

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH



**ASSESSMENT OF EMERGENCY CONTRACEPTIVE UTILIZATION
AMONG UNMARRIED WOMEN WORKING IN BOLE LEMI
INDUSTRIAL PARK: INSTITUTIONAL BASED CROSS SECTIONAL
STUDY DESIGN**

BY

DEMISSIE BEKELE (BSC)

**THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF
PUBLIC HEALTH DEPARTMENT OF REPRODUCTIVE, FAMILY AND
POPULATION HEALTH FOR PARTIAL FULFILLMENT OF THE
DEGREE OF MASTERS OF PUBLIC HEALTH IN REPRODUCTIVE,
FAMILY AND POPULATION HEALTH (MPH/RH)**

SEPTEMBER, 2021

ADDIS ABABA, ETHIOPIA

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DEMISSIE BEKELE (BSC)

ADVISORS:

WUBEGZIER MEKONNIN (BA, MA, PhD)

NIGUSSIE ASSEFA (BSC, MPH, MSc.)

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Assurance of Principal Investigator

All the gathered data was collected appropriately and strict ethical considerations were followed in the process. All the necessary comments and guidance was gained from my Advisors. The research findings and final thesis maintaining accuracy as much as possible were submitted in time.

Name of student: -----

Signature: ----- date -----

Name of primary Advisor: -----

Signature: ----- date -----

Name of secondary Advisor: -----

Signature: ----- date -----

Addis Ababa University
College Of Health Sciences
School of Public Health

This is to certify that the thesis prepared by Demissie Bekele kabtimer, entitled; **‘ASSESSMENT OF EMERGENCY CONTRACEPTIVE UTILIZATION AMONG UNMARRIED WOMEN WORKING IN BOLE LEMI INDUSTRIAL PARK: INSTITUTIONAL BASED CROSS SECTIONA STUDY DESIGN’** and submitted in fulfillment of the partial Requirement of the Degree of Master of Public Health in Reproductive, Family and Population health (MPH/RH) complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

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_____	_____	_____
Internal Examiner	Date	Signature
_____	_____	_____
External Examiner	Date	Signature
_____	_____	_____
Advisor	Date	Signature
_____	_____	_____
Chairperson (Department head)	Date	Signature

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Acronyms

AOR	Adjusted Odds Ratio
COR	Crude Odds Ratio
Cu-IUD	Copper Intrauterine Device
DHS	Demographic and Health Survey
EC	Emergency Contraception
ECP	Emergency Contraceptive Pills
FGAE	Family Guidance Association of Ethiopia
FHI	Family Health International
FP	Family Planning
IUD	Intrauterine Device
IUCD	Intrauterine Contraceptive Device
LARC	Long Acting Reversible Contraception
LH	Luteinizing Hormone
LNG	Levonorgestrel
OCP	Oral Contraceptive Pills
KAP	Knowledge, Attitude & Practice
RH	Reproductive Health
SES	Socio economic Status
SRH	Sexual and Reproductive Health
UNFPA	United Nation Population Fund
UPA	Ulipristal Acetate
UPSI	Unprotected Sexual Intercourse
WHO	World Health Organization
IPDC	Industrial Park Development commission

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ABSTRACT

Background: Emergency contraception (EC) or post-coital contraception refers to any methods of contraception that can be used to prevent pregnancy in the first few days after exposure to unprotected sexual intercourse. Unwanted pregnancy and its potential life threatening complications could be avoided by using contraceptives, including emergency contraceptives, if these emergency contraceptives used within the recommended time period of exposure to unprotected sexual intercourse and it also provide a second chance of preventing the occurrence of unwanted pregnancy.

Objectives: To measure the levels in emergency contraceptive utilization and factor associated with its use among unmarried women who work at Bole Lemi Industrial Park, Addis Ababa, Ethiopia, 2019/20.

Methods: A cross sectional study was conducted among 812 randomly selected unmarried women working in Bole lemi industrial park from four (4) companies and self-administered structured questionnaire were used to collect the data. The collected data was entered into EPI-data software and exported to SPSS for analysis. Descriptive statistics was calculated for the prevalence of KAP on unmarried women who work in Bole Lemi industrial park and presented using texts, tables and figures. Besides, bivariate, multivariate logistic regression and negative binomial models were fitted to identify factors associated with the emergency contraceptive utilization and presented using tables.

RESULT: Only 115 (30.9%) of sexually active, (31.5%) of those ever heard EC or (15.7%) of the study participants used emergency contraceptives after having unprotected sexual intercourse. However (21.4%) of them had a history of unintended pregnancy and (82.1%) of this pregnancy ended up with abortion. Religion, ever had sexual intercourse and contraceptive ever used have statistical significant association with EC utilization ($p < 0.01$).

CONCLUSION AND RECOMMENDATION: This study showed that there is low level of emergency contraceptive utilization among unmarried women. Therefore, there is a need to emphasize on increasing awareness and accessibility of emergency contraception.

1. Introduction

1.1. Background

Emergency contraception (EC) or post-coital contraception refers to any methods of contraception that can be used to prevent pregnancy in the first few days after exposure to unprotected sexual intercourse. Emergency contraception is intended to be used only for emergency situation and not for routine or repeated use following unprotected sexual intercourse, contraceptive failure or misuse (such as forgotten pills or torn condoms), rape or coerced sex(1, 2). EC is more effective when they are taken sooner after the occurrence of unprotected sexual intercourse(3, 4). The risk of unwanted pregnancy increases if it is used several times within a year (5). Emergency contraception is feminine driven which means that its use and success depends on how women perceive and practice it (6).

There are two forms of ECs namely, emergency contraceptive pills and intrauterine devices (IUDs)(2, 7). Emergency contraceptives work by preventing fertilization, implantation of fertilized zygote, tubal transportation of sperm and ovum when they are taken within 72 hours after unprotected sex for emergency contraceptive pills and if the (IUCD) inserted within 5 days of unprotected sexual intercourse(2). Emergency contraceptive pills have the capacity to prevent pregnancy by 75-85% and with the use of IUCDs unwanted pregnancy can be prevented by as much as 99%(8). EC is unique among modern contraceptive methods in its capacity to prevent unwanted pregnancy and provides a critical time-sensitive opportunity for all women in reproductive age group to prevent undesired pregnancy and its potential life threatening complications just after exposure to the risk of pregnancy (5).

Emergency contraception provides an important option for unmarried women in preventing unintended pregnancy. Many unmarried women's are at high risk of unintended pregnancy since, those unmarried women are exposed to irregular sexual intercourse, they have limited knowledge of contraception, lack of access, unaware of their fertile period and not feel comfortable to use the service. The consequences of unintended pregnancies are multiple including discontinuation of school, unsafe induced abortions, absent from work, increase health care expenses and risk of serious morbidity and mortality. The most affected groups are students, unmarried and nulliparous young girls. Therefore, use of EC could be a potential strategy to reduce the incidence of unintended pregnancies and its potential life threatening complications (9).

The prevalence of unintended pregnancy is very high. About 44% of the pregnancy worldwide is unintended (10), while the overall prevalence rate in Ethiopia is 24% (11).

Emergency contraceptive was first introduced in 1960's in Netherland to 13 years old rape victims (12). Emergency contraception (EC) was first introduced in Ethiopia in 1997 and latter in 2008 DKT Ethiopia launched its own brand called Post pill (13). Levenorgestrel only pill and combined oral contraceptives are the most common emergency contraceptives available in Ethiopia(4).

1.2.Statement of the problem

Globally, there are 216 million maternal deaths per 100,000 live births every year(14). In Ethiopia, the maternal mortality rate is still very high 412 per 100, 000 live births. Ethiopia is one of the countries which under achieve the millennium development goal of reducing maternal mortality(15).

Different studies done on the prevalence, associated factors and effect of unintended pregnancy indicate that unintended pregnancy is one of the most critical problems in the public health system that imposes substantial financial and social costs on society. Unintended pregnancy has been a major public health issue due to its adverse consequences to the mother, child and the health sector's resources. The pre-natal adverse effect includes medical complications and maternal mortality secondary to complicated abortion. For those pregnancies not terminated, they might encounter violence, delayed ante-natal care initiation and unsafe delivery service utilization. The born children were also shown to be affected in terms of child care, psycho-social development and health status in addition it leads to the reduction of quality of life and workforce efficiency (11, 16, 17).

Even if the problems of unintended pregnancies are known, the prevalence of unintended pregnancy is still high worldwide. According to WHO, every year around 210 million pregnancies occur worldwide. Out of these pregnancies, 44% of are unintended and around 59% of this pregnancy end with abortion. Furthermore; most of these unintended pregnancies (65 pregnancies per 1000 women) happen in developing countries like Ethiopia(10, 14). Ethiopia has high incidence of unwanted pregnancies and incomplete and unsafe/septic abortions, particularly among adolescents. About 620,300 estimated induces abortion happened in Ethiopia in 2014 (18). Different studies done in Ethiopia indicate that the prevalence of unintended pregnancy ranges from 26.1% to 37.8% (19-26).

According to DHS 2016 Ethiopia, the median age at first marriage was 17.1 years among women aged 25-49 years and 58% of women age 25-49 marry before their 18th birthday. The median age at first sexual intercourse among women age 25-49 is 16.6 years. One in four (24%) women has first sexual intercourse before age 15 and 62% before age 18. By age 20, 76% of women have had sexual intercourse. The median age at first birth among women age 25-49 is 19.2 years. This means that half of women age 25-49 give birth for the first time before age 20. In Ethiopia, 13% of women age 15-19 have begun childbearing: 10% have given birth, and an additional 2% are pregnant with their first child. In addition, only 6 in 10 of currently married women aged 15-49 years have their demand for family planning satisfied plus only 24% of women correctly know the most likely time period to conceive. Even if, about 51.7% of sexually active unmarried women have knowledge of EC it cover only 4% of the utilization coverage(15). The underutilization of EC among unmarried women implies limited awareness about EC, availability of method and unfavorable or negative perception towards this EC.

Unintended pregnancy is high among single women, women who have multiple sexual partners, women who have lower/no educational level, women who have low income, unemployed women, women who didn't use family planning, multiparous mothers, young women, women who traveled long time to reach health facility, women who have more children, multigravida women, women who are not visited by health professionals, women who discussed with their husband and women who desire fewer children(21, 27-30).

Studies have shown that age, previous place of residence, religion, grade level, knowing other methods of preventing unwanted pregnancy, sex education, chewing 'Khat', consuming alcohol, and father's educational level, were found to significantly predict EC utilization (31, 32).

1.3.Rational of the study

Ethiopia is the second most populous country in Africa, with an estimated population of over 110,000,000 despite the substantial increase in the use of modern contraceptives from 8% in 2000 to 41% in 2019. One of such method is Emergency Contraceptives (EC) which was introduced in Ethiopia in 1997. Studies in different parts of the country show very low utilization rate (as low as 10%) of the method despite the significant proportion of youth have ever had sex in their life time. The most frequently reported reasons for the non-use of the method are fear of side effect and lack of information (knowledge). The potential of EC to prevent unintended pregnancy is well documented but the awareness & use of the method in our country is poor. Scientific evidences shows that three fourth of unplanned pregnancy can be prevented by using emergency contraceptives after unprotected sexual intercourse(33). However, the problem of unintended pregnancy still exists despite the fact that different modern contraceptives exist worldwide. This could be attributed to the lack of information and negative attitudes towards the method(34, 35).

Despite of women are at high risk of unwanted pregnancy, abortion, sexual violence, early marriage and teenage pregnancy in Ethiopia little is known why they don't use emergency contraceptives especially on unmarried women who work in different set up like industrial parks and most of the studies in Ethiopia addressing KAP of EC among women's were conducted in students of tertiary educational institutions which are thought to have better awareness than populations working in different set up. Therefore in order to understand well the scope of the problem in this segment of population the study needs to be conducted at different level like industrial parks. The findings of this study will benefit governmental and non-governmental organization working to provide reproductive health service for these populations. Furthermore, Addis Ababa health office and non-governmental organization found around the study area like Family Guidance Associations and Merstops International which are providing emergency contraceptive service can utilize the result of this study as a base line data in planning awareness creation programs and expansion of service provision for unmarried women industry workers.

Research questions

1. What is the magnitude of emergency contraceptive utilization among unmarried women who work at Bolle Lemi Industrial park in Addis Ababa, Ethiopia?
2. What are the factors associated with emergency contraceptive utilization among unmarried women who work at Bolle Lemi Industrial park in Addis Ababa, Ethiopia?

2. Literature Review

KNOWLEDGE, ATTITUDE AND PRACTICE OF EMERGENCY CONTRACEPTION

Knowledge, attitude towards use of emergency contraception has paramount importance in order to achieve desired outcomes which are preventing unintended or unplanned pregnancy and its potential life threatening complications. Many studies done around the world showed that lack of awareness is the main reason for underutilization of emergency contraceptives by affecting the perceptions of users. In developed countries the level of KAP on EC is already higher, but in developing countries like Ethiopia it remains lower.

In a study done in USA, California showed that nearly 76% of respondents had some sort of knowledge about EC while, a study done in Nepal showed that even if 97% of female populations of reproductive age are found to have knowledge about Family Planning but only 2% have knowledge about Emergency Contraception (36, 37).

A study done in Vientiane City, Lao PDR to assess awareness and attitudes towards emergency contraceptive pills among young people in the entertainment places showed that Only 22.4 percent of respondents had heard of ECPs and of these only 17.9 percent knew the correct time-frame for effective use. Most of the respondents (85%) agreed on the need for ECPs to be available in Laos and 66.8 percent stated that they would use them should the need arise, if they were available. Among those who said they would not use ECPs, 63.8 percent were concerned about possible health effects, or other side effects. Awareness of ECPs was associated with increasing age and male sex (38).

A study done in Alexandria, Egypt to assess awareness and use of emergency contraception among women of childbearing age at the family health care centers showed that most of the study subjects (75.5%) did not know EC, approximately an equal proportion (78.8% and 79.4%) stated that EC could be used after unprotected intercourse and in case of failed regular methods respectively. Only 21.5% ever used EC while, another study done on utilization in women of slums in India showed that only 1.4% married females had ever utilized ECP.) (39, 40).

A study done in South Africa to assess the knowledge, practices, and attitudes of Emergency Contraception among Female University Students in KwaZulu-Natal, showed that about half (49.8%) of the participants reported having heard about EC prior to the study. Regarding the effectiveness of EC, 29.5% students said it could be used up to 72 hours after unprotected sexual intercourse, and 8% said it could be used just before sex. About two-thirds (61.8%) would recommend the use of EC and 63.2% would use it if they needed. The multivariate analysis indicated that students who were older (.20 years), presently sexually active, and living with their parents were more likely to be aware of EC (41).

The study done to assess Knowledge, attitude and practice of emergency contraception among students in tertiary schools in Anambra State Southeast Nigeria showed that a low level of

awareness and practice of emergency contraception among the university students. About one third (38.1%) of the respondents were aware of emergency contraception and 11.5% had ever used or practiced emergency contraception. Fifty two (30.1%) of the respondents that know about EC, had correct knowledge of the timing for their use; 4.6% had incorrect knowledge while 65.3% had no knowledge of time as relates to the use of EC. On another study in Nigeria at public secondary schools in Ilorin, showed that 27.8% of the respondents had good knowledge of emergency contraception and majority of respondents (87.2%) had never used emergency contraception. Majority of those who had ever used emergency contraception (85.7%) used it incorrectly, using it more than 72 hours after sexual intercourse (42, 43).

Another study which has been done among University students in Kampala, Uganda showed that less than half (45.1%) of the students had ever heard about EC. The main sources of information were friends, the media and school. There was no statistically significant difference between knowledge of EC and age groups in this study. In another study in Ghana among urban and rural women shows about 57% had knowledge about emergency contraception and the main sources of information were identified as mass media and health workers (44, 45).

A study done in different parts of Ethiopia to assess KAP towards EC utilization found that about 41.8-84.2% of women are aware of EC. From those who are aware of EC about 27%-49% of them have good knowledge, 32.3%-77.4% of them have positive attitude and only 9.7%-40.3% of them utilize or use emergency contraceptive after exposure to un protected sexual intercourse (34, 46-50).

Furthermore, in Ethiopia among sexually active unmarried women, 58 percent are currently using a contraceptive method: 55 percent are using a modern method and 3 percent are using a traditional method. The most commonly used methods among sexually active unmarried women are injectable (35 percent), implants (11 percent), the male condom, and emergency contraception (4 percent each) (51).

Importance of EC

EC offers a second chance to prevent an unwanted pregnancy after the event of an UPSI (unprotected sexual intercourse), contraceptive failure or after rape. It also provide an opportunity to introduce a long-term contraceptive method to a woman when she seeks EC, which preferably should be a non-user dependent option, such as a non-forgettable LARC (Long Acting Reversible Contraception) (52).

EC adds an important option for helping sexually active adolescents to avoid unintended pregnancy and its potential complication from unsafe abortion. Many adolescent females are at high risk of unintended pregnancy because; they have limited knowledge of contraception and generally lack access to services or do not feel comfortable using these services. Additionally, gender inequity and cultural norms often make it hard to address the issue of contraception for adolescent. Behavioral factors that frequently put adolescents at greater risk of pregnancy

include experimentation and risk taking, as well as limited ability to plan ahead, the nature of relationships and frequency of intercourse are often different during adolescent years than later in life. Shorter relationships, sometimes with long intervals in between, are common, and sex may be infrequent and sporadic. This may lead to reluctance to adopt a regular family planning method or make it harder to plan to use one (9).

Unplanned pregnancy prevalence

There were about 213 million pregnancies which occurred in 2012 world widely. From these 213 million pregnancies 85 million pregnancies, representing 40 percent of all pregnancies, were unintended. Of these, 50 percent ended in abortion, 13 percent ended in miscarriage, and 38 percent resulted in an unplanned birth. The unintended pregnancy rate continued to decline in Africa and in the Latin America and Caribbean region (53).

