ADDIS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF EMERGENCY CONTRACEPTIVE USE AMONG FEMALE COBBLESTONE WORKERS AND FACTORS ASSOCIATED WITH ITS USE IN NEFASSILK LAFTO SUB-CITYS, SOUTH WESTERN ADDIS ABABA

By: Melaku Tsehay(BSc)

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master in Public Health (MPH)

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Addis Ababa, Ethiopia

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Approved by the Examining Board

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2. _____	_____

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Acronyms

AOR	Adjusted odds ratio
CI	Confidence Interval
COC	Combined oral contraceptive
CPCO	Cobblestone Project Coordination Office
EC	Emergency Contraceptive
ECP	Emergency Contraceptive Pill
ETB	Ethiopian Birr
FGAE	Family Guidance Association Ethiopia
HIV	Human Immuno Deficiency Virus
IEC	Information Education and Communication
IUD/IUCD	Intrauterine Device / Intrauterine Contraceptive Device
IDI	In-depth Interview
KAP	Knowledge Attitude and Practice
MOH	Ministry Of Health
NGO	Non Governmental Organization
OCP	Oral Contraceptive Pill
OR	Odds Ratio
POP	Progestin Only Pills
RH	Reproductive Health
SPSS	Statistical Package for Social Science
SRH	Sexual Reproductive Health
SRS	Simple Random Sampling
STI	Sexually Transmitted Infection
WHO	World Health Organization

ABSTRACT

Background: Emergency contraception(EC) is a type of modern contraception which is indicated after unprotected sexual intercourse when regular contraception is not in use. Ethiopia being one of the countries with highest maternal mortality because of several factors such as low use of the avaialbe servics and technologies which eventualy contribute for the death of mothers as a result of bleeding caused by abortion and the suffering followed by dealing with all issues associated with having unwanted child which further resulted in social, economic and cultural problems demands a multiple approach. Therefore, this study aimed to assess the use of EC among female Cobblestone workers and factors associted with its use in Nefassilk Lafto sub-city, Addis Ababa.

Objectives: To assess the use of emergency contraception among female Cobblestone workers and factors associated with its use of Nefassilk Lafto sub-city,Addis Ababa.

Methods: A cross sectional survey was conducted among Cobblestone workers in the study area from March to April 2013. Study participants were selected by stratified random sampling. Both quantitative and qualitative research methods were used for data collection.The data was collected using a structuered and pretested questionar, then data was cleanced and enterd to EP-Info version 3.5.1 and then exported and analyzed using SPSS version 16.0 stastistical software.

Result- out of 422 study participants, 345(81.8%) had ever had sexual experience. From the total respondents, 102 (24.2%) heard about EC, Correct timing of useing EC was reported only by 41(40.2%). Of all who heard only 38 (11%) of them had ever used EC. The major sources of information about EC were family/friends. The Cobblestone project clinics were not providing family planning or EC services for Cobblestone workers.

Marital status, educational status and number of sexual contacts of the respondent are factors which have a significant relationship with ever used of contraceptive. Those respondents ever used EC was higher among respondents who were single than married AOR 0.36(95%CI:0.136,0.987) and respondents who had practiced any contraception, AOR 0.53(95CI: 0.083, 3.434).

Conclusions and recommendation: -The findings of this study shows that study subjects have low utilization of EC among female Cobblestone workers and no favorable access to the service.Hence there is a need for collaborated effort for the provision of reproductive health service and demand for education.

1. INTRODUCTION

Emergency contraception is a type of modern contraception which is indicated after unprotected sexual intercourse when regular contraception is not in use. The importance of EC is evident in preventing unintended pregnancies and its ill consequences like unwanted child delivery or unsafe abortion, which are the most common causes of maternal mortality Therefore, EC needs to be available and used appropriately as a backup in case regular contraception is not used, misused or fails(1).

There are two types of ECs, namely; Emergency Contraceptive Pills(ECP) and Intra Uterine Devices (IUDs). The ECP include Combined Oral Contraceptive Pills (COCPs), and a Progestin Only Pills (POPs) (2).Effectiveness of ECP is 75 % to 89 % when taken within 72 hours of unprotected intercourse.In the case of IUDs, it reduces the risk of pregnancy by more than 99% if it is inserted within 5 days of unprotected sexual intercourse. Regarding the mechanism of action, EC works by preventing fertilization, implantation and tubal transportation of sperm and ovum (2).

In 2010 World Health Organization(WHO) reported that about 800 women die from pregnancy- or childbirth-related complications around the world every day. Almost all maternal deaths (99%) occur in developing countries. More than half of these deaths occur in sub-Saharan Africa and almost one third occur in South Asia. The maternal mortality ratio in developing countries is 240 per 100,000 births versus 16 per 100,000 in developed countries. (3). According to the Ethiopia Demographic and Health Survey(EDHS) of 2011, about 676 maternal death per 100,000 live birth, among these 80% women died during pregnancy and childbirth complications (4).

The EC as part of the nationel family planing strategs,it was officially introduced in Ethiopia by the Ministry of Health in 2005 with the aim of improving Sexual and Reproductive Health (SRH). In 2001, the Family Guidance Association of Ethiopia (FGAE) in collaboration with the Population Council initiated for the a pilot project to introduce EC in selected youth center clinics in the country (5).

1.1 STATEMENT OF THE PROBLEM

Unintended pregnancy poses a major challenge to the reproductive health of young people in developing countries. Some women with unintended pregnancies obtain abortions many of which are performed in unsafe conditions and others carry their pregnancies to term, incurring risks of morbidity and mortality higher than those for adult women(6).

Globally, unsafe abortion accounts for about 13 percent of maternal deaths compared with 30 to 50 percent in Sub-Saharan Africa (3). The proportion of women aged 15–19 years in Africa who have had an unsafe abortion is higher than in any other region; almost 60% of unsafe abortions in Africa are among women aged less than 25 years and almost 80% are among women below age 30(7). Young people today marry later, and more start sex before marriage. Thus they face more risk of unwanted or unintended pregnancy(8).

Maternal mortality in Ethiopia is as high as 676/100,000 live births (EDHS 2011) and abortion is estimated to account for about 32% of these deaths(4). Unwanted pregnancy is a big problem in Ethiopia; more than 60% of the pregnancies in adolescents are unwanted which is alarming figure and most of these pregnancies particularly the ones in adolescents end up as unsafe abortion. Improving maternal health and reducing Maternal Mortality Rate (MMR) is one of the Millennium Development Goals (MDGs)(9).

There is a strong inverse relationship between early childbearing and women's education; teenagers with less education are much more likely to have started childbearing than those who are better educated. Thirty-three percent of teenagers with no education have begun childbearing, but no teenagers with more than a secondary education in the 2011 EDHS sample have begun childbearing. Teenagers in the lowest wealth quintile are almost four times as likely to start childbearing early as women in the highest wealth quintile (21 percent and 6 percent, respectively(4)

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The government of Ethiopia has a policy to use Cobblestone to improve the road coverage standard of the city, create job opportunities for unemployed youth and womens in the purpose of improving their income(10). Other studies cared out in Ethiopia marly institution based(school, univesity) but , there is lack of studies which targets those wether working in such situation which is often lefe for poor, uneduceted group, this study will try to assess the use of emergency contraceptive among female Cobblestone workers and factors affecting their use. The information attained from this study will help to improve reproductive health services for these groups and to design appropriate interventions based on the findings.

1.2 RATIONALE OF THE STUDY

As shown in many countries where unintended pregnancies are high, widespread use of EC could prevent very high numbers of unintended pregnancies and abortions. The reproductive health impacts of unintended pregnancy and unsafe abortion are high among adolescents especially in developing countries like Ethiopia.

The practice of EC to prevent unwanted pregnancy among university students in Addis Ababa was low, although awareness is high, on the other hand lack of knowledge among providers is a problem and negative attitudes toward providing adolescents with ECPs poses an equal challenge(11).

Assessing the use of EC among female Cobblestone workers and inform the concerned body for possible intervention of the correct utilization of the methods has a paramount importance. Primarily the assessment of EC use is mandatory for base line data for farther study. However, in Ethiopia no studies have been conducted among Cobblestone workers. Therefore this study will generate information regarding knowledge, attitude and utilization of EC in Cobblestone workers. The findings could be helpful in planning to reduce unplanned/unwanted pregnancies, unsafe abortion and its complication, and improving Sexual and Reproductive Health (SRH) issues of adolescents starting from the lower educational level and it could help as prerequisite for the government to work in collaboration with non-government agencies for successfully integrating ECPs into large-scale reproductive health programs.

2 LITERATURE REVIEW

2.1 What is emergency contraceptive?

Emergency contraception (EC) is type of contraception used as an emergency to prevent unwanted pregnancy following an unprotected/un intended act of sexual intercourse.These methods are simple, safe, and effective. They are intended as last chance to prevent pregnancy for women who have been exposed to unprotected coitus and who do not wish to become pregnant(12).

