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Assessment of Knowledge, Attitude and Utilization of Emergency Contraception among Unmarried Women of Reproductive Age in Adama, Ethiopia

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Abstract

Background: Knowledge about methods of emergency contraception could reduce the level of unwanted pregnancy and unsafe abortion. Particularly, utilization of emergency contraception among unmarried women have beneficiary health outcome as it adds choice for helping sexually active unmarried women to avoid unintended pregnancy and its consequences.

Objectives: To assess knowledge, attitude and utilization of emergency contraception among unmarried women of reproductive age.

Methods: A cross-sectional community based survey was conducted among 491 unmarried women of reproductive age chosen by systematic random sampling method at Adama Town. Collected data using pre-tested structured questionnaire were analyzed by chi-square test and binary logistic regression.

Result: From the total unmarried women participated in the study (n=470), one hundred eighty two (38.7%) had knowledge of emergency contraception. Of these 182, one hundred seventy three (95%) of them know oral pills only and the rest know oral pills and intra uterine devices as a method of emergency contraception. About 61.3% of those ever heard of emergency contraception had positive attitude towards making emergency contraception available to all women who need it but only 4.2% of respondents reported that they had used emergency contraception previously. Age, educational status, occupation, knowledge of time in menstrual cycle when pregnancy is more likely to occur, having experience of sexual intercourse and having discussion on reproductive health are significantly associated with awareness of emergency contraceptive (p < 0.001).

Conclusion: Emergency contraception knowledge, attitude and utilization among sampled urban unmarried women is low. Therefore, there is a need to emphasize on

increasing knowledge and accessibility of emergency contraception to all unmarried women in the study area.

Keywords: Emergency contraception; Knowledge; Attitude and utilization; Unmarried women

Introduction

Emergency contraception (EC) refers to contraceptive methods that reduce the chance of pregnancy following unprotected sexual intercourse [1]. The methods are intended for use after sexual intercourse when no contraception is used, regular contraceptive method does not work or if a woman is sexually assaulted [2]. A woman can take emergency contraceptive pills (ECPs) within 72 hours after unprotected intercourse to reduce her risk of becoming pregnant. Progestin pills are more effective and are associated with fewer side effects than combined emergency contraceptive pills [3,4]. Another form of EC is the insertion of a copper intra uterine device (IUD) by a trained healthcare professional [1].

Nowadays, ECPs have become more available in many developing countries. However, limited awareness and knowledge, as well as limited access, have hindered unmarried women from learning about ECPs and using them [2]. A review of the evidence shows that limited access of unmarried women to EC is due to lack of awareness of ECPs and barriers to the use of family planning clinics, including embarrassment, lack of familiarity with the clinics, inconvenient clinic hours; fear of a pelvic examination and provider negative attitudes [5].

According to the Ethiopian demographic and health survey (EDHS) 2005, about 25% of Ethiopian women of reproductive age group have never been married of which the highest proportions (73.3%) were between the age of 15 and 19 years [6]. Besides to this, the steadily decreasing age of menarche and increasing age of marriage have created a widening window of time for premarital sexual intercourse which may result in unwanted or unintended pregnancies [2]. Unintended pregnancies and pregnancies that occur within

short intervals and abortions pose serious health risks to unmarried women [7-11].

Global and regional estimates shows that 14 per 1000 incidence of unsafe abortion and associated mortality in women aged 15 to 44 years in the year 2003 which accounts for 13% of all maternal deaths worldwide. In east Africa the incidence rate is estimated to be 39 per 1000 and accounts for 17% of all maternal deaths in the region. More than half maternal deaths in Africa are due to unsafe abortion that occurs in age below 25 years of age [11]. Therefore, it is believed that ECPs can help reduce the number of unintended pregnancies, as well as the number of abortions and associated maternal deaths [12]. However, utilization of ECPs is relatively low. A survey result in Ethiopia indicates, current use of contraception is lower among women of reproductive age between 15 to 24 years [13] and among all reproductive age groups, only 43.3% of sexually active unmarried women use modern contraceptive methods [14].

With regard to emergency contraception 46.5% sexually active unmarried urban women and 8.6% unmarried rural women had knowledge, but very few (1.6%) of sexually active unmarried urban women have ever used EC [15]. Similar study among females aged 15 to 24 years shows that only 21% of sexually active unmarried women have awareness of EC and insignificant proportions (0.1%) have ever used it [16]. The underutilization of EC among unmarried women implies limited awareness about availability of method and unfavorable or negative perception towards EC. Different institutional based studies, however, have shown that the knowledge and practice in relation to emergency contraception are limited among women [17-36].

