

Original Research Article

## Knowledge, Attitude and Practice of Emergency Contraceptives Among Graduating Female Students of College of Health and Medical Sciences, Haramaya University, Eastern Ethiopia

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**Abstract:** Emergency contraception refers to a method that women can use to prevent pregnancy after unprotected sexual intercourse, method failure or incorrect use. Unwanted pregnancy followed by unsafe abortion can be avoided by using different contraceptive methods including emergency contraceptives (EC). The aim of this study was to assess the knowledge, attitude and practice of emergency contraceptive use among graduating female students of College of Health and Medical Sciences (CHMS), Haramaya University (HU). Institutional based cross-sectional study was conducted from Apr 1-Apr, 30, 2015. The calculated sample size of 130 was evenly stratified to each department graduating female students. Simple random sampling was then employed to collect data from each stratum using self administered questionnaire. One hundred twenty five (95.38%) have heard of EC. The common sources of information were teachers in class 50 (40.32%), health institutions 45 (36.3%) and mass media 15 (12.09%). Coming to the attitude of the respondents towards ECs, 78 (62.9%) agreed and 31(25.0%) strongly agreed that ECs prevent unwanted pregnancy after unprotected sex. Fifty five (42.31%) agreed to use EC in the future. Regarding the actual practice, from 59 students who had sexual intercourse, only 36(61%) used oral post coital pills. The awareness of the students towards ECs was found to be appreciable. However, as health and medical science college students, the practice of EC was not as such promising. Therefore, there is a need to educate students about utilization of EC, with emphasis on available methods and correct timing of use. There should be promotion of EC to enhance their use and making them easily accessible in hospital, pharmacies and student clinics.

**Keywords:** Emergency contraceptives, knowledge, attitude, practice, graduating female students.

### INTRODUCTION

Emergency contraception is any method of contraception which is used after intercourse and before the potential time of implantation. EC Pills may be initiated sooner than the morning after immediately unprotected intercourse or later for at least 120 hrs after unprotected intercourse [1]. Indications for the use of EC include sexual assault, unprotected intercourse, condom breakage or slippage, and missed or late doses of hormonal contraceptives, including the Oral contraceptive pill, contraceptive patch, contraceptive ring and injectable contraception [2, 3]. Regrettably, women, especially young women are still taking inadequate advantage of the contraceptive options available to them regardless of whether it is EC or regular contraceptive methods [4].

Unwanted pregnancy is one of the major reproductive health challenges faced by adolescents and women in Ethiopia. Statistics from health facilities across the country and from hospital based studies

showed that overall annual maternal mortality rate in Ethiopia is 1.68 per 1,000 women aged 15 to 49 years, of which up to 32.0% is due to unsafe abortion, and also one of the top 10 causes of hospital admission of women. As can be expected, the cost of care to the health system for abortion complications is enormous, as confirmed by institution based studies [5].

More than half of all women in the developing world are at risk because they are using a traditional method with high failure rates; or they are using a reversible method that requires regular resupply; or they are using no method at all. Since no contraceptive work perfectly every time even wide spread modern contraceptive use will not completely eliminate the need for recourse to abortion [5, 6]. In Ethiopia, unwanted pregnancy and its untoward consequences on the physical and psychosocial wellbeing of adolescent girls and young adult women is a problem. Unwanted pregnancy is one of the main factors for unsafe abortion [7]. Unsafe abortion in Ethiopia accounts for nearly

60% of all gynecological admissions and almost 30.0% of all obstetric and gynecologic admission [8]. In Ethiopia, according to the survey conducted in 2000 by Ethiopian Society of Obstetrics and Gynecologists (ESOG) in nine administrative regions, 25.6% of 1075 abortion cases were induced abortions. Among them, 58% of the cases were in the age range 20-29 years. Of those pregnancies ended in abortion, 60% were unplanned and 50% were unwanted [5].

