%
Type of pregnancy	Intended	43	23.6%
	Unintended	139	76.4%
Number of unintended pregnancy	1	97	69.8%
	>=2	42	30.2%
Type of unintended pregnancy	Mistimed	112	80.6%
	Unwanted	20	14.4%
	Both	7	5.0%
Outcome of unintended pregnancy (considering the last unintended pregnancy)	Live birth	32	23%
	Abortion	95	68.3%
	Currently pregnant	12	8.7%
Are you currently pregnant	Yes	29	7.6%
	No	354	92.4%
Is the current pregnancy intended or unintended	Intended	17	58.6%
	Unintended	12	41.4%

4.5. Factors Associated with Pregnancy among FSWs

In the bivariate analyses age, having emotional partner, substance use, longer duration of sex work, condom availability, inconsistent condom use with paying partner, sexual violence and were significantly associated with pregnancy (p-value < 0.05). Those variables having p-value <0.25 in the bivariate analyses were included in the final model of multivariate analyses to assess the predictors of pregnancy (**Table 6**).

Table 6: Factor included in the bivariate analyses among FSWs in Diredawa city, Eastern Ethiopia, 2019 (n=383)

Characteristics	Category	Ever pregnancy		COR (95% CI)	P value
		Yes	No		
Age in (year)	18-22	68(38.0%)	11(62.0%)	0.27(0.16, 0.47)	0.00
	23-27	53(45.7%)	63(54.3%)	0.37(0.21, 0.67)	0.00
	>=28	61(59.3%)	27(30.7%)	1	1
Emotional partner	Yes	108(59.3%)	94(40.7%)	1.6(1.11, 2.49)	0.014
	No	74(40.9%)	107(59.1%)	1	1
Educational level	No school	56 (61.5%)	35(38.5%)	1.73(0.86, 3.48)	0.122
	Grade 1-8	102(42.1%)	140(57.9%)	0.78(0.43, 1.45)	0.448
	High school & above	24(48.0%))	26(52.0%)	1	1
Monthly income	<1500	32(46.4%))	37(53.6%))	1	1
	15001-3000	73(44.8%)	90(55.2%)	0.94(0.53, 1.65)	0.82
	3001-4500	39(51.3%)	37(48.7%)	1.22(0.63, 2.34)	0.55
	>=4501	38(50.7%)	37(49.3%)	1.19(0.62, 2.29)	0.61
Duration of sex work (in month)	<12	24(34.3%)	46(65.7%)	1	1
	12-24	22(29.3%)	53(70.7%)	0.79(0.39, 1.6)	0.52
	24-59	50(43.5%)	65(56.5%)	1.47(0.8, 2.73)	0.22
	60-96	51(63.8%)	29(36.3%)	3.37(1.72, 6.6)	0.00
	>=96	35(81.4%)	8(18.6%)	8.4(3.39, 20.89)	0.00
Substance use	Yes	148(55.8%)	117(44.2%)	3.12(1.96, 4.98)	0.00
	No	34(28.8%)	84(71.4%)	1	1
Alcohol drinking	Yes	101 (51.5%)	95(48.5%)	1.39(0.93, 2.08)	0.11
	No	81(43.3%)	106(56.7%)	1	1
Sexual violence	Yes	93(60.8%)	60 (39.2%)	2.46(1.62, 3.73)	0.00
	No	89(38.7%)	141 (61.3%)	1	1
Condom availability	Yes	150(45.6%)	179(54.4%)	0.58(0.32, 1.03)	0.06
	No	32(59.3%)	22(40.7%)	1	1

Table 7:- continued.

Consistent condom use with PP	Yes	143(43.6%)	185(56.4%)	1	1
	No	39 (70.9%)	16(29.1%)	3.15(1.69, 5.87)	0.00
Awareness of ECO	Yes	93 (47.7%)	102(52.3%)	1	1
	No	89(47.3%)	99(52.7%)	0.99(0.66, 1.47)	0.95

COR=Crude Odd Ratio, **ECO**=Emergency Contraceptive, **PP**= Paying Partner

In multivariate analyses having emotional partner, longer duration of sex work, substance use and sexual violence were significantly associated with pregnancy (p-value < 0.05). FSWs who had emotional partner are 2.4 times [AOR = 2.4, 95 % CI; 1.48, 3.95] more likely to have pregnancy than their counterparts. As compared to FSWs working for less than 12 months as a sex worker, those FSWs who works for (60-96 month) and (>96 month) are 2.8[AOR=2.8, 95% CI; 1.2, 6.51] and 7.1 times [AOR= 7.1, 95% CI; 2.32, 21.9] more likely to experience pregnancy respectively. FSWs who use substances are 2 times [AOR = 2.0; 95 % CI= 1.12, 3.56] more likely to have pregnancy than those FSWs who didn't use. The likelihood of pregnancy among FSWs who experienced sexual violence is increased by 2.2 times [AOR=2.23; 95% 1.4, 3.37] than those FSWs who did not experienced sexual violence **(Table 7**).

Table 7:- Factors associated with pregnancy among FSWs in Diredawa city, Eastern Ethiopia, 2019 (n=383)

Characteristics	Category	Ever pregnancy		COR (95% CI)	AOR(95 %CI)
		Yes	No		
Age	18-22	68	11	0.27(0.16, 0.47)	0.72(0.33, 1.54)
	23-27	53	63	0.37(0.21, 0.67)	0.61(0.29, 1.26)
	>=28	61	27	1	1
Emotional partner	Yes	108	94	1.6(1.11, 2.49)	2.4(1.48, 3.95) **
	No	74	107	1	1
Educational level	No school	56	35	1.73(0.86, 3.48)	1.35(0.61, 3.02)
	Grade 1-8	102	140	0.78(0.43, 1.45)	0.74(0.37, 1.49)
	Grade 9 & above	24	26	1	1
Duration of sex work (in month)	<=12	24	46	1	1
	12-24	22	53	0.79(0.39, 1.6)	0.91(0.42, 1.94)
	24-59	50	65	1.47(0.8, 2.73)	1.6(0.79, 3.27)
	60-96	51	29	3.37(1.72, 6.6)	2.8(1.2, 6.51) *
	>=96	35	8	8.4(3.39, 20.89)	7.1(2.32, 21.9)* *
Substance use	Yes	148	117	3.12(1.96, 4.98)	2.0(1.12, 3.56)*
	No	34	84	1	1
Alcohol drinking	Yes	101	95	1.39(0.93, 2.08)	0.76(0.44, 1.29)
	No	81	106	1	1
Condom availability	Yes	150	179	0.58(0.32, 1.03)	0.54(0.27,1.08)
	No	32	22	1	1
Consistent condom use with PP	Yes	143	185	1	1
	No	39	16	3.15(1.69, 5.87)	2.43(0.19, 4.9)
Sexually violence	Yes	93	60	2.46(1.62, 3.73)	2.23(1.4, 3.7)**
	No	89	141	1	1