A multicountry analysis of demographic and health surveys on Prevalence and determinants of unintended pregnancy in sub-Saharan Africa found that overall unintended pregnancy prevalence rate of 29%, ranging from 10.8% in Nigeria to 54.5% in Namibia. As compared to women aged 15–19 years, women of all other age categories had higher odds of unintended pregnancies. Married women were 6 times more probable to report unintended pregnancy as compared to women who had never married. The phenomenon had higher odds among rural residents as compared to urban residents. Women with primary and secondary levels of education had less chance of unintended pregnancies, compared to those with no education. Again, women in all other wealth categories had less probability of unintended pregnancy, as compared to women with poorest wealth status (54).

Different studies done in Ethiopia indicate that the prevalence of unintended pregnancy ranges from 26.1%-37.8 which is very high and can be attributed or reduced by using family planning including emergency contraceptives (19, 22-25, 30, 55).

Magnitude and risk of abortion

An estimated 35 abortions occurred annually per 1000 women aged 15–44 years worldwide in 2010–14, which was 5 points less than 40 in 1990–94. Because of population growth, the annual number of abortions worldwide increased by 5.9 million, from 50.4 million in 1990–94 to 56.3 million in 2010–14. In the developed world, the abortion rate declined 19 points, from 46 to 27. In the developing world, we found a non-significant 2 point decline in the rate from 39 to 37. Some 25% of pregnancies ended in abortion in 2010–14. Globally, 73% of abortions were obtained by married women in 2010–14 compared with 27% obtained by unmarried women (56).

An estimated 620,300 induced abortions were performed in Ethiopia in 2014. The annual abortion rate was 28 per 1,000 women aged 15–49, an increase from 22 per 1,000 in 2008, and was highest in urban regions (Addis Ababa, Dire Dawa and Harari). Between 2008 and 2014, the proportion of abortions occurring in facilities rose from 27% to 53%, and the number of such

abortion increased substantially; nonetheless, an estimated 294,100 abortions occurred outside of health facilities in 2014. The number of women receiving treatment for complications from induced abortion nearly doubled between 2008 and 2014, from 52,600 to 103,600. Thirty-eight percent of pregnancies were unintended in 2014, a slight decline from 42% in 2008 (18).

The study done at Wolaita Sodo University, Ethiopia to measure the magnitude and risk factors of abortion among regular female students was found the rate of abortion among students to be 65 per 1000 women, making it three fold the national rate of abortion for Ethiopia (23/1000 women aged 15–44). Virtually all of the abortions (96.9%) were induced and only half (16) were reported to be safe. Students with history of alcohol use, who are first-year and those enrolled in faculties with no post-Grade 10 Natural Science background had higher risk of abortion than their counterparts (57).

Another study done at Gondar Town, Northwest Ethiopia to measure the prevalence and associated factors of induced abortion among women of reproductive age group found that the prevalence rate of induced abortion was 40 per 1000 women, making it higher from the previous national rate of abortion for Ethiopia (28/1000 women aged 15-44). Among respondents those are committing induced abortions, 83.33% was safe abortion. Factors like women's age at first pregnancy (15-19 years, single marital status, unwanted pregnancy and attending school at the time of interfered abortion were significantly associated with committing induced abortion (58)

Socio demographic factors

Different studies found that socio demographic factors had effect on emergency contraceptive utilization. A study done on emergency Contraception among Female Students of Haramaya University, Ethiopia found that age, previous place of residence, religion, grade level, significantly predict attitude toward EC. Another study done to assess Knowledge, Attitude and Practice of Emergency Contraceptives among Mizan-Tepi University Female Students, South West Ethiopia found that students who were older (.20 years), presently sexually active, and living with their parents were more likely to be aware of EC (31, 32)

A study done to assess knowledge attitude and practice of EC utilization in Dessie and Dire Dawa, Ethiopia also found that Age, living arrangement, education, marital status, religion were found to be significantly associated with the use of emergency contraceptives (46, 50).

Another study done to assess Sexual experiences and emergency contraceptive use among female university students at wachamo university, Ethiopia showed that age, marital status, religion, previous & current residence had significant association with EC use and a study done at the University of Botswana on emergency contraceptive knowledge, attitudes and practices among female students also found that students from urban areas had better knowledge than their rural counterparts (48, 59)

Family back ground factors

Family back grounds have significant effect on emergency contraceptive utilization. Different studies done in Ethiopia showed that parent educational level and communication about reproductive health related issues have significant association with emergency contraceptive utilization this means that women with increased parental education level and those women who communicate about reproductive health issue were at high chance of knowing and utilizing EC (31, 32).

Health service related factors

Access to appropriate, high-quality and modern services and products, affordable sexual and reproductive health services and information, including a full range of contraceptive methods, is fundamental to realizing the rights and well-being of women and girls, men and boys. Universal access to effective contraception ensures that all adults and adolescents can avoid the adverse health and socioeconomic consequences of unintended pregnancy and have a satisfying sexual life (3).

EC should be accessible to all women, especially to women who are in vulnerable. That is, women who have suffered or who are susceptible to the abuse of their sexual and reproductive rights. This may include unmarried women and adolescents; women who have been raped; refugee or displaced women; and HIV positive women. Many of these women have limited access to information regarding their sexuality and reproduction, to sexual and reproductive health services, and to efficient contraceptive methods. In the context of growing poverty women and girls are more exposed to all forms of abuse and sexual violence (9).

Sexual and reproductive health (SRH) and rights are influenced by cultural factors, such as socially constructed gender roles, and individual factors, such as sexual behavior and attitudes. Addressing SRH requires a lens which considers cultures and individuals when designing and providing services and addressing socially constructed gender roles. Increasing knowledge and access to emergency contraception depends on communicating effective messages. Furthermore, institutions must consider how to make emergency contraception truly accessible and affordable for unmarried women. Access for unmarried women translates into equality in terms of access to opportunities, services, and information. Promotion and information sharing is a first step. However, in order to target young women appropriately, programs should be familiar with their needs and barriers to accessing services. Institutions must guarantee access and youth-friendly services (9, 60).

Several positive policies and regulations are in place: emergency contraception products are registered in the majority of countries around the world, listed in many countries' essential medicines lists, included in widely used guidance, and supported by most donors. Yet analysis of demographic data shows that the majority of women in low-income countries have never heard

of emergency contraception, and surveys find that many providers have negative attitudes toward providing emergency contraception (61).

RH related factors

Different studies found that RH related factors have effect on KAP of emergency contraceptive utilization. Knowledge of time in menstrual cycle when pregnancy to occur, ever been pregnant and sexual experience are the most common RH related factors which have significant association with KAP of EC utilization. This means women who know the possible time in menstrual cycle in which pregnancy most likely to occur, ever been pregnant and those who had history of sexual intercourse had high chance of knowing and utilizing EC (32, 62).

Intermediate factors

Studies done in Nigeria and Ethiopia showed that different intermediate factors have effect on KAP of EC utilization. Previous use of regular contraceptives, knowing other methods preventing unwanted pregnancy and sex education are some of the intermediate factors which have significant association with EC utilizations (32, 42).

Other factors

There are also other factors which had effect on emergency contraceptive utilization such as, chewing 'Khat', consuming alcohol and exposure to mass media had significant association with KAP of emergency contraceptive utilization (32, 50).

Even if a lot of studies are done on emergency contraceptive in our country as well as world widely, the problem of unintended pregnancy, induced abortion and its complication are still high. Despite of the high number of studies on EC in our country almost all of the studies are done on tertiary level students which may have better awareness. Therefore, this study will produce better evidence since it will be done in Industry Park of unmarried women which has not been studied previously. The result of this study will help those concerned bodies to establish a clear program and policies to fulfill SRH friendly working environment for the employee.

Conceptual framework

This study will use the following factor variables to explain and determine the use of EC among unmarried Bole lemi industrial park women workers; socio demographic factor, family background factor, health service factor and other factor such as peer communication about RH issues, chewing chat, alcohol consumption, communication with boyfriends/husband about RH issues, exposure to mass media, sexual experience and exposure to sex education. The framework is adopted from Berhanu D and Nigatu R. (2011)(32) with some modifications.

Health service factor and RH related factors are newly added to the original framework from reviewed literatures.

The main outcome variable considered is EC utilization which will be explained by different explanatory variables. These are presented in the following schematic figure which shows the relationship of the variables (Figure 1).

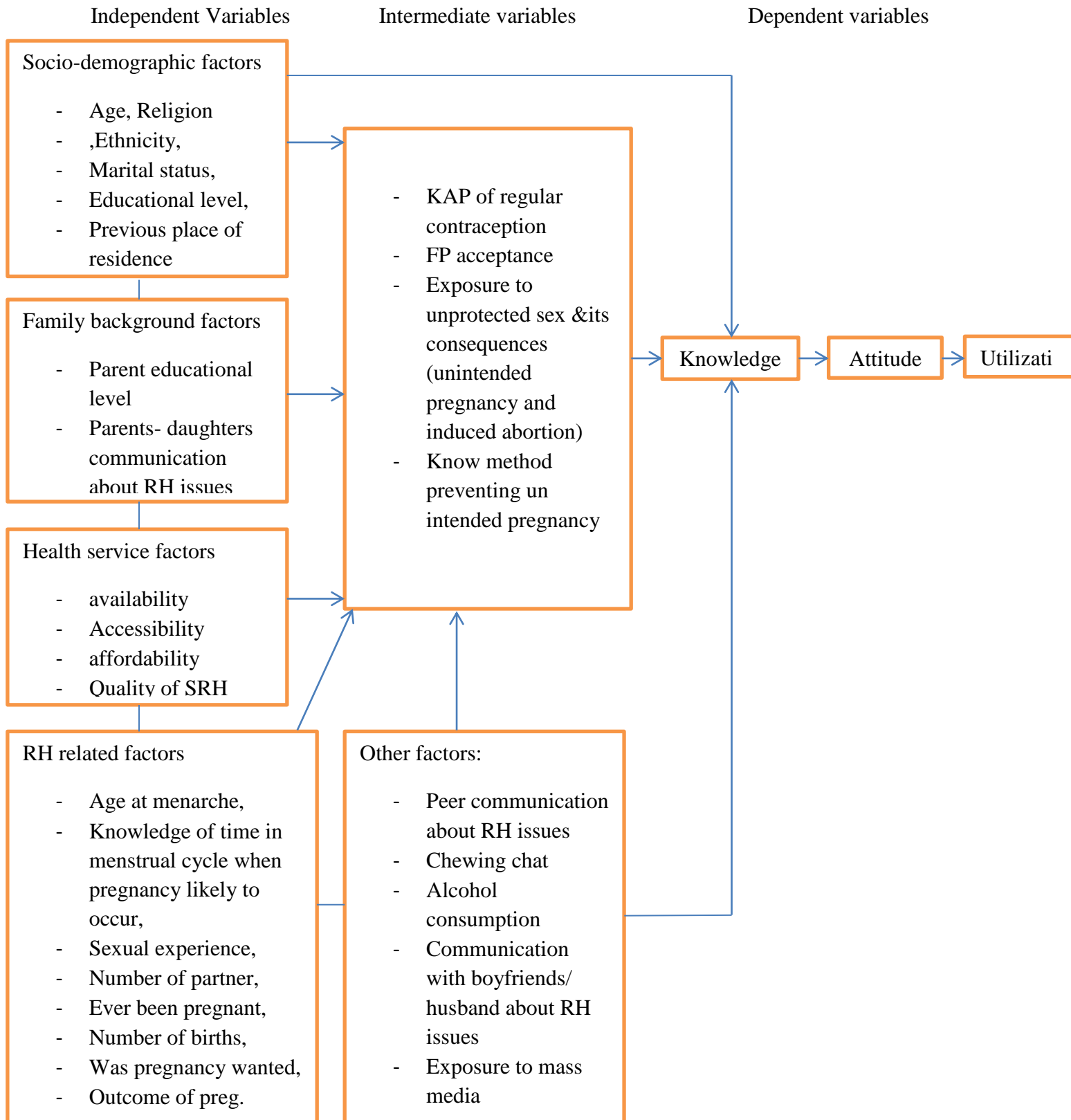


Figure 1: Conceptual framework of the study

Source: Adopted from the study done by Berhanu Desta and Nigatu Regass (2011) and modified according to the literatures reviewed

3. Objective:

3.1 General objective

To measure level of emergency contraceptive utilization and identify factors associated with it among unmarried women in Bole Lemi Industrial Park, Addis Ababa, Ethiopia, 2019/20

3.2 Specific objective

- To measures the level of emergency contraceptive use among unmarried women who working at Bole Lemi Industrial Park in Addis Ababa, Ethiopia;
- To identify factors associated with the utilization of emergency contraceptives among unmarried women who work at Bole Lemi Industrial Park;

4. Method:

4.1 Study area

This study was conducted in Bole Lemi industrial park which is located in the southeastern part of Addis Ababa closer to Bole international airport, around 4 km away from Goro square and about 860 km away from port of Djibouti. Bole lemi industrial park is Ethiopian first industrial park developed by Industrial Park Development Commission (IPDC). The construction of the industry started in 2012 and became operational in 2014. It is an export processing zone which occupied 156 hectares of which 30 hectares are for green areas. There are 11 companies (9 textile and 2 leather and leather products) which started working at the park. One of the 11 companies gives room services for its employees. According to the information obtained from the park customer service there are 17500 total workers employed out of which 90% of them are women's aged from 18 to 29 years by September 2019. Regarding health facility there is no functional health facility inside the park but there is first aid service at each company and emergency referral system if in need.

4.2 Study design and period

Institutional based cross -sectional study was conducted on unmarried women working at Bole Lemi Industrial park from August 2019 - November 2020.

4.3 Source population

All Bole Lemi industrial park workers who reside in the camp or in closer neighborhoods and work at Bole Lemi Industrial park during the study periods were the source population for this study.

4.4 Study population

Unmarried women in the age group of 18-29 years who are ordinary blue collar workers and residing in the camp or closer neighborhoods and work at Bole lemi Industrial park during the study periods were the study population for this study.

4.5 Sample population

The sample population of this study were randomly selected unmarried women in the age group of 18-29 years who are ordinary blue collar workers and residing in the camp or closer neighborhoods fulfill the inclusion criteria

4.6 Inclusion and Exclusion criteria

➤ Inclusion criteria

- ✚ All women who are blue collar workers and residing in the camp or closer neighborhoods who work at Bole Lemi Industrial park and present during the data collection period were included.

➤ Exclusion criteria

- ✚ Women who are sick and unable to communicate during the data collection period were excluded.

4.7 Measurements

The instrument for this study was adopted from a previous study (PMA 2020, EDHS 2016 and a study done on unmarried women in Adama 2016) on emergency contraceptive and modify it contextually then pretest was done to check the clarity and consistency of the instrument, self-administered structured questionnaire was employed for study and knowledge was measured and considered knowledgeable if a women answer more than or equal to the mean score of the knowledge questions correctly, The women's attitudes was measured based on their intention to use EC in the future when the need arises therefore, they were considered positive attitude if they have intention to use and utilization of emergency contraceptives: implies subjects who had ever used emergence contraceptive.

4.8 Sample Size and Sampling Procedure

4.8.1 Sample Size

The sample size of this study was calculated by using both single and double population proportion formulas for the two objectives.

For objective One

The sample size for objective one was determined by using single population proportion formula with the assumption of 95% Confidence level, margin of error of 5% and prevalence of women who are aware of Emergency contraceptive was 38.7% from a study done in Adama unmarried women(63).

Therefore the Sample size is calculated as follows

$$n = \frac{Z_{\alpha/2}^2 p(1-p)}{d^2}$$

Where

n=minimum sample size needed

d=desired precision (5%)

p=proportion of women who are aware of emergency contraceptives

$Z_{\alpha/2}=1.96$ at confidence level 95 %

Based on the above assumption, the sample size calculated was **365** and add non response rate of 10 % to gate the sample size of **406**.

For objective Two

For the second objective the sample size is calculated by double proportion formula using Epiinfo version 7 as follows:

Table 1- Sample size calculation for associated factors using double population proportion formula

S.no	Associated factor (variable)	Proportion of outcome among unexposed	Ratio of unexposed to exposed	AOR	Power (%)	CI (%)	Non response rate (%)	Calculated sample size (n)	Reference
1	Age (20+)	30.1	1.37	1.97	80	95	10	363	(63)
2	Education								(46)
	primary	26.4	1.32	0.055	80	95	10	90	
	secondary	18.9	1.48	0.059	80	95	10	136	
3	Marital status (M)	11.1	1.8	0.002	80	95	10	216	(46)
4	Religion (Muslim)	13	2.25	4.113	80	95	10	135	(46)

Therefore, the maximum sample size **406** were selected from the two formulas and multiplied with design effect of 2 to get the final sample size **812** due to the multi stage nature of sampling methods.

4.8.2 Sampling Procedure

Bole Lemi industrial park was purposefully selected to conduct this study because of resource constrict to include other industrial parks which are located far from Addis Ababa and Bole Lemi industrial park is the first industrial park developed by Industrial Park Development Commission (IPDC) in Addis Ababa which produces products only for Export standard. There are 11 companies inside the park out of them 4 companies were randomly selected for conducting this study by simple random sampling method. The final calculated sample size was proportionally allocated to each selected companies. After calculating the sampling interval for each company by dividing the number of employee which fulfills the inclusion criteria with the proportionally allocated sample sizes to each selected companies the study participant were selected using lottery methods after arranging the name of employee alphabetically and every kth will be selected.

