

Knowledge, Attitude and Practice of Emergency Contraceptive and Associated Factors among Ambo Preparatory School Students, Oromia Regional State, West Ethiopia

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Abstract

Emergency contraception (EC) is a type of contraception that helps prevent unwanted pregnancy after unprotected intercourse and its complications. Adolescents are frequently at greater risk of pregnancy due to various behavioral factors. In developing countries including Ethiopia, unplanned pregnancy remains high among adolescents and young adults despite the availability of EC. The study was aimed to assess knowledge, attitude and practice of ECs and factors affecting them among female students of Ambo preparatory school. An institution based cross-sectional study was conducted from January 1 to February 15, 2015. Descriptive and logistic regression analyses were performed using SPSS software. During the survey, 27.7%, 18.8%, 93.7%, 78.5% and 34.9% of the respondentshad ever had sex in thepast, been pregnant, knew about contraceptives, agreed on its benefits and had ever used it respectively. Age of the respondents (AOR=2.65, P<0.05)and sexual experience (AOR=0.34, P<0.05) were the independent predictors of EC. Significant number of students faced unintended pregnancy and unsafe abortion. However, the knowledge and practice of EC was very low. Hence, there is a need to raise awareness about EC as an option with other contraception methods and revitalizing of the family life skill education program in schools and universities.

Keywords: Emergency contraceptives, Knowledge, attitude and practice

Introduction

Emergency contraception is a type of contraception that helps prevent unwanted pregnancy after unprotected intercourse and its complications. The two mainly used emergency contraceptive methods are oral contraceptive pills and intrauterine contraceptive devices (IUCDs). The effectiveness of pills is 75-85% if used within 72 hours after sexual intercourse and IUCDs can prevent up to 99% of unwanted pregnancies. This is especially significant for young couples that opt not to use a long-term regular contraceptive method and for those whose sexual behavior is rather unplanned, erratic and irregular ¹.

Adolescents are frequently at greater risk of pregnancy due to behavioral factors, like experimentation and risk taking, as well as limited ability to plan in advance. Compared to later in life, adolescence period is characterized by diverse nature of relationships and frequency of intercourse. Sexual intercourse may be rare and irregular because of shorter relationships and sometimes with long intervals in between. As a result, adolescents may be reluctant to plan and use family planning methods in a regular manner. The use of emergency contraceptive pills (ECPs) can help avoid maternal and child health problems related to early pregnancy and childbearing through prevention of adolescent pregnancy. Adolescents and children born of adolescents can face serious social stigma and health problems. Adolescent pregnancy in many developing countries may restrict educational pursuits and extensive participation in the future economic opportunities².

The problem of unintended pregnancy still exists despite the fact that different modern contraceptives exist worldwide. This could be attributed to the gap in awareness, attitudes towards contraception, low accessibility or sexual assault ³. The global annual estimation of child birth by adolescent girls of age 15-19 years is 11% and 95% of these child births are in low income countries ⁴. Most adolescent pregnancies occur within marriage and seem to be intended. However, due to effects of some cultural conditions, such as arrangement of marriage by the family without the genuine consent of the adolescent girl, the reality is that most of the pregnancies are unintended. The health of a mother and a child is affected by adolescent pregnancy and its social and psychological impact is devastating on life of the girls ⁵.

Unprotected sexual relationship is the major cause of unwanted pregnancies with their various reproductive health risks. Each year about four million adolescents aged (15-19) year experience induced abortion. Unmarried youth are sexually active at younger age than in the past generation presumably due to factors like, change in social norms, peer pressure, media influence etc, and this leads them to unprotected pre-marital sex, limited economic opportunities, particularly for the girls is also major challenge that affect the preventive programs ⁶.

Worldwide, the risks of sexually transmitted diseases (STD) including HIV and other serious reproductive health problems are not equal among male and female. For young girls, the consequences of a premarital pregnancy are serious in addition to medical complications that are more common among women who have not reached reproductive maturity. To alleviate this problem, increasing accessibility and awareness of contraception methods including emergency contraception to this vulnerable young population is a critical step to be implemented ⁶.