* = **P- value** < 0.05, ** = **P- value** <0.01, **COR**=Crude Odd Ratio, **AOR**= Adjusted Odd Ratio, **CI**=Confidence Interval; **PP**=Paying Partner

5. DISCUSSION

This study found that 47.5 % of the respondents had ever been pregnant after they start sex work. Factors like having emotional partner, longer duration of sex work, substance use and ever experienced sexual violence were significantly associated with pregnancy.

The magnitude of pregnancy experience of FSWs in this study is found to be consistent with previous study of FSWs conducted in in Uganda (43.8%) (Duff *et al.*, 2017) and in Madagascar (52%) (Khana *et al.*, 2009). However, the magnitude of pregnancy experience of FSWs in this study is found to be higher than the study of FSWs conducted in Mekelle city eastern Ethiopia (33.2 %) (Rishan *et al.*, 2015) and Kenya Mombasa (25.8%) (Luchters *et al.*, 2016). This discrepancy might be due to the differences in methodology and the time frame in which the study is conducted.

The level of pregnancy among FSWs in this study is lower than a study conducted in Afghanistan (82.3 %) (Todd *et al.*, 2010), Zambia (84.1%) (Chandaa *et al.*, 2017), Swaziland (78 %) (Yam *et al.*, 2013) and Cote d'Ivoire (88.6%) (Schwartz *et al.*, 2015). This could be explained because of the efforts of confidential FGAE clinics in the study area might have contributed better coverage of health education and contraceptive utilization among FSWs.

This study found that having an emotional partner increases the likelihood of having pregnancy by two-fold. This finding is in line with studies done in Mekelle city eastern Ethiopia (Rishan *et al.*, 2015), Kenya Mombasa (Luchters *et al.*, 2016) and in Caribbean's (Deschamps *et al.*, 2016). As suggested in other settings FSWs who have noncommercial and often more intimate partners are less likely than others to be protected against STIs and pregnancy (Yam *et al.*, 2013). As a sign of love and trust, most female sex workers didn't use condoms consistently with their emotional partner than paying partners. Additionally, for FSWs being pregnant while in an emotional relationship allowed them to receive the financial support they needed during pregnancy. Some saw this as an opportunity to evolve their relationship into marriage (Luchters *et al.*, 2016). Likewise, 88.6 % of FSWs in this study are not using condoms consistently with their emotional partner. In contrast, in their sexual relations with paying partners, the use of condoms is much more common.

Ever pregnancy experience retained its significant association with longer duration of sex work. Those FSWs worked for more than five years as a sex worker are more likely to experience pregnancy as compared to FSWs who worked for less than one year. This finding contradicts the study conducted in Mekelle city northern Ethiopia which showed that FSWs whose duration of sex work in the interval of 60–96 months were 67% less likely to experience pregnancy than those FSWs who works for less than one year duration (Rishan *et al.*, 2015). The relationship of time in sex work and pregnancy experience of FSWs may suggest an increase of pregnancies with duration of risk exposure (Bautistaa *et al.*, 2008). As noted in other settings sex workers who have worked for many years receive few clients and to keep the clients FSW often accept sex without condom. Relatively newcomers often prefer to use condom during sex due to fear of consequences such as STI and unintended pregnancy (Tran *et al.*, 2006). It is also noted that FSWs recommended by the owner of the hotel to use condoms to avoid contracting STIs as well as to keep the entertainment venues reputation. Especially, when FSWs are introduced to sex work, the bar owners counsel and encourage condom use, that thinking FSWs worked longer does not need the same attention (Phrasisombath *et al.*, 2013).

Substances use is found to increase the likelihood of having pregnancy by more than two fold as compared to their counterparts. Accordingly, this finding is consistent with a study conducted in Mekelle city (Rishan *et al.*, 2015), Uganda (Duff *et al.*, 2017) , and Afghanistan (Todd *et al.*, 2010). In contrast to this findings, a study conducted in the carrebean's reported that substance user FSWs are 40 % less likely to have pregnancy than their counterparts (Deschamps *et al.*, 2016). The effect of substance use on pregnancy could be explained by female sex workers may undergo risky sexual behavior under the influence of those substances and finally end up with making an activity without their control (accepting more money for unprotected sex). Substance use could also reduce the ability to negotiate and correct or consistent use of contraception, particularly condoms or other coitally dependent methods which further predispose FSWs for unintended pregnancy (Zhanga *et al.*, 2012; Urada *et al.*, 2012). For example, a study finding in Chinese FSWs found that, inconsistent condom use with any male partner was reported by 57% of participants who drink alcohol, however, when illicit drug use is included in the analysis, the rate of inconsistent condom use was sharply raised for approximately two-thirds of the women (Zhang X-D *et al.*, 2016).

In this study sexual violence is found to increase the odds of pregnancy by more than three-fold. This finding is in line with the study conducted in China which shows that sexual violence is associated with more frequent reports of pregnancy experience (Zhang *et al.,* 2016). It is well documented that FSWs subject to violence are at increased risk of unprotected sex due to inconsistent condom use, client condom refusal, as well as condom failure and breakage. FSWs frequently face the implicit threat of client violence or the threat to withhold payment as methods of obtaining unprotected or otherwise coerced sex (e.g., higher risk anal sex) and they are vulnerable to sexual and other reproductive health problems (Eileen A *et al.*, 2017). In particular, the availability of drugs and alcohol in sex work establishments increases the likelihood of clients becoming violent towards sex workers. The level of relationship control, particularly with those emotional partners dominates the economic gains; it can contribute to unwanted sex or difficulty in negotiating contraception (Luchters *et al.*, 2013). Qualitative narratives by FSWs in Adama city Ethiopia also found that some female sex workers had gotten pregnant as a result of rape (Eileen A *et al.*, 2017).