2.1.1 Indication and side effects of emergency contraceptives

ECPs are indicated -to prevent pregnancy after unprotected or inadequately protected sexual intercourse; including

- when no contraceptive has been used
- When there is a contraceptive failure or incorrect use including

  -Condom breakage, slippage, or incorrect use

  -More than two weeks late for progestin only contraceptive injection

In addition to the general indication for EC, the IUD is especially indicated when more than 72 hours have elapsed after unprotected intercourse in which case ECP aren't considered effective options & the client can use the IUD for continuing long-term contraception(11).

Side effects of EC changes in bleeding patterns including: Slight irregular bleeding for 1-2 days after taking ECPs. Monthly bleeding may start earlier or later than expected in the week after taking ECPs. Nausea, vomiting, abdominal pain, fatigue, headaches, breast tenderness and dizziness may present in some clients(12). Women using progestin-only ECP formulations are much less likely to experience nausea and vomiting than women using estrogen and progestin ECP formulations(13).

2.2 The socio demographic variables

A cross-sectional study done on a total of 561 respondents in Mekelle University female undergraduated students discovered that the majority of respondents 423(75.40%) were between the ages of 18 and 20 yrs from this 16 of them were practiced EC and 530(94.5%) had never been married 22 of them where used EC and from the educational level 348 (62%) of the respondents were Year I,104(18.5%) year II and 97(17.3%) year III and above students from these 14,6,12 of them practice EC respectivel(13). Other studies conducted in Addis Ababa from the total of 407 (98.8%) where interviewed Over half women's (54.9%) age was 16-24 and educational level of 351(84.2%) the interviewed varies from primary to tertiary level, while 66(15.8%) of them were illiterate. the married women accounts 274(65.7%) and the unmarried 121(29%)(1)

2.3 Sexual behavior

Many young people engage in sexual risk behaviors that can result in unintended health outcomes. Among U.S. high school students surveyed in 2011, 47.4% had ever had sexual intercourse of these 39.8% did not use a condom the last time they had sex and 76.7% did not use birth control pills or Depo-Provera to prevent pregnancy the last time they had sex. 15.3% had had sex with four or more people during their life. To reduce sexual risk behaviors and related health problems among youth, schools and other youth-serving organizations can help young people adopt lifelong attitudes and behaviors that support their health and well-being—including behaviors that reduce their risk for HIV, other STDs, and unintended pregnancy(14). In similar studes in Ethiopia among female udergraduate students of Mekelle university, 97(17%) of them had ever had sexual intercourse of these 39 (40%) did not use any birth control pills or depo-provera to prevent pregnancy and 5% of them had three and above partners(13).

2.4 Knowledge, Attitude and Practice on Emergency Contraception

A comparative study conducted on adolescent clinic and drug treatment center in USA between 1996 and 2002 showed that the percentage of participants who had ever heard of EC, knowledge of the correct time limit for EC, attitude towards EC and ever used of EC was significantly increased between 1996 and 2002.Accordingly had ever heard of EC was 44% to 73%, knowledge about the correct time limit for EC grew from 20% to 51%, knowledge about where to get EC was increased from 78% to 95% between 1996 and 2002. Had ever used of EC increased from 4% to 13% and participant positive attitude toward EC grew from 72% to 96% for 1996 and 2002 respectively(15).

A study conducted in Finland by collecting data every second year using self administered questionnaire among girls aged 12-18 yrs in 1999-2003 indicated that the awareness of EC increased.According to this study in 2003, 61% girls aged 12 and 98% of those aged 18 knew about EC. In 2003, had ever used of EC were 2%, 15%, and 29% for aged 14, 16 and 18 yrs respectively(16).

A study done in Nigerian undergraduate students states that 43% and 34% of all female respondents were sexually active and ever had an induced abortion respectively. Thirty nine percent of respondents had ever practiced contraception; majority of them used contraceptive methods such as withdrawal 45%, condom 26% and rhythm 11%(16).Five hundred tine(58%) of respondent had heard of emergency contraceptive but only 18% of them correctly identified 72 hrs as the time limit for the method use. And 49% thought that emergency contraceptives were effective only used within 24hrs of unprotected sex, such misinformation might inhibit someone who could still prevent a pregnancy from taking emergency contraceptives because they thought they had missed their “window” of effectiveness. The main sources of information for EC were mainly trained Health Providers fewer than 50% and female friends 33 %. The knowledge of correct timing for EC was significantly related with ever practiced contraception, sexually active and with year of study. Those who were sexually active and those who had ever practiced contraception or had studied at the university for 3-6 yrs were significantly more likely than other respondents to have heard of emergency contraceptives(17).

Another study conducted about the perception of EC among Ghanaian University students documented 43.2% (88 males and 106 females) had heard it as a modern emergency methods. Only 11.3% of the respondents indentified the correct time frame with in which the ECPs are to be taken after unprotected sex,this study showed that the majority 97.4% expressed their interest to learn more about EC(18).

A cross sectional study conducted among a total of 368 students from Addis Ababa University revealed that only 23.4% were sexually active. Of these about 42% had unprotected sexual intercourse and of which 75% had ever used EC. Majority 84.2% had heard about EC and of these 119(32.3%) had a positive attitude towards it. The main source of information for the respondent was media 255(69.3%). The result has also concluded that those with sexual experience have significantly better attitude towards EC than sexually inactive participants(crud OR 0.33(0.15-0.71) even after adjusting for possible confounder such as age, region, ethnicity, marital status, department, education and income(11)

A cross-sectional study done on a total of 561 respondents in Mekelle University discovered that fewer than 17.3% of them had sexual experience in the past. Of all the participantsabout 44.7 % have heard about EC and of those who reported sex, only 33% had ever used EC. Among those who heard about EC, majority 88.4% mentioned pills & 58.8% of them identified 72 hrs as a time limit to start the first dose of ECP. For them, the major sources of information about EC were tv /radio 34.3% while heard from family/friends 29.1%. Amongst those who heard about EC, majority; 75.7% has showed a positive attitude towards making EC available to all women and had an intention to use when the need arises. The level of awareness about EC remained higher among those students; who were aged 21yrs and above, those who were form the college of health science, those who were aware of contraception method and those who had the experience of discussing about reproductive health issues.Ever used of EC was significantly higher among respondents who were married than the single and these respondents had practiced contraception(13).

2.5 Accessibility of EC method

A New York state comptroller's office study estimated that easier access to EC could save the state 452 million annually, and prevent 122,000 unintended pregnancies and 82,000 abortions each year. This study was based on previous estimates that EC has the potential to prevent half of unintended pregnancies(15).

Emergency contraception has become a widely accepted method of contraception, and many governments have taken steps to increase women's access to it. However substantial barriers remain for adolescents. To continue expanding availability of ECPs to adolescents and women as a whole, public health and policy advocates recommend that governments explicitly recognize ECPs as a safe, effective method of preventing pregnancy and strengthen their efforts to increase access(19).

Introduction of EC began in 2001 by Family Guidance Association of Ethiopia (FGAE) in collaboration with the population council as a pilot project in selected youth center clinics in the country. The project demonstrated that EC was popular among young people, served as a learning experience, and showed the need to expand services in the public and NonGovernmental Organizations (NGO) sectors (20, 21).

2.6 Gender based sexual violence

Gender based violence physical mental or social abuse includes sexual violence ,attempted or threatened , done with some type of force manipulation and without the informed consent of the affected person. forms of gender violence includes sexual violence ,sexual abuse , sexual harassment , sexual exploitation ,early marriage , marriage by abduction , female genital cutting but to be free from sexual violence is one of human right (22).

In a school based survey among high school students in Addis Ababa and west shewa, prevalence of completed and attempted rape was 5% and 10% respectively(23). In similar study among high school student in Debark North West Ethiopia sexual violence was reported by 65.3% of respondents. The prevalence of attempted and performed rape was 11.5% and 8.8% respectively(24).