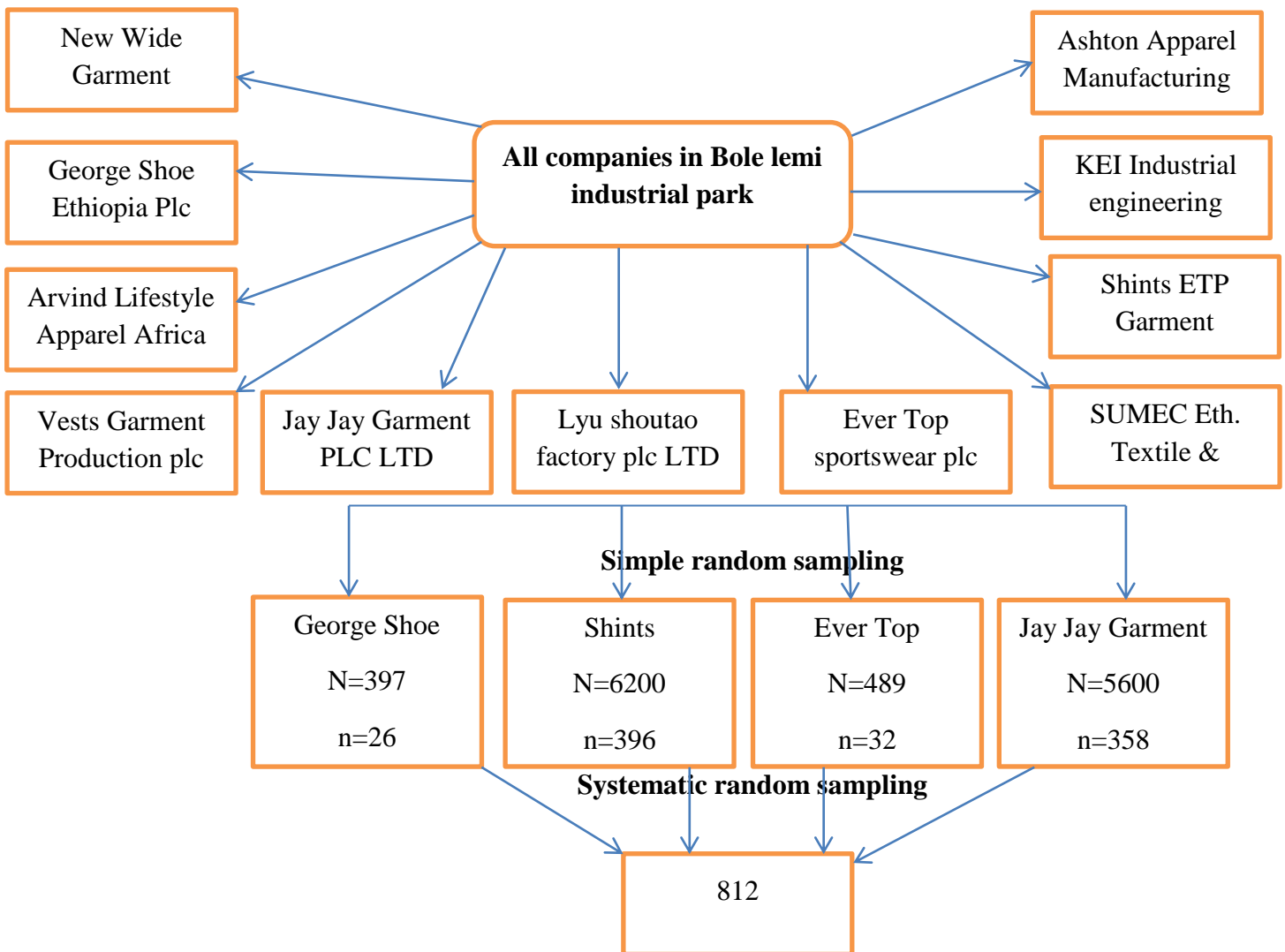


Figure 2: Schematic presentation of sampling procedure

4.9 Study variables

4.91 Dependent/outcome variables

- ✚ The dependent variable of this study was emergency contraceptive utilization.

4.92 Independent/explanatory variables

The Independent/explanatory variables of this study were:

- ✚ Socio-demographic (age, religion, ethnic group, educational status, occupation, income)
- ✚ Family background factors (Parent educational level and Parents-daughters communication about RH issues)
- ✚ Reproductive health characteristics (age at menarche, knowledge of time in menstrual cycle when pregnancy likely to occur, sexual exposure, reason for sexual practice, number of partner, ever been pregnant, number of births, was pregnancy wanted, outcome of pregnancy, communication about RH issues, ever heard about contraceptive methods, ever used and contraceptive, current use of contraceptive)
- ✚ Health service factors (availability, accessibility, affordability and quality of SRH services)
- ✚ Other factors: (peer communication about RH issues, chewing chat, alcohol consumption, communication with boyfriends/ husband about RH issues and exposure to mass media)

4.10 Operational definition

Knowledge: Knowledge was quantified based on correct responses to a series of questions on identification, types of emergency contraceptives, usage and time frame for effective use. Therefore a women is considered knowledgeable if she answer more than or equal to the mean score of the knowledge questions correctly.

Attitude: The women's attitudes was measured based on their intention to use EC in the future when the need arises therefore, they was considered positive attitude if they have intention to use.

Utilization of emergency contraceptives: utilization implies sexually active unmarried women who had ever used emergence contraceptive.

Unmarried women: A women who are widowed, divorced, separated or have never been married.

4.11 Data collection tools

Self-administered, structured questionnaire were used to inquire the data from the respondents and 4 BSC nurse were recruited to facilitate the data collection process that can speak and hear both Amharic and oromifa. The questionnaire was adapted from similar literatures used in this study as a reference with customization by considering the local situation (PMA2020), (51, 63). The survey questionnaire was organized in different components, and the English version was translated to Amharic and oromifa language to inquire the data.

4.12 Data Quality Control

The English version questionnaire was translated to Amharic and Oromifa languages and amended after pretest on 5% of the samples. The questionnaire was also being re-translated to English by person who are good in doing so to check for consistency. Data collection facilitators were given 2 days training on objectives, relevance of the study, confidentiality, respondent right, and informed consent and collected datas were checked for completeness and consistency on daily basis by the facilitators and principal investigator. The hard copy of the data was stored in confidential places for back up in time of need. Data collection was held after orienting the study participants

4.13 Data Processing and Analysis

After all the data collected, Data entry was made on pre-arranged coding sheet using Epi-data version 3.1.software and then exported to Statistical Package for Social Sciences (SPSS) version 23 for further analysis. Before the analysis, data was cleaned for possible errors. Data was presented using frequency, proportions and summary statistics to describe the study variables and factors associated with emergency contraceptive utilization. Bivariate logistic regression was carried out to identify variables that independently associate with emergency contraceptive utilization. Variables which become significantly associated in bivariate analysis were entered into multivariate logistic regression then variables with p- value <0.05 was taken as significantly associated with dependent variables and negative binomial logistic regression analysis also employed to identify factors associated with frequency of EC utilization and presented using tables. Chi square test was calculated to asses' weather the association was real or by chance.

4.14 Ethical Consideration

Ethical approval and permission was obtained from research ethical committee of AAU school of public health. Permission was obtained from each company. Verbal consent also obtained from each participant and brief explanation of aim of study was provided and the right of the participants to don't participate or discontinue the study was maintained and assured that they would not get any harm as well as any individual benefit in the form of cash by participating or not participating on the study. Therefore, only those who are volunteers were included in the study. The individuals who agreed to participate on the study were given the questionnaire to fill privately to ensure privacy. Strict confidentiality was assured through anonymous recording and coding of questionnaires and the data collected from each participant was kept confidential.

4.15 Dissemination of Finding

The final soft and hard copy of this paper will be disseminated to Public health department of AAU, Addis Ababa health office, ministry of health and IPDC where it may help for further consideration of the problems.

5. Result

From 812 sampled unmarried Bole lemi industrial park women workers, 13 questioners were excluded because of incompleteness and 66 participants were not willing to participate on this study. Complete responses were obtained from a total of 733 participants yielding 90.3% response rate.

5.1 Socio-demographic Characteristics of Respondents

The respondent's socio-demographic characteristics such as; Age, Religion, Ethnic group, Educational status, Marital status and Monthly income are described in table 2. The age of study participants ranged from 17-29 years with mean age of 22.73 ± 3.13 years, and the majority of them 303 (41.3%) were between 21 and 24 years. Regarding religion 460 (62.8%) are orthodox and 170 (23.2%) protestant followers and 306 (41.7%), 281 (38.3%) of the study participants were from Oromo and Amhara ethnic groups respectively. About 395 (53.9%) of the respondents were grade 9 to 12 in education and 616 (84%) were unmarried.

Table 2:- Socio-demographic characteristics of unmarried women Bole lemi industrial park workers, September 2020.

Characteristics		Frequency N=733	Present (%)
Age	Under 20	208	28.4
	21-24	303	41.3
	25 and older	222	30.3
Religion	Orthodox	460	62.8
	Muslim	75	10.2
	Protestant	170	23.2
	Other	28	3.7
Ethnic Group	Oromo	306	41.7
	Amhara	281	38.3
	Tigray	20	2.7
	Gurage	50	6.8
Educational level	Other	46	10.3
	5th-8th grade	213	29.1
	9th-12th grade	395	53.9
Marital Status	Higher education	125	17.1
	Unmarried	616	84
	Divorced	42	5.7
Monthly Income	Separated	57	10.2
	less than 1000	142	19.4
	1000-1999	253	34.5
	2000-2999	301	41.1
	3000-3999	25	3.4

5.2 Reproductive health related characteristics

Reproductive health related characteristics such as age at menarche, knowledge of time in which pregnancy most likely to occur, sexual experience, age at first sex, reason for sexual experience, ever been pregnant, number of birth, age at first pregnancy and communication about RH issue were considered. Therefore, table 3 showed that age at menarche ranges from 10-19 years with a mean age of 14.17 ± 1.345 years. Five hundred thirty one (72.4%) of the respondents of age at menarche were between 13 and 15 years, one hundred eleven (15.1%) of them between 16 and 19 and about seventy four (10.1%) of the respondents age at menarche were between 10 and 12 years. Only three hundred thirteen (42.7%) of the respondents know the correct time in which pregnancy most likely to occur which is if they had unprotected sexual intercourse between the second and third weeks of menstrual cycle. On the other hand, significant proportions (57.3%) of the respondents were not aware of the possible time in which pregnancy most likely to occur.

From 733 total respondents 372 (50.8%) have had sexual intercourse in their life time. The age at first sexual intercourse ranges from 15-24 years with a mean age of 18.68 ± 1.496 years and thirty three (8.8%) of the respondent started sexual intercourse before 18 years of age. The main reasons for sexual intercourse were love three hundred fifty two (94.6%) and rape/forced sex twenty (5.4%). Three hundred fourteen (84.4%) and fifty (13.4%) of sexual experienced participants reported that they had sexual relations with one and two partners respectively in their lifetimes.

Table 3:- Reproductive health characteristics of unmarried women Bole lemi industrial park workers, September 2020

Variable		Frequency	Present (%)
Age at 1 st Menarche (n=733)	10-12	91	12.4
	13-15	531	72.4
	Greater than or equal to 16	111	15.1
Knowledge of time in which pregnancy most likely to occur (n=733)	During the menstrual flow	30	4.1
	The first week of menstrual cycle	111	15.1
	The second and third week of men	313	42.7
	I don't know	279	38.1
Ever had sexual intercourse (n=733)	Yes	372	50.8
	No	361	49.2
Age at 1st sex (n=372)	Less than 15	2	0.54
	15-17	31	8.3
	Greater than or equal to 18	339	91.2
Reason for sex (n=372)	Rape/forced sex	20	5.4
	Love	352	94.6
Number of sexual partner (n=372)	One	314	84.4
	Two	50	13.4
	Three or more	8	2.1

Among those who had sexual experience three hundred seventy two (50.8), fifty six (15.1%) had an experience of pregnancy at least once in their life and the mean age at first pregnancy were 20.3 ± 2.08 years. Out of fifty six total pregnancy, twelve (21.4%) were unwanted and ten (17.9%) ended with induced abortion. Out of this induced abortion all of them were performed in hospital or clinics (table 4).

Table 4:- Pregnancy and outcomes of pregnancy among unmarried women Bole lemi industrial park workers, September 2020.

Variable		Frequency	Present (%)
Ever been pregnant (n=372)	Yes	56	15.1
	No	316	84.9
Number of pregnancy (n=56)	0	1	1.8
	1	33	58.9
	2	20	35.7
	3	1	1.8
	4	1	1.8
Age at first pregnancy (n=56)	Under 18	11	19.6
	18-20	23	41.1
	21 and More	22	39.3
Pregnancy was wanted (n=56)	Yes	44	78.6
	No	12	21.4
If not wanted reason for not preventing the pregnancy (n=12)	Forced sexual intercourse	2	16.7
	Forget to take pills	1	8.3
	infrequent sex	8	66.7
	Perceived not to become pregnant	1	8.3
Outcome of pregnancy (n=56)	Child birth	46	82.1
	Induced abortion	10	17.9
	Hospital/clinic	10	100
Place of induced abortion (n=10)	Local performer	0	0
	Other specify	0	0

About three hundred eighty nine (53.1%) of the respondents had communication about reproductive health issues. Among those who had communication two hundred sixty four (67.9%) and ninety nine (25.4) of them communicate with their friends and mothers respectively and only sixty six (17%) of them communicate with health professionals.

Table 5:- Communication of RH issue among unmarried women Bole lemi industrial park workers, September 2020

Variable		Frequency	Present (%)
Communication about RH issue (n=733)	Yes	389	53.1
	No	344	46.9
Communication of RH issue with (389) ^a	Mother	99	25.40%
	Father	15	3.90%
	Sister	86	22.10%
	Friends	264	67.90%
	Health professionals	66	17.00%
	Other	17	4.40%

a. Sum may exceed the exact number or 100% due to multiple responses.

5.3 Substance use

Table 6 showed that, one hundred eighty one (24.7%) of the study participants ever had took alcohol (Tella/Tegi/Areke/Beer/Wine, etc...) in their life time. Almost all (96.1) of them drink for less than 5 days in a month and they drink at least once a week in the last 13 months but only three (0.4%) of the study participants had chewed khat.

Table 6:- Substance use among unmarried women Bole lemi industrial park workers, September 2020.

Variable		Frequency	Present (%)
ever chewed khat (n=733)	Yes	3	0.4
	No	730	99.6
ever taken a drink that contains alcohol (733)	Yes	181	24.7
	No	552	75.3
Number of Day In a Month Alcohol Consumed (n=181)	Less than 5	174	96.1
	10-May	5	2.8
	15-Oct	1	0.6
	Greater or equal to 15	1	0.6
During the last 13 months, how often did you take a drink (n=181)	Almost everyday	0	0
	At least once a week	181	100
	Less than once a week	0	0
	None in the last 13 months	0	0

5.4 knowledge and utilization of contraception

Table 7 showed that about six hundred eighty five (93.5%) of the total respondent had ever heard at least one types of modern contraceptive methods. Injectable contraceptive methods were the most commonly known method by five hundred twenty one (76.1%) of the respondents followed by oral contraceptive pills which were heard by four hundred ninety seven (72.6%) of the respondents, IUD and condom also heard by one hundred forty eight (21.6%) and one hundred forty five (21.2%) of the respondents respectively. Mass media (TV, Radio) for two hundred thirty six (34.5%), family /friends for two hundred thirty two (33.9%), formal education for two hundred twenty three (32.6) and health workers for two hundred one (29.3) were the common source of information.

Table 7:- knowledge of contraception among unmarried women Bole lemi industrial park workers, September 2020.

Variable		Frequency	Present (%)
Ever heard about contraceptive methods (n=733)	Yes	685	93.5
	No	48	6.5
Types of contraceptive methods heard (n=685) ^a	Oral pills	497	72.60%
	Injectable	521	76.10%
	IUD	148	21.60%
	Condom	145	21.20%
	Implant	312	45.50%
	Female sterilization	46	6.70%
	Male sterilization	32	4.70%
	Other	1	0.10%
	Mass Media(TV, Radio)	236	34.50%
Sources of Information About Contraceptive (n=685) ^a	Health workers	201	29.30%
	Family/friends	232	33.90%
	Formal education	223	32.60%
	Health institution	91	13.30%
	Other	2	0.30%

a. Sum may exceed the exact number or 100% due to multiple responses.

Three hundred thirty six (90.3%) of those start sexual intercourse or 49.1% of those ever heard of any contraceptive methods had ever used at least one types of contraceptive methods once in their life time. The most commonly used contraceptives were injectable two hundred thirty six (70.2%) and oral pills eighty eight (26.2%). Private clinics one hundred thirty (38.7%), public

health institutions one hundred thirteen (33.6%) and pharmacy seventy two (21.4%) were the main source of services for the majority of the respondents. On the other hand, forty three (12.8%) of the respondents still used contraceptive methods during the data collection period (table 8).

Table 8:- Utilization of contraception among unmarried women Bole lemi industrial park workers, September 2020.

Variable		Frequency	Present (%)
Contraceptive ever used (n=685)	Yes	336	49.1
	No	349	50.9
Types of Contraceptive Ever Used (n=336) ^a	Oral pills	88	26.20%
	Injectable	236	70.20%
	IUD	2	0.60%
	Condom	2	0.60%
	Implant	31	9.20%
	Other	2	0.60%
	FGAE	21	6.3
Contraceptive supplies obtained from (n=336)	Public health institution	113	33.6
	Private clinic	130	38.7
	Pharmacy	72	21.4
	Other	0	0
Using contraceptive methods currently (n=336)	Yes	43	12.8
	No	291	86.6

a. Sum may exceed the exact number or 100% due to multiple responses.