According to the Ethiopian Demographic Health Survey (EDHS) 2005, Ethiopia has one of the highest maternal mortality ratios in the world, estimated at 673 deaths per 100,000 live births. And about 25,000 women die every year due to pregnancy and child birth complications, and several studies indicate that unsafe abortion may account for up to 25-35% of the maternal deaths in Ethiopia. Unplanned pregnancies are the result of various factors, including a lack of knowledge about menstruation and pregnancy, a lack of access to and knowledge about how to use Contraceptives, difficulties in using contraceptives because of partner's or family objections; contraceptive failure and sexual assault [8, 9].

EC pills are also an important advancement in preventing pregnancies in cases of rape and sexual assault. EC pills are estimated to reduce the risk of pregnancy by up to 89%, by inhibiting ovulation, altering the ability of sperm to fertilize an ovum or inhibiting implantation in the womb [10]. Therefore, this study was aimed to assess the knowledge, attitude and practices of EC utilization by female graduating students, CHMS, HU, eastern Ethiopia in 2015 GC.

**METHODS**

**Study design, period and setting**

Cross-sectional study design was conducted to assess knowledge, attitude and practice of ECs among graduating female students of CHMS, HU, Harar which is located 526 km away from the capital of Ethiopia, Addis Ababa, to the East. The study was conducted from April 1-April 30, 2015.

**Study population**

Female graduating students of CHMS four departments: Nursing, Midwifery, Psychiatry, and Health Officer as well as School of Pharmacy in 2015 G.C. However, Male students, extension students, Female students who are out of graduates were excluded from the study.

**Sample size and sampling technique**

**Sample size determination**

The sample size was determined using single population proportion formula assuming the proportion of students who are aware of ECs is to be 50%. The required samples based on the usual formula were as follows:-

$$n = \frac{(z \alpha / 2) 2 P (1-P)}{d^2} = \frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2} = 384$$

Where, n=the required sample size  
 Z= confidence interval (95%)  
 P= previous prevalence (50%)  
 d=the margin of error (5%)

Since the study population was less than 10,000 i.e. total of 181 graduating female students, correction formula was used and the final sample size was found to be 123.

$$n_f = \frac{ni}{1 + (\frac{ni}{N})} = \frac{384}{1 + (384/181)} = 123$$

By taking additional 5% contingency for non-response rate, 5% \* 123 = 6.51

The total sample size was found to be 130

**Sampling techniques**

Stratified sampling technique was initially employed to evenly distribute the aforementioned sample size across all the departments included in the study. Thereafter, simple random sampling was also employed to access the study subjects in each stratum (departments and school).

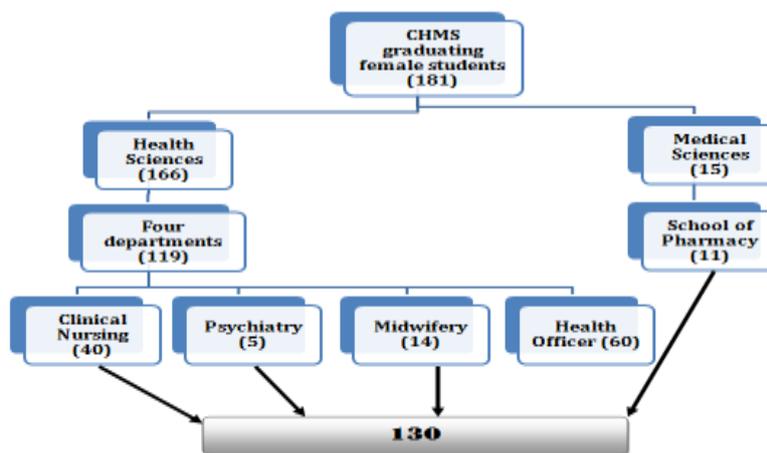


Fig-1: Schematic presentation of the sampling procedure

**Data collection technique**

Semi-structured and self administered questionnaire was employed to collect data from individual participants. The questionnaires contained open as well as closed ended questions which address socio demographic characteristics, knowledge, attitude and practice on EC utilization pattern.