Thus, understanding the knowledge, attitude and practice of EC among unmarried women is critical for countries like Ethiopia with a population policy aiming at reducing unwanted pregnancy. Unfortunately little research has been conducted in this area in the country at community level. The aim of this study is to examine the knowledge, attitude and utilization of emergency contraception among unmarried women of reproductive age (15-49 years) in Adama Town.

Methods

Cross-sectional community based survey was conducted among 491 unmarried women of reproductive age in Adama town. According to the projection from the 2007 Ethiopian census total population of the town estimated to be 275,174. The sample size was determined using single population proportion formula, assuming the proportion of unmarried women who are aware of emergency contraception to be 43.5% [28], with 5% marginal error, 95% confidence interval and 30% non-response rate. From the total 14 urban kebeles of the Town, one kebele was selected using simple random sampling method. The total population of the kebele is estimated to be 22,780 and there were 4745 households. The selection of household was started from the center of kebele to the East and the first respondent was identified by simple random sampling technique, then systematic sampling

techniques were used to identify the other respondent at an interval of every ninth household.

Data were collected using structured questionnaires. The questionnaire were prepared in English and translated into Amharic. The questionnaires were pretested on 40 subjects who were not included in the study before actual data collection to make necessary modification and no modification was needed. Four female nurse data collectors were trained and involved in data collection.

The knowledge was assessed by asking the respondent 'have you ever heard about emergency contraception' and in case of positive response they were asked further to mention the method they know. Regarding the attitude the respondent were asked "to whom EC should be given?" and the response "to all women who need it" were considered as positive attitude. The others like; to married women only, to young female and to rape victims were considered as negative attitude. The utilization were assessed by asking the question "Have you ever used EC?" to know their previous use of EC.

Data were cleaned and entered to the computer using Epi-Info version 3.5.1 statistical software and exported to SPSS version 16.0 for analysis. The analysis part consisted of descriptive statistics and the association of each independent variable on the dependent variables was tested using chi-square and binary logistic regression. Ethical clearances were obtained from Institutional Review Board of College of Health Sciences, Addis Ababa University. Verbal informed consent was also obtained from the respondents.

Result

Complete responses were obtained from a total of 470 respondents yielding a response rate of 95.7%. As it is shown in Table 1 the age of the respondent ranged from 15 to 35 years with mean age of 19.49 + 3.65 years, and the majority of them (57.9%) were between the age of 15 and 19 years. Two hundred seventy four (58.3%) of the respondents were orthodox Christian followers by religion, and two hundred sixty three (56%) of the study participant were from Oromo ethnic group. Nearly half, 229 (48.7%) of the study subject had secondary education, and the majority (64.7%) of the respondent were students (Table 1).

The respondents' age at menarche (as shown in Table 2), ranged from 10 to 18 years with a mean age of 14.11 + 1.15 year and 60.9% of the respondents' age at menarche were between 12-14 years. Two hundred twenty four (47.7%) of the respondents had knowledge of fertile days between two menstrual periods when a woman is more likely to become pregnant if she has sexual intercourse. Out of the total respondents, 166 (35.3%) have had sexual intercourse in their life time. The age at first sexual intercourse ranges from 14 to 24 years with a mean age of 17.39 + 2.15 years and 134 (80.7%) of them start sex before age of 20 years. The main reason for first sexual intercourse were love 142 (85.5%) and due to rape 18 (10.8%). One hundred thirty (78.3%) of sexual

experienced respondent reported that they had sexual relation with one partner in their life time (**Table 2**).

Table 1 Socio demographic characteristics of unmarried women of reproductive age in Adama town, January 2012.

Characteristics		Frequency (N=470)	Percent
Age	15 - 19 years	272	57.9
	20 - 24 years	148	31.5
	25-29 year	42	8.9
	30 +	8	1.7
Religion	Orthodox	274	58.3
	Muslim	88	18.7
	Protestant	96	20.4
	Catholic	12	2.6
Ethnic Group	Oromo	263	56
	Amhara	135	28.7
	Gurage	43	9.1
	Tgray	19	4
	Others	10	2.1
Educational status	Secondary Education	229	48.7
	Primary Education	128	27.2
	Higher Education	95	20.2
	No Education	18	3.8
Occupation	Student	304	64.7
	Private Employee	69	14.7
	Private Business	38	8.1
	Government Employee	26	5.5
	Others (daily laborer, house maid)	33	7

Household monthly income	Less than or equal 500 ETB	168	35.7
	501-1000 ETB	128	27.2
	1001-1500 ETB	64	13.6
	1501-2000 ETB	57	12.1
	More than 2000 ETB	53	11.3