5.5 Knowledge of Emergency Contraception

Table 9 showed that, three hundred sixty five (49.8%) of the total study participants had ever heard of emergency contraceptives. Three hundred sixty three (99.7%) of those ever heard respondents mentioned emergency contraceptive pills and seven (1.9%) of them mentioned both emergency contraceptive pills and IUD as emergency contraceptive methods. The major sources of information for emergency contraceptives were family/friends which accounts for two hundred seventy (59.5%), formal education for ninety one (24.9%) and health workers/institutions for eighty six (23.6%) of the respondents. From those who had ever heard of emergency contraceptives three hundred two (82.7%) of them correctly identify times of administration for emergency contraceptive pills and only sixty three (17.3%) of them correctly identify times of administration for IUD after exposure to unprotected sexual intercourse. When they are asked

about how EC works, two hundred ninety five (80.8%) of the respondents mentioned that EC prevents the occurrence of pregnancy while, Fifty five (15.1%) of the respondents don't know how EC works and fifteen (4.1%) of the respondent mentioned that EC induces abortion. Unprotected sex without using any contraceptive methods 276 (75.6%), forced sex 245 (67.1%), missed pills 175 (47.9%) and condom slippage or broken 166 (45.5%) were stated as appropriate situation to use emergency contraceptives to prevent the occurrence of unintended pregnancy.

Table 9:- Knowledge of Emergency Contraception among unmarried women Bole lemi industrial park workers, September 2020.

Variable		Frequency	Present (%)
Ever heard of EC (n=733)	Yes	365	49.8
	No	368	50.2
Types of EC Ever Heard (n=365) ^a	Emergency contraceptive pills	363	99.70%
	Both emergency pills & IUD	7	1.90%
	Others	1	0.30%
	Mass Media(TV, Radio)	23	6.30%
Sources Of Information About EC (n=365) ^a	Health workers	59	16.20%
	Family/friends	217	59.50%
	Formal education	91	24.90%
	Health institution	27	7.40%
	Immediately after sex	24	6.6
When to take EC pills after exposure to unprotected sex (n=365)	Within 24 hrs. after sex	26	7.1
	Within 72 hrs. after sex	302	82.7
	After missed period	1	0.3
	I don't know	12	3.3
	Immediately after sex	23	6.3
When to take IUD pills after exposure to unprotected sex (n=365)	Within 24 hrs. after sex	12	3.3
	Within 72 hrs. after sex	45	12.3
	Within 5 days after sex	63	17.3
	Within one week after sex	3	0.8
	I don't know	219	60
Situation When EC Should Be Taken (n=365) ^a	when forced sex	245	67.10%
	when condom slippage/broken	166	45.50%
	when there is missed pill	175	47.90%
	when unprotected sex without any contraceptive method	276	75.60%
	Other	1	0.30%

a. Sum may exceed the exact number or 100% due to multiple responses.

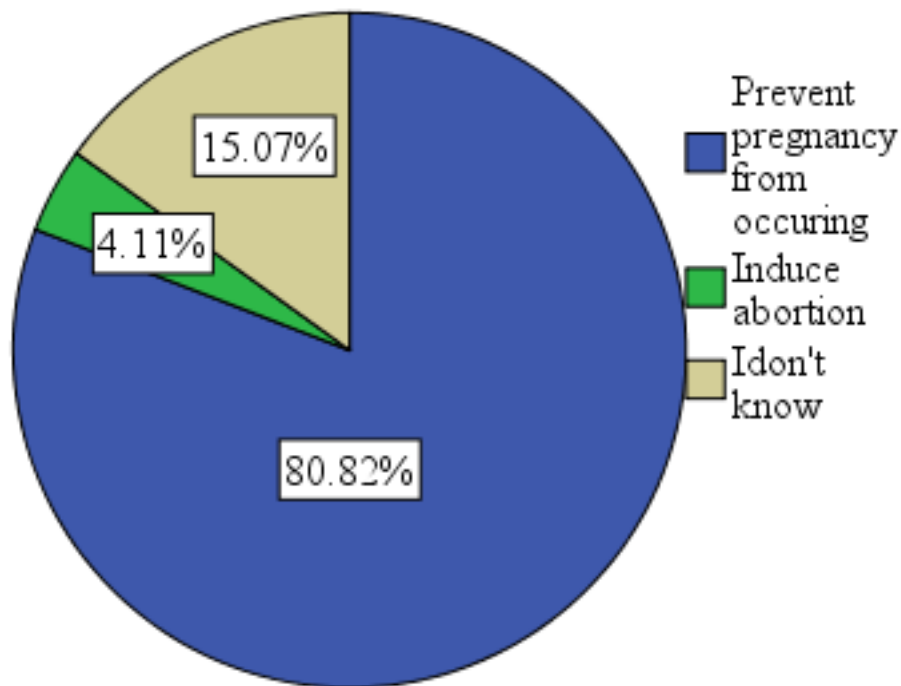


Figure 3: Pie chart showing the percentage of response of women on how EC works of women Bole lemi industrial park workers, September 2020

The mean score for knowledge question were calculated to categorize study participants into good and poor knowledge. The mean score of knowledge questions were 1.9718. Mean and standard deviation were 2 and 0.237 respectively. Therefore, five hundred twenty seven (71.9%) had good knowledge of emergency contraceptives and two hundred six (28.1%) study participants had poor knowledge of emergency contraceptives (table 10).

Table 10:- knowledge summary of Emergency Contraceptive among unmarried women Bole lemi industrial park workers, September 2020.

Variable	Frequency	Present (%)
Knowledge	Poor knowledge	206 28.1
	Good knowledge	527 71.9

5.6 Practice of Emergency Contraception

Table 11 showed that about 115 (30.9%) of sexually active, (31.5%) of those ever heard EC or (15.7%) of the study participants used emergency contraceptives previously. Almost all of them used emergency contraceptive pills 112 (97.4%) as emergency contraceptive. Forty one (35.7%) of the study subjects were used only once but twenty seven (23.5%), twenty five (21.7) and twenty one (18.3%) of them were used for more than three, three and two times in their lifetimes. The main reason for using EC were not used any contraceptive which accounts for eighty six (74.8%) of the study participants followed by forced sex thirty (11.3) and forget to take contraceptive pill ten (8.7%). Among those who had used EC, the majority eighty four (73%) got the service from pharmacy followed by public health institution forty (12.2%) and private clinic nine (7.8%).

To assess their opinion and concern to wards EC they were asked a question “to whom EC should be given” and almost half three hundred seventy five (51.2%) of the respondent responded to all women who need it followed by to raped victims three hundred two (41.2). Their main concerns for not saying to all women who need it were it may increase risk behavior two hundred ten (58.7%), fear of side effect forty six (12.8%), propagate HIV/AIDS thirty seven (10.3%) and fear of miss use thirty six (10.1%).

Table 11:- Practice of Emergency Contraceptive among unmarried women Bole lemi industrial park workers, September 2020.

	Variable	Frequency	Present (%)
Ever used EC (n=365)	Yes	115	31.5
	No	250	68.5
Types of EC ever used (n=115)	Oral pills	112	97.4
	Other	2	1.7
	Not recorded	1	0.9
	Once	41	35.7
Frequency of EC used (n=115)	Twice	21	18.3
	Three times	25	21.7
	More than three times	27	23.5
	not recorded	1	0.9
	Condom slippage	5	4.3
Reason for using EC (n=115)	Forced sex	13	11.3
	Not used any contraceptive	86	74.8
	Forget to take contraceptive pill	10	8.7
	Not recorded	1	0.9
	FGAE	7	6.1
	Public health institution	14	12.2
Source of EC (n=115)	Private clinics	9	7.8
	Pharmacy	84	73
	Not recorded	1	0.9
	To all women who need it	375	51.2
To whom EC should be given (n=733)	To married women only	9	1.2
	To young female	44	6
	To raped victims	302	41.2
	Not recorded	3	0.4
	It may increase risk behavior	210	58.7
Why not for all women who need (n=358)	Fear of misuse	36	10.1
	Propagate HIV/AIDS	37	10.3
	May hurt the fetus in case it do it does not work	18	5
	Fear of side effect	46	12.8
	Religious reasons	5	1.4
	Not recorded	6	1.7

5.7 Attitude of Emergency Contraception

To assess the attitude of the respondent their intention to use EC in the future if the need arises were asked and those who had an intention to use were considered positive attitude and the opposite considered negative attitude. Therefore, as table 12 showed that five hundred sixty six (77.2%) of the respondents had positive attitude towards EC. Regarding their preference from where they want to get the service about two hundred forty five (43.3%) of the respondent prefer pharmacy to get the services followed by public institution two hundred twelve (37.4%), FGAE sixty eight (12%) and private clinics forty one (7.2%).

Table 12:- Attitude of Emergency Contraceptive utilization among unmarried women Bole lemi industrial park workers, September 2020

Variable		Frequency	Present (%)
Intention to use EC in the future if the need arises	Yes	566	77.2
	No	167	22.8
	FGAE	68	12
Preference to get the service	Public institution	212	37.4
	Private clinics	41	7.2
	Pharmacy	245	43.3

5.8 Factors Associated With knowledge attitude and Utilizations of Emergency Contraceptives

Cross tabulation and logistic regression analysis was carried out to determine the association between socio-demographic, reproductive health related, substance uses and knowledge of contraception factor with knowledge, attitude and utilization of emergency contraceptives among the respondents.

5.8.1 Factor Associated with knowledge of emergency contraceptive

On bivariate logistic regression analysis age, religion, knowledge of time in which pregnancy most likely to occur, age at first sex, communication about RH issue and contraceptive ever used were associated with knowledge of EC with p-value of less than 0.25. Therefore those variables which had an association with knowledge of EC on bivariate logistic regression analysis were further analyzed with multivariate logistic regression analysis to see the presence of association as well as the strength of association. Table 13 showed that knowledge of time in which pregnancy most likely to occur had statistical significant association with knowledge of EC ($X^2 = 15.57$, $df = 2$, $AOR = 0.45$ (95% CI: 0.26, 0.75), $p\text{-value} < 0.003$). This means that those respondents who correctly identify the most likely period in which pregnancy most likely to occur had 55% less chance of knowing EC than those who don't know the possible time in which pregnancy occur. Age at 1st sex also had statistical significant association with knowledge of EC ($X^2 = 7.432$, $df = 1$, $AOR = 0.34$ (95% CI: (0.13, 0.93), $p\text{-value} < 0.035$) which means those respondents whose age at 1st sex < 18 years had 66% less chance of knowing EC than those age at 1st sexual intercourse ≥ 18 years. The result of chi-square test also showed that the relation between dependent and independent variable is real (not by chance). Other characteristics like age, religion, communication about RH issue and contraceptive ever used had no statistical significant association with knowledge of EC.

Table 13:- Relation-ship between sociodemographic, RH related, contraceptive ever heard and used with knowledge of EC among unmarried women Bole lemi industrial park workers, September 2020.

Characteristics	Knowledge of EC		COR (95%CI)	AOR (95%CI)	P-Value	
	Poor	Good				
Age	Less than 24	126	385	1.72 (1.23, 2.42)	1.29 (0.81, 2.07)	0.28
	Greater or equal to 24	80	142	1	1	
Religion	Orthodox	133	328	0.76 (0.51, 1.11)	1.71 (0.99, 2.96)	0.64
	Muslim	27	49	0.56 (0.31, 0.99)	0.83 (0.39, 1.8)	
	Protestant and other	46	150	1	1	
Knowledge of time in which pregnancy most likely to occur	During menstrual flow & 1 st week of menstrual cycle	45	97	0.53 (0.34, 0.84)	0.62 (0.33, 1.19)	0.003
	2 nd and 3 rd week of menses	106	207	0.48 (0.33, 0.7)	0.45 (0.26, 0.75)*	
	I don't know	55	223	1	1	
	Less than 18	5	32	0.28 (0.11, .74)	0.34 (0.13, 0.93)*	
Age at 1 st sex	Greater or equal to 18	120	215	1	1	0.035
Communication about RH issue	Yes	137	252	0.46 (0.33, 0.65)	0.85 (0.41, 1.77)	0.66
	No	69	275	1	1	
Contraceptive ever used	Yes	113	223	0.72 (0.52, .995)	0.82 (0.51, 1.31)	0.40
	No	93	256	1	1	

* Statistical significant

5.8.2 Factor Associated with Attitude of emergency contraceptive

On bivariate logistic regression analysis religion, ethnic group, monthly income, knowledge of time in which pregnancy most likely to occur, 1st age of menarche, ever had sexual intercourse, communication about RH issue and ever heard of contraceptive were associated with attitude of EC with p-value of less than 0.25. Therefore those variables which had an association with attitude of EC on bivariate logistic regression analysis were further analyzed with multivariate logistic regression analysis to see the presence of association as well as the strength of association. Table 14 showed that socio-demographic characteristics like religion, ethnic group and monthly income had statistical significant association with attitude of EC ($X^2 = 22.806$, $df = 2$, $AOR = 0.13$ (95% CI: 0.04, 0.38), $p\text{-value} < 0.000$), ($X^2 = 10.828$, $df = 2$, $AOR = 0.48$ (95% CI: 0.28, 0.84), $p\text{-value} < 0.01$) and ($X^2 = 8.667$, $df = 4$, $AOR = 0.11$ (95% CI: 0.02, 0.52), $p\text{-value} < 0.007$) respectively. Moreover, RH related factors such as:- age at 1st menarche, knowledge of time in which pregnancy most likely occur, communication about RH issue and Ever heard of contraceptive had statistical significant association with attitude ($X^2 = 9.964$, $df = 2$, $AOR = 0.31$ (95% CI: 0.13, 0.76), $p\text{-value} < 0.007$), ($X^2 = 38.174$, $df = 3$, $AOR = 0.07$ (95% CI: 0.01, 0.36), $p\text{-value} < 0.02$), ($X^2 = 18.883$, $df = 1$, $AOR = 1.03$ (95% CI: 0.33, 0.74), $p\text{-value} < 0.01$) and ($X^2 = 21.628$, $df = 1$, $AOR = 0.37$ (95% CI: 0.18, 0.77), $p\text{-value} < 0.008$) respectively. On the other hand ever had sexual intercourse had no statistical significant association with attitude of EC. The result of chi-square test showed that the relation between dependent and independent variable is real (not by chance).

Table 14:- Relation-ship between socio-demographic, RH related, contraceptive ever heard and used with Attitude of EC among unmarried women Bole lemi industrial park workers, September 2020

Characteristics		Attitude of EC		COR (95%CI)	AOR 95%CI	P-Value
		Positive	Negative			
Religion	Orthodox	363	98	0.56 (0.38, 0.81)	0.61 (0.37, 1.0)	0.0001
	Muslim	71	5	.145 (.056, .377)	0.13 (0.04, 0.38)*	
	Protestant and other	132	64	1	1	
Ethnic group	Oromo	227	79	0.87 (0.56, 1.35)	0.65 (0.39, 1.1)	0.01
	Amhara	234	46	0.49 (0.31, 0.79)	0.48 (0.28, 0.84)*	
	Tigray and other	105	42	1	1	
Monthly income	less than 1000	107	35	0.33 (0.099, 1.08)	0.11 (0.02, 0.52)*	0.007
	1000-1999	205	48	0.23 (0.07, .76)	0.08 (0.02, 0.38)*	
	2000-2999	231	70	0.30 (0.10, 0.97)	0.12 (0.03, 0.56)*	
	3000-3999	17	8	0.47 (0.12, 1.93)	0.22 (0.04, 1.32)	
	≥4000	6	6	1	1	
First age of menarche	10-12	66	8	0.26 (0.12, 0.63)	0.31 (0.13, 0.76)*	0.01
	13-15	411	120	.661 (.421, 1.039)	0.69, (0.41, 1.14)	
	Greater or equal to 16	77	34	1	1	
Knowledge of time in which pregnancy most likely to occur	During the menstrual flow	28	2	0.13 (0.03, 0.56)	0.07 (0.01, .36)*	0.02
	1 st week of menstrual cycle	93	18	0.36 (0.21, 0.64)	0.5 (0.27, 0.93)*	
	2 nd and 3 rd week of menses	263	50	0.36 (0.24, 0.53)	0.4 (0.26, .61)*	
	I don't know	182	97	1	1	
Ever had sexual intercourse	Yes	298	74	0.72 (0.51, 1.01)	1.03 (0.68, 1.56)	0.89
	No	268	93	1	1	
Communication about RH issue	Yes	325	64	0.46 (0.32, 0.66)	0.49 (0.33, 0.74)*	0.01
	No	241	103	1	1	
Ever heard of contraceptive	Yes	542	143	0.26 (0.15, 0.48)	0.37 (0.18, 0.77)*	0.008
	No	24	24	1		

5.8.3 Factor Associated with utilization of emergency contraceptive

On bivariate logistic regression analysis religion, 1st age of menarche and contraceptive ever used were associated with utilization of EC with p-value of less than 0.25. Therefore those variables which had an association with utilization of EC on bivariate logistic regression analysis were further analyzed with multivariate logistic regression analysis to see the presence of association as well as the strength of association. Table 15 showed that religion has statistical significant association EC utilization ($X^2 = 9.337$, $df = 2$, $AOR = 2.94$ (95% CI: 1.45, 5.96), p -value < 0.005) this means that respondents who are orthodox and muslim in religion had higher odd of utilizing EC than protestant. Contraceptive ever used also had statistical significant association with EC utilization ($X^2 = 93.427$, $df = 1$, $AOR = 0.18$ (95% CI: 0.05, 0.66), p -value < 0.001) this means that respondents who ever used contraceptive had 82% less likely to utilize EC than not ever used contraceptive. The result of chi-square test showed that the relation between dependent and independent variable is real (not by chance).