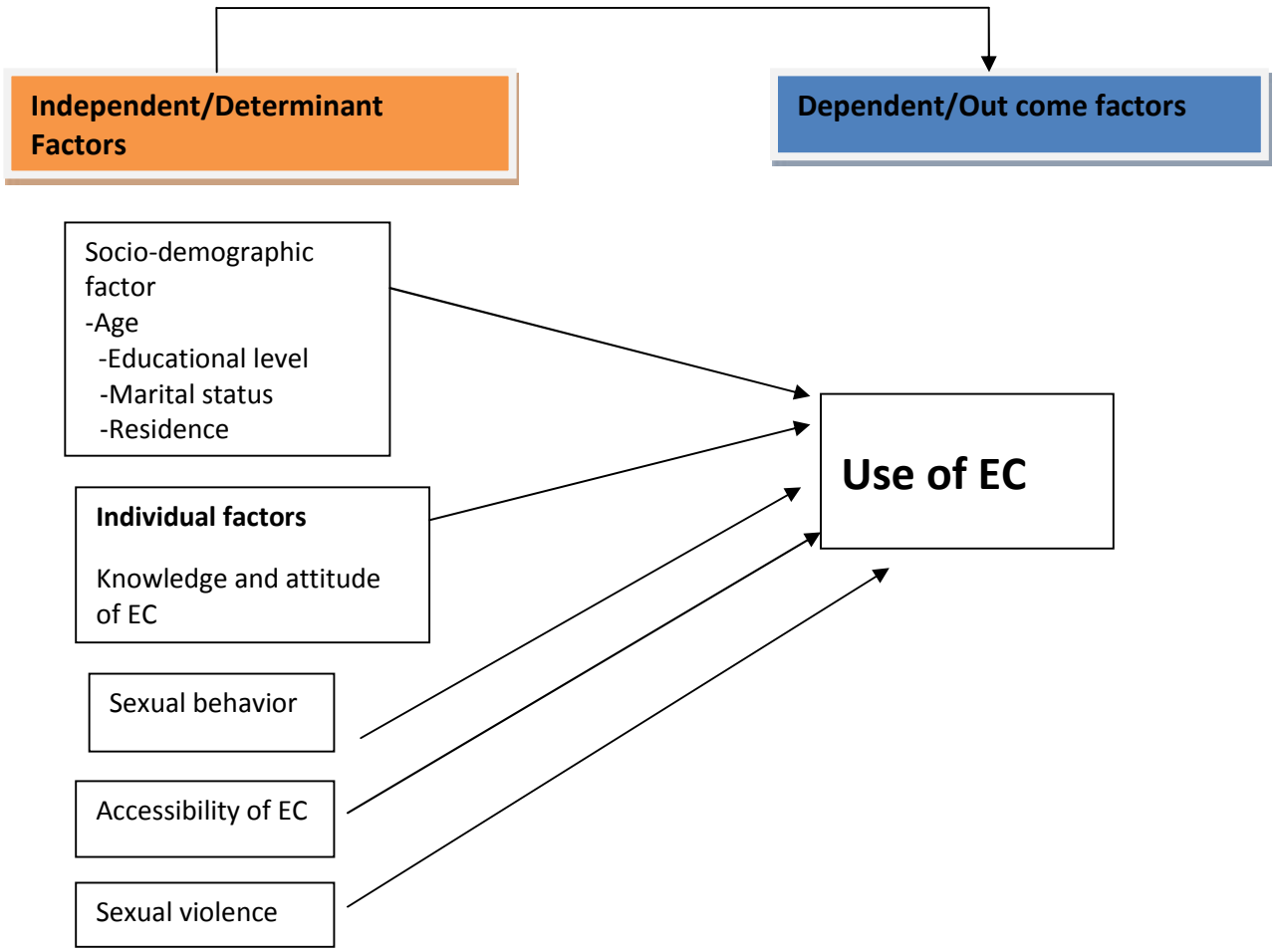

Figure1. Conceptual Frame work showing predictors and outcome variables for the use of EC.

3 OBJECTIVE

3.1 General objective

- To assess the emergency contraceptive use among female Cobblestone workers and factors associated with its use in Nefassilk Lafto sub city,Addis Ababa, Ethiopia.

3.2 Specific objectives:

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- To assess the level of knowledge and attitude towards EC methods among female Cobblestone workers of Nefassilk Lafto, Addis Ababa.
- To assess the magnitude of EC use among female Cobblestone workers of Nefassilk Lafto,Addis Ababa.
- To identify factors that affect utilization of EC methods among female Cobblestone workers of respondents.

4 METHODOLOGY

4.1 Study area and period

The study was conducted in Addis Ababa, the capital city of Ethiopia. Addis Ababa had four Cobblestone projects namely Chafo Egezabher, Hana Mariam,Yeka Tafo, Gelan Cobblestone project. Hana Mariam Cobblestone project is found in woreda 11 N/Lafto subcity. Hana Mariam Cobblestone project has organized from a five sub city Cobblestone associations namely N/Lafto(3503), Kolefa(2898), Ledta(1826), Addis ketma(997), Gullela(900) Cobblestone association. According to the statistics obtained from Addis Ababa Cobblestone coordination office,Hana Mariam Cobblestone project had a total of 23,924 of which 10,124(42.3%)were female(10). The Hana Mariam Cobblestone project had one clinic which only provides emergency service to the Cobblestone workers. There is one referral health center providing service to Hana Mariam area populations. The data was collocated from March to April 2013.

4.2 Study design

A cross-sectional community based study design was used to collect the data in both quantitative and a qualitative research method is used.

4.3 Source population

The source population was all female cobblestone workers in Hana Mariam Cobblestone project.

4.4 Study population

All female cobblestone workers in each association were selected from source population by using random sampling techniques.

4.4.1 Inclusion criteria:-

- All Cobblestone female workers in the reproductive age group and able to give informed consent to participate in the study.

4.4.2 Exclusion criteria:

- If she had hearing problem.

4.5 Sample size determination and sampling technique

4.5.1 Sample size calculation: quantitative method

The sample size was used to determined using single and double proportion formula. since data is not available on the use of emergency contraception among female cobblestone workers (similar socio demographics characteristics),50% of population proportion was used to determine sample size based on single population proportion and 5% marginal error,With 5% degree of precision to maximize the sample size,Zά/2 is a standard Z score and 1.96 corresponding to 95% confidence level and 10% non response rate was added. The total sample size :-

$$n = \frac{(Z\alpha/2)2\ p(1-p)}{d2}$$

$$n = \frac{(1.96)2\ 0.5(1-0.5)}{(0.05)2} = \mathbf{384}$$

4.5.2 Qualitative data

A total of two Focus Group Discussion (FGD) was conducted having eight participants in each group until the intended objective was set (till point of saturation of the ideas). The study population comprised of eight from single and eight from married, homogeneous group was discussing together. The groups were formed by selecting purposively based on higher proportion of female Cobblestone workers and active participant in order to generate information. Two In-depth interviewswas conducted with health service providers on Cobblestone clinic and Nefassilke Lafto Woreda 11- health center staffs. The objective of this method was to supplement the findings of quantitative research.

4.6 Sampling procedures

According to the information obtained from the Addis Ababa Cobblestone Coordination Office,there were four Cobblestone projects, only one Cobblestone project(Hana Mariam Cobblestone project) was selected purposively based on larger population of Cobblestone worker.In Hana Mariam cobblestone project,there were five Cobblestone associations and the sample was distributed to each Cobblestone association using proportional allocation to population. The respondents from each association was identified using simple random method, using the registration as a sampling framework(Figure 2).