Limitation: - The major limitation of this study emanates from the nature of the issue, which is sensitive, and may have social desirability bias and recall bias that may lead to both under-reporting and over-reporting in the variables. However, interviews were conducted at FGAE clinic by same-sex interviewers that encouraged valid responses from the respondents. In addition women's who are not FSWs may be enrolled in to the sample. Besides, the non-random nature of sampling techniques limits the generalizability of the study findings to all FSWs in the study area. Despite the aforementioned limitations, this study highlighting the first evidence on the reproductive health gap present in the study area and has important implications for interventions and programming for the improvement of SRH among FSWs.

6. CONCLUSION

Pregnancy is found to be a common experience of female sex workers and most pregnancies are unintended. No single factor is accounted for this high level of unintended pregnancy. Factors like having emotional partner, substance use, inconsistent condom use with paying partner and sexual violence were significantly associated with pregnancy.

7. RECOMMENDATIONS

For Diredawa city administration

- Strategies to reduce violence and to promote safety of FSWs needs to be formulated in collaboration with managers of sex work establishments, police and others.

For Diredawa health bureau and NGOs working on FSWs

- Ongoing and continuous counseling on safe sex practice, including correct and consistent use of condoms with paying and non paying partner.
- Counseling of FSWs on negative consequences of substance use.
- Enhancing the use of emergency contraceptive methods will benefit to reduce unintended pregnancy.

For researchers

- Further qualitative studies may be necessary to able to examine the wide diversity of circumstances under which FSWs got pregnant throughout their life spans.

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9. APPENDICES

9.1. Participant Information Sheet and Informed Voluntary Consent form (English Version)

My name is_____I am working as a data collector for the study being conducted in this community by Abel Kassahun who is studying for his master's degree at Haramaya University the college of health and medical science. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The study title: - Magnitude of pregnancy and associated factors among sex workers in Diredawa city, eastern Ethiopia.

Purpose of the research: - The finding of this study can be of a paramount importance for the Diredawa city health office to prevent unintended pregnancy and its related complications among female sex workers, therby improving the sexual and reproductive health of female sex workers. Moreover, the aim of this study is to write a thesis as a parial requremnet for the fulfillment for the degree of master's program in reproductive health for the principal investigator.

Procedure and duration: - I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. There are 33 questiones to answer where I will fill the questionnaire by interviewing you. The interview will take about 30 minutes, so I kindly request you to spare me this time for the interview.

Risk and benefits: - The risk of being participating in the sytudy is very minimal, but only taking few minutes from your time. There is some payiment for you benig involved in the study. Moreover the the finding from this study may reveal important information for the local health planners.

Confidentiality: - The information you will provide us will be confidential. There will be no information that will identify you in particular. The finding of the study will be general for the study community and will not reflect anything particular of individual person. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Rights: Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right towithdraw from the study at any time and this will not label you for any loss of benefits which you otherwise are entitled. You don't have to answer any question that you don't want to answer.

Contact address: If there are any questiones or enquiries any time concerning the study or the procedure please contact

Mr. Abel Kassahun phone number 0921205127 or

Email address abelkassahun27@gmail.com

Haramaya University, Inistitutional Health Research Ethics Review Committee (HU- IRERC)

Office pone 0254662011

P.O. Box; 235, Harer, Ethiopia

Declaration of informed voluntary consent: I have/ was read the participant information sheet. I have clearly understood the purpose of the research, the procedure, the risk and benefits, issues of confidentiality, the right of participating and the contact address for any queries. I have been given the opportunity to ask question for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer questions that I don't want. Therefore, I declared my voluntary consent to participate in the study with my initial (signature).

Name and signatures of participant _____, _____Date _____

Name and signatures of data collector _____, _____Date _____

9.2. English Version Questionnaires

Questionnaire identification

Questionnaire identification number _____ Date of interview ----------in (DD/MM/Year)

Result coded (1= Complete 2= partially complete 3 = Refused 4 = other)

Checked by, facilitators name _____ signature _____

Section-I- Socio –demographic Information

No	Questions	Coding category	Skip...
101	Age	_____year	
102	Level of Education	grade ----------	
103	Do you have emotional partner?	1. Yes 2. No	
104	On average what amount of money did You make from sex monthly?	_____ ETB	

Section II: - Individual characteristics

201	For how many years you are involved in sex work?	_____years	
202	Did you use any recreational substances after engaging in to sex work?	1. Yes 2. No	If 2 skip to Q. 204
204	If yes which substances you were using?	1. Chat 2. cigarette 3. Hashish 4. Shisha 5. Kchat with others…. 6. Other _____	
204	Did you drink alcohol daily during or before sexual intercourse?	1. Yes 2. No	If 2 skip to Q 301

Section III: - practice of contraceptive and work-related

301	Have you ever used contraceptive methods while you are sex worker?	1. Yes 2. No	If 2 skip to Q.303
302	If yes for Q. 302 Which methods do you use?	1. Tablet 2. Condom only 3. Injection 4. Long acting contraceptives (IUCD, implant) 5. Dual methods (Condom and,,,, 6. Other……..specify	
303	If No for Q.301, reason for not using contraceptive?	1. fear of side effects 2. expensive 3. Not available around 4. methods are not effective 5. Other……	
304	Did condom is available at work place?	1. Yes 2. No	
305	Did you use condom at every sexual intercourse with paying partners?	1. Yes 2. No	If yes skip to Q.307
306	If "no" for Q 304 Reason for not using condom consistently?	1. Clients are not happy 2. Clients pressure to pay more money 3. not knowing benefits of condom 4. I was using other method 5. Other……	
307	Did you use condom consistently with your emotional partner?	1. yes 2. No	
308	Did you know / hear about emergency	1. yes	If no skip to

	contraceptive?	2. no	Q. 311
309	Have ever used emergency contraceptive?	1. yes 2. no	
310	When someone should take emergency contraceptive after unprotected sex to prevent unintended pregnancy?	1. Within 5 days after unprotected intercourse 2. Enen after 5 days of unprotected intercourse	
311	Have you ever been physically or psychologically forced to do unwanted sexual activity without your consent?	1. Yes 2. No	If no skip to Q. 401
312	If yes to Q 311 above by whom you were abused?	1. By emotional partner 2. By Paying partner 3. By police 4. Other…….	