Table 15:- Relation-ship between socio-demographic, RH related, contraceptive ever heard, contraceptive ever used, knowledge and attitude of EC with utilization of EC among unmarried women Bole lemi industrial park workers, September 2020

Characteristics	Utilization of EC		COR (95%CI)	AOR (95%CI)	P-Value
	Yes	No			
Religion	Orthodox	68	175	2.16 (1.28, 3.64)	0.005
	Muslim	11	32	2.44 (1.08, 5.51)	
	Protestant and other	36	43	1	
First age of menarche	10-12	14	26	1.53 (.65, 3.58)	0.06
	13-15	74	191	2.12 (1.15, 3.92)	
	Greater or equal to 16	23	28	1	
Contraceptive ever used	Yes	106	95	0.05 (0.03, 0.11)	0.001
	No	9	155	1	

* Statistical significant association

5.8.4 Factor Associated with frequent use of emergency contraceptive

On negative binomial regression analysis age, religion, ethnic group, educational level, marital status, income level, age at 1st menarche, age at 1st pregnancy, communication about RH issue, contraceptive ever used, knowledge of EC and attitude of EC were associated with frequent use of EC with p-value of less than 0.25. Therefore, those variables which had an association with frequent use of EC on negative binomial regression analysis were further analyzed to get the AIRR to see the presence of association as well as the strength of association. Table 16 showed that marital status had statistical significant association with frequent use of EC ($X^2 = 23.528$, $df = 8$, $AIRR = 0.5$ (95% CI: 0.32, 0.78), $p\text{-value} < 0.002$) which means that unmarried respondents were 0.5 times frequently used EC than separated. Level of income and communication about RH issue had also statistical significant association with frequency of EC (($X^2 = 41.907$, $df = 8$, $AIRR = 0.05$ (95% CI: 0.01, 0.66), $p\text{-value} < 0.02$) and ($X^2 = 15.599$, $df = 8$, $AIRR = 8.84$ (95% CI: 2.1, 37.2), $p\text{-value} < 0.003$)) respectively. That means respondents with income level 1500-2999 were 0.05 times frequently use EC than income level >3000 and respondents with age at 1st pregnancy <18 were 8.85 times frequently use EC than ≥ 21 . Moreover, contraceptive ever used, knowledge of EC and attitude of EC had statistical significant association with frequency of EC (($X^2 = 104.141$, $df = 4$, $AIRR = 15.8$ (95% CI: 6.32, 39.6), $p\text{-value} < 0.000$), ($X^2 = 55.416$, $df = 4$, $AIRR = 1.55$ (95% CI: 1.12, 2.16), $p\text{-value} < 0.009$) and ($X^2 = 11.398$, $df = 4$, $AIRR = 1.87$ (95% CI: 1.18, 2.96), $p\text{-value} < 0.008$) respectively). The result of chi-square test showed that the relation between dependent and independent variable is real (not by chance).

Table 16:- Relation-ship between socio-demographic, RH related, contraceptive ever heard, contraceptive ever used, knowledge and attitude of EC with frequent use of EC among unmarried women Bole lemi industrial park workers, September 2020

Characteristics		Frequency of EC utilization				CIRR	AIRR	P-value
		Zero	Once	Twice	≥ 3 times			
Age	Under 20	196	4	4	4	0.55 (0.37, 0.81)	1.27 (0.14, 11.7)	0.834
	21-24	265	13	7	18	1.01 (0.74, 1.39)	1.94 (0.37, 10)	
	≥25	199	4	14	5	1	1	
Religion	Orthodox	411	13	16	21	0.99 (0.73, 1.37)	0.39 (0.09,1.77)	0.94
	Muslim	73	2	1	0	0.52 (0.28, 0.95)	0.94 (0.07, 12.1)	
	Protestant	176	6	8	6	1	1	
Ethnicity	Oromo	287	8	3	8	0.59 (0.4, 0.8)	1.45 (0.28, 7.41)	0.356
	Amhara	246	10	10	14	0.92 (0.64, 1.32)	0.74 (0.10, 5.70)	
	Tigray	127	3	12	5	1	1	
Level of Education	1th-8th grade	189	5	8	11	2.15 (1.30, 3.56)	1.16 (0.16, 8.68)	0.885
	9th-12th grade	351	13	16	15	2.03 (1.26, 3.27)	1.08 (0.14, 8.44)	
	Higher Edu.	120	3	1	1	1	1	
Marital Status	Unmarried	577	20	16	20	0.47 (0.31, 0.73)	0.50(0.32, 0.78)**	0.002
	Divorced	36	0	2	4	0.92 (0.49, 1.74)	0.99 (0.51, 1.90)	
	Separated	47	1	7	3	1	1	
Income Level	<1499	211	12	3	4	0.31 (0.17, 0.54)	0.10 (0.01, 1.21)	0.02
	1500-2999	420	8	16	22	0.49 (0.30, 0.83)	0.05(0.01, 0.66)**	
	≥3000	29	1	6	1	1	1	
Age at 1 st menarche	10-12	63	1	7	3	1.08 (0.65, 1.80)	6.62 (0.66, 66.1)	0.224
	13-15	487	12	15	17	0.66 (0.45, 0.95)	2.47 (0.57, 10.7)	
	≥16	96	7	1	7	1	1	
Age at 1 st pregnancy	Under 18	4	2	1	3	3.78 (1.28, 11.2)	8.84 (2.1, 37.2)**	0.003
	18-20	17	1	1	4	1.60 (0.58, 4.39)	3.62 (0.75, 17.5)	
	≥21	17	1	4	0	1	1	
Communication about RH issue	Yes	340	13	17	19	1.92 (1.42, 2.58)	1.34 (0.95, 1.89)	0.094
	No	320	8	8	8	1	1	
Contraceptive Ever Used	Yes	265	19	25	27	24.1 (12.9, 44.8)	15.8 (6.32, 39.6)**	0.000
	No	347	2	0	0	1	1	
Knowledge of EC	Poor	171	17	10	8	2.10 (1.57, 2.81)	1.55 (1.12, 2.16)**	0.009
	Good	489	4	15	19	1	1	
Attitude of EC	Positive	499	21	23	23	2.24 (1.48, 3.38)	1.87 (1.18, 2.96)**	0.008

Negative	161	0	2	4	1	1
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6. Discussion

EC is not recommended as routine family planning methods in Ethiopia. But, it will have a great contribution in preventing the occurrence of unwanted pregnancy and its potential life threatening complications which occur after exposure to unplanned and unprotected sexual intercourse if it used appropriately. This study has tried to assess the knowledge, attitude and utilization of EC among unmarried women who work at Bole lemi industrial park, Addis Ababa, Ethiopia.

From 733 study participants 82.6% of them had observe there 1st menses when they were below 15 years of age of which 72.4% of them were between 13 and 15 years. This finding was higher than a study done among unmarried women in Adama in which 62.6% of the participants observed their 1st mensus below 15 years of age. This difference could be due to socio-demographic differences like better living standard and nutrition leading to early growth and development which makes the menstrual period to starts early. Regarding knowledge of the correct time in which pregnancy most likely to occur 42.7% of the respondent had correctly identify the possible time in which pregnancy most likely to occur which means, if unprotected sexual intercourse occured between the 2nd and 3rd week of mensus but the majority 57.3% of them doesn't know the correct possible time period in which pregnancy most likely to occure. This finding was lower than the study done in Adama among unmarried women's in which (47.7%) of the participant know the correct period in which pregnancy most likely to occur but significantly higher than a result found in EDHS 2016 in which (24%) of women age 15-49 correctly know the most likely period in which pregnancy most likely to occur. This difference could be due to the difference in sociodemographic characterstics like educational level and occupation of the study participants (15, 63).

Out of 733 study participants 372 (50.8%) have ever had sexual intercourse of which 335 (90%) of them age at 1st sex were >18 years of age. This finding was lower than a study done in Nigeria (85.3%) and Dilla University students (62%). This difference could be due to socio-demographic difference among study participants. The finding of this study was higher than a study done in Adama university female students (29.4%), Ethiopian undergraduate female students (23.4%), Mizan Tepi University female students (38.4%) and Ambo Technique College students (1.6%). This difference could be due to sensitivity nature of the information they may hide their history of sexual activities (6, 31, 47, 49, 64, 65). Three hundred fifty two (90.4%) and twenty (5.4%) of the respondents were engaged in sexual activity because of love and rape/forced sex respectively. This finding is almost agreed with a study done in Adama in which 85.5% and 10.5% of the respondents engaged in sexual activities love and rape/forced sex respectively. This could be due to methodological similarity of the studies (63).

Out of 372 sexually experienced study participants fifty six (15.1%) had ever been pregnant. For the majority of study participants 41.1% and 39.3% the age at 1st pregnancy were 18-20 and >21 years of age respectively. About twelve (21.4%) of these pregnancies were unwanted and 10 (83.3%) of this unwanted pregnancy ended with induced abortion which is performed in hospital or clinic. The finding of this study was similar with a study done in Dilla University students in which the prevalence of unintended pregnancy were (22.5%) but lower with the outcome of this unintended pregnancy (95.2%) ended with abortion on the current study. These findings were much lower with a study done among unmarried women in Adama in which 64.5% of the participants were ever been pregnant and 23.7% of the study participants had history of unwanted pregnancy but the outcome of the pregnancy were lower in which 64.4% ended with induced abortion of which only 44.7% performed in hospital/clinic. The results of this study also lower than a study done in Adama university female students and Mizan Tepi university female students in which 32.5% and 43.3% of the study participants had ever been pregnant respectively and the prevalence of unwanted pregnancy were 92.1% and 85.2% respectively. The difference could be due to different socio-demographic characteristics like monthly income, religion and educational levels (31, 47, 63, 65, 66).

In this study six hundred eighty five (93.5%) of the respondents had ever heard at least one type of contraceptive methods. The finding of this study is almost consistent with a study done among Adama university female students in which (95.2%) of the study participants ever heard at least one type of modern contraceptives. However, this finding was lower than the 2016 EDHS finding in which 99% of currently married women had ever heard contraceptive methods. But, the finding of this study was higher than a study done in Adama among unmarried women in which 82.3% of the respondents had ever heard at least one type of modern contraceptive methods. This difference could be due to socio-demographic difference among study participants. Oral pills (72.6%) and injectables (76.1%) were the most commonly ever heard contraceptive methods in this study. This finding is consistent with study findings in EDHS 2016 and a study finding in Adama (15, 63, 65).

In this study three hundred thirty six (90.3%) of sexually experienced respondents had ever used at least one type of contraceptive methods. This finding was higher with a study done among unmarried women in Adama (68%) and Adama university female students (10.7%). The difference could be due to different prevalence of sexual activity and socio-demographic characteristics like monthly income, religion, educational levels and occupation (63, 65). The most commonly used contraceptive methods were injectable (70.2) and oral pills (26.2) which is different than a study done among unmarried women in Adama condom (69.9) oral pills (58.9) and injectable (18.7). This difference might be due to sociodemographic difference and difference in method preference among study participants (63).

Out of 733 study participants 365 (49.8%) of them had ever heard EC. The result of this study was almost consistent with a study done among university students in Kampala, Uganda (45.1) and in Adama university female students (46.8%) but, much lower than a study done in Dilla

university student (70%), Ethiopian under graduate female students (84.2%), Ambo technique students (80.7%), Mekele (67.3%) and Botswana (95%). However, the result of this study was higher than a study done among young people in the entertainment place, Vientiane City, Lao PDR (22.4), a study in Egypt (24.5%) and a study done among unmarried women in Adama (38.7%). This difference could be due to socio-demographic variation as well as time, person and place differences among study participants (7, 38, 39, 44, 59, 63-65, 67, 68). In this study oral pills (99.7%) and IUD (1.9%) are the most common EC methods ever heard. This finding agreed with a study done among unmarried women in Adama but higher with a study done in Adama university female students oral pills (43.7%) and IUD (5.2%). This difference could be due to difference in socio-demographic characteristic which might have effect on information exposure among study participants. (63, 65)

In this study the major sources of information for EC were family/friends (59.5%), formal education (24.9%) and health worker/facilities (23.6%). The result of this study was different from a study done in Kampala, Uganda, Adama, Ethiopian undergraduate female students and Mekele in which Friend (34%), mass media (24.8%) and school (19.4%) were the major source of information for EC in Kmpala, Uganda, mass media (45.1%), health facilities/workers (31.9%) and family/friend (14.8%) in Adama, mass media (75.5%), health facility (69.3%) and formal education (29.3%) in Ethiopian undergraduate female students and health institution (42.7), formal education (25.4%) and club in school (21.6%) in Mekele were the major source of information for EC. This discrepancy might be due to sociodemographic differences among study participants which might have effect to exposure to education, mass media and information (34, 44, 63, 67).

In this study 82.7% of the study participants correctly identify the appropriate or recommended timing for emergency contraceptive pills. However, 7.1% and 6.6% of the study participant mentioned with in 24 hours and immediately after sex respectively. The finding of this study almost consistent with a study done among unmarried women in Adama in which 81.3% of the study participant mentioned EC should be taken within 72 hours, 8.8 within 24 hours and 5.5% of them mentioned immediately after sex. But, the finding of this study was higher than a study done in Mekele and Kampala, Uganda in which only 44.5% of the study participants correctly identify the appropriate timing for emergency contraceptive pills, and 18.2% of them mentioned with in 24 hours but, 30.7% of the study participant didn't know the appropriate timing for emergency contraceptive pills in Mekele and 30.9% of the respondent in Kampala, Uganda mentioned that the appropriate timing for emergency contraceptive were before the period and 22% of them mentioned between the two periods. However 34.7% of the respondent didn't know the appropriate timing for emergency contraceptive pills. The finding of this study also was better than a study done among young people in the entertainment place, Vientiane City, Lao PDR in which only 17.9% of the respondents correctly identify the appropriate timing for emergency contraceptive pills. The result difference could be due to difference in time, person, place and socio-demographic characteristics among study participants. On the hand only (17.3%)

of the study participants mentioned the correct timing which is within 5 days for IUD (38, 44, 63, 67).

In this study out of those who aware about EC, two hundred ninety five (80.8%) of the study participants correctly identify the mechanism of action for EC which means that it prevent the occurrence of pregnancy after exposure to unprotected sexual intercourse if the emergency contraceptives taken or inserted with in the recommended time period. But (14.1%) of the study participant didn't know how EC works and (4.1%) believes EC induce abortion. This indicates misconception about EC which will affect the attitude as well as the utilization of the methods in case of need in the future. The finding of this study was lower than a study finding in Adama which was (96.2%) of the study participant mentioned EC prevent the occurrence of pregnancy. This finding discrepancy might be due to socio-demographic difference of study participants (63).

In this study Five hundred twenty seven (71.9%) of this study participant had good knowledge of EC using mean score of knowledge questions. The finding of this study was higher than study finding done among sampled women attending primary health care center in Baghdad in which only 14% of the study participants had good knowledge of EC. This great discrepancy might be due to sociodemographic difference as well as the difference in the measurement of knowledge employed (69). The result of this study also higher than the result found in Wachamo university (50.2%), Dire Dawa (34.1%), Mizan-tepi University (28.3%) and Adama University female students (27.2) of the respondents had knowledgeable of EC. This discrepancy might be due to sociodemographic, time, person and place difference as well as the difference in the measurement of knowledge employed (31, 46, 48, 65). In this study bivariate and multivariate logistic regression analysis were employed to identify socio-demographic, RH related and knowledge of contraception factors which associate with knowledge of EC. Therefore knowledge of time in which pregnancy most likely to occur had statistical significant association with knowledge of EC with AOR of 0.45 (0.26, 0.75). This means that those womens who respond pregnancy most likely occur if unprotected sexual intercourse occurred between the 2nd and 3rd weeks of mensus had 55% less likely to be in good knowledge of EC than those who didn't know the possible time period in which pregnancy most likely to occur. The reason for this may be since they correctly know the possible time period in which pregnancy most likely to occur they may use other methods of protection such as abstinence. Age at 1st sex had also statistical significant association with knowledge of EC with AOR 0.34 (0.13, 0.93). This means that those women with age at 1st sex <18 years were 66% less likely to be in good knowledge than those age at 1st sex ≥18 years. This might be due to when age increase knowledge and exposure to information also increases. The result of this study differ from a study in Adama among unmarried women in which age, ever had sexual intercourse and discussion about RH issue had statistical significant association with knowledge of EC. This discrepancy might be due to time, place and sociodemographic difference among the respondents (63).

Five hundred sixty six (77.2%) of this study participants had positive attitude towards EC. This finding was in agreement with a study done in Ambo technique school in which (77.4%) of the study participant had positive attitude towards EC. The result of this study was higher than a study done in Botswana in which only 45% of the study participants had positive attitude towards EC. This finding also higher than the findings of studies done in different parts of Ethiopia such as; a study done among female college students (63.6%), Adama University female student (62.9%), Adama unmarried women (61.3%) and Mizan-tepi University (46.8%). This difference might be due to the difference in socio-demographic characteristics as well as the difference in measuring attitude of respondents. (31, 49, 50, 59, 63, 65). In this study religion had statistical significant association with attitude of EC by AOR= 0.13 (0.04, 0.38) which means that those Muslim respondents were 87% less likely to be in positive attitude than protestant and other. Ethnic group and age at 1st menarche also had statistical significant association with attitude of EC by AOR= 0.48 (0.28, 0.84) and AOR=0.31(0.13, 0.76) respectively. This means that Amhara respondents were 52% less likely to be in positive attitude towards EC than Tigray and other and women whose age at 1st menarche 10-12 years were 69% less likely to be in positive attitude than ≥ 16 . Moreover, communication about RH issue and ever heard of contraceptive also had statistical significant association with attitude of EC by AOR= 0.49 (0.33, 0.74) and AOR= 0.37 (0.18, 0.77) respectively. Monthly income and knowledge of time in which pregnancy most likely to occur also had statistical significant association with attitude of EC. The result of this study didn't agree with the study done Adama university female students and Ethiopian undergraduate female students in which monthly income less than 500 and protestant religion had higher odd of positive attitude towards EC on those two studies (64, 65).