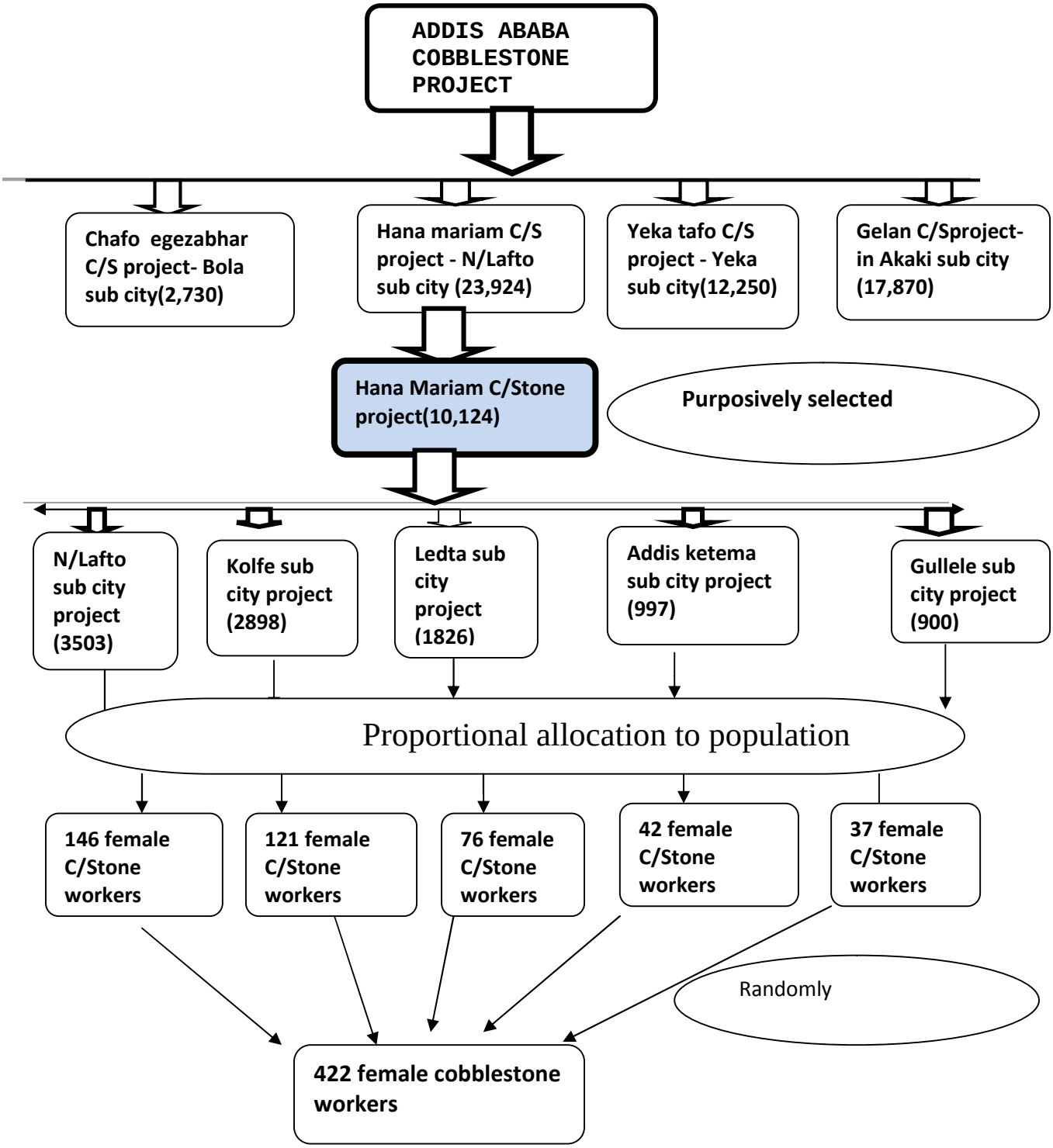

Fig 2: Schematic Presentation of Sampling Procedure

4.7 Data collection procedures

For quantitative survey data were collected a structured and pre tested interviewer administered questionnaires developed based on related studies. It was firs prepared in English and translated in to Amharic and then back translated in to English to check for consistency and clarity.

Data collection was administered by ten data collectors and three supervisors were recruited for data collection; all of them were female health professionals. Two day long training was given for the data collectors and supervisors by the investigator on the objective of the study, relevance of the study, confidentiality, respondent's right, informed consent, method of interview, and way of handling and approaching study subjects.

For qualitative data collection,an open ended semi- structured interview guide was prepared to know the service providers knowledge of EC, types of services provided in the institution. It was also prepared to know who the service users were, reasons mentioned by the service users for asking EC service, attitude of service providers towards EC in the reduction of maternal morbidity and mortality used for in-depth interview of the health service providers.

4.8 Data quality control

The structured questionnaire was pre tested on Yeka Tafo Cobblestone workers whch was in out the study area before the actual data collection and checked for the clarity and consistency.Some modification was made based on the result. The supervisors and interviewers were properly trained in order to avoid any bias, proper categorization and coding of questionnaires.

Supervisors and principal investigator closely follow the data collection process for clarity, consistency and accuracy. About 5% of the completed questionnaires were selected randomly and rechecked by the PI. After data was entered in to the computer, it was cleaned and edited; identified errors were corrected by reviewing the original questionnaire.

4.9 Study variables

4.10.1 Dependent variables

- Use of EC.

4.10.2 Independent variables

- Socio demographic(maritalstatus, age,religion, ethnicity, educational level)
- Knowledge
- Attitude
- Service factors
- Sexual behavior

4.10 Operational definitions

- **Attitude:** To whom EC should be given, to all women's who need it or other than to all women's who need it. Responding to all women's who need it as considered as high attitude (positive attitude) and respondents knows other than to all women's who need it as considered as low attitude (negative attitude).
- **Cobblestone**:chiseled stones ready for paving.
- **Emergency contraception:**A kind of contraception indicated after unprotected sexual intercourse to prevent unintended pregnancy (1).
- **Knowledge:**assessment of what the individuals knows about EC and whether that knowledge is high or low as considered as total knowledge question from 0-11, so respondents knows >50%(6-11) as considered as high knowledge score and <50%(0-5) as considered as low knowledge score.
- **Sexual behavior :** A person's sexual practices–ie, whether he/she engages in heterosexual or homosexual activity.
- **Unintended pregnancy:** pregnancy that occurred withouta plan.
- **Utilization of EC-** women's who has knowledge about EC and who has ever used to prevent unplanned pregnancy after unprotected sex.

4.11 Data processing and analysis

Quantitative data from all the questionnaires were coded, entered,descriptive by Epi Info version 3.5.1 computer soft ware. Descriptive statistics Such as frequencies, percentage, and appropriate graphic presentation besides measures of central tendency and measures of dispersion used for Univariate analysis were also run using SPSS. Odds ratio and 95% confidence interval were used to check significant association between dependent & independent variables.

For the qualitative part, no statistical software was applied but by simply using the responses of the group' members which were collected by tape recorder and note taken by hand so that attempts were made to conclude the ideas from general to specific after saturation point was reached and linked with the findings of quantitative survey.

4.12 Ethical considerations

This study was reviewed and approved by the Institutional Review Board of the College of Health Sciences at Addis Ababa University. Official letter was written by the School of Public health at Addis Ababa University to study area of Addis Ababa Cobblestone project coordination office, N/Lafto Hana Mariam Cobblestone project and woreda 11 heath center. Some of the information gathered during this study was remained confidential during the project. Privacy of the respondents was kept by giving them free chance to participate in the study, and when they were willing to participate; convenient time for data collection was determined by interviewee.Sensitive questions like ever had sex and the like by asking (were asked as discreetly as possible) them and the filled questionnaire was not to be shown to their neighborhood. After explaining the importance of the study, informal consent was obtained from each individual participant before the start of interview.

4.13 Dissemination of the result

The result will be presented to Addis Ababa University School of Public Health and documents will be disseminated to the study area including Addis Ababa Cobblestone project coordination office and Nefasselke Lafto Health Office and different organizations working in the reproductive health areas. In addition the result will be disseminated through presenting the finding at different meetings, workshops and by publishing in scientific journals.

5. Result

5.1 Socio-demographic characteristics ofrespondents

All 422 sampled respondents had responded to our study, making the response rate of 100%. Table I, shows the socio-demographic characteristics of female Cobblestone workers who responded to our study. Accordingly, the majority of respondents 224(53.1%) were in the age range 20 to 24 yrs age group, 390(92.4%) were christian domination by religion, and 328(77.7%) were from rural area by thier place of residence. Majority 169(40%) of the respondents were Amhara by their ethnicity followed by Oromo 131(31.0%). One hundred forty one (33.4%) of study participants were with no formal education, followed by those who attended premary schooling and only 81(19.2%) had secondery and above schooling. About half of the respondents' mariata status were single followed by married one.

Table 1- Socio-demographic characteristics of respondents among Female Cobblestone workers, Nefasselk Lafto, Addis Ababa, Ethiopia, March to April 2013.

Variables	n=422	Number	Percent %
Age			
15-19		80	19.0
20-24		224	53.1
25-29		81	19.2
≥ 30		37	8.8
Religion			
Orthodox		261	61.8
Protestant		115	27.3
Muslim		32	7.6
Catholic		14	3.3
Marital status			
Single		206	48.8
Married		190	45.0
Divorced		22	5.2
Widowed		4	0.9
Place of residence			
Rural		328	77.7
Urban		94	22.3
Ethnicity			
Amhara		169	40.0
Oromo		131	31.0
Wolata and Hadiya		95	22.5
Tigrie		27	6.4
Educational level			
No formal education		141	33.4
Primary education		200	47.4
Secondary education		64	15.2
12 completed and above		17	4.0

5.2 Sexual and reproductive characteristics of respondents

Out of the total 422 respondents, 345(81.8%) had ever had sexual experience. Of these 208 (60.3%) gane marriage as reason for the sexual act followed by 124(35.9%) committed the act because of love. while 7 (2%) were forced sex/rape.majority 284(82.3%) of them has one partners where as the remaing 61(17.6%) had more than one partner.

One hundred fifty(43.5%) of those cobblestone workers who had sexual experience had been pregnant, thirty five out of the150 pregnancies were unwanted and of those unwanted 35 (23.3%) ended in induced abortions, 29 of those abortions performed in the local abortionist and 6 by clinic/hospital(Table 2).

Table 2- Sexual and reproductive characteristics among female Cobblestone workers, Nefasselk Lafto, Addis Ababa, Ethiopia, April 2013.