Ethiopia has one of Africa's youngest populations at the beginning of the 21st century. About one out of every four females in Ethiopia is 16-24 year old. This is the largest group of young people ever in the region to inter adulthood. Helping Ethiopian youth to make a healthy transition to adulthood is critical to the country's development and prosperity of its future population⁶. Unplanned or unsupported pregnancy which happens in case of unprotected sexual intercourse in the absence of contraception can be effectively prevented by using emergency contraceptives (EC). However, as in other developing countries unplanned pregnancy remains high among adolescents and young adults and there is few data available. The potential of EC to prevent unintended pregnancy is well documented but the awareness and use of the method in Ethiopia is poor ⁷.

Unwanted pregnancy, which leads to unsafe abortion, is one of the major causes of maternal morbidity and mortality. Unsafe abortion is a major medical and public health problem in Ethiopia ⁸. Ethiopia has a high incidence of unwanted pregnancies and incomplete and unsafe/septic abortions, particularly among adolescents. Several studies in the country have revealed that women who tend to undergo induced abortion are below the age of 30 years and are literate; many of whom being above the secondary educational level ^{3, 6, 9}. Hence, the main objective of this study was to assess knowledge, attitude and practice of emergency contraceptives and factors affecting them among female students of Ambo preparatory school.

Materials and methods

Study design and setting

An institution based cross-sectional study was conducted among Ambo Preparatory School students in West Showa Zone, Ambo town from January 1 to February 15, 2015. Ambo town is located at about 114 km to the West of Addis Ababa, the capital city of Ethiopia. During the study period, there were a total of 1893 (1063 male and 830 female) students enrolled in the 2014/15 academic year in the school. Most of the students were from Ambo town and some of them were from different woredas of West Shoa Zone of Oromia Regional State. Most of the students were living with their families and few were living in rented houses.

Study population and sampling

All female students (N = 830) in the preparatory school were considered as source population. Simple random sampling technique was applied to select the study population using list of students obtained from the school.

Sample size determination

The sample size was determined using a single population proportion formula by considering prevalence (p) of knowledge about EC (51%) reported by Meskerem Abate *et al.*, 2014 in Dire Dawa¹⁰, the marginal error (d) to be 5%, critical value $((Z_{\omega/2})^2)$ at 95% confidence level of certainty (1.96) and 10% of the calculated sample for a non-response rate.

n= $[(Z_{\omega/2})^2 *p (1-p)]/d^2 = (1.96)^2 (0.51) (0.49) / (0.05)^2 = 384$. After adding a 10% non-response rate, the final sample size became 422

Data collection

A structured self-administered questionnaire was prepared in English by adapting pertinent variables and terminologies in emergency contraception for collecting information. In order to minimize bias due to language barrier, it was translated into AfaanOromoo before data collection and was translated back into English by another expert in order to ensure its consistency for meaning and self-administration. The questionnaire was pretested on fourteen preparatory school students and some amendments were made on the responses of pre-test. Data collection was conducted by trained nurses.

Measurements

The dependent variables of the study were knowledge, attitude and practice of emergency contraceptive. Age, student grade, faculty, marital status, religion, sexual activity and history of previous pregnancy and induced abortion were independent variables of the study.

Data processing and analysis

Data were entered and analyzed using SPSS version 21. Different forms of analysis like descriptive statistics, cross tabulation and logistic regression were used to present the results and see the association between dependent and independent variables. Coding of data was also done for some variables to fit them in to binary logistic regression model.

Operational definitions

Sexually active: having a previous history of vaginal sexual intercourse.

Unintended pregnancy: pregnancy occurred with no plan.



Knowledge: awareness of the existence of EC, its importance and effectiveness.

Attitude: Intention of using or recommending EC when a need arises. Intending to use or recommending is considered as a positive attitude, and no intention to use or recommending as a negative attitude.

Practice: Any previous history of using EC.

Ethical consideration

Ethical clearance was obtained from Ambo University, College of Medicine and Health Sciences. The purpose of the study was explained to every participant and informed consent was obtained before the questionnaire was filled. Participants filled the questionnaires privately and all necessary precautions were taken to maintain the confidentiality of the collected information.