Section IV:-Reproductive history of FSW

No	Question	Coding category	Skip
401	Did you a child?	1. yes 2. no	If no,skip to Q. 403
402	If "yes" how many children do you Have currently?	_____children's	
403	Have you ever been pregnant after getting in to sex work?	1. Yes 2. No	If no skip to Q. 409
404	Have you ever had unintended pregnancy after getting into sex work?	1. yes 2. No	
405	If "yes" how many times did you have?	_____times	
406	Was the unintended pregnancy mistimed or unwanted?	1. mistimed ___ 2. unwanted ___	
407	What was the reason for unintended pregnancy	1. Condom breakage or slippage 2. Forced sexual abuse 3. Not using contraceptive	

		4. Other specify._____	
408	Outcome of unintended pregnancy?	1. Birth 2. Abortion 3. Currently pregnant 4. Others …….	
409	Are you Currently pregnant?	1. Yes 2. No	If no finished.
410	Is the current pregnancy intended or not?	1. Intended 2. Unintended	

9.3. Participant Information Sheet and Informed Voluntary Consent Form (Amharic Version)

በመጀመሪያ ስሜ_____ይባላል፡፡እኔ በዚህ ከተማ ውስጥ በሚደረገው ጥናት ላይ በመረጃ ሰብሳቢነት ነው የምሰራው፡፡ ጥናቱ የሚካሄደዉ የሀረማያ ዩንቨርስቲ ጤና ሳይንስ ኮሌጅ ማስተር ተማሪ የሆነዉ በአቶ አቤል ካሳሁን ነው:: ለዚህ ጥናት መረጃ ለመስጠት እንድችል ትኩረታችሁን እንድትሰጡኝ ስል በትህትና እጠይቃለው፡፡

1. **የጥናቱርዕስ**፡- በድሬደዋ ከተማ የሚገኙ ሴተኛ አዳሪዎች የሚያጋጥማቸው እርግዝናና ተያያዥ ባህሪያት፡፡
2. **የጥናቱ አላማ፡** የጥናቱ አብይ አላማ ለማስተርስ ዲግሪ ማሟያና በርዕሱ ዙሪያ የጥናት ወረቀት መፃፍ ነው፡፡ከጥናቱ ሚገኘው ውጤትም የድሬድዋ ከተማ ጤና ቤሮና ሌሎች ባለድርሻ አካላት በሴተኛ አዳሪዎች ዙሪያ የሚሰሩትን ስራ ለመገምገም ይረዳል፡፡
3. **በቅደም ተከተል የሚሰሩ ስራዎች እና የሚወስደው ጊዜ፡**- በቅድሚያ ለጥናቱ የሚያስፈልጉ ጠቃሚ መረጃዎችን ለማግኘት የተለያዩ ጥያቄዎችን እጠይቃለው፡፡ ወደ 33 የሚጠጉ ጥያቄዎች ሲኖሩ ጥያቄዎቹ ወደ 30 ደቂቃ ያህል ይወስዳሉ፡፡ስለዚህ ውድ ጊዜውን እንዲተባበሩኝ እጠይቃለው፡፡
4. **የጥናቱ ጥቅምና ጉዳት፡** ተሳታፊዎች ለመሳተፍ ፍቃደኛ ስለሆኑ እና ጊዜያጀዉን ለማካካስ የተወሰነ ብር ይከፈላል፡፡ በተጨማሪም ከጥናቱ ሚገኘው ውጤት በማህበረሰቡ ውስጥ በተለይም በሴተኛ አዳሪዎች ላይ ያለውን ችግር እና ጠንካራ ጎኖች ለመለየት የመንግስት እና ሌሎች ባለድርሻ አካላትን የሚሰሩትን ስራ አቅጣጫ በማጥራት ለማስተካከል ይረዳል፡፡በተጨማሪ ይህ ጥናት ለከተማው ጤና ቢሮ በሴተኛ አዳሪዎች ዙሪያ ምን መሰራት እንዳለበት አቅጣጫ ያመለክታል፡፡
5. **ምስጢራዊነት፡**በጥናቱ ላይ የሚሰጠው ማንኛውም አይነት መረጃ ምስጢራዊነት ሙሉ ለሙሉ የጠበቀ ነው፡፡ከጥናቱ የሚገኘው ውጤት ለማህበረሰቡ የሚጠቅም እና የሚገለፅ ሲሆን ነገርግን ግላዊ የሆኑ መረጃዎችን አይገልፅም፡፡የተሳታፊዎች ስምና መረጃ የሚገልፅ መረጃ ግልፅ አይሆንም፡፡
6. **መብት፡** በዚህ ጥናት ላይ ለመሳተፍ ሙሉ ፈቃደኝነትን ይጠይቃል፡፡በዚህ ጥናት ላይ ለመሳተፍ ወይም ላለመሳተፍ ወይም ከጥናቱ በፈለጉት ሰዓት ለመውጣት የተሟላ መብት አለዎት በጥናቱ ላይ ያሎትን ሁሉንም ወይም የፈለጉትን ጥያቄ ብቻ የመመለስ መብትዎ የተጠበቀ ነው፡፡በተጨማሪ ግልፅ ያልሆኖሎትን ማንኛውም ዓይነት ጥያቄ መጠየቅ ይችላሉ፡፡
7. **አጥኝውን ለማግኘት አድራሻ፡**- በጥናቱ ዙሪያ እናሂደት ለሚነሱ ማንኛዉም አይነት ጥያቄ በዚህ አድራሻ ማግኘት ይችላሉ፡፡

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ፖስታ ሳጥን ቁጥር 235, ሀረር ኢትዮጵያ

8. **በፈቃደኝነት ስለመሳተፍ መግለጫ ሰነድ፡**-ስለጥናቱ፡አላማ፣ሂደት፣ሚስጥራዊነት፣ስለ ጥቅም እና ጉዳት፡እንዲሁም፡በጥናቱ፡ስላለኝ፤ሙሉ፡መብት፡በቂ የሆነ ግንዛቤ አግኝቻለው፡፡በጥናቱ ሂደት ማንኛውም አይነት ጥያቄ ብቻ፡መመለስ ፡እና በፈለኩት ሰአት ከጥናቱ የመውጣት መብቴ የተከበረ ነው፡፡ስለዚህ ጥናቱ ላይ በፈቃደኝነት መሳተፌን፡ በፊርማየ፡ አረጋግጣለው፡፡