Variables	Number	percentage %
Ever had sex(n=422)		
Yes	345	81.7
No	76	18.01
No response	1	0.2
Reason for sex(n=345)		
Marriage	208	60.3
Love relationship	124	35.9
Forced sex/ rape	7	2.0
Benefit from partners	5	1.4
Others	1	0.3
Number of sexual partners (n=345)		
One	284	82.3
Two	55	15.9
More two	6	1.7
Ever been pregnant(n=345)		
Yes	150	43.5
No	195	56.5
Outcome of pregnancy(n=150)		
Child birth	115	76.7
Induced abortion	35	23.3
Place of abortion (n=35)		
Local abortionist	29	82.9
Clinic/Hospital	6	17.1

Focus group discussion

The discussants mentioned that majority of the Cobblestone workers were performing pre marital sex. Some of the Factors for premarital sex as mentioned by the discussants were, some of the Cobblestone workers want to get some benefits from their partners especially money and to be competent enough with their peers in the way they dress and the jewelry they want to wear. Most female cobblestone workers are dependent on male and if she has a boy friend, she will be respected by others and she will not be exposed to other problems.

Most of the Cobblestone workers were exposed to unwanted pregnancy because of unplanned sex and sexual violence like forced sex/rape. Due to unwanted pregnancy unsafe abortion is performed in local abortionist. One discussant said a Cobblestone worker goes to a local abortionist and has an unsafe abortion but she died due to high bleeding without the help of heath provider. The discussants said that a lote of female Cobblstone workers exposed to forced sex/ rape spacialy for new comers and working after 11:30 hrs.Even the problam happens in the Cobblestone site before one weaks. Finally as they recommend, in addition to emergency service other health service including family planning need to be provided in the site clinic.

5.3 Knowledge and utilization of any contraceptive methods of respondents generaly

Three hundred eigthy nine (92.2%) of the total respondents had ever heard of at least one form of contraceptive method. Of those aware of contraception 365 (93.8%) mentioned pills, 375(96.4%) mentioned injection, 217(55%) implant, 136(35%) condoms and only 32(8.2%) metioned IUD. The main source of information 221(56.8%) were from heath workers, 168(43.2%) from TV/radio and 138(35.5%) from family/friends.

Two hundred seventy five (65.2%) of sexually experienced respondents had ever used at least one type of contraceptive method. The most commonly used contraception method was injection 240(87.3%), followed by oral pill 192(70.5%) and 116(42.2%) condom. Two hundred nine(76%) get the service from public health institute and 77(28%) private clinic, 40(14.5%) from pharmacy and 14(5%) from FGAE. Two hundred thirty one (54.7%) respondents had ever used contraception at the time of the study (Table 3).

Table 3 -Knowledge & utilization of any contraceptive method among female Cobblestone workers, Nefasselk Lafto, Addis Ababa, Ethiopia, April 2013.

Variables	Number	percent
Ever heard of contraception(n=422)		
Yes	389	92.2
No	33	7.8
If yes, what type (n=389)*		
Oral pills	365	93.8
Injectables	375	96.4
Implant	217	55.9
Condom	136	35.0
Calendar/rhythm	44	11.3
IUD	32	8.2
Female sterilization	15	3.9
Breast feeding Male sterilization	13	3.3
Breast feeding	1	0.3
Source of information for contraception (n=389) *		
Heath workers	221	56.8
Tv /radio	168	43.2
Family/friends	138	35.5
Heath institution	43	10.1
Formal education	30	7.7
Printed materials	1	0.3
Ever used any contraception in the past (n=422)		
Yes	275	65.2
No	147	34.8
Type of contraceptive ever used (n=275)*		
Injectables	240	87.3
Oral pills	194	70.5
Condom	116	42.2
Implant	48	17.5
IUD	1	0.4
Source of supplies of contraception**(n=275)***		
Public heath institution	209	76.0
Private clinic	77	28.0
Pharmacy	40	14.5
FGAE	14	5.0
Current use of regular contraception(n=422)		
Yes	231	54.7
No	191	45.3

*** Multipleresponse** **Percentage could be >100% due to multiple response**

5.4 Knowledge of emergency contraceptives among female Cobblestone workers.

Majority 320(75.8%) of the respondents had never heard about EC.Only 102 (24.2 %) of the had ever heard of EC. One hundred(98%) of those ever heard of EC mentioned pills and 2(2%) IUD. The major sources of information were from family/friends 82(80.4%), TV/radio 45(44.1%) and 70(68.6%) from heath workers. Of those who heard of EC pills, 77(75.5%) mentioned that EC prevents from getting pregnancy, 5(4.9%) said it has abortive effect and 20(19.6%) don't know how EC prevents pregnancy. Most 46(45%) of the respondents did not know correcte time of EC use (Table4).

Generally based on the opperational diffention total knowledge question was from 0-11,from the total respondents majority 325(77%) of the responded less than 50% of knowledge questions correctly while only 97(23%) responded correctly 50% and above.

Table4. Knowledge of emergency contraceptives among female Cobblestone workers,Nefassilke Lafeto,Addis Ababa, Ethiopia, April 2013.

Variables	Number	percent
Ever heard of EC(n=422)		
Yes	102	24.2
No	320	75.8
Type of EC ever heard (n=102)		
Pills	100	98.0
IUD	2	2.0
Source of information about EC(n=102)*		
Family/friends	82	80.4
Heath workers	70	68.6
Tv/radio	45	44.1
Formal education	4	3.9
Mechanism of action for EC(n=102)		
Prevent pregnancy from occurring	77	75.5
Induce abortion	5	4.9
I don't know	20	19.6
Correct timing for EC use (n=102)		
Within 72hrs after sex	41	40.2
Within 5days	15	14.7
I don't know	46	45.0
Knowledge questions (n= 422)		
Knowledgeable	97	23
Not knowledgeable	325	77

*** Multiple response** **Percentage could be >100% due to multiple response**

In the in-depth interview one- according to family planning service provider in Nefassilk Lafto worda 11 health centers mentioned that the types of EC is only ones that is ECPs and the correct time limit for ECP is 72 hrs. The family planning service provider also mentioned EC plays a major role in reducing maternal morbidity and mortality by preventing unwanted pregnancy, abortion and its complications and prevents child mortality by child spacing.

Generally she recommended that Safe abortion is some times good especially for those who have had critical problems like family pregnancy, low economical level and rape. Awareness creation and making family planning services available and counseling is important.

5.5 Attitude towards emergency contraceptives among female Cobblestone workers

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Based on the opperational defintion do you theik EC should be given to all women's who need it, as considered as a positive attitude and the remainder,other than to all womens who need it as considered as a negative attitude, from the 102 ever heard of EC 68 (80%) of them had positive attitude and 17(16.6%) of them had negative attitude. Some of their reasons for not making available EC to all women who need it were it leads to risky behavior 15(88.2%), misuse 13(76.5%),it propagates HIV epidemic 10(58.8%) and religious reason 10(58.8%)(Table 5).

Table 5 Attitude towards emergency contraceptives among female Cobblestone workers, Addis Ababa, Ethiopia, April 2013.

Variables	Number	Percent
Do you think EC should be available(n=102)		
Yes	85	83.3
No	17	16.6
If yes, to whom EC should be given (n=85)		
To all women who need it	68	80
To young female	13	12.7
To married women only	4	3.9
If No, what is your reason (n=17) *		
Increase risky behavior	15	88.2
fear of misuse	13	76.5
Propagates HIV/AIDS	10	58.8
It does not work	10	58.8

*** Multiple response** **Percentage could be >100% due to multiple response**

5.6 Utilization of emergency contraceptive among female Cobblestone workers.

When we see the utilazation of EC by socio-demographic characteristics of respondats majorits 16(42.1) of ever use EC betewine age of 20-24 and 24(63.1%) of them had ever use EC for a single marital status than married one.urban residence and primary education has high use EC than others(fig 3).