In this study from three hundred sixty five sexually experienced respondents 115 (31.5%) of the study participant used EC previously. The result of this study was in agreement with a study done on unplanned pregnancy-risks and use of emergency contraception: a survey of two Nigerian Universities in which (30.1%) of the study participants used EC (70). The result of this study was lower than a study done in Dilla University female students in which 40.3% of the participant used EC previously. The results of this study also lower than studies done in Wachamo (44.4%) and Mizan-tepi (36.2) Universities. This discrepancy might be due to the difference in educational levels of study participants (31, 47, 48). However, the result of this study was higher than a result found in Botswana in which only 22% of the study participant use EC previously. The result of this study was higher than a study done in Adama among unmarried women and Ambo technical college students in which only 4.2% and 12.5% of the respondents utilize EC previously. The result of this study was also higher than studies done on EC among female students (15.4%), Adama University female students (4.7%) and Dire Dawa (9.7%). The discrepancy might be due to sociodemographic difference of study participants (46, 50, 59, 63, 65, 68). In this study on multivariate logistic regression analysis Orthodox and Muslim religion had statistical significant association with EC utilization with AOR= 2.94 (1.45, 5.96) and AOR= 4 (1.55, 10.6) respectively. This means that Orthodox and Muslim respondents had 2.93 and 4 times higher odd of utilizing EC respectively than protestant and other. In this study

contraceptive ever used also had statistical significant association with EC utilization with AOR= 0.18 (0.05, 0.66). This means that respondents who ever used contraceptive had 82% less likely to utilize EC than those who didn't ever use. The result of this study didn't agree with studies done in Wachamo University, Mizan-tepi University and Mekele in which religion (Adventist and other with AOR= 1242 (268,574)), Age at 1st sex \geq 18 with AOR=7.01 (1.28, 38.3) and contraceptive ever used with AOR= 5.01 (2.23, 11.27) had statistical significant association with EC utilization. This discrepancy might be due to variation in Time, person and place as well as sociodemographic variation of the study participants (31, 48, 71).

The most common reason for using EC in this study were not used any contraceptive by 86 (74.8%), occurrence of forced sex by 13 (11.3%) and forget to take regular contraceptive by 11 (9.6%) of the study participants. This finding of this study differ from a study done among women aged (15-49), USA in which method failure accounts for (45%) and exposure to unprotected sexual intercourse accounts for (49%) of the study participants. This difference could be due to socio-demographic variation between the study participants (72).

In this study from 115 study participants who had ever used EC only 41 (35.8%) of them used EC once in their life time but, significant proportion of the participant used EC method repeatedly. About 21 (18.2%), 25 (21.7%) and 27 (23.5) of the participant used EC for the 2nd, 3rd and more than 3rd time in their life time. Therefore, 73 (63.6) of the participant use EC inappropriately. This indicates that the level of misutilization of EC was high in this study this might be due to lack of information. The result of this study differ from a study done among women aged (15-49), USA in which 59% of them used once and 24% of them used for the second time of their life. The discrepancy might be due to methodological difference and socio-demographic variation of the study participants (72). Age with AOR=7.87 (1.64, 37.7) and Ethnicity with AOR= 9.85 (1.48, 65.55) had statistical significant association with frequent use of EC. This means that respondent whose age 20-24 years were 7.87 times higher odd of utilizing EC repeatedly than <20years and those tigray and other respondents were 9.85 times higher odd of utilizing EC repeatedly than oromo respondents. This finding is not supported by other studies.

7. Strength and limitation

7.1 Strength

- Selecting unmarried women which is suitable for this study since those unmarried women's had less chance of using regular contraceptives and have high chance of exposure to unplanned sexual activities
- The data collection facilitators are experienced and have health background which would help in obtaining complete and reliable data.

7.2 Limitation

- Self-reported information is subjected to reporting error and missed value: - the prevalence of ever had sexual intercourse, unplanned pregnancy and abortion may have been under reported.

8. Conclusion

In this study knowledge and attitude of EC were relatively high but utilization remains low as a result the prevalence of unwanted pregnancy in this study (21.4%) was might be prevented if the utilization was higher. Religion ever had sexual intercourse and contraceptive ever used are important determinants of EC utilization. Therefore, using positive attitude of the respondents as conducive environment for appropriate intervention designing SMART intervention plan will be important in preventing unwanted pregnancy and its potential life threatening complications of unmarried sexually active women. The knowledge of correct timing for emergency contraceptive pill was higher than the studies done in other parts of Ethiopia but still higher proportion of respondents didn't know the correct time for IUD. The commonest sources of information about EC were family/friends and formal education.

9. Recommendation

- ❖ There should be functional health facility in the park to meet the SRH rights of unmarried women industrial park workers.
- ❖ There is a need to educate unmarried women industrial park workers about EC with more emphasis on the correct time limits and type identification especially for IUD.
- ❖ Health education should be given about EC mechanism of action and from where they will get if the need arises.
- ❖ There is a need to create an encouraging environment for the unmarried women to be able to discuss sexual and RH issues with their parents, friends and others.
- ❖ Future researches need to be conducted in this area especially qualitative to identify misutilization of EC.

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ANNEXS

Annex-I Information sheet and Consent form

1. Information sheet

Good morning, Good afternoon, Good evening (according to its convenience).

My name is _____ I came from Addis Ababa University, School of Public health, Departments of Reproductive and Family Health. I am here to gather information on level of knowledge, attitude and utilization of emergency contraception. It takes 20-30 minutes, though it seems long time the study will helps to improve health of women's, understanding of existing health problems and related behaviors by generating information about knowledge, attitude and utilization of emergency contraception and factors influencing utilization of emergency contraception to improve future reproductive health interventions.

Your name will not be recorded. All information you give will be kept secret and you have the right not to answer any question you don't want to. Also it is your right to participate or refuse the study but I kindly request your willingness to participate in the study and filling the questionnaire genuinely in order to meet its goal and benefit for future generation. So are you willing to stay with us for few minutes to answer the questions?

Yes -----

No-----

Put 'x' mark in the box you chosen. If yes go to the next page.

Thank you!

2. Consent form

I have been briefly informed about the study and I clearly understood the objectives. Since it Doesn't affect my personal life, I don't need any remedy. Consequently, I here approve my Consent with my signature to take part in the study by filling the self-administered questionnaire.

Signature

Date

Principal Investigator Name and address

- Name- Demissie Bekele
- Telephone - +251910561032
- Email address- demissiekabtimer@gmail.com

Annex-II Questionnaire English version

Addis Ababa University College of Health Sciences

School of Public Health

This questionnaire is designed to assess Knowledge, Attitude, and Level of utilization of emergency contraception among unmarried women who work at Bole Lemi industrial park. All the respondents are kindly requested to give their response for all questions. Your genuine answer is of paramount importance to the outcome of the research and that all the answers and your identity are kept anonymous. If you need clarification you can communicate with the assigned facilitators.

Thank you in advance!

Instruction: Circle the code number given parallel to the answer you choose and for questions that you give direct answer, write the answer in the space provided

Part I Socio demographic Characteristics

S.No	Question	Response	Skip
101	How old are you? Age in year	.....
102	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other specify.....	
103	What is your ethnic group?	1. Oromo 2. Amhara 3. Tigray 4. Gurage 5. Other Specify.....	
104	What is your Educational status?	1. 1-8th Grade 2. 9th-12thGrade 3. Higher education	
105	What is your marital status now?	1. unmarried 2. divorced 3. separated 4. Widowed	

106	What is your monthly income?	.....Birr	
107	What is your occupation in the company?	.....

Part II: Reproductive health related characteristics

S.N	Characteristics	Response	Skip to
201	At what age have you seen your menses for the first time?	Age in completed years_____	
202	If a woman has regular menstrual cycle when do you think pregnancy is most likely to occur?	<ol style="list-style-type: none"> 1. During the menstrual flow 2. the first week of menstrual cycle 3. the second & third week of menses 4. I don't know 	
203	Have you ever had sexual intercourse?	<ol style="list-style-type: none"> 1. Yes 2. No 	If No skip to 215
204	If yes, at what age did you have the first sexual intercourse?	Age is completed years____	
205	What was the reason for your sexual practice?	<ol style="list-style-type: none"> 1. Rape/forced sex 2. Love 3. To get some advantage from partner 4. Other, specify..... 	
206	How many sexual partners have you ever had in your life time?	<ol style="list-style-type: none"> 1. One 2. Two 3. Three Or more 	
207	Have you ever been pregnant?	<ol style="list-style-type: none"> 1. Yes 2. No 	If No skip to 211
208	If yes, how many times?	.....
209	How many children have you that were born to you?	.....
210	At what age was your first pregnancy?	.....
211	Was your pregnancy wanted?	<ol style="list-style-type: none"> 1. Yes 2. No 	If yes skip to 213
212	If your pregnancy is not wanted, how do you fail to prevent the pregnancy?	<ol style="list-style-type: none"> 1. Forced sexual intercourse 2. forget to take pills 	

		<ol style="list-style-type: none"> 3. condom slippage/breakage 4. infrequent sex 5. perceived not to become pregnant 6. Other / specify..... 	
213	What was the outcome of your pregnancy?	<ol style="list-style-type: none"> 1. Childbirth 2. Induced abortion 	
214	If the outcome of the pregnancy was induced abortion where did you perform?	<ol style="list-style-type: none"> 1. Hospital/ Clinic 2. Local performer 3. Other specify 	
215	Have you had communication about reproductive issues with anyone else?	<ol style="list-style-type: none"> 1. Yes 2. No 	
216	If the answer Q215 is yes, with who did you discussed the issue? (More than one answers possible).	<ol style="list-style-type: none"> 1. Mother 2. Father 3. Sister 4. Friends 5. Health personnel 6. Other specify..... 	

Part: III Substance use

S.NO	Questions	Response	Skip to
301	Have you ever chewed Chat?	<ol style="list-style-type: none"> 1. Yes 2. NO 	If No skip to 303
302	During the last 30 days how many days did you chew Chat?	<ol style="list-style-type: none"> 1. Number of days 2. Non in the last 30 days 	
303	Have you ever taken a drink that contains alcohol (Tella/Tegi/Areke/Beer/Wine, etc...)?	<ol style="list-style-type: none"> 1. Yes 2. NO 	If No skip to 401
304	During the last 30 days, how many days did you have a drink that contains alcohol?	<ol style="list-style-type: none"> 1. Number of days 2. Non in the last 30 days 	
305	During the last 13 months, how often did you take a drink that contains alcohol?	<ol style="list-style-type: none"> 1. Almost everyday 2. At least once a week 3. Less than once a 	

		<p>week</p> <p>4. None in the last 13 months</p>	
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Part IV: knowledge and utilization of contraception

S.NO	Questions	Response	Skip to
401	Have you ever heard about any contraceptive method	<ol style="list-style-type: none"> 1. Yes 2. NO 	If No skip to 501
402	If yes, which one do you know? (More than one answers possible).	<ol style="list-style-type: none"> 1. Oral pills 2. Injectable 3. IUD 4. Condom 5. Implant 6. Female sterilization 7. Male sterilization 8. Other specify..... 	
403	If yes, what was the source of information? (More than one answers possible).	<ol style="list-style-type: none"> 1. Mass Media(TV, Radio) 2. Health workers 3. Family/friends 4. Formal education 5. Health institution 6. Other specify..... 	
404	Have you ever used any contraceptive method in the past?	<ol style="list-style-type: none"> 1. Yes 2. No 	If no skip to 501
405	If yes, what type? (more than one answer is possible)	<ol style="list-style-type: none"> 1. Oral pills 2. Injectable 3. IUD 4. Condom 5. Implant 6. Other specify..... 	
406	From where did you get the service?	<ol style="list-style-type: none"> 1. FGAE 2. Public Health Institution 3. Private clinic 4. Pharmacy 5. Others 	

		Specify.....	
407	Are you using contraceptive methods currently?	1. Yes 2. No	

Part V: Knowledge of Emergency Contraception

S.NO	Questions	Response	Skip to
501	Is there any method that could be taken to prevent pregnancy after unprotected sex?	1. Yes 2. No	
502	If yes mention all methods that you know	.....
503	Have you ever heard of about emergency contraceptive?	1. Yes 2. No	If No skip to 606
504	If the answer to Q403 is yes, Which method of emergency contraceptive do you know? (more than one answer possible)	1. Emergency contraceptive pills 2. Intra uterine device 3. Others Specify.....	
505	If the answer to Q403 is yes, What was the source of information?	1. TV/Radio 2. Health workers 3. Family/friends 4. Formal education 5. Health institution 6. Other specify.....	
506	To Prevent pregnancy within what time frame emergency contraception pill should be taken after unprotected sex?	1. Immediately after sex 2. within 24hrs after sex 3. within 72hrs after sex 4. within 5 days 5. within one week after sex 6. After missed period 7. I don't know	
507	To Prevent pregnancy within what time frame IUD should be inserted?	1. Immediately after sex 2. within 24hrs after sex 3. within 72hrs after sex 4. within 5 days 5. within one week after sex	

		6. After missed period 7. I don't know	
508	What is the mechanism of action of emergency contraceptive?	1. Prevent pregnancy from occurring 2. Induce abortion 3. I don't know	
509	In what situation EC should be taken to prevent pregnancy?(more than one response is possible)	1. when forced sex 2. when condom slippage/broken 3. when there is missed pill 4. when unprotected sex without any contraceptive method 5. Other, specify.....	

Part VI: Practice of Emergency Contraception

S.NO	Questions	Response	Skip to
601	Have you ever used of EC?	1. Yes 2. No	If No skip to 606
602	If yes, which method of EC have you used?	1. Oral pills 2. IUD 3. Other specify	
603	If yes, how many times have you used the method?	1. Once 2. Twice 3. Three times 4. More than three times	
604	What was the reason for your using EC?	1. condom slippage 2. forced sex 3. not used any contraceptive 4. forget to take contraceptive pills 5. Other specify.....	
605	Where did you get the EC?	1. FGAE 2. public health institution 3. private clinics 4. pharmacy 5. Other specify.....	

606	To whom EC should be given?	<ol style="list-style-type: none"> 1. To all women who need it 2. To married women only 3. To young female 4. To raped victims 5. Other specify..... 	
607	If your answer is other than to all women who need it Why?	<ol style="list-style-type: none"> 1. It may increase risky behavior 2. fear of misuse 3. propagates HIV/AIDS 4. may hurt the fetus in case it does not work 5. fear of side effect 6. religious reasons 7. Other, specify..... 	

Part VII: Attitude of Emergency Contraception

S.NO	Questions	Response	Skip to
701	Do you have an intention to use EC in the future if the need arises?	<ol style="list-style-type: none"> 1. Yes 2. No 	
702	If you have an intention to use EC in the case of emergency conditions, from where do you prefer to get the service?	<ol style="list-style-type: none"> 1. FGAE 2. Public institution 3. private clinics 4. pharmacy 5. Other specify..... 	

Annex -III Amharic version of Information sheet and Consent form

1. መረጃ መስጫ ቅጽ

ጤና ይስጥልኝ?

እኔ ስሜ ይባላል። የመጣሁት ከአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ ከህብረተሰብ ጤና ትምህርት ክፍል ነዉ። የመጣሁበት አላማም በድንገተኛ የወሊድ መቆጣጠሪያ ዙሪያ ያሎትን የእዉቀት፣ የአመለካከት እና የአጠቃቀም ሁኔታ መረጃ ለመሰብሰብ ነዉ። መረጃዉን ለመሰብሰብ ከ 20-30 ደቂቃ ሊወስድ ይችላል። መረጃዉን ለመሰብሰብ የሚወስደዉ ጊዜ እረጅም ቢመስልም የሚሰጡን መረጃ በመዉለድ እድሜ ክልል ዉስጥ ለሚገኙ ሴቶች በድንገተኛ የወሊድ መቆጣጠሪያ ዙሪያ ያለዉን የእዉቀት፣ የአመለካከት እና የአጠቃቀም ችግር በመለየት የመፍተሄ አቅጣቻዎችን በማመለከት የሴቶችን የጤና ችግር ለማሻሻል እና ባልተፈለገ እርግዝና ምክኒያት የሚከሰት ዉርጃን ለመቀነስ

ለዚህ ጥናት ሁሉም ከ 18-29 አመት እድሜ ክልል ዉስጥ የሚገኙ ሴቶች ለጥናቱ የተዘጋጁትን ጥያቄዎች በጥንቃቄ በመሙላት ለጥናቱ መሳካት የበኩላቸዉን እንዲወጡ እንጠይቃለን። ለጥናቱ ተሳታፊዎች ለማረጋገጥ የምንወደዉ የጥናቱ ተሳታፊዎች ስም መሙላት ፍጽሞ እንደማያስፈልግ እና ከተሳታፊዎች የሚወሰደዉ መረጃ ሚስጥርነቱ የተጠበቀ መሆኑን ነዉ። በዚህ ጥናት ጠቅላላ ላለመሳተፍ፣ በክፊል ለመሳተፍ ወይም በማንኛዉም ጊዝ የማቋረጥ መብታችሁ የተጠበቀ ነዉ።

ለመሳተፍ ፈቃደኛ ነሽ?

- 1. አዎ
 - 2. አይደለሁም
- አመሰግናለሁ!

2. የስምምነት ቅጽ

ስለ ጥናቱ በደንብ ተነግሮኝ እና የጥናቱን አላማ በግልጽ አዉቄ እንዲሁም ጥናቱ የግል ህይወቴን እንደማያዉክ በማመኔ እና ምንም ቀጥተኛ ጥቅም ሳልፈልግ በጥናቱ ለመሳተፍ እና የጥናቱ መጠይቆችን ለመሙላት የተስማማሁ መሆኔን በፈርማዬ አረጋግጣለሁ።

ፊርማ.....