**Quality control**

The questionnaire had been pretested prior to the actual survey on Harar Health science college female students beyond the university. Supervision of the data collection was undergone carefully.

**Data processing, analysis**

The data was processed and analyzed using SPSS version 16. Descriptive statistics was employed to assess the data. Then, the data was presented using tables and figures.

**RESULTS**

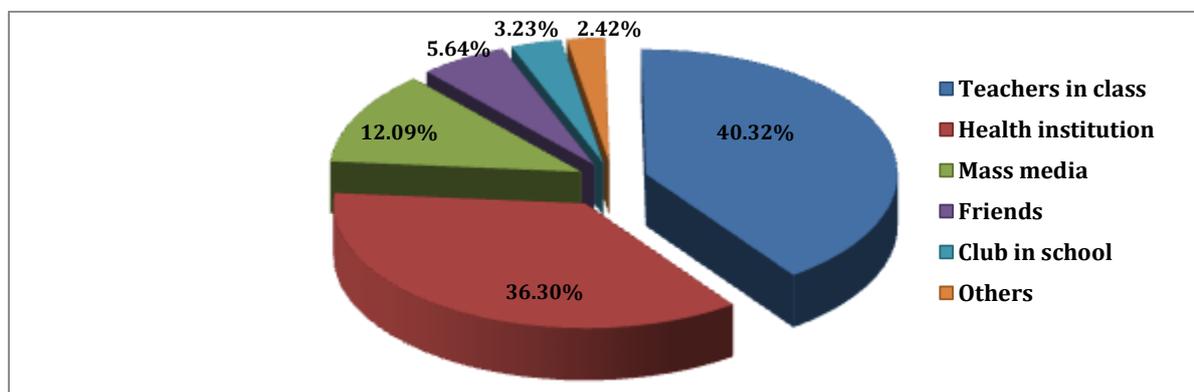
Out of 130 participants included in the study, 109 (83.85%) were within age group of 20-23 years, with the mean age of 22 ( $\pm 1.34$ ). Most of the respondents, 60 (46.15 %) were followers of orthodox Christianity followed by Muslims which account for 35 (26.92%). Besides, 47 (36.15 %) of the respondents were Amhara in ethnicity. The majority of students, 110 (84.62%) were not married (Table 1).

**Table 1: Socio-demographic characteristics of graduating female students, CHMS, HU, April 2015**

Socio-demographic variables (n=130)	Frequency	%
Age(y)		
20-23	109	83.85
24-25	19	14.61
>25	2	1.54
Religion		
Muslim	35	26.92
Orthodox	60	46.15
Catholic	5	3.85
Protestant	24	18.46
Others	6	4.62
Ethnicity		
Oromo	35	26.92
Amhara	47	36.15
Tigre	23	17.69
Guragae	13	10.00
Others	12	9.24
Marital status		
Single	110	84.62
Married	20	15.38
Divorced	0	0.00
Widowed	0	0.00

Coming to respondents knowledge, 124 (95.38%) of the respondents have heard about ECs, their common sources of information were teacher in

class 50 (40.32%), health institution 45 (36.30%), mass media 15 (12.09%) and friends 7 (5.64%) (Figure-2).



**Fig-2: Main sources of information among respondents who have heard about ECs, CHMS, HU, April, 2015 (n=124)**

Of those 124 (95.38%) respondents who had heard of ECs, 75 (60.48%) correctly identified both oral pills and IUCD while 49 (39.52%) identified oral pills as an EC method. Ninety (72.58%) of the respondents recommend EC when there is condom rupture and 85 (68.55%) recommend EC when there is rape. Hundred nine females (81.4%) correctly identified the