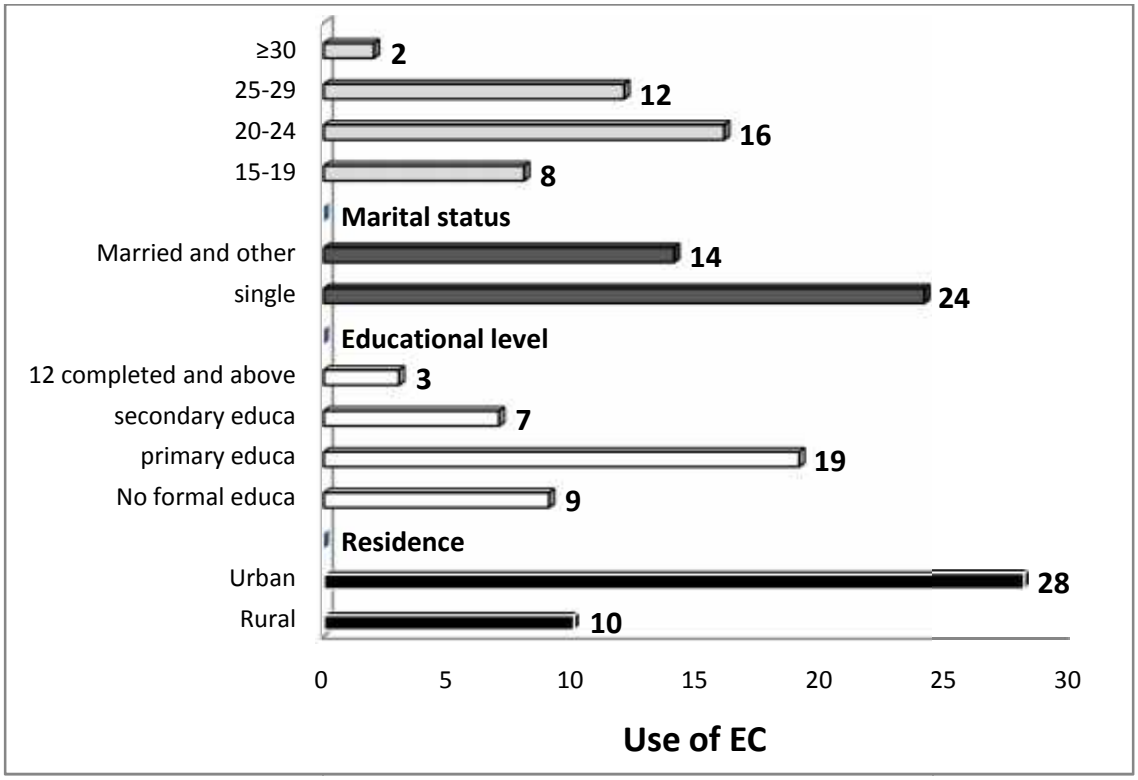

Fig 3- Utilazation of EC by socio-demographic characteristics of respondents among female cobblestone workers, Nefassilk Lafto, Addis Ababa, Ethiopia, April 2013.

From the total of 345 sexually active respondent 38(11%) of them had ever used emergency contraceptive method. All the 38(100%) of those ever used EC had used only EC pills. The main reason for using EC was 24(63.1%) due to forget to take pills, 19(50%) unprotected sex without any contraception, 7(18.4%) condom broken(breakage) and 7(18.4) due to forced sex/rape. 20 (52.6%) of the EC users had got the service from private pharmacy, 18(47.4%) from governmental health institutions, 3(8%) from private clinics and 7(18.4%) from FGAE (Table 6).

Table 6. Utilization of emergency contraceptives among female Cobblestone workers, Addis Ababa, Nelassilke Lafto, Ethiopia, April 2013.

Variables	Number	percent
Ever used EC (n=345)		
Yes	38	11.0
No	307	89.0
Reason for taking EC (n=38) *		
Missed pills	24	63.1
Unprotected sex without any contraception	19	50.0
Forced sex	7	18.4
Condom broken	7	18.4
Type of EC used(n=38)		
Pills	38	100
IUD	0	0
Place EC obtained(n=38) *		
Pharmacy	20	52.6
Public heath institution	18	47.4
FGAE	7	18.4
Private clinic	3	8.0

*** Multiple response** **Percentage could be >100% due to multiple response**

According to in-depth interview one in Nefassilk Lafto worda 11 health providers, the main source of supply for EC was from Neffas selke heath office. The service users were mostly Cobblestone workers and other community members in the Hana Mariam area but

most of Cobblestone workers demanded Depo-Provera injection rather than EC and other few Cobblestone workers demanded EC. The main reasons to use EC service were forgetting to take pills, condom slippage, and forced sex/rape.

The service provider said EC was distributed to female only because they need to be counseled about HIV/AIDS, regular family planning and pregnancy. She mentioned some of the Cobblestone workers came to their health center due to unwanted pregnancy but the organization does not provide abortion service.

Another in-depth interviewe two in Hana Mariam Cobblestone site clinic health provider says no family planning service in the site clinic. Most of the female Cobblestone workers visited the clinic for injury rather than family planning because all of them know the service. The service providers recommend that family planning service is mandatory to this site because of large number of workers. Awareness creation and making family planning available services is important.

When we see the percentage of EC with Knowledge,Attittud and utilazation from the total respondats 112(26.5) of them had knowladgeble , 85(20%) of them from 102 ever heard of EC had a positive attitude and 38(9%) of them from the total of 345 sexually active respondents had ever use EC(Figure 4).

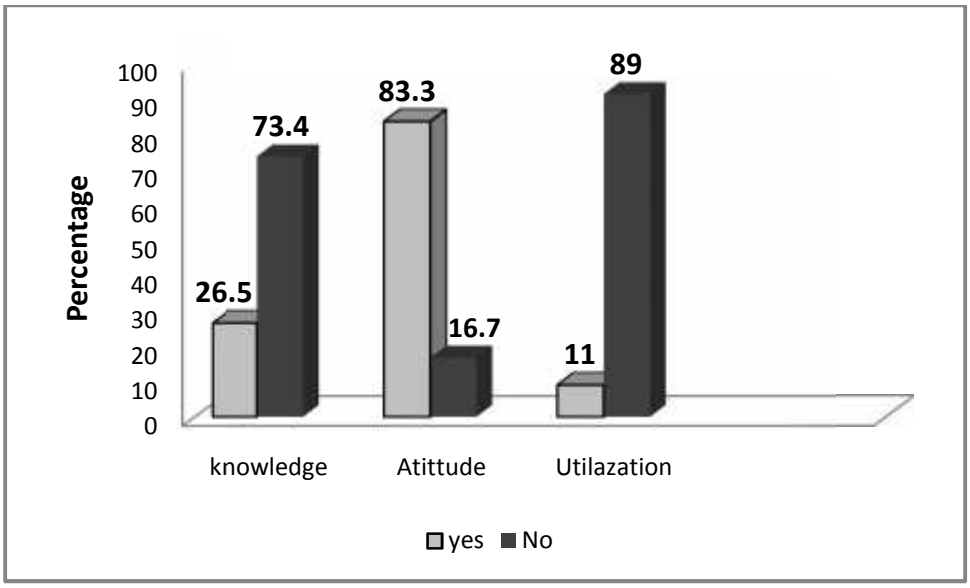

Fig 4. Percentage of knowladge attitude and utilazation of EC among female Cobblestone workers Nefasselk Lafto, Addis Ababa, Ethiopia April 2013.

Association between socio-demographic and reproductive health variables with utilization of emergency contraceptive

Cross tabulation and Logistic regression analysis was carried out to determine the association between socio-demographic factors with individual knowledge and attitudes of EC ,sexual behavior and utilization of EC among study participants. The result of bi-variate analysis shows ever used of EC was significantly higher among respondents who were single than married with AOR 0.36(95%CI:0.136,0.987)and respondents who had ever used any contraception than those never used contraception with adjusted OR,0.53(95%CI;0.083,3.434).

Those respondents ever had sexual contact are more likely to use EC than those who never had sexual contact adjusted OR 4.37(95%CI:1.029,18.552). Other variables like,educational level, knowledge, attitude and intention to use EC had no association with utilization of EC in this study (Table7).

Table7. Logistic regression analysis for socio-demographic and reproductive health variables showing the Crude OR and adjusted OR for utilization of emergency contraceptive and their 95% confidence intervals, Nefasselk Lafto, Addis Ababa, Ethiopia, April 2013.

Variable	Utilization Yes (%)	No (%)	COR(CI: 95)	AOR(CI: 95%)
Marital status (first)				
Single	24(11.7)	182(88.3)	1.9(0.264, 1.047)	0.36(0.136, 0.987) *
Married& others	14(6.5)	202(93.5)	1	1
Educational level				
No formal education	9(6.4)	132(93.6)	0.65(0.077, 1.314)	3.14(0.761, 12.977)
Primary education	19(9.5)	181(90.5)	0.85(0.129, 1.859)	2.04(0.538, 7.746)
Secondary education	7(10.9)	57(89.1)	0.57(0.131, 2.501)	1.745(0.400, 7.615)
12completed & above	3(17.6)	14(82.4)	1	1
Ever had sexual intercourse				
Yes	38(10.4)	307(89.0)	9.53(0.054, 0.987) *	4.37(1.029, 18.552) *
No	0(0.0)	77(100)	1	1
Ever used any contraception				
Yes	33(12.2)	238(87.8)	3.16(1.202, 8.312) *	0.53(0.083, 3.434) *
No	5(4.2)	114(95.8)	1	1
Knowledge				
High	97(86.6)	15(13.4)	12.3(1.028,2.598)	1.3(0.80, 2.103)
Low	107(34.5)	203(65.5)	1	1
Attitude				
Positive	42(49.4)	33(38.8)	2.5(0.785, 2.315)	1.18(0.598, 2.311)
Negative	112(33.2)	225(66.8)	1	1
Intention to use EC				
Yes	32(9.9)	291(90.1)	1.70(0.691, 4.203)	0.94(0.277, 3.220)
No	6(6.1)	93(93.9)	1	1

*(**Statistically significant at P-value=0.05)**

6. Discussion

The main finding of this study shows that study subjects have low utilization of EC that is only 38(11%) from 345(81.8%) sexual experienced respondents. the major factors for the use of EC has forgeting to take pills(regular contraceptive), unprotected sex without any contraceptive, condom broken and forced sex/ rape and other factors for the low use of EC has do to low awareness about EC, majority of respondents has low educational level,no favorable access to the family planning services and sexuall reproductive health.