የተሳታፊው ስም እና ፊርማ _____ _____ ቀን _____

የመረጃ ሰብሳቢ ስም እና ፊርማ _____ _____ ቀን _____

9.4. Amharic version questionnaire

<u>የቃለ መጠይቁ መለያ</u>

የቃለ መጠይቁ መለያ ቁጥር---------- የቃለ መጠይቁ ቀን ----------(ቀ/ወ/ዓ.ም)

የቃለ መጠይቁ (1, የተሞላ 2. ያልተሞላ 3. ለቃለ መጠይቁ ፍቃደኛ ያልሆኑ 4. ሌላ)

በጥናቱ ሱፐርቫይዘር ተረጋግጠል (ስም)----------ፊርማ----------

ክፍል አንድ፡- ስነ ህዝብና ማህበራዊ ጥያቄዎች

ተ.ቁ.	**ጥያቄ**	**አማራጭ መልስ እና መለያ ቁጥር**	**ወደ..**
101	እድሜሽ ስንት ነው?	_____ዓመት.	
102	የትምህርት ደረጃ ስንትነዉ?	.....	
103	ባል ወይም የፍቅር ጓደኛ አለሽ?	1. .አለኝ 2. .የለኝም	
104	አማካይ የገቢ መጠንሽ ስንት ነው በወር?	_____ ብር	

ክፍል ሁለት፡- ግለ ጠባይን የሚመለከቱ ጥያቄዎች

201	በሴት አዳሪነት ምን ያህል ጊዜ ሰርተሻል?	_____ ዓመት	
202	ሴተኛ አዳሪ ከሆንሽ በሁላ ሱስ አምጪ ንጥረ ነገሮችን ትጠቀሚነበር?	1. አዎ 2. አልጠቀምም	2 ከሆነ ወደ 204 ይሂዱ.
203	ትጠቀሚ ከነበር ምን ነበር ትጠቀሚ የነበረዉ?	1. ጫት 2. ሲጋራ 3. ሀሺሽ 4. ሺሻ 5. ጫት እና ሌላ 6. ሌላ ካለ ይገለጽ.....	
204	ሴተኛ አዳሪ ከሆንሽ በሁላ አልኮል ነክ መጠጦችን በየቀኑ ትጠጪያለሽ?	1. አዎ 2. አልጠጣም	2 ከሆነ ወደ 301

ክፍል ሶስት፡- የዎሊድ መቆጣጠሪያ አጠቃቀምና ከስራ ተዛማጅ የሚመለከቱ ጥያቄዎች

301	ሴተኛ አዳሪ ከሆንሽ በሁላ የወሊድ መቆጣጠሪያ ተጠቅመሻል	1. አዎ 2. አልተጠቀምኩ	2 ከሆን ወደ 303 ይሂዱ.
302	ተጠቅመሽ ከሆነ የትኛውን ዓይነት የወሊድ መቆጣጠሪያ	1. እንክብል 2. ኮንዶም 3. መርፌ 4. የረጅም ጊዜ መከላከያ(ማህፀን ዉስጥ	

		ወይም ክንድ ላይ ሚቀበር) 5. ጥምር መከላከያ (ኮንዶም እና መርፌ ፡ እንክብል ወይም ሌላ). 6. ሌላ ካለይገለጽ.....	
303	ተጠቅመሽ፤ ካላወቅሽ ለምን ነበር ያልተጠቀምሽዉ?	1. የጎንዮሽ ችግር ስለምፈራ 2. ውድ ስለሆነ 3. ስለማይገኝ 4. አስተማማኝ ስላልሆነ 5. ደንበኞች ስለማይፈልጉ 6. ሌላ ካለ ይገለጽ.....	
304	ምትሰሪበት ቦታ ኮንዶም አለ?	1. አለ 2. የለም	
305	ከደንበኞች ጋር ግንኙነት በምታደርጉበት ወቅት ሁልግዜም ኮንዶም ትጠቀሚያለሽ?	1. አዎ 2. አልጠቀምም	
306	የማትጠቀሚበት ግዜ ካለ ለምን ነበር የማትጠቀሚው?	1. ደንበኞች ደስተኛ ስለማይሆኑ 2. ደንበኞች ብዙ ገንዘብ ስለሚከፍሉኝ 3. ሌላ የወሊድ መቆጣጠሪያ ስለምጠቀም 4. ጥቅሙን ስለማላውቅ 5. ሌላ	
307	ከባልሽ ወይም ከፍቅረኛሽ ጋር ግንኙነት በምታደርጉበት ወቅት ሁልግዜም ኮንዶም ትጠቀሚያለሽ?	1. አዎ ሁል ግዜ እጠቀማለሁ 2. አልጠቀምም	
308	ከአሁን በፊት ድንገተኛ የእርግዝና መከላከያ ክኒን ሚባል ሰምተሽ ታዉቂያለሽ	1. አዎ 2. አላዉቅም	2 ከሆነ ወደ 311 ይሂዱ
309	ከአሁን በፊት ተጠቅመሽዉ ታዉቂያለሽ	1. አዎ 2. አላዉቅም	
310	ከግብረ ስጋ ግንኙነት በሁላ ያልተፈለገ እርግዝናን ለመከላከል መቼ ነዉ መወሰድ ያለበት?	1. ከግንገኙነት በሁላ በ 5 ቀን ዉስጥ 2. ከግንገኙነት በሁላ ከ5 ቀን በሁላም ቢሆን	
311	ሴት አዳሪነት ስራ ዉስጥ ከገባሽ በሁላ ካንች ፍቃድ ዉጭ ዖታዊ ግንገኙነት እንድታደርጊ የመገፋፋት ወይም አስገድዶ መድፈር አጋጥሞሽ ያውቃል?	1. አዎ 2. አጋጥሞኝ አያውቅም	2 ከሆነ ወደ 401 ይሂዱ.

312	ዖታዊ ትንኮሳዉን ማን ነበር ያደረሰብሽ?	1. ባል ወይም የፍቅር ጋደኛ 2. ሌሎችደንበኞች 3. ፖሊስ 4. ልላ.....	