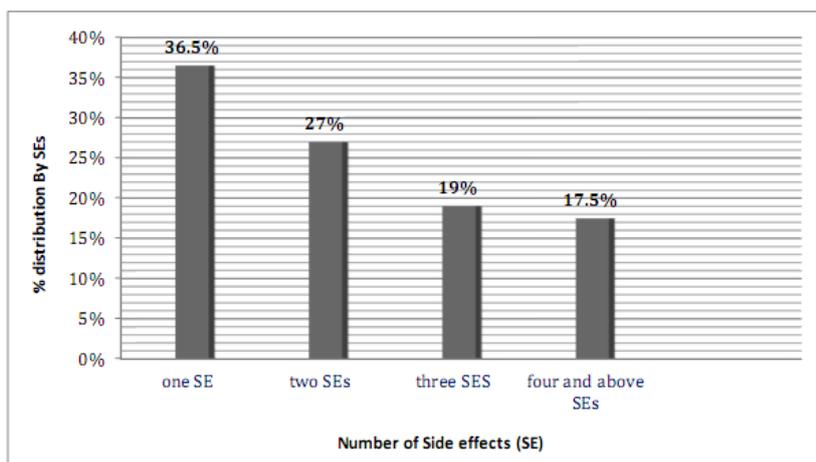
recommended 72 hours as the time limit for EC pills. Ninety two (74.19%) of them correctly identified 12 hrs as the time recommended between the two doses of EC Pills .Over all participants who had heard about ECPs, 66 (53.23%) knew that ECPs were procured from retail outlets as over the counter (OTC) drugs (Table 2).

**Table 2: Knowledge regarding the timing and side effects of ECs among graduating female students, CHMS, HU, April, 2015**

Knowledge questions	Frequency	%
Maximum acceptable time to take ECPs (n=124)		
Within 24hrs after sex	8	6.45
Within 48hrs after sex	9	7.26
Within 72hrs after sex	100	80.64
Within 4-6 days after sex	3	2.42
I don't know	4	3.23
Recommended time b/n the ECPs doses (n=124)		
12 hrs apart	92	74.19
24hrs apart	18	14.52
I don't know	14	11.29
Side effects of EC pills (n=124)		
Yes	63	50.81
No	61	49.19
Procured from retail outlets (n=124)		
Yes	66	53.23
No	14	11.29
I don't know	44	35.48

By the same token, out of those 124(95.38) respondents who ever heard about ECs, 63 (50.81%) knew the side effects (SE) of EC. Of those, 23(36.5%)

knew one SEs, 17 (27%) knew two SEs, 12 (19%) knew three SEs and 11 (17.5%) knew more than three SEs (Figure 3).



**Fig-3: Percentage distribution of graduating female students, CHMS, HU, by number of side effects of ECs they know, April, 2015**

Nausea 35 (55.56%), vomiting 31(49.21%), and irregular vaginal bleeding 22 (34.92%) were commonly mentioned side effects of ECs (Table 3).

Coming to the attitude of the respondents towards ECs, 78 (62.9%) agreed and 31(25.0%) strongly agreed that ECs prevent unwanted pregnancy after unprotected sex (Table 4). Overall, 59 (45.38%) of

the respondents had sexual intercourse. Of those who had sexual intercourse, 41 (69.49%) had 1 sexual partner followed by 11 students (18.64%) who had 2 sexual partners. Out of 59 (45.38%) respondents who had sexual intercourse, only 36 (61.02%) of them have used oral contraceptive pills as an emergency contraception. The remaining 23(38.98%) have not used EC yet. There reasons behind were, they don't want to

use in relation to religious issues 6 (26.02%) and fear of side effects 3 (13.04%). Over all participants, 55 (42.31%) intended to use EC in the future (Table 5).