Nearly 53.1% of respondents have had menarche at age of 20-24 years with mean age of 21.5 years and educational level of 422(100%) the interviewed varies from no formal education to 12 complited and above, while 141(33.4%) of them were illterate. In line with other study conducted among Jimma university female students with mean age of menarche 14.1years(25).In similar study in Addis Ababa from the total of 407 (98.8%) where interviewed Over half women's (54.9%) age was 16-24 and educational level of 351(84.2%) the interviewed varies from primary to tertiary level, while 66(15.8%) of them were illiterate(1).

Majority 345(81.4%) of the participants have practiced sexual intercourse in their life time. This result is higher than other study conducted on higher education students in USA, Nigerian and Addis Ababa (47.4, 4.5% and 23.4%respactively)(1,14,17). This variation could be due to the difference in number of married females. Among respondents who practiced sexual intercourse 60% of them have had sex with- marriage. Among respondents who practiced sexual intercourse 7(2%) of them have had sex with-out the informed consent of the females (forced sex).Of the forced sex 24% resulted in unwanted pregnancy, 76.7% of the pregnancies continued to delivery, while 23.3% have gone to induced abortion, more than 82.9% of the abortions were under unsafe condition.Other Studies conducted on students in Addis Ababa showed higher rate of forced sex(5%), high rate of unwanted pregnancy (73.5%), high rate of induced abortion (71.7%) and lower rate of unsafe abortion (29%) (11).

The possible explanation for high rate of unsafe abortion in this study could be due to lack of awareness where to get safe preventive methods and services. These made the respondents take measures that threaten their life or darken their future carrier.

The result of this study has shown that overall knowledge of female cobblestone workers about EC was low and lower than the study conducted in South Africa and Ethiopia showed high proportion of the study groups had some knowledge of EC(22, 27). Since most of the respondents in this study 75.8% have not heard about EC; they did not clearly understand the benefits of EC. This great discrepancy could be due to low educational level and inadequate information they have got.

The knowledge of correct timing for emergency contraception was lower than the other socio demographic studies. Of those had ever heard of ECPs, 41(40.2%) know the correct timing of EC pills,in other comparative study conducted on adolescent clinic and drug treatment center in USA (51%)(15).Although higher proportion of respondents didn't know the correct time limit to start first dose of ECPs after unprotected sexual intercourse.

Such misinformation could inhibit from taking EC, because they thought that they had missed the time frame. This could also lead to increase the prevalence of unwanted pregnancy. This indicated that there is high gape of socio demographic and educational level for the awareness of EC between the two population group, so we need to work hard in this area in order to improve the knowledge and utilization of EC among female Cobblestone workers.

Out of those aware of EC 77(75.5%) mentioned EC prevents pregnancy from occurring,5(4.9%) said it interrupts an ongoing pregnancy and 20(19.6%) they don't know how it works. Even though many (75%) of the respondents know how EC works to prevent pregnancy,25% thought that EC interrupts an ongoing pregnancy or they don't know its action. This result was in agreement with Kampala study where 33%of students thought that EC interrupts an ongoing pregnancy(12). This perception could be a barrier for the utilization of EC by the women who need it.

The major sources of information for EC were family/friends and television/radio these sources had similarity to the information sources in Kampala and Addis Ababa University(11,12). This could be very important indicator that high media coverage, discussion with family/friends could increase the knowledge of family planning not only for the Cobblestone workers but also to the general population.

Eighty five (83.3%) of these respondent had positive attitude towards making EC available to all women who need it and 80 (78.4%) have an intention to use EC when the need arises. Respondents in this study had lower attitude towards EC when compared to other socio demographic studs like Arsi college students where 52% had positive attitude towards making EC available to all women who need it and 63 % of the students had an intention to use EC in the future(30).So that any female facing problem of unprotected sexual intercourse can obtain EC easily and use it without delay waiting for prescription and special dispensers.

Very small proportion of respondents had ever used emergency contraception 38(8.3%). This result was lower than other findings conducted on adolescent clinic and drug treatment center in USA (13%)(15). and girls aged 12-18 yrs in Finland were 46%(26), female undergraduate students in Mekelle university(12.7%)(13). Since awareness of emergency contraceptives was low, no access to information, no information education and communication program from near by the Cobblestone site and unfriendly service provision might be the possible justifications for low use rate. The result from qualitative survey also reveals that there was no favorable condition for the cobblestone workers to get information or use of EC.

The majour factors for the use of EC in this studys has forgeting to take pills 24(63.1%), unprotected sex without any contraceptive 19(50%), condom broken 7(18.4%) and forced sex/ rape 7(18.4%) while othe studys conducted among womens seeking post abortive care in Addis Ababa has condom broken 33.5%,missed pills 26.6%,timing for miscalculation 20% and withdrawal failed 6.7%(29).

7. STRENGTH AND LIMITATION OF THE STUDY

Strength of the study

- All female Cobblestone workers in the Hana Mariam Cobblestone project were included in the study in order to make a representative.
- High response rate (100%).
- The study touches sensitive issues, in order to obtain reliable data and ensure confidentiality experienced female health professionals helped the study subjects express their feelings freely.
- The study is supplemented by qualitative method, which helped to explore factors that are not addressed by the quantitative data.

Limitation of the study

- There is no represenets to all Addis Ababa female Coblestone workers.
- No other similar socio demographic characteristics' studies conducted, so the dissection part was difficult.

8. Conclusion

Increasing the awareness and use of emergency contraception is one means of reducing unwanted pregnancies but in this study awareness as well as knowledge and utilization of emergency contraceptive was very low. Higher proportion of respondents didn't know the correct time limit for the first dose of emergency contraception. The knowledge of how EC prevents pregnancy is lacking, some respondents thought that emergency contraception has an abortification effect. The absence of correct information is a barrier for individuals to utilize EC when needed.

This leads to higher chance of unintended pregnancy. There was almost no family planning service including EC and information communication and education (IEC) program on sexual and reproductive health for female Cobblestone workers provided by the Cobblestone project site. Sexual behavior, accessibility and idividual factors(knowledge and attitude) of EC has a predictor variables of EC in thesis study. Friends, media and health workers play a very important role in the dissemination of information to the female Cobblestone workers.

9. Recommendation

- As the rate of unintended sexual intercourse and unwanted pregnancy were high EC should be given a considerable attention in family planning counseling as a backup service to solve short coming problems of females but EC is not recommended as routine family planning method.
- More attention should be given to the family planning service including EC in Cobblestone site and assigned qualified health provider in the site clinic.
- Predict the future use of emergency contraception for similar Cobblestone project.
- Strengthening information communication and education program in the Cobblestone project sight on sexual reproductive health, with special emphasis to different family planning methods including EC. Thiscan be a life saving procedure for female Cobblestone workers and continuous education should be provided at the project site.
- Collaborated effort between worda health office and Cobblestone project office for the family planning service and implementation of EC service.
- It is important to develop and create RH clubs starting from the lower level of education.

- There is a need to create / empower female Cobblestone workers to discuss sexual and RH issues with their parents, friends and others.
- Both emergency contraception and condoms can prevent pregnancy, but only condoms can also protect you against sexually transmitted diseases(STDs), including HIV. So Cobblestone workers are at risk of being exposed to a sexually transmitted disease, it is critical to recommend the use condoms.
- There is a need to further study for Cobblestone workers in the knowledge and attitude of male partner's and follow-up study on KAP of all females on EC provision and utilization could be important to strengthen the service.

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ANNEXES **II English version of the Questionnaire**

Questionnaire for the assessment of Knowledge, attitude and practice of emergency contraception among female cobblestone workers, Addis Ababa Ethiopia

Individual consent form

Addis Ababa University, collage of heath science, School of Public Health individual consent form for the study on knowledge, attitude and practice of emergency contraceptive among female cobblestone workers.

I am working as data collector in this research (study). The purpose of the study is to assess knowledge, attitude and practice of emergency contraception among female cobblestone workers , in order to generate useful information for planning appropriate reproductive health strategies and interventions for cobblestone workers. To attain this purpose your genuine participation in filling the questionnaire with truth information is very important and highly appreciated. We would like to assure you, your name will not be written on this form and all the information gathered will be kept strictly confidential. You have full right to refuse, to take part of, or to interrupt the study at any time. But the information that you will give us is quite useful to achieve the study and to bring change in reproductive health in services for cobblestone workers.