ክፍል አራት፡- ስነ ተዋልዶን የሚመለከቱ ጥያቄዎች

401	ልጆች አሉሽ?	1. አዎ 2. የሉም	2 ከሆነ ወደ 403
402	ካለሽ ስንት ልጆች አሉሽ?	_____ ልጆች	
403	ሴተኛ አዳሪ ከሆነሽ በሁላ እርግዝና ኣጋጥሞሽ ያውቃል?	ı. አዎ 2. አያውቅም	2 ከሆነ ወደ 409
404	ሴተኛ አዳሪ ከሆነሽ በሁላ ያልተፈለገ እርግዝና ኣጋጥሞሽ ያውቃል?	ı. አዎ 2. አያውቅም	
405	ስንት ጊዜ ኣጋጥሞሽ ያዉቃል	_____ ጊዜ	
406	ሳትፈልጊ ያረግዝሽዉ እርግዝና ያለ ዕቅድሽ ስለነበር ነዉ ወይስ ጭራሽ ሳትፈልጊዉ ነዉ?	ı. ያለ ዕቅድ ነዉ 2. ጭራሽ ሳልፈልገው ነዉ	
407	ያልተፈለገው እርግዝና የዳረገሽ መንስዬው ምን ነበር?	ı. የኮንዶም መቀድ ወይም መንሸራተት 2. አስገድዶ ደፍሮኝ 3. የወሊድ መቆጣጠሪያ ስላልተጠቀምኩ 4. ሌላ	
408	ያልተፈለገው እርግዝና መጨረሻው ምን ሆነ?	ı. ተወልዷል 2. ፅንሱን አቋረጥኩት 3. ገና እርጉዝ ነኝ 4. ሌላ	
409	አሁን እርጉዝ ነሽ?	ı. አዎ 2. አይደለም	
410	ያሀኑን እርግዝና አስበሽበት ነው ወይስ ሳታስቢው ነው ያረገሽው?	ı. አስቤበት ነው 2. ሳላስብበት ነው	
ቃለ መጠይቁን ጨረስናል ከልብ አመሰግናለሁኝ			

9.5. Participant Information Sheet and Informed Voluntary Consent form (Somali Version)

Magacaygu waa: _____ waxaan xog ururiye ka ahay cilmi baadhistan uu ku sameenayo magaladan. Mr. Abel Kassahun kaa so oo kadhigta aqoon korodhsigiisa heerka Masterta ah Jaamacada Haramaya qaybteeda cafimadka ee harar. Markaa waxaan si naxarisle kaaga codsanayaa in aad dareenkaada issiiso si aan kuugu sharaxo cilmibaadhista.

Mawduuca daraasaadka: Heerka uumaryo uurkaan ku talagalka ahayn iyo waxayaabaha sababa taas ku dhacda dumarka jidkoodaka ganacsada eek u noolmagaladaa Dire dhaba.

Ujeedada daraasaadka:: hadafka iyo ujeedada daraasadani waa in aanu ku ogaano heerka uumaryo uurkaan ku talagalka ahayn.Taasi ogaanshaheeduna waxay aad wax ugu taraysaa maamulka magalada iyo xafiska cafimadka dire dhaba oo ka heli kara, infoormeshino add ugu fududeeyni karaa, si uu uga hortago dhibaatooyinkan, ga soo diyaariyay qormada inay waxabarashadiisa , uu ku qalan jabiyo.

Habka iyo mudada: Anigu waxaan kuwaydiin su'aalo ku saabsan uurkaan ku talagalka ahayn, cadadka su' aaluhu waa 33 su' aalood sidaa darted, kuwaa soo qaadankara ilaa 30 daqiiqadood. Sidaa darteed waxaan kaa codsanayaa in aad ii hurto wakhtigaa fadlan.

Khatarta iyo Faaiidada: sacadaha kooban ee su'aalaha waxaka ahayan dhib kale malaha ka qaybgalka ay ka qaybgaleeyso darasadana faa'iido toos ma laha. Laakiin natiijada daraasada ayaa waxbadan ufududayn doonta dadka kashaqeeya caafimadka.

Qarinta: Warbixinta aad nasiinayo waa mid la ilaalindoono, sidoo kale waxa cadaynaya Jawaabta aad nasiiso ku qorna. Najiijadeeda waxay wax weyn ka tareeysaa, xogaha deeggaanka laga sameeyay, darasadana, cidna dhaxdeeda si gaara xaalad shaqsi looma weeydiinkaro qoraal ahaan iyo

Xaququuda: Ka qaybqaadasha darasadu waa mid si buuxda ugu xidhan raali ahanshaha qofka ka qaybgalaya kartaa, wayna joojinkarta. Hadii ay ka qaybgashana sidii la doono ayuu markii la doono ay u joojin kartaa .Waxlagu dhibaatey sanaayo ma jirto.

Cinwaanka lagala xidhiidhi karo: Hadaad u Baahatid Xog Dheeri ah Hadad Fkir Rabto Inaad Gudbiso Waxaad Kala Xidhiidhi Kartan Ciwaankan: -magaca ninka sameynaya dara sadan

Abel Kassahun .Tel: - 09-21-20-51-27

Email: Abelkassahun27@gmail.com

Gudiga Dugsiga Caafimaadka iyo Darasadaha iyo Cilmimbaadhista Gudiga Dabagalka Ee jammeecada Haramaya Tel e: - +25-025-466-2011 or P. O. Box; 235 Harar ,Ethiopia

Cadaynta ogolaanshiyaha rabitaanka ah ee la war galiyey: Daraasadan waan akhriyey /waala ii akhriyay, ujeedada daraasadana, faa ‘idada uu leeyahay, sirhayntiisa, xuquuqdeeda iyo sidoo kale daraasada su’ aalo ku kusaabsan, hadaaan rabno cida aan weydiini karo waan fahamay. Nasiib ayaa lay siiyay, in aan saacadii aan doono joojin karojawaabahayga, ama aan shib ka dhihikaro su’aasha aanan Rabin. Sidaa darted inaan anigu daraasada si raalinimo leh aan uga qaybqaato ayaan rabaa kuna muujin saxeex.