ቀን.....

የጥናቱ ዋና ተጠሪ ስምና አድራሻ

ስም ደምሴ በቀለ
 ስልክ ቁ. - +251910561032
 ኢሜል- demissiekabtimer@gmail.com

Annex -IV Questionnaire Amharic version

አዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ክፍል

ይህ መጠይቅ የተዘጋጀው በድንገተኛ እርግዝና መከላከያ ዙሪያ k 18-29 አመት እድሜ ክልል ያሉ ያላገቡ ሴቶች ያላቸውን እድቀት፣ አመለካከትና አጠቃቀም ለማጥናት ነው። ሁሉም የተጠየቁትን ጥያቄዎች እንዲመልሱ በትህትና እንጠይቃለን። የእናነተ ቀናነት ለዚህ ጥናት ስኬት በጣም አስፈላጊ ነው። ሁሉም የምትሰጡት መረጃና የናንተ ማንነት ሚስጥርነቱ የጠጠበቀ ነው።

እናመሰግናለን!

መመሪያ- የተሰጠውን የመለያ ቁጥር በመክበብና የጽሁፍ መልስ ለሚፈልጉ የተሰጠው ቦታ ላይ መልሱን ይጻፉ።

ፍል አንድ፡ ማህብራዊ እና ዲሞገራፊያዊ መረጃ

ተ.ቁ	ጥያቄዎች	መልስ	ማለፍ
101	እድሜሽ ስንት ነው?	_____ አመት	
102	ሐይማኖትሽ ምንድን ነው?	<ol style="list-style-type: none"> 1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ ከሆነ ይገለጽ..... 	
103	ብሔርሽ የትኛው ነው?	<ol style="list-style-type: none"> 1. አሮሞ 2. አማራ 3. ትግሬ 4. ጉራጌ 5. ሌላ ከሆነ ይገለጽ..... 	
104	የትምህርት ደረጃሽ ምንድን ነው?	<ol style="list-style-type: none"> 1. 1-8ኛ ክፍል 2. 9ኛ-12ኛ ክፍል 3. ከፍተኛ ትምህርት 	
105	የጋብቻ ሁኔታሽ ምንድን ነው?	<ol style="list-style-type: none"> 1. ያላገባ 2. ፈት 3. የተለያየ 4. በሞት የተለየ 	
106	የወር ገቢሽ ምን ያህል ነው? ብር	

107	በኩባንያዉ ዉስጥ የስራ ድርሻሽ ምንድን ነዉ?	
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ክፍል ሁለት፡ ስነ-ተዋልዶን በተመለተ

ተ.ቁ	ጥያቄዎች	መልስ	ማልፍ
201	ለመጀመሪያ ጊዜ የወር አበባ በስንት አመትሽ አየሽ?	እድሜ በአመት _____	
202	አንዲት ሴት የተስተካከለ የወር አበባ ጊዜ ካላት እርግዝና ሊከሰት የሚችለዉ መቼ ነዉ?	<ol style="list-style-type: none"> 1. በወር አበባ ወቅት 2. የወር አበባ ከጀመራት በአንድ ሳምንት ዉስጥ 3. የወር አበባ ከጀመራት በሁለተኛና ሶስተኛ ሳምንት ዉስጥ 4. አላዉቀዉም 	
203	የግብረ ስጋ ግንኙነት አድርገሽ ታዉቂዎለሽ?	<ol style="list-style-type: none"> 1. አዎ 2. አድርጌ አላዉቅም 	አላዉቅም ከሆነ ወደ ቁጥር 215
204	ለጥያቄ 203 አዎ ከሆነ መልስሽ ለመጀመሪያ ጊዜ የግብረ ስጋ ግንኙነት ያደረግሽዉ በስንት አመትሽ ነዉ?	እድሜ በአመት ይገለጽ _____	
205	ለመጀመሪያ ጊዜ የግብረ ስጋ ግንኙነት ያደረግሽበት ምክኒያት ምን ነበር?	<ol style="list-style-type: none"> 1. አስገድዶ መደፈር 2. ፍቅር 3. ጥቅማጥቅም ለማግኘት 4. ሌላ ከሆነ ይገለጽ..... 	
206	በእድሜሽ ዉስጥ ከምን ያህል ሰዎች ጋር የግብረ ስጋ ግንኙነት አድርገሻል?	<ol style="list-style-type: none"> 1. አንድ 2. ሁለት 3. ሶስት እና ከዛ በላይ 	
207	አርግዘሽ ታዎቂዎለሽ?	<ol style="list-style-type: none"> 1. አዎ 2. አርግዜ አላዉቅም 	አላዉቅም ከሆነ ወደ ቁጥር 215
208	ለጥያቄ 207 መልስሽ አዉ ከሆነ ስንት ጊዜአርግዘሻል?	.....
209	ስንት ልጆች ወልደሻል?	.....
210	የመጀመሪ ስታረግዢ እድሜሽ ስንት ነበር?	እድሜ በአመት ይገለጽ	
211	እርግዝናዉን ትፈልጊዉ ነበር?	<ol style="list-style-type: none"> 1. አዎ 2. አልፈልገዉም 	አዎ ከሆነ ወደ ቁጥር 213
212	ለጥያቄ 211 መልስሽ ያልተፈለገ እርግዝና ከሆነ እፈርግዝናዉን እንዴት መከላከል አልቻልሽም?	<ol style="list-style-type: none"> 1. አስገድዶ መደፈር ስለነበር 2. የወሊድ መቆጣጠሪ 	

		ኪነን መርሳት 3. ኮንዶም መቀደድ/መውለቅ 4. አልፎ አልፎ የሚደረግ የግብረ ስጋ ግንኙነት ስለነበር 5. አላረግዝም የሚል ሃሳብ ስለነበረኝ 6. ሌላ ካለ ይገለጽ.....	
213	የእርግዝናዎ የመጨረሻ ዉጤት ምን ነበር?	1. ልጅ ተወለደ 2. እርግዝናዉ እንዲወጣ ተደረገ (ዎርጃ)	
214	የእርግዝናዉ ዉጤት ዉርጃ ከሆነ ዎርጃዉ የተፈጸመዉ የት ነዉ?	1. ክሊኒክ/ ሆስፒታል 2. ሰፈር ጽንሰ በሚያስወርዱ ሰዎች 3. ልላ ካለ ይገለጽ	
215	ስነ-ተዋልዶን በተመለከተ ከሰዎች ጋር ተወያተሽ ታዉቂዎልሽ?	1. አዎ 2. አላዉቅም	
216	ለጥቁ 215 አዎ ከሆነ ከማን ጋር? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. ከእናት ጋር 2. ከአባት ጋር 3. ከእህት ጋር 4. ከጓደኛ ጋር 5. ከጤና ባለሙያ ጋር 6. ሌላ ካለ ይገለጽ.....	

ክፍል ሶስት: አደንዛዥ እጽ አጠቃቀምን በተበለከተ

ተ.ቁ	ጥያቄዎች	መልስ	ማልፍ
301	በህይወትሽ ጫት ቅምሽ ታዉቂዎልሽ?	1. አዎ 2. አላዉቅም	አላዉቅም ከሆነ ወደ 303
302	በባለፉት 30 ቀናቶች ዉስጥ ለምን ያህል ቀን ቃምሽ?	1. የቀን ብዛት 2. ባለፉት 30 ቀናቶች ዉስጥ አልቃምኩም	

303	የአልኮል መጠጥ (ጠላ፣ጠጅ፣አረቄ፣ቢራ፣ወይን፣ ወዘተ) ተጠጥሽ ታወቂያለሽ?	1. አዎ 2. አላወቅም	አላወቅም ከሆነ ወደ 401
304	በባለፉት 30 ቀናት ውስጥ ለምን ያህል ቀን አልኮል ጠጣሽ?	1. የቀን ብዛት 2. ባለፉት 30 ቀናት ውስጥ አልጠጣሁም	
305	ባለፉት 13 ወራት ውስጥ በየሰንት ቀኑ አልኮል ትጠጩ ነበር? .	1. በየቀኑ 2. በሳምንት 1 ቀን 3. ባለፉት 13 ዎራት አልተጠቀምኩም	

ክፍል አራት: የወሊድ መከላከያ እዉቀትና አጠቃቀምን በተመለከተ

ተፋቂ	ጥያቄዎች	መልስ	ማለፍ
401	ስለ ወሊድ መከላከያ ዘዴዎች ሰምተሽ ታወቂያለሽ?	1. አዎ 2. አላወቅም	አላወቅም ከሆነ ወደ ተ.ቁ 501
402	ለተ.ቁ 301 አዎ ከሆነ መልስሽ የትኛውን የመከላከያ አይነት ሰምተሽ ታወቂያለሽ? (ከአንድ በላይ መልስ መስጠት ይቻላል).	1. የሚዋጥ እንክብል 2. በመርፌ የሚሰጥ 3. በማህጸን ውስጥ ሚቀመጥ 4. ኮንዶም 5. በክንድ ቆዳ ስር የሚቀበር 6. የማህጸን ዘር መተላለፊያን መቋጠር 7. የወንድ ዘር መተላለፊያን መቋጠር 8. ሌላ ካለ ይገለጽ.....	
403	ለተ.ቁ 301 መልስሽ አዎ ከሆነ ለመጀመሪያ ጊዜ ከየት ሰማሽ?(ከአንድ በላይ መልስ መስጠት ይቻላል)	1. ከቴሌቭዥን/ሬዲዮ 2. ከጤና ባለሙያ 3. ከቤተሰብ/ዳደኛ 4. ከመደበኛ ትምህርት 5. ከጤና ተቋም 6. ሌላ ካለ	

		ይገለጽ.....	
404	የወሊድ መከላከያ ተጠቅመሽ ታወቁያለሽ?	1. አዎ 2. አላወቅም	አላወቅም ከሆነ ወደ ተ.ቁ 501
405	ለተ.ቁ 304 መልሱ አዎ ከሆነ ምን አይነት? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. የሚዋጥ እንክብል 2. በመርፌ የሚሰጥ 3. በማህጸን ውስጥ ሚቀመጥ 4. ከንዶም 5. በክንድ ቆዳ ስር የሚቀበር 6. ሌላ ካለ ይገለጽ..... ...	
406	የወሊድ መከላከያ አገልግሎት ከየት ነበር ያገኘሽዉ?	1. ከኢትዮጵያ ቤተሰብ መምሪያ ማህበር 2. ከመንግስት ጤና ተቋማት 3. ከግል ክሊኒክ 4. ከፋርማሲ 5. ሌላ ካለ ይገለጽ.....	
407	በአሁኑ ጊዜ የወሊድ መቆጣጠሪያ ትጠቀሟያልሽ?	1. አዎ 2. አልጠቀምም	

ክፍል ምስት: ድንገተኛ የወሊድ መቆጣጠሪያ እዉቀትን በተመለከተ

ተ.ቁ	ጥያቄዎች	መልስ	ማለፍ
501	ጥንቃቄ ከሌለበት የግብረ ስጋ ግንኙነት በኋላ እርግዝናን ለመከላከል የሚደረግ ዘዴ አለ?	1. አዎ 2. የለም	
502	ለተ.ቁ 401 መልስሽ አዎ ከሆነ የምታወቁያቸዉን ዘዴዎች በሙሉ ዘርዘሪ		
503	ስለ ድንገተኛ የወሊድ መከላከያ ዘዴ ሰምተሽ ታወቁያለሽ?	1. አዎ 2. አላወቅም	አላወቅም ከሆነ ወደ ተ.ቁ 606
504	ለተ.ቁ 403 አዎ ከሆነ መልስሽ የትኛዉን ዘዴ ነዉ ምታወቁዉ? (ከአንድ በላይ መልስ ይቻላል)	1. የሚወጥ እንክብል 2. በማህጸን ውስጥ የሚቀመጥ 3. ሌላ ካለ ይገለጽ	

		
505	ለተ.ቁ 403 አዎ ከሆነ መልስሽ ለመጀመሪያ ጊዜ ከየት ሰማሽ? (ከአንድ በላ መልስ ይቻላል)	<ol style="list-style-type: none"> 1. ከቴሌቪዥን/ሬዲዮ 2. ከጤና ባለሙያ 3. ከቤተሰብ/ጓደኛ 4. ከመደበኛ ትምህርት 5. ከጤና ተቋም 6. ሌላ ካለ ይገለጽ 	
506	እርግዝናን ለመከላከል ድንገተኛ የወሊድ መከላከያ እንክብል ጥንቃቄ ከጎደለዉ የግብረ ስጋ ግንኙነት በኋላ በምን ህል ጊዜ ዉስጥ መወሰድ ይኖርበታል?	<ol style="list-style-type: none"> 1. ከግብረ ስጋ ግንኙነት በኋላ ወዲያዉኑ 2. በ24 ሰዓት ዉስጥ 3. በ72 ሰዓት ዉስጥ 4. በ5 ቀናት ዉስጥ 5. በሳምንት ዉስጥ 6. የወር አበባ ከቀረ በኋላ 7. አላዉቅም 	
507	እርግዝናን ለመከላከል በማህጸን ዉስጥ የሚቀመጥ የድምገተኛ ወሊድ መከላከያ ጥንቃቄ ከጎደለዉ የግብረ ስጋ ግንኙነት በኋላ በምን ያህል ጊዜ ዉስጥ መደረግ አለበት?	<ol style="list-style-type: none"> 1. ከግብረ ስጋ ግንኙነት በኋላ ወዲያዉኑ 2. በ24 ሰዓት ዉስጥ 3. በ72 ሰዓት ዉስጥ 4. በ5 ቀናት ዉስጥ 5. በሳምንት ዉስጥ 6. የወር አበባ ከቀረ በኋላ 7. አላዉቅም 	
508	ድንገተኛ የወሊድ መከላከያ እንዴት ነዉ ሚሰራዉ?	<ol style="list-style-type: none"> 1. እርግዝና እንዳይከሰት ይከላከላል 2. ጽንሰ የስወርዳል 3. አላዉቅም 	
509	ድንገተኛ የወሊድ መከላከያ እርግዝናን ለመከላከል መወሰድ ለበት ምን አይነት ሁኔታ ሲፈጠር ነዉ?(ከአንድ በላይ መልስ መስጠት ይቻላል)	<ol style="list-style-type: none"> 1. አስገድዶ መደፈር ሲኖር 2. ከንዶም ሲወልቅ/ሲቀደድ 3. መደበኛ የወሊድ መከላከያ ሲረሳ 4. ምንም አይነት የወሊድ መቆጣጠሪ ሳይጠቀሙ የግብረስጋ ግንኙነት ሲኖር 5. ሌላ ካለ ይጠቀስ 	

ክፍል ስድስት፡ ድንገተኛ የወሊድ መቆጣጠሪያ እዉቀት አጠቃቀምን በተመለከተ

ተ.ቁ	ጥያቄዎች	መልስ	ማለፍ
601	ድንገተኛ የወሊድ መከላከያ ዘዴ ተጠቅመሽ ታዉቂያለሽ?	<ol style="list-style-type: none"> 1. አዎ 2. አላዉቅም 	አላዉቅም ከሆነ ወደ ተ.ቁ 606
602	ለተ.ቁ 410 አዎ ከሆነ መልስሽ የትኛዉን ዘዴ ተጠቅምሻል?	<ol style="list-style-type: none"> 1. የሚዋጥ እንክብል 2. በማህጸን ዉስጥ የሚቀመጥ 3. ሌላ ካለ ይገለጽ 	
603	ለተ.ቁ 410 መልስሽ አዎ ከሆነ ስንት ጊዜ ተጠቅመሻል?	<ol style="list-style-type: none"> 1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. ከሶስት ጊዜ በላይ 	
604	ለድንገተኛ የወሊድ መከላከያ መጠቀምሽ ምክኒያት ምን ነበር?	<ol style="list-style-type: none"> 1. ኮንዶም መዉለቅ/መቀደድ 2. አስገድዶ መደፈር 3. ምንም አይነት የወሊድ መከላከያ ስላልተጠቀምኩ 4. መደበኛ የወሊድ መከላከያ መርሳት 5. ልላ ካለ ይገለጽ..... 	
605	ድንገተኛ የወሊድ መከላከያዉን የት ነበር ያገኘሽዉ?	<ol style="list-style-type: none"> 1. ከኢትዮጵያ ቤተሰብ መምሪያ ማህበር 2. ከመንግስት ጤና ተቋማት 3. ከግል ክሊኒክ 4. ከፋርማሲ 5. ሌላ ካለ ይገለጽ..... 	
606	ድንገተኛ የወሊድ መከላከያ ለማን መሰጠት አለበት?	<ol style="list-style-type: none"> 1. መከላከያ ለሚፈልጉ ሴቶች ሁሉ 2. ትዳር ላላቸዉ ሴቶች ብቻ 3. ለወጣት ሴቶች 4. ለተደፈሩ ሴቶች 	

		5. ሌላ ካለ ይገለጽ	
607	መልስሽ መከላከያን ለሚፈልጉ ሴቶች ሁሉ ካልሆን ለምን?	<ol style="list-style-type: none"> 1. ለመጥፎ ሁኔታ ስለሚያጋልጥ 2. ላልተገባ ሁኔታ ሊወል ስለሚችል 3. ኤች አይ ቪ ኤድስ ስለሚያስፋፋ 4. እርግዝና ከተከሰተ ሽሉን ስለሚጎዳ 5. መድሃኒቱ ተጓዳኝ ጉዳዮች ስላሉት 6. በሐይማኖት ስለሚከለክል 7. ሌላ ካለ ይገለጽ 	

ክፍል ሰባት: ድንገተኛ የወሊድ መቆጣጠሪያ አመለካከትን በተመለከተ

ተ.ቁ	ጥያቄዎች	መልስ	ማለፍ
701	ለወደፊት አስፈላጊ ሆኖ ካገኘህ ድንገተኛ የወሊድ መቆጣጠሪያ ለመጣቀም ፍላጎት አለሽ?	<ol style="list-style-type: none"> 1. አዎ 2. የለኝም 	
702	ድንገተኛ የወሊድ መከላከያ ለመጠቀም ፍላጎት ካለሽ መድሃኒቱን ከየት ማግኘት ትመርጫለሽ?	<ol style="list-style-type: none"> 1. ከኢትዮጵያ ቤተሰብ መምሪያ ማህበር 2. ከመንግስት ጤና ተቋማት 3. ከግል ክሊኒክ 4. ከፋርማሲ 5. ሌላ ካለ ይገለጽ 	

Annex - V Oromifa version of Information sheet and Consent form

1. Gucaa ragaa ittin waliti qaban/sassaban

Nagaa isiinif haata'u/harkaa fune?