Thank you!

Are you willing to participate in the study?

Yes _____ No _____

Name and signature of data collector

Name _____ signature _____date

Supervisors/ Editors Remark:

Supervisor's Name and signature _____

Contact person's/ principal investigator's name and address

Name MELAKU TSEHAY

Telephone 09-12-876207

E-mail melaku.wossen@yahoo.com

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 and academic characteristics of the respondents among female cobblestone workers.

Ser.No,	Characteristics	Responses	Skip to
101	How old are you?	Age in completed years_____	
102	What is your religion?	Orthodox----------1 protestant ----------2 catholic----------3 Muslim ----------4 others specify_____99	
103	What is your current marital status?	single----------1 married----------2 divorced----------3 separated----------4 widowed----------5	
104	Where did you come from?	Rural ----------1 urban --------2	
105	What is your ethnic origin?	Amhra ----------1 Tigray ----------2 Oromo----------3 SNNPR ----------4 Others specify_____99	
106	What is your educational level	Illiterate----------1 Can read & write---------2	

		Primary school ----------3 Secondary school---------4 Graduated from technical &vocational school---------5 College & above ----------6	
107	What is your sub city project?	N/Lafto----------1 Kolefa----------2 Ledta----------3 Addis ketma---------4 Gullela----------5 Other specify--------6	

Part II: Reproductive health related characteristics among female cobblestone workers.

Ser. No.	**Characteristics**	**Responses**	**Skip to**
201	Have you ever had sexual intercourse?	yes --------1 no----------2 no response----88	If no skip to 212
202	What was the reason for your sexual practice?	marriage ----------1 forced sex/rape ---------- -2 love----------3 to get some advantage from partner--4 others,specify_____99	
203	When did you start sexual intercourse?	before joined the C/Stone work ---1 after joined the C/Stone work ------2	
204	How many sexual partners have you ever had in your life time?	one----------1 two----------2 three----------3 more than three----4	

205	Have you ever been pregnant?	yes----------1 no----------2 no response-----88	if no skip to 212
206	If yes, how many times?	one----------1(1) two----------2(1) three----------3(1 more than three----4(1	
207	At what age was your first pregnancy?	Age is completed years_____	
208	Was your pregnancy wanted?	yes----------1 no----------2	If yes skip to 210
209	If your pregnancy is not wanted, how do you fail to prevent the pregnancy?	forced sexual intercourse-----1 forget to take pills----------2 condom slippage/breakage---------3 infrequent sex----------4 perceived not to become pregnant--5 others,specify_____99	
210	What was the outcome of your pregnancy?	child birth----------1 Induced abortion -------2	
211	If the outcome of the pregnancy was induces abortion where did you perform?	clinic/hospital----------1 local abortionist----------2 no response----------88 others,specify_____99	
212	Have you had communication about reproductive issues with anyone else?	yes---------1 no----------2	
213	If the answer Q212 is yes, with whom had discussed the issue?	with mother----------1 with father----------2 with sister----------3	

	(More than one answers possible).	with friends----------4 with health person----------5 others, specify_____99	
214	Is there any service provided regarding reproductive health in the C/Stone sight clinic?	yes----------1 no----------2 I don't know----------98	
215	If yes, what services are available?	family planning----------1 treatment of STI----------2 HIV testing ----------3 Others specify_____99	

Part III: knowledge and utilization of contraception among female cobblestone workers.

Ser. No.	Characteristics	Responses	Skip to
301	Have you ever heard about any contraceptive method?	yes----1 no-----2	if no skip to 401
302	If yes, which one do you know? (More than one answers possible).	oral pills----------1 Injectables----------2 Implant----------3 IUD----------4 condom----------5 calendar/rhythm---6 breast feeding------7 Withdrawal--------8 Abstinence --------9 Female sterilization--10 Male sterilization-----11 others, specify_____99	
303	If yes, what was the source	Television/radio---------1	

	of information?	health workers ----------2 family/ friends----------3 formal education--------4 health institution--------5 printed materials--------6 others, specify _____99	
304	Have you ever used any contraceptive method in the past?	Yes----------1 No----------2 no response--------88	if no skip to 401
305	If yes, what type? (more than one answer is possible)	oral pills----------1 Injectables----------2 Implant----------3 IUD----------4 condom----------5 calendar/rhythm---6 Withdrawal--------7 others, specify_____99	
306	From where did you get the service?	FGAE----------1 public health institution----------2 private clinics ----------3 pharmacy ----------4 youth center ----------5 others , specify_____99	
307	Are you using contraceptive methods currently?	yes-------1 no--------2	

Part IV: Knowledge, Attitude and Practice of Emergency Contraception among female cobblestone workers.

Ser. No.	Characteristics	Responses	Skip to
401	Is there any method that could be taken to prevent pregnancy after unprotected sex?	yes ---1 no----2 I don't know----------98	
402	If yes , mention all the methods that you know		
403	Have you ever heard of about emergency contraceptive?	yes------1 no-------2	if no skip to 415
404	If the answer to Q403 is yes, Which method of emergency contraceptive do you know? (more than one answer possible)	Oral pills-------1 IUD----------2 Injectables----3 Implants -----4 Others,specify_____99	
405	If the answer to Q403 is yes, What was the source of information?	Television/radio---------1 health workers ----------2 family/ friends----------3 formal education--------4 health institution--------5 others, specify_____99	
406	To Prevent pregnancy what is correct timing of EC to be effective after unprotected sex?	within 72 hrs----------1 within 120 hrs/5days-----2 within one week after sex ----3 After missed period ----------4	

		I don't know ----------98	
407	What is the mechanism of action of emergency contraceptive?	prevent pregnancy from occurring --1 Induce abortion ----------2 I don't know----------98	
408	In what situation EC should be taken to prevent pregnancy?(more than one response is possible)	when forced sex----------1 when condom slippage/broken----2 when there is missed pills----------3 when unprotective sex without any contraceptive method ----------4 others, specify_____99 I don't know----------98	
409	Had you ever used of EC?	yes----------1 no----------2 no response--------88	if no skip to 414
410	If yes, which method of EC have you used?	Oral pills---------1 IUD----------2 others, specify_____99	
411	If yes, how many times have you used the method?	Once----------1 Twice----------2 Three times ----------3 More than three times -----4	
412	What was the reason for your using EC?	condom slippage------1 forced sex----------2 not used any contraceptive------3 forget to take contraceptive pills-----4 others, specify_____99	
413	Where did you get the EC?	FGAE----------1 public health institution -----2 private clinics----------3 pharmacy----------4	

		from youth center----------5 others, specify_____99	
414	To whom EC should be given?	To all women who need it---------1(1 To married women only----------2(0 To young female ----------3(0 To raped victims ----------4(1 others, specify_____99	
415	If your answer is other than to all women who need it, Why?	It may increase risky behavior -----1 fear of misuse----------2 propagates HIV/AIDS---------- 3 may hurt the fetus in case it does not work----------4 fear of side effect----------5 religious reasons----------6 others, specify_____99	
416	Do you have an intention to use EC in the future if the need arises?	yes----------1 no----------2 no response-------88	
417	If you have an intention to use EC in the case of emergency conditions, from where do you prefer to get the service?	FGAE----------1 public institution ----------2 private clinics----------3 pharmacy----------4 from youth friendly services---------5 others, speficy_____99	

5.3 **Annex-IV Guide lines for group discussion of female cobble stone workers**

1. What do you think the premarital sex of adolescents in the present time and their responsibility to prevent unwanted pregnancy and STD?
2. What are the factors for premarital sex?
3. In what situation unintended pregnancy could be occurred?
4. What is the consequence of unwanted pregnancy for adolescents, family and society?
5. Do you know any method that could be taken to prevent unwanted pregnancy after unprotected sexual intercourse?
6. Do you ever heard about Emergency Contraceptive methods, what is your opinion on the availability of Emergency Contraceptive?
7. Is Emergency Contraceptive a priority method?
8. Do have any means for the discussion of reproductive health issues?
9. Is there any service that provide for reproductive health issue in your cobble stone sight?
10. Is the service convenient for youth?

5.4 **Annex-V Guide lines for in-depth interview of health care providers**

1. What are the services provided in your institution?
2. Is there a family planning service in the institution where you are working?
3. Have you ever heard of Emergency Contraceptive?
4. Have you take any training on EC?
5. What type of Emergency Contraceptive do you know?
   With in what time should be taken?
6. What is the mechanism of action of Emergency Contraceptive?

7. Do you think Emergency Contraceptive is important for woman and in what case EC should be provided?

8. Are EC methods and materials available sufficiently?

9. In what age group do most of your clients and who are the service users?

10. For what reasons most of your clients ask for EC?

11. Did you counsel your client about regular contraceptive methods?

12. Do you think EC is advantageous to overcome the prevalence of maternal mortality related to induce abortion?