Ka qaybqaatahaa magaciisa _____, _____Tar_____

Qofka su’ aalaha weydiiyay _____, _____Tar_____

9.6. Somali version Questionnaires

Qaybta I: sifooynka bulshada

Tirr	Suaalo	Jawabtaa iyo kodka	U bood
101	Da'da	_____sanaad	
102	Heerka waxa barsho	_____fasaalka	
103	Saaxiib dhab ah maleedahay	1. Haa 2. mayaa	
104	Imisa lacag ah ayaad ka heshaa galmada?	_____	

Qaybta II: cinwaanada dadka dhexdooda ah

201	Imsaa sano ayaad jidkaada ka ganacsansy?	_____sano	
202	Xiliga galmada ma isticamashaa jaadka, shihada iyo waxa yaabo kale?	1. Haa 2. Mayaa	Hadday myaa thy ubood S 204
203	Haday thy haa, kuweed isticmal jirtay?	1. Jaadka 2. Sigaarka 3. Xashishka 4. Shiishada 5. Mid kale	
204	Hiliga galmada mcaliin kastaa macabta khamrida?	1. Haa 2. Maya	Hadday myaa thy ubood S 301

Qaybta sadax: jilicsanaanta iyo qorsheynta qoyska

301	Waligaaa ma isticnaashay xababka laga xortago uurka intiii aad jidhkaaga ka ganacsanaysay?	1. Haa 2. Maya	Hadday myaa thy ubod S 303
302	Hadday haa thy habkeed istcimashaa?	1. Kiniini 2. Kondhom 3. Irbaad 4. Kan wokhtii Dheera 5. Labada haba (kodomka iyo.. 6. Midkale……..c	

		addee	
303	Hadday maya tahay S 302, sababta aadan u istcimaalin maxathay?	1. Cillad ka carar 2. Qalinimo 3. Lama helo 4. Waxater malah 5. Mid-kale……..	
304	Goobta shaqada kondhom ma laga helaa?	1. Haa 2. Maya	
305	Si jogto ah ma uisticmaashaa kondhomka?	1. Haa badanaa 2. Maya	
306	Hadday maya thy S 305, sababta aadan si joogto ah ugu iscimaalin khondomka?	1. Qofka kale ayaan ku faraxsanayn 2. Qiimha ayaa ku dorsamay 3. Maaqanofaaiidadiisa 4. Hab kale ayaan isicmaaleyahy 5. Mid kale	
307	Imisa jeer ayaad isticmashaa kondhomka saxiibtaada dhabtaa ah?	1. Haa badanaa 2. Maya	
308	Ma maqashay kontrasepitfga ah kadadeg ah?	1. Haa 2. Maya	Maya hada thy u bood S 311
309	Waligaa maisticmashay kontraceptifka deg deg ah?	1. Haa 2. Maya	
310	Gormuu qof isicmalinn kara konrasabtifka deg deg ah si ugu hortago uurka?	1. 5 barri ka hor 2. 5 brri kadiib	
311	Waligaa si xun mala guula dhaqamay hiliga galmaada?	1. Haa 2. Maya	Had thy maya u bod ,S 401
312	Hadday haa thay S 31, yaa ku ladhaqamay sidaas?	1. Saaxibkii dhabta ahaa	

		2. Kii lacagthaa 3. Boolis 4. Mid- kale	

Qaybta IV: sifooynka taranka

401	Waxa imo ah madhashay?	1. Haa 2. Maya	Hada thy maya u bood.403
402	Haa haday thy imsa ciyal ayaad haysa?	_____ciyal	
403	Waligaa uur mayalaty intiiad jidhkaaga ka ganacsansay?	1. Haa 2. Maya	Hada thy maya u bood.409
404	Uur kadisaah ma yelataaay intii aad jidhkaaga ka ganacasansay?	1. Haa 2. Maya	
405	Imisa jeer ayaad yeelatay?	_____	
406	Ma mid aan la doonayan bu aha uurkaas?	1. Wakhtigiis ahayn 2. Aan larabin	
407	Maxay thay sababta keentay uurkan aan loogu tala galin?	1. kondhom dulelka 2. Kufsi 3. Kontrasebtif isticimalin la'aan 4. Kondhom iscimalin la'aan 5. Mid kale(cddee)	
408	Matii jaddii uurkaan loogu tala galin?	1. Dhalasho 2. Dhicis 3. Uurka dhimashoo 4. Uur hadda	
409	Hadda ma uur baaa thay?	1. Haa 2. Maya	Hada thy maya, dhamtay.
410	Uurkan ma tala gal buu aha misa m ahayn?	1. Ku talagal 2. Aan kutala ga ahyan	
Waad ku mahasanthay			

1.1. Participant Information Sheet and Informed Voluntary Consent form (Oromo Version)

Akkam bultan/oltaan! Ani obbo/addee----------jedhama; obbo **Abel Kassahun**, digrii isaa lammataf qayyabanna wa'ee ulfa karoora malee fi sababota isanif saxilan kan hojjattota wal qunnamtin bulan addan baasuf; universitii haromaya kollejji fayyattii gaggessa jiru. Ani ammo isanif raga qayyabanna kana funana jira.Waa'ee qayyabanna isiinif ibsuuf; Kanaf obsaan akka naa dhageffatani isiin gaafadha.

Mata duree qayyabanna: wa; ee ulfaa hin barbachifnee ykn hin eggamin fi sabobota isaanif saxilan kan wal qaunnamtii salan bulan addan baasuuf.

Kayyoo qayyabannaa: argannon qayyabanna kanaa biro fayya fi hawaasaf ni ooluu; akkasumas barnotaf kan oluudha. Waa hundaa caala barrefama ebba kan digrii lammaffa dipartmentiitin reproductivitin ittin guutuf qopha'eedha.

Filmata hirmattota: atii qo: anno kannaf kessumoftani jirtuu sababanis tajaajila kana fayyadama wan jirtanif ulfaa hin barbachifne fi sababa isaa addan baasuf ni gargartee waan taheef.

Hirmanna fedhii: hirmachu fi hirmachuu diduuf murtessu nii dandeessuu**.** Hirmachu fi diduun kessani qo: anno kanarrattii huma dhibba isinirratttii hin qabuu. Yoo hirmachuu jalqbdanille jidduttii dhabuuf ni dandessuu.

Midhaa: gaffii tokko tokko debisuuf sitti toolu dhabaa, wantoota amma duraa muxanno hin qabnee akka hin bekkamnee godhu ni danda: ama gaffi sii gaafannuu akka debistan isin hin dirqisisnu.

Bu'aa: bu'aan isin dhunfatti argattani hin jiruu. Garuu, bu: aan argannoo kana hawasas waligala ni fayyada.

Icciti eeguu: ana fi gareen qo annoo kana debisaa kessan tokkof hin qoodu ykn hin dabarsan. Ragan hundi dhunfafi iccitin isaa ni eggama.

Mirgaa diduu fi kessa bahuu: irra debi: eekan sii beksisuu yoo hin barbanne, mirgaa hirmachuu dhabuu qabdaa. Akkasumas filannon hirmachu fi hirmachuu dhabuu rakko tokko hin qabuu.yeroo fetettii dhabuu dandessa.