Among those who had sexual experience, 59 (35.5%) of the respondents had been pregnant and out of these pregnancies, 43 (76.3%) of them were unwanted and 38 (64.4%) of these unwanted pregnancies ended in induced abortion. Out of the 38 induced abortions 21 (55.3%) were performed by untrained personnel and only 17 (44.7%) were performed safely in hospital or clinic. As to the knowledge and utilization of modern contraceptive methods, three hundred eighty seven (82.3%) of the total respondents had ever heard at least one form of modern contraceptive method. The main sources of information were from mass media (TV/Radio) 139 (35.9%), followed by formal education 79 (20.4%) and family and friends 75 (19.4%). One hundred twenty three (74%) of those who have practiced sexual intercourse in their life time or 31.8% of those ever heard of any modern contraceptive methods had ever used at least one type of contraceptive method. The most commonly used contraceptive methods were condom 86 (69.9%) and oral pill 70 (59.9%). The majority (65%) of the respondents who had ever used modern contraceptive have got the service from private pharmacy (see **Table 3** below). Similarly, one hundred eighty two (38.7%) of the total unmarried women had ever heard about emergency contraception. One hundred seventy three (95%) of those ever heard of EC mentioned oral pills as method of emergency contraception. The major sources of information were from television or radio 82 (45.1%) followed by from health personnel 48 (26.4%). Of those who have heard about pills as an emergency contraceptive method, 148 (81.3%) identified the correct time of administration of pills after unintended or unprotected sexual intercourse (**Table 3**).

Table 2 Reproductive health characteristics among unmarried women of reproductive age in Adama town, January 2012.

Variable		Frequency	Percent
Age group menarche(n=470)	10-11years	8	1.7
	12-14 years	286	60.9
	15-18 years	176	37.4
Knowledge of time Pregnancy likely to occur (n=470)	During menstrual flow	33	7
	First week of menstrual cycle	104	22.1
	Second and third week of menses	224	47.7
	Do not know	109	23.2
Ever had sexual intercourse (n=470)	No	304	64.7
	Yes	166	35.3

Age at first sex (n=166)	Less than 15 years	4	2.4
	15-19 years	130	78.3
	20-24 years	32	19.3
Reason for sex (n=166)	Rape/forced sex	18	10.8
	Love	142	85.5
	To get advantage from partner	6	3.6
Ever been pregnant (n=166) Number of pregnancy (n=59)	No	107	64.5
	Yes	59	35.5
Number of Births (n=20)	1	51	86.4
	2	8	13.6
	1	18	90
	2	2	10
Age at first pregnancy (n=59)	15-19	43	72.9
	20-23	16	27.1
Pregnancy was wanted (n=59)	No	45	76.3
	Yes	14	23.7
Outcome of pregnancy (n=59)	Childbirth	20	33.9
	Induced abortion	38	64.4
	Other	1	1.7
Place of induced abortion (n=38)	Hospital/Clinic	17	44.7
	Local performer	21	55.3
Communication about RH issue (n=470)	Yes	262	55.7
	No	208	44.3
Discussion of RH issue with (n=262)*	Friends	207	79
	Mother	85	32.4
	Health worker	84	32
	Sister	44	16.8
	Father	27	10.3
	Teacher	9	3.4
* Sum may exceed the exact number or 100% due to multiple responses.			

About 61.3% of the study participant had positive attitude towards making EC available to all women who need it. Those who gave a negative response i.e. other than to all women who need it was further asked their reason, most of them mentioned may increase risky behavior (39%), religious reason (16.5%), fear of side effect (14.8%), propagates HIV/AIDS (14.3%), fear of misuse (10.4%) and may hurt the fetus in case does not work (4.9%). In addition, about 78.9% of the total respondent had intention to use in the future if need arises.

Only 20 (12%) of sexually experienced study subjects or 4.2% of the total respondents reported that they had used emergency contraceptive methods previously. All of those who ever used EC had used oral pills only. The main reason for

using EC was due to unprotected sexual intercourse or sex without using any contraceptive method (50%) followed by forgets to take OCP (25%).

During multivariate analysis (**Table 4**), age, educational status and occupation had statistically significant association with the awareness of emergency contraception. Study subjects age 20 years and above were more likely to have knowledge about emergency contraception than those below 20 years of age, AOR 1.97 (95% CI: 1.26, 3.09). Awareness of EC was higher among the respondent with secondary and higher education when compared to those with primary education and no education AOR 4.23 (95% CI: 2.45, 7.30) for secondary education, 6.34 (95% CI: 3.29, 12.20) for those with

higher education. Government employees and those engaged in private business were more likely to have awareness of EC than private employees and others (house maid, daily labourers) COR 2.36 (95% CI: 1.41, 3.97), and students were four times more likely to have knowledge of EC than private employees COR 4.14 (95% CI: 2.10, 8.15) (Table 4).

Table 3 Knowledge and utilization of modern contraceptive methods among unmarried women of reproductive age in Adama town, January 2012.