Results

Socio demographic characteristics of the respondents

Out of the 422 students planned to be include into the study, 415 completed the questionnaire making a response rate of 98.3%. Nearly one third (31.2 %) of the respondents were in the age range of 20-24 years and the mean age and standard deviation was 22.03 (\pm 3.03SD) years. The majority (48%) were Orthodox Christians in religion followed by protestant. The vast majority (93.7%) were never married by marital status (Table 1).

Table 1: Socio-demographic characteristics of respondents, Ambo town, Western Ethiopia, February, 2015

Characteristics	Frequency	Percent	
Age in years			
15-19	180	43.3	
20-24	129	31.0	
25-29	96	23.1	
30 and above	10	2.4	
Religion			
Protestant	119	28.6	
Muslim	86	20.7	
Orthodox	200	48.3	
Others	10	2.4	
Marital status			
Married	25	6.1	
Unmarried	389	93.7	
Widowed	1	0.2	
Grade			
11 th	295	71.1	
12 th	120	28.9	
Faculty Natural science	285	68.6	
Social science	130	31.4	

Reproductive characteristics of the respondents

At the time of the survey, 115 (27.7 %) of the respondents had ever had sex in the past and 78(18.8%) of all respondents had ever been pregnant. Of all who had ever been pregnant, 55(70.5 %) had one pregnancy while the rest had two times. Thirty five (87.5%) of pregnancies were unwanted. When asked for the reasons of unwanted pregnancies, thirty five (60.3 %) of the respondents failed to prevent pregnancy due to missed pills, eleven (20 %) due to condom breakage, eight (14.5%) due to forced sexual intercourse and four (6.9%) due to another reason (Table 2).



Table 2: Reproductive characteristics of the respondents Ambo town, Western Ethiopia, February, 2015

Variable	Number	Percent
Ever had sexual activity (n=415)		
Yes	115	27.7
No	300	74.2
Reason for first sex (n=155)		
Marriage	18	15.6
Love	75	65.2
To get some advantage	22	19.1
When started sex (n=115)		
Before joining high school	85	73.9
After joining high school	30	26.1
Ever pregnant (n=415)		
Yes	78	18.8
No	337	81.2
Frequency of pregnancy (n=78)		
One	55	70.5
Two	23	29.5
Pregnancy status (n=78)		
Intended	20	25.6
Unintended	58	74.4
Reasons for unintended pregnancy (n=58)		
Missed pills	35	60.3
Condom breakage	11	20.0
Forced sexual intercourse	8	14.5
Others	4	6.9
Outcome of pregnancy (n=78)		
Childbirth	15	19.2
Induced abortion	63	81.8
Place of induced abortion (n=63)		
Clinic/Hospital	15	23.8.
No response	7	11.1
Local abortionist	41	65.0

Knowledge of Contraceptive among Respondents

To assess knowledge about contraceptives, respondents were asked whether they know about contraceptives or not. Three hundred eighty nine (93.7%) of respondents knew about contraceptives, of which 345 (83.1%) knew oral pills, 301 (72.5%) knew injectables, 231 (55.6 %) knew implant, 195 (46.7.4%) knew IUCD, 267 (64.3%) knew the calendar method and 20 (4.8 %) knew other methods such as breast feeding as contraceptives. For about half (51.0%) of the respondents, the main source of information for methods of family planning was formal education followed by family/ friends (19.4%). About 18.4% of the respondents reported TV/Radio as their source of information. In addition, 145(34.9 %) of the respondents were aware of emergency contraceptive methods. The common sources of information for emergency contraceptives reportedwere private clinics (55.2%) followed by public health institution (28.3%),pharmacy (14.0%), and others (8.5%). About one fourth of the respondents exactly answered the types of EC and mentioned the recommended time frame to take emergency contraceptives. Less than half (44.2%) correctly mentioned the mechanism of action of EC to prevent pregnancy. Only about one in five (20.3%) respondents had knowledgeabout EC (Table 3).