Tessoo: waa'ee qababanna gaafi fi odefanno akkasumas ademsa fi ilalachise yoo qabattan. Kanan Argachuu dandessuu Abba qayyabanna Mr. Abel Kassahun: lakk bilib. 0921205127 and Email: abelkassahun27@gmail.com

Akkasumas Dhabbata kommite qayabanna fayya haromaya Lakk bilbila 0254662011 S, posta 235, Harer, Ethiopia

Ibsaa eyyamumma fedhiii irratti hundaa'ee:

Waa'ee qoranno kanaa dubbise ykn dhagahe; akkasumas kayyoo, bu'aa fi midhaa, mirga fi gaafin qabuu hundaa akkan gaafadhuu beeka jiraa.kanaaf qayyabanna kanaf eyyamu fi hen eyyamnes mirgaa Koo tahee beeka.kanaf qayyabanna kanaf fedhii koon akkan irratti hirmadhuu maqaa fi mallatto koon ibsaa

Maqaa fi mallattoo hirmaata _____, _____gurra_____

Maqaa fi mallattoo raga funana_____, _____gurra_____

1.2. Oromo version Questionnaire

Kutaa I: Seena hawasa fi dhunfaa

Lakk	Gaffii	Koodii	Irra darbii ...
101	Umrii	Wagga _____	
102	Sadarka barnota	Kutaa ----------	
103	Maatii sii arsuu ykn sii summessuu qabda?	1. Eyyen 2. Lakkii	
104	Qarshiin gidduugalan guyyattii walqunnamti kanarra argattuu meeqaa?	Qarshii _____	

Kutaa II: Haala amalaan walqabatan

201	Wagga meeqaf hoji walqunnamti kanan bultan?	waagga_____	
202	Qorichoota kan akka jimaa, fi kan biraa fayyadamtaergaa walqunnamti kana jalqabdee?	1. Eyyen 2. Lakkii	2 yoo tahee garaa G. 204
203	Eyyen yoo ta'ee kam turee?	1. Jimaa 2. sigaaraa 3. Hashish 4. Shisha 5. Jimaa fii sigaaraa…. 6. Kan biraa _____	
204	Alkooli yeroo walqunnamt fi duraa ni dhugdaa?	1. Eyyeen 2. lakkii	2 yoo tahee garaa G. 301

Kutaa III: - itti fayyadama karoora maatifi Kan biraa

301	Karooraa maati fayyadamtee bektaa yeroo walqunnamtii kana jalqabdee?	1. Eyyen 2. lakkii	2 yoo tahee gara gaff 303
302	Gaffiin 301 eyyen yoo tahee gosaa kam fayyadamtee?	1. Kinin 2. Kondomii qofaa 3. Lilmoo 4. Kan yeroo dheraa	

		5. Ittisa waliinii (kondhomii fi… 6. Kan biraa ibsii ……	
303	Gaffii.301 lakkii yoo tahee sababni hin fayyadaminif maal turee?	1. midhaa waan qabuuf 2. gatiin isaa qalii 3. nanno kotti hin argamuu 4. bu:aa hin qabuu 5. Kanbiraa……	
304	Iddoo hojii kessani kondomiin ni jiraa?	1. Eyyen 2. Lakkii	
305	Yeroo hundaa sirritti kondomii ni fayyadamta?	1. Eyyen yeroo hundaa 2. gututii hin fayyadamuu	1 yoo tahee gara lakk307
306	Gaffii 304. Lakkii yoo tahee sababnii isaa maal turee?	1. mamilli koo hin barbaaduu 2. mamilii kafalti gahaa kaffalsiisa 3. bu:aa kondomii hin beekuu 4. kan biraa fayyadama turee 5. Kan biraa ……	
307	Hangamimf kondomii mamila kee waliin fayyadamta?	1. eyyen yeroo hundaa 2. gutuutti hin fayyadamnee	
308	Dhagessa nii bektaa wa'ee karoora matii hatattama?	1. Eyyen 2. Lakkii	2 yoo tahee garaa G. 310
309	Karoora maatii hatattama fayyadamtee beekta?	1. Eyyen 2. Lakkii	
310	Yeroo akkami fudhan erga walqunnamtti midhaa qabuu godhaan booda ulfaa ittisuuf?	1. Guyya 5 keesati 2. Guyya 5 boddas yo taa'e	
311	Rakko dhibba saala isinirra dhufee beeka ergaa walqunnamti gotanii booda?	1. Eyyen 2. Lakkii	2 yoo ta'ee garaa 401
312	Gaffii 311 eyyen yoo tahee kamiin midhamtee?	1. Kan na walin jiratuu 2. Kan naaf kaffaluu	

		3. Polisidhan 4. Kan biraa …….	

Kutaa IV:-seena wal hormata hojjattota walqunnamti saala

401	Daimaa desse ni bektaa?	1. Eyyen 2. Lakkii	2 yoo tahee garaa G .403
402	Eyyen yoo tahee daimma meqa qabduu ?	Da'imaa_____	
403	Ergaa walqunnamti kanatti galtan ulfooftani ni beektuu?	1. Eyyen 2. Lakkii	2. yoo tahe garaa G. 311
404	Ulfaa karooraa alee godhattanii nii bektuu ergaa wlaqunnamti kana jalqabdani booda?	1. Eyyen 2. Lakkii	
405	Eyyen yoo tahee yeroo meeqaf?	Yeroo _____	
406	Ulfii karoora malee kuni yeroo malee moo gututtii hin barbadamuu?	1. Yeroo malee ___ 2. hinbarbadamuu ___	
407	Sabaabnii ulfaa karoora malee kun maal turee?	1. Kondoomin waan dhoheef 2. Naa dirqisisan 3. Karooraa maati waan hin fayyadaminif 4. Kondomii waanin hin fayyadminif 5. Kan bira ibsii._____	
418	Bu'aan ulfaa karooraa malee maalturee?	1. Dahee 2. baasee 3. du'aa dhalatee 4. amma ulfaa	
409	Amma garaa nii qabduu?	1. eyyen 2. lakkii	Yoo xumuru battte.
410	Ulfii amma kun hin barbaadama moo mitii?	1. Nii barbadama 2. Hin barbaadamu	
Hirmanna kessanif galaatomaa!!!			