**Table 3: Percentage distribution of graduating female students of CHMS, HU by knowledge towards SEs of ECs, April, 2015**

Side effects (n=63)	Frequency	%
Nausea	35	55.56
Vomiting	31	49.21
Irregular vaginal Bleeding	22	34.92
Infertility	10	15.87
Headache	8	12.69
Weight gain	7	11.11
Irregular ministration	7	11.11
Cervical cancer	6	9.52
Ectopic pregnancy	5	7.94

**Table 4: Percentage distribution of graduating female students of CHMS, HU by attitude towards EC, 2015**

Indicators of attitude	Frequency	%
Protected sex can prevent unwanted pregnancy? (n=124)		
Agree	78	62.9
Strongly agree	31	25.0
Disagree	13	10.48
Strongly disagree	2	1.62
Willingness to use ECs method in the future (n=130)		
Yes	55	42.31
No	35	26.92
I don't know	40	30.77

**Table 5: percentage distribution of graduating female students of CHMS, HU based on practice towards ECs**

Indicators of practice	Frequency	%
Have you ever practices sexual intercourse? (n=130)		
Yes	59	45.38
No	71	54.62
No of sexual partner (n=59)		
1 partner	41	69.49
2 partners	11	18.64
>2 partners	7	11.86
Ever used contraceptives (n=59)		
Yes (oral pills)	36	61.02
No	23	38.98

**DISCUSSION**

Although emergency contraception is not recommended as a regular family planning method, it is a useful method after unprotected sexual intercourse to reduce the chance of unwanted pregnancies. Emergency contraception is most useful when there is a failure of barrier methods such as slippage and breakage of condoms, or when sexual intercourse was unpremeditated [1,5].

Most of the respondents in this study (83.85%) were within age group of 20-23 years, with the mean age of 22 (SD=1.34). Concordance finding was reported from another study, where the majority of respondents (62.0 %) were 20–24 years old and 31.4 % were sexually active [11].

The study revealed that about 95.38% of the respondents had heard of about ECs, which is nearly the same as the study conducted in USA College setting (94%) [10] However, this result is higher when it is compared with studies reported from different areas of Ethiopia such as Jimma University, southwest Ethiopia (41.9%) [12], Mekele town (67.3%) [8], Wachamo University, southern Ethiopia (49.8%) [11], and Diredawa, eastern Ethiopia (41.5%) [13]. Similarly lower than these findings were also reported from abroad, for example, 52.43% in Mankulavinayagar medical college and hospital, India [14], 69.0% in women of reproductive age, Tamale, Ghana, [15], 27.8% among students of public secondary schools, Ilorin, Nigeria [16], 85.5 % in college students of south India [17] and 57% in University Students in Ghana [18]. In research done at mid-size university in northwest Pennsylvania, 74% of the students had heard

of EC; however, less than one-third knew the prescription status, common side effects or mechanisms of ECs [19].

Coming to the source of information about emergency contraception, the most common sources of information were teachers in class (40.32%) followed by health institution (36.30%) in this study. However, there was variation in sources from which information about EC is potentially extracted. The commonest source of information was television in college students of south India (77.9 %) [17]. In Tamale, Ghana, 42.8% women got the awareness from a health worker followed by 31.8% from the radio/TV [15]. Besides, in Jimma University, the common sources of information were friends, radio and television, which individually accounts 36.5%, 22.8%, 12.3%, respectively [12].

The aforementioned variation on the level of awareness and source of information across several settings might be partly ascribed to the difference in the socio-demographic and socio-cultural characteristics of the participants in each study. Moreover, despite the actual practice, the high awareness level could be further supported by the fact that all the participants involved in this study were graduating female students of health and medical sciences college where health care education and delivery is the prevailing practice.

Regarding knowledge of the side effect of ECs, only half of the respondents who had known about ECs knew the side effects of ECs. From those who knew the side effects of ECs, most of them mentioned nausea (55.56%) and vomiting (49.21%) as common side effects. Better than this finding was reported from south India where only 28.4 % students were unaware of EC side effects [17]. In the contrary, lower than the present finding was also seen in Pennsylvania [19].