Table 3: Knowledgeof the respondents on emergency contraceptives, Ambo town, Western Ethiopia, February, 2015

2013		
Variables	Number	Percent
Knows EC $(n = 415)$		
Yes	145	29.2
No	270	70.8
Knows specific contraceptive methods (n =145)		
Combined oral contraceptive	65	44.8
Progesterone only pills	43	29.6
IUCD	12	8.2
Injectable	25	17.2
Correct time to take EC (n=145)		
72 hrs of sex	48	33.1
Immediately after sex	31	21.3
Within a week	25	17.2
Within 24 hrs of sex	15	10.3
After missing period	17	11.7
I do not know	9	6.2
Mechanism of action of EC (n=145)		
Prevent pregnancy	83	57.2
Induce abortion	43	29.6
I do not know	19	13.1

Attitude on Emergency Contraceptives among the Respondents

It was observed that a large proportion of study participants agreed on the idea and use of emergency contraceptives. Nearly three- fourth (78.5%) of the respondents agreed on the benefits of emergency contraceptives. Similarly, more than three fourth 300 (72.3. %) were interested to know more about emergency contraceptives. Also, 380 (91.5 %) agreed to recommend the use of emergency contraceptives for their friends. Among those who had never used emergency contraceptives, majority (77. 1%) of them indicated they intend to use it in the future (Table 4).

Table 4: Attitudes of respondents on emergency contraceptives, Ambo town, Western Ethiopia, February, 2015

Variable	Number	Percent
The benefits of EC outweigh its negative effects $(n = 415)$		
Agree	260	78.5
Disagree	125	8.6
Neutral	30	12.9
I desire to know more about EC		
Agree	390	94.6
Disagree	25	5.4
I would recommend the use of EC to a friend		
Agree	380	89.2
Disagree	20	7.5
Neutral	15	3.3
I want to use EC in the future (N=320)		
Agree	320	77.1
Disagree	35	8.4
Neutral	60	14.4
I want to discuss frequently about EC with my friends/part	ners (n=93)	
Agree	84	90.3
Disagree	9	9.7

Practices of respondents in Contraceptive use

Out of all $(41\overline{5})$ respondents, few $\overline{145}(34.9\%)$ of them had ever used contraceptive methods, of which the majority ever used a condom followed by oral pills. The study also revealed that among those who were aware of EC,125 (30.1%) had ever used emergency contraceptives (Table 5).



Table 5: Practices of respondents on Emergency Contraceptive, Ambo town, Western Ethiopia, February, 2015

Ever Used Contraceptive methods (n=415)	
Yes	145(34.9%)
No	270(65.1 %
Types of contraceptive methods used (n=145)	
Condom	85(58.6)
Pills	45(31.0)
Injectables	15 (3.6)
Ever Used EC (n=415)	
Yes	125 (30.1)
No	290 (69.9)

Factors associated with the KAP of emergency contraceptives

One third (30 %) of the respondent's knowledge about EC is attributable to ever having sexual practices. Students who did not start sexual intercourse had less knowledge on emergency contraceptives (AOR, 0.703; 95 % CI 0.331-0. 941). Similarly, knowledge about EC is significantly associated with respondent's faculty, as students from social sciences were less likely to have knowledge than those who were from natural science faculties (AOR, 0.36; 95% CI: 0.17- 0.74) (Table 5). Other variables included in the analysis such as age, marital status, religion, and having been ever pregnant were not significantly associated with knowledge of EC (p>0.05).

Table 6: Association between Knowledge about Emergency Contraceptive and socio-demographic status of respondents Ambo town, Western Ethiopia, February, 2015

Variable	Knowled	Knowledge of EC		95% CI	
	Yes	No			
Faculty					
Natural science	120	57	1.000		
Social science	88	150	0.357	0.171	0.744**
Ever had sex					
Yes	85	90	1.000		
				0.331	0. 941**
No	40	200	0.703		

^{**} remained significant after adjusted for age, marital status, religion, previous history of unwanted pregnancy