Ani maqaan koo _____ jedhama kan ani dhufe yuniveersiti finfinnee kolleejji fayyaa dame fayyaa hawasaa irraan dhufe. Kayyoon dhufaati kooti dawumsaa yeroo tasa /malee/ irratti beekumsa, ilaalchafi waaligalati hubannoo keessan fudhaachuf. Ragaa kana naa kennuf yeroon keessan daqiqaa 20-30 fudhachuu danda'a.

Ragaa kana naa kennuf yeroon inni isiniti fudhatu dheeraa yoo ta'e iyyuu rakkowaan dubartootni umrii dawumsaa keessa jiran, ulfaa hin barbaachifne, dawumsaa yeroo tasa to'achuuf beekumsa, ilaalchafi akka waaligalati rakkowaan hubannoo fayyaa dubartoota foyyeesufi ulfaa hin barbaachisne baasu hir'isuuf.

Qorannoon kun akka fixaan ba'uf dubartootni umrii isaani 18-29 ta'an gaafiwan dhihate ofeegannoodhaan akka guutan kabaajan isin gaafana.

Namoonni gaafiifi deebii kan guuta maaqaan keessan beeksissuun hin barbaachifnefi iccitiin raga nukeenitani kan eegamu ta'usaa isin beeksisna. Gaafiwwaan qorannoo kan debisuuf guutuma guutuuti yookin walakaa ndeebisun mirgaa keessan.

Hirmachuuf fedhi qabdu

1. Eeyyee

2. Lakki

Galatooma!

2. Gucaa waligaltee

Kayyoon qoranicha haala ifa ta'e erga naati himame anis hubachudhaa jireenya dhuunfa koo akka inni hin jeeqne beeke, fayidaa adda tokko iyyuu kallatin utuu hin argatin hirmachudhaaf waaligalu koof mallatoo koon mirkanesa

Mallatoo -----

Guyyaa -----

Gegeessan qorannicha

Obboo Damisee Baqalee

Lak. Bilbila +2519105611032

Email demissiekabtimer@gmail.com

Annex -VI Questionnaire Oromifa version

Yuunivesiitii finffinneti kollejjii fayyaa damee fayyaa hawaasaa

Gaaffilee armaan gaditti dhihaatan kun, dubartoota umurii isaani wagga 18-29 keessa jiran irratti ulfa akka tasaa uumamu ittisuuf beekumsafi ilaachi isaani qorachuufi. Gaaffiwwan dhihaantan hundumaa akka deebifan kabajaan isin gaafanna. iftoomini keessan qoranno kanaaf bayyee barbaachisaadha. Walumaagalatti ragaan isiin nuuf kennataniif eenyumaa keessan iccitiin isa kan eegamu ta'uu isiin beekisifna.

Qajeelfama: koodiin lakkoofsa kennameef itti maruufi bakka duwwa qophaa'ee irratti deebii akka barresita.

Kutaa 1ffaa: ragaa hawasummafi naannoo

lak	Gaaffilee	deebii	darbuu
101	Umuriin kee meqa?	__Waggaa	
102	Amaantiin kee maali?	6. Ortoodoksii 7. musilima 8. pirootestaanti 9. kaatolikii 10. kam biro	
103	sabummaa	6. oromoo 7. amara 8. tigiree 9. guraagee 10. kam biro	
104	Sadaarkaa barnnoota kee maali?	4. Kutaa 1-8 5. kutaa 9-12 6. Dipilooma, 7. digirii	
105	Haala fuudhaaf heeruma	5. kan hinfuune/heerumne 6. kan hikee/hiktee 7. kan biroo 8. kan du'aan adda bahan	
106	Gaaliin ji'a?	..... qarshii	
107	Kaampaanicha/dhaabaticha/ keessati gaheen kee maali?	.....

kutaa 2ffaa: sirna wal-hormaata

Lak.	Gaaffiwwan	deebii	darbu
201	Yeroo jalqabaaf lagu/xurii/umurii meeqati argitee?	Umurii/waggaa _____	
202	Dubartiin tkko yeroo lagu xurii wal-qixxata yoo qaabatte ulfi yeroo akkami uumamaa?	<ol style="list-style-type: none"> 5. Yeroo lagu /xuriin irra jiru 6. Laguun/xuriin itti dhufee torba tokko keessatti 7. Lagu/xurii erga jalqabee torbaan lammaffafi sadaffaa keessatti 8. Laakki hin beeku 	
203	Wal-qunnamti saalaa gootee beektaa?	<ol style="list-style-type: none"> 3. eyyee 4. lakkii hin beeku 	lakkii hin beeku yoo jette 215
204	Gaaffii lakk.203 Deebiin kee eyyee yoo ta'e Wal-qunnamti saalaa kan gootee umurii/wagga / kee meeqatti?	Umuriin kee wagga haa ibsamu _____	
205	Yeroo jalqabaaf Wal-qunnamti saalaa kan gootee sababa maaliif?	<ol style="list-style-type: none"> 5. Dirqisiisanii gudeeduu 6. jalalaan 7. fayidaaf 8. kan bira yoo jiraate ibsi..... 	
206	Umurii kee kessatti namoota meeqa faana wal-qunnamti saalaa gootee/	<ol style="list-style-type: none"> 4. tokko 5. lama 6. sadiifi isaa oli 	
207	Ulfoofttee beektaa?	<ol style="list-style-type: none"> 3. eryyee 4. lakkii hin beeku 	Lakkii hin beeku yoo jette 215
208	Gaaffii lakk.207 Deebiin kee eyyee yoo tae sia meeqa Ulfoofttee beektaa?	.....
209	Ijoolee meeqa deesse?	.....
210	Gaafa/yeroo/ jalqaba ulfooftte umuriin kee meeqaa?	Umuriikee waggaadhaan ibsi	
211	Ulfaahu kee /ulfichaa/ ni barbaada turtee?	<ol style="list-style-type: none"> 1. eeyyee 2. lakkii hin barbaadu 	Eeyyee yoo tahe gara lak. 213 deebi'i
212	gaaffii 211 deebiin kee lakkii hin barbaadu yoo ta'e ulfichaa akkamiti ittisu hin dandeenyee?	<ol style="list-style-type: none"> 7. Dirqisiisanii gudeeduu 8. Qoricha ulfa dhowu liqimsuu irraanfichuu kooti 9. Kondoomini waan citeefi 	

		10. wal-qunnamti saalaa 11. nan ulfa'aa jedhee waanan hin yaadneef 12. yaadni kan bira yoo jiraate ibsi.....	
213	Xumuri ulfaa sana maal turee?	3. Mucaan dhalate 4. Ulfichi akka ba'uu ta'e	
214	Ulfichi addaan citeeraa yoo ta'ee esati rawatamee	4. kilinikaa/ hospitaala 5. namoota ganda keessati ulfaa baasan birati 6. kan bira yoo jiraate ibsi.....	
215	waa'ee sirna walhormaata mari'atee beektaa?	1. eeyyee 2. lakkii hin beeke	
216	Gaaffii lakk.215 Deebiin kee eeyyee yoo ta'ee eenyuu waajjin	7. hadhaa 8. abbaa wajjiin 9. obboleeti 10. hiriya 11. hojetaa fayyaa wajjin 12. kan bira yoo jiraate ibsi.....	

Kutaa 3ffaa: Itti fayyadama baala sammuu namaa hadoochu ilaachisee

Lak.	Gaaffilee	deebii	derbuu
301	Barakee keessatti caatii/ jimaa/ qaamtee beektaa?	3. eeyyee 4. lakki	Lakki yoo jette gara lakk. 303
302	Guyyaa 30mmaan darbaan keessatti guyyaa meeqa qaamtee?	3. Baayina guyya 4. Guyyaa 30 mmaan darbaan keessatti hin fayyadamne	
303	Gosoota alkooli keessa[farsoo,araqee biiraa, daadhi, wayiniifi kkf dhugdee beektaa?	1. eeyyee 2. lakki	Lakki yoo jette gara

			lakk. 401
304	Guyyaa 30mmaan darbaan keessatti guyyaa meeqaaf alkooli dhugdee beektaa?	1. Baayina guyya 2. Guyyaa 30 mmaan darbaan keessatti hin fayyadamne	
305	Jiootaa 13 darban keessatti garaagarumma guyyootaa keessatti alkoolii dhugdee turtee? .	4. Guyyaa guyyaatti 5. Torbanitti al tokko 6. Jioota 13 darban keessatti itti hin fayyadamne	

Kutaa 4ffaa: Hubannofi itti fayyadama sagantaa maatii

Lak.	Gaaffii	Deebii	darbuu
401	Akkataa itti ulfa ittisan dhageesse beektaa?	3. eyyee 4. lakki	Lakki yoo jette gara lakk. 501
402	Gaaffi lakk.401 Deebiin kee eyyee yoo ta'ee gosa ittisa isaa isakam dhageesse beektaa?/deebii 1 ol kennu dandeessa	9. Kan liqimsamu 10. Kan lilmoo 11. Kan gadameessa keessa kaaamu 12. koondoomii 13. Irree harkaa keessa kan awwalamu 14. Gadameessa gudunfuu 15. Ujumoo sanyii dhiira ittin darbu gudunfuu 16. Kan biro yoo jiraate haa ibsamu.....	
403	Gaaffi lakk.401 Deebiin kee eyyee yoo ta'ee yeroo jalqabaaf eesaa dhageesse?/deebii 1 ol kennu dandeessa	7. Teelevizhini/Radiyyo 8. Ogeessa fayyarra 9. Maatii/Hiriyyarra 10. Barnoota bu;uuraaa 11. Keella fayyarra 12. Kan biro yoo jiraate haa ibsamu.....	
404	Waan itti ulfa ittisan fayyadamtee beektaa?	1. Eyyee 2. Lakki	Lakki yoo ta'e gara

			lakk. 501
405	Gaaffi lakk.404 Deebiin kee eyyee yoo ta'e /deebii 1 ol kennu dandeessa	<ol style="list-style-type: none"> 1. Kan liqimsamu 2. Kan lilmoo 3. Kan gadameessa keessa kaaamu 4. koondoomii 5. Irree harkaa keessa kan awwalamu 6. Kan biro yoo jiraate haa ibsamu..... 	
406	Qorichaa ulfaa ittisuu essa argtee?	<ol style="list-style-type: none"> 6. Qajeelcha fayya maatii etiyoophiya irraa 7. Dhabata fayyaa mootumma irra 8. Kilinika dhuunfa irraa 9. Duukana qoricha/farmasii/irra 10. Kan biro yoo jiraate haa ibsamu 	
407	Yeroo amma qoricha ulfaa ittisu ni fayyadamtaa?	<ol style="list-style-type: none"> 1. Eeyyee 2. Lakki 	

Kutaa 5ffaa: Beekumsaa ulfa yeroo tasa ittisu ilaalchisee

Lak.	Gaaffilee	deebii	darbu
501	Wal-qunnamtii saalaa of eeganno hin qabne boda akka hin ulfoofne maaliin ittisuu dandeensaa?	<ol style="list-style-type: none"> 3. Eyyee 4. lakki 	
502	Lakk.501 deebiinkee eeyyee yoo ta'e waan beektu hundaa taressi?	----- -----	
503	Waa'ee ulfa yeroo tasaa ittisuu dhageesse beektaa?	<ol style="list-style-type: none"> 3. eyyee 4. lakki 	Hin beeku yoo tae gara lakk. 606
504	Lakk.503 deebiinkee eeyyee yoo ta'e isa kamiin dhageesse /fayyadamtee beekta?	<ol style="list-style-type: none"> 1. Kan liqimsamu 2. Kan gadameessa keessa kaaamu 3. kan biroo..... 	
505	Lakk.503 deebiinkee eeyyee yoo ta'e yeroo jalqabaaf eessa dhageesse?	<ol style="list-style-type: none"> 1. Teelevizhini/Radiyyo 2. Ogeessa fayyarra 3. Maatii/Hiriyyarra 4. Barnoota bu'uraa 5. Keella fayyarra 6. Kan biro yoo jiraate haa ibsamu..... 	

506	Ulfa yeroo tasaa ittisuuf wal-qunnamtii saalaa erga gootee/raawwatte booda yeroo hagam keessatti qorichaa fudhattaa?	8. Akkuma wal-qunnamtii saalaa raawwatan 9. Sa'atii 24 kessatti 10. Sa'atii 72 kessatti 11. Guyyaa 5 keessatti 12. Turban tokko keessatti 13. Laguu/xuriin eerga hafee booda 14. hinbeeku	
507	Wal-qunnamtii saalaa of-eegannoo hin-qabne eega godhanii booda ulfa tasa hin barbaachifne ittisuuf gadameessa keessa yeroo hammamii booda wal-qunnamtii saalaa raawwachuu dandaamaa?	1. Akkuma wal-qunnamtii saalaa raawwatan 2. Sa'atii 24 kessatti 3. Sa'atii 72 kessatti 4. Guyyaa 5 keessatti 5. Turban tokko keessatti 6. Laguu/xuriin eerga hafee booda 7. hinbeeku	
508	Ulfa yeroo tasaa toaachuun akkamitti dandaamaa?	4. Ulfi akka hin uumamnee dhorka 5. Ulfaa yeroo tasaa baasa 6. Hin beeku	
509	Ulfa hin baarbaachisnee ittisuu yeroo haala akkamin uumamuu danda	1. Dirqiisiisanii gudeeduu 2. Koondoomiin yeroo tarsi'uu 3. Yeroo Haalli dhaabbataa ittin ulfa ittisan irranfatamu 4. Yeroo Wal-qunnamtii saalaa rawwatan mala ittisa ulfaa fayyadamuu dhiisuu 5. Kan biroo.....	

Kutaa 6ffaa: beekusa ulfa tasaa taachuufi itti fayyadamuu

Lak.	Gaaf filee	Deeii	darbu
601	Ulfa akka tasaa ittisuuf mala ittisa ulfaa fayyadamtee beekta?	3. eyyee 4. lakki	Hin beekuu yoo jeete gara gaaffii lakk.606
602	Gaaffin tartiiba lakk.601 deebiin kee eyyee yoo ta'e isa kam fayyadamtee?	1. Kan liqimsamu 2. Kan gadameessa keessa kaaamui 3. Kan biroo yoo jiraate haa ibsamu.....	

		
603	Gaaffin tartiiba lakk.601 deebiin kee eyyee yoo ta'e yeroo meeqa fayyadamtee?	5. Al-tokko 6. Al-lama 7. Al-sadii 8. Sadiif isa oli	
604	Sababni ulfa akka tasaa uumamuu ittisuuf fayyadamtu maali?	6. Dirqiisiisanii gudeeduu 7. Koondoomiin yeroo tarsi'uu 8. Yeroo Haalli dhaabbataa ittin ulfa ittisan irranfatamu 9. Yeroo Wal-qunnamtii saalaa rawwatan mala ittisa ulfaa fayyadamuu dhiisuu 10. Kan biroo.....	
605	Mala ittisa ulfaa eessa argatte?	6. Qajeelcha fayya maatii etiyoophiya irraa 7. Dhabata fayyaa mootumma irra 8. Kilinika dhuunfa irraa 9. Duukana q qoricha/farmasii/irra 10. Kan biro yoo jiraate haa ibsamu	
606	Malli ittisa ulfaa eenyuuf kennamuu qaba?	6. Dubartoota mala ittisa barbaadan hundaaf 7. Dubartoota gayila qaban qofaf 8. Shamaraan qofaf 9. Dubartoota gudeedamanif 10. .Kan biro yoo jiratee ibsi.....	
607	Deebii kee mala ittisa ulfaa barbaadan hundaaf yoo tae maalif?	8. Rakkoo hamaaf waan nama saxiluuf 9. Haaala hin barbaachifneef waan oluuf 10. H.I.V .Adsii waan babaalisuuf 11. Ulfi yeroo umamu fixeen isaa waan midhamuf 12. Qorichichi rakkoo bira	

		waan qabuuf 13. Amaantin waan dhorkuuf 14. Kan biro yoo jiratee ibsi.....	
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Kutaa 7ffaa: ilaalcha ulfa yeroo tasaa toachuuf godhamu

Lak.	Gaaffiilee	Deebii	darbuu
701	Gara fuulduratti baarbaachisaa tae yoo argame mala ittisa ulfaa tasa fayyadamuuf fedhii qabdaa?	3. eeyyee 4. lakki	
702	Mala ittisa ulfa tasaa fayyadamuuf fedhii yoo qabatte qoricha eessa argachuu filatta?	6. Qajeelcha fayya maatii etiyoophiya irraa 7. Dhabata fayyaa mootumma irra 8. Kilinika dhuunfa irraa 9. Duukana qoricha/farmasii/irraa 10. Kan biro yoo jiraate haa ibsamu	