Of the respondents who had aware of ECs, (80.64%) correctly identified the recommended time limit to be taken EC Pills within 72 hrs after unprotected sex; (74.19%) of the respondents identified the recommended time between the doses of ECPs is 12 hrs apart. This data was closely resembled to a study done in Ghana where 81% women, in reproductive age, knew the correct time-frame for an effective use of EC Pills to prevent pregnancy [15]. However, this result is higher when compared with study conducted on female college students in Mekele town, where (44.5%) correctly identified the recommended time limit to take ECPs within 72 hrs after unprotected sex and (32.2%) correctly identified the recommended time between the doses of ECPs is 12 hrs apart [8]. Moreover, lower than this value were reported in different parts of India:- 54.4 % participants knew the correct time frame for taking EC Pills in south India [17]; 61.6% of the participants were aware about the timing of use of EC among students of a medical college in north-west India[20]. In fact, the higher level of awareness on this case is partly linked that most of the participants, as

health professional, (95.38%) are familiar with EC. Apart from this, 93% college women in USA reported that EC was most effective when taken within 72 hr of intercourse [21]. Ilorin, Nigeria, however, majority of those who had ever used EC, 85.7% used it incorrectly, using it more than 72 hours after sexual intercourse [16].

Coming to the attitude of respondents towards EC utilization, 62.9% agreed and 25.0% strongly agreed that ECs prevent unwanted pregnancy after unprotected sex. Lower results were obtained from different setting where the respondents' positive attitude towards ECs were 47.6% in Wachamo University, Ethiopia [11], 51.35% in Indian college setting, [14] and 51.3% in Diredawa, eastern Ethiopia [13].

The study revealed that 45.4% of the respondents had sexual intercourse, from those who had sexual intercourse, (61.02%) have used ECs. All of them have used oral pills as EC. When it is compared with study conducted in Mekele town on college female students, almost half of the total number of the study subjects (49.5%) reported that they had sexual intercourse. Of them only 24.2% have ever practiced emergency contraception [8]. This might be linked to higher marital status seen in the study conducted in Mekele town, (21%) which is greater than the figure found in this study (15.38%). Besides, 39.9% of the participants who had awareness have ever used EC Pills in Tamale, Ghana [15]. In Wachamo University female students, 44.4% of sexually active participants used EC at least once after unprotected sexual intercourse [11]. Similarly, 47.56% had expressed willingness to use EC if indicated whereas only 22.7% had ever used EC in Indian college setting[14]. What is more, in Diredawa, ever use of EC was reported by 9.7% women seeking abortion [13].

From non users' point of view, the most common reason for not using EC were religious observances, lack of need to use ECs and fear of side effects. This result coincides with the finding from Weliso town, south west of Ethiopia [9].

Generally, from all respondents, (42.31%) are intended to use EC in the future ,(26.92%) don't want to use in the future, (30.77%) don't know whether they use or not. This finding explains that less attention is sought to use EC in the future compared with studies obtained in Mekele town female college students [8] where 69.2% of the respondents intended to use ECs in the future. This is probably due to the fact that the participants were graduating female students who were on the way to complete their under graduate study and hence they might want to marry soon and give birth.

## CONCLUSION

As health and medical sciences college graduating student, the practice of EC was not that

much promising compared to their level of awareness. So there is a need to educate adolescents about ECs, with emphasis on available methods and correct timing of use. There should be promotion of ECs to enhance their use and making them easily accessible in hospital, pharmacies and student clinic.

### ETHICAL CONSIDERATION

Approval and permission was sought from Institutional Research Ethics Review Committee, College of Health and Medical Sciences, Haramaya University. Informed consent was obtained from each participant just after the purpose of the study was explained to respondent. Confidentiality of the information was assured and privacy of the respondents maintained

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### AUTHORS' CONTRIBUTION

SB was involved in conception of the original idea, helped to draft the proposal, participated in all implementation stages of the project, and write up; MS supervised the research, reviewed it and prepare the manuscript for publication. Both authors read and approved the final version of the manuscript.

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