AOR: Adjusted Odds Ratio, CI: Confidence Interval

Respondent's attitude was significantly associated with age of respondents. Respondents whose age is greater than 25 had nearly three times more likely to have favorable attitudes towards emergency contraceptives when compared to respondents in age range of 15-19 (AOR, 2.65, P < 0, 0.05). Similarly attitude towards emergency contraceptives was significantly associated with sexual practice. Those respondents with no sexual experience were less likely to have positive attitude towards emergency contraceptives (AOR = 0.34, P < 0.05) (table 7)

Table 7: Association between attitude towards EC and socio-demographic status of respondents, Ambo town, Western Ethiopia, February, 2015

Variable	Attitu	Attitude		95% CI	
	Positive	Negative			
Age in years					
15-19	20	82	1.0		
20-24	30	75	0.26	0.04	0.53
25 and above	135	73	2	1.03	2.65**
Student's Faculty					
Natural science	80	72	1.0		
Social Science	53	210	0.57	0.24	1.36
Ever had sex					
Yes	77	100	1.0		
No	38	200	0.34	0.15	0.83**

^{**} remained significant after adjusted for age, marital status, religion, previous unwanted pregnancy

As shown in Table 8, being from Social Sciences was significantly associated with emergency contraceptive use. Students from Social Science were less likely to use emergency contraceptives (AOR = 0.3, p<0.01). Regarding ever had sex versus ever user of emergency contraceptive, ever having sex was associated



with increased likelihood of using emergency contraceptives as students who had not practiced sexual intercourse were less likely to use emergency contraceptives (OR = 0.75, p<0.01). Effect of variables included in this analysis such as faculty, age category, marital status, religious affiliation, and ever pregnant were not significantly (p>0.05) associated with ever user of EC.

Table 8: Association between usage of EC and socio-demographic status of respondents, Ambo town, Western Ethiopia, February 2015

Variable	Eve	Ever used EC		95% CI	
	Yes	No	<u></u>		
Age in years					
15-19	19	56	1.0		
20-24	71	141	4.25	1.34	8.95
25 and above	35	93	1.07	0.56	2.04
Student's Faculty					
Natural science	16	28	1.0		
Social science	102	269	0.3	0.02	0.85 **
Ever had sex					
Yes	79	36	1.0		
No	67	233	0.75	0.25	1.52 **

^{**} remained significant after adjusted for marital status, religion and previous history of pregnancy.

Discussions

Unintended pregnancy poses a major challenge to the reproductive health of youth in developing countries. Some young women who had unintended pregnancies seek abortion. Many of which are performed in unsafe conditions and others carry their pregnancies to term, incurring the risk of morbidity and mortality higher than for adult women ¹¹. Emergency contraception is the only method that can be used to prevent pregnancy after unprotected sex or contraceptive accident ¹². This study has tried to show the sexual behaviors as well as knowledge, attitude and practice on emergency contraception and factors affecting it at preparatory school in Ethiopia.

The present study has shown that 115(27.7%) of respondents were sexually active. Rate of unwanted pregnancy was high among sexually active students as nearly one-fifth (17.4%)of the pregnancy was unwanted. Sixty three (15.1%) of respondents had a history of induced abortions that was conducted not in the clinic or the hospital. Of those with history of unintended pregnancy (n=58), majority,(60.3%), failed to prevent pregnancy due to missing pills, 11(20.0%) condom breakage, 8(14.5%) forced sexual intercourse and 4(6.9%) due to another reasons.

Similar results were reported from different studies conducted in Ethiopia. For instance, the findings from a study conducted on students of Adama University indicated that 63 (9.4%) of participants had a history of pregnancy and 49 (7.4%) had a history of abortion ¹³. This might be due to low awareness about EC, poor seeking behavior of using safe abortion service at a health facility or inaccessibility of EC supply in the school.

It is evident from the present study that the participants' knowledge about emergency contraceptives was low as participants who had ever heard of EC wereonly34.9 %. In addition, only one fourth of the respondents could identify the types of EC known, the recommended time frame to take emergency contraceptives and also less than half, 44.2% of the students answered the mechanism of action of EC to prevent pregnancy which is similar to study conducted among female Jimma University students ^{14,15}. The finding from this study was similar to the findings from a study conducted on Adama University students which indicated 27.2 % of respondents had good knowledge. Our result was much better than the findings from the study conducted in India that indicated only 7.3% respondents were aware of EC. However, the finding of the current study was much lower than the findings from study on Jimma University students in which 41.9 % of the respondents had knowledge about EC. The difference in findings among the universities could be from the difference in the provision of reproductive health information and services in different universities.

Most of the students in this study got information on emergency contraceptives from private clinics (54.2%), followed by public health institution (33.3%) pharmacy (14.0%) and others (7.5%) which is different from the findings from a study conducted on Jimma University students where the common sources were friends for 60 (36.5%), radio for 37 (22.8%) and television for 20 (12.3%) ¹³.

The current study also reveals that among participants whoever heard about EC 125 (30.0%) had ever used emergency contraceptives. This proportion is higher than the result from studies conducted on Adama University and Jimma University students in which only 4.7 % and 6.8 % had ever used emergency contraceptives respectively. The difference could be due to time difference between this study and the previous studies as well as different reproductive health information provided for the students at high school and universities 13-15.

Awareness of emergency contraception and ever use of emergency contraceptives were significantly



associated with history of sex and faculty of respondents (P<0.05). Respondents whoever had sex before were more likely to use ECthan who had not had sex. Similarly, awareness and practice of ECwere significantly associated (p<0.000) with faculty of respondents. Respondents from natural science facultywere more likely to have ever heard and use EC when compared with the other faculty. This may be due to the fact that respondents from natural science departmentswere more likely to have heard of EC.A consequence of other variables included in this analysis such as age category, marital status, religious affiliation, and ever pregnant were not significant (p>0.05) with knowledge and use of EC. This result goes in line with different studies conducted on higher education students in Ethiopia including Jimma University $^{14, 15}$.

A large proportion of participants had positive attitude towards emergency contraceptives. More than three-fourth (78.5%) of the total respondents that were aware of emergency contraceptives believe that emergency contraceptives are important and they should be available for all couplesand nearly all (94.6%) were interested to know more about emergency contraceptives. In addition, 89.2% of respondents who were aware of emergency contraceptives admitted that they could recommend emergency contraceptive use to friends. Furthermore, majority 61 (83.6%), of them indicated that they were intending to use it in the future. This result is similar to the findings from a study conducted on Adama University in which 62.9% had positive attitude towards emergency contraceptives ¹³.

Positive attitude towards emergency contraceptives was significantly higher among students from natural science faulty, ever had sex, and age greater than 24 years (P < 0.05). Students whose ages were greater than 25 had two times more likely to have positive attitude towards emergency contraceptives compared to those less than 20 years.

Cross-sectional nature of the present study could cause difficulty of determining the direction of the association between the study variables and the associations observed could only be discussed in terms of plausibility which could be limitations to be indicated. As far as the strength of this study is concerned, the study included all students from both natural and social departments achieve generalization. In addition, the investigators had already adopted standard and validated instrument from similar surveys. Moreover, the team used data collectors and supervisors who have past experiences of data collection of similar studies. Because of all these measures, it was found an extremely high response and prevalence rate of the study.

Conclusion and Recommendation

In conclusion, a significant number of students faced unintended pregnancy and unsafe abortion. In addition, among the sexually active students, many students were at significant risk of unwanted pregnancy and induced abortion. However, the knowledge and practice of emergency contraceptive was very low. Hence, there is a need to raise awareness about emergency contraceptives as an option with other contraception methods and revitalizing of the family life skill education program in schools. Moreover, existing "Reproductive Health Clubs" in high schools could be the key measure for disseminating similar information to prevent the unintended pregnancy and its complications.

Acknowledgements

We are very much grateful to Ambo University for funding us and Ambo preparatory school administration for providing us important information. Our thanks also go to the study participants for their willingness to participate in the research.

Competing Interests

Authors declare that no competing interests exist.

Author's Contributions

The three authors were responsible for the design and conduct of the study. The statistical analysis, the interpretation of findings and drafting of the manuscript were done by the three authors. The authors read and approved the final content of the manuscript.

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