Characteristics		Frequency	Percent
Ever heard about contraceptive methods (n=470)	Yes	387	82.3
	No	83	17.7
Contraceptive methods heard (n=387)*	Oral pill	354	91.5
	Injectables	350	90.4
	IUD	197	50.9
	Condom	303	78.3
	Implant	190	49.1
	Female sterilization	47	12.1
	Male sterilization	24	6.2
Source of information about contraceptive (n=387)	Mass media (TV/Radio)	139	35.9
	Health workers	68	17.6
	Family/friends	75	19.4
	Formal education	79	20.4
	Health institution	26	6.7
Ever used contraceptive (n=387)	No	264	68.2
	Yes	123	31.8
Type of contraceptive ever used (n=123)*	Condom	86	69.9
	Oral pill	70	56.9
	Injectable	23	18.7
Contraceptive supplies obtained from (n=123)	Pharmacy	80	65
	Public Health institution	23	18.7
	Private clinic	11	8.9
	FGAE	9	7.3
Ever heard of EC (n=470)	No	288	61.3
	Yes	182	38.7
Types of EC ever heard (n=182)	Oral pill only	173	95
	Oral pill and IUD	9	5
Source of information about EC (n=182)	TV/ Radio	82	45.1
	Health worker	48	26.4
	Family/friends	27	14.8
	Formal education	15	8.2
	Health institution	10	5.5
When to take ECP after unprotected sex (n=182)	Within 72 hrs after sex	148	81.3
	Within 24 hrs after sex	16	8.8

	Immediately after sex	10	5.5
	Within 5 days	3	1.6
	Others (one wk, after missed period, don't know)	5	2.7
How EC works (n=182)	Prevent pregnancy occurrence	175	96.2
	Don't Know	6	3.3
	Induce abortion	1	0.5
* Sum may exceed the exact number or 100% due to multiple responses.			

Table 4 Relationship between socio-demographic characteristics and knowledge of emergency contraception among unmarried women of reproductive age in Adama, January 2012.

Variables	Awareness of EC		COR (CI: 95%)	AOR (CI : 95%)
	Yes	No		
Age				
15-19	82	190	1	1
20+	100	98	2.36 (1.62, 3.46)**	1.97 (1.26, 3.09)**
Educational status				
No & primary education	21	125	1	1
Secondary education	102	127	4.78 (2.81, 8.13)**	4.23 (2.45, 7.30)**
Higher education	59	36	9.76 (5.24, 18.15)**	6.340 (3.29, 12.20)**
Occupation				
Student	124	180	2.36 (1.41, 3.97)**	1.99 (1.11,3.56)*
Government employee & Private business	35	29	4.14 (2.1, 8.15)**	2.22 (1.05, 4.72)*
Private employee & Others	23	79	1	1
Religion				
Orthodox	108	166	1	1
Muslim & Catholic	30	70	0.77 (0.48, 1.23)	0.73 (0.42, 1.27)
Protestant	44	52	0.51 (0.28, .91)	1.34 (0.79, 2. 26)
Ethnic group				
Oromo	104	159	1	1
Amhara	52	83	0.96 (0.63, 1.47)	0.91 (0.56, 1.49)
Gurage & Others	26	46	0.86 (0.50, 1.48)	0.86 (0.48, 1.53)
* Statistically significant (p-value <0.05) ** Statistically highly significant (p-value < 0.001)				

Respondents who mentioned correctly the fertile period in menstrual cycle that is the 2nd and 3rd week of the menstrual cycle had better awareness of EC than those mentioned the incorrect time with AOR 2.96 (95% CI: 1.63, 5.39). Having experience of sexual intercourse was significantly associated with awareness of EC. Those who ever had sexual intercourse were more likely to have knowledge of EC than those who never had sexual intercourse AOR 2.81 (95% CI: 1.32, 6.04). EC awareness was higher among those who had discussion of RH

issue than never had discussion AOR 3.27 (95% CI: 1.95, 5.48) (Table 5).

Discussion

The study has tried to describe the knowledge, attitude and utilization of emergency contraception among unmarried women of reproductive age group in Adma town. The limitations in this study could be the fact that self-reported information is subjected to reporting errors and biases. Since

the study touches sensitive issues the possibility of underestimation cannot be excluded even though the survey was anonymous.

Table 5 Relationship between reproductive characteristics and knowledge of emergency contraception among unmarried women of reproductive age in Adama town, January 2012.

Variables	Awareness of EC		COR (CI: 95%)	AOR (CI: 95%)
	Yes	No		
Knowledge of time pregnancy can occur	45	59	3.75 (2.09, 6.74)**	2.81 (1.42, 5.57)*
First week of menstrual cycle	113	111	5.01 (3.00, 8.34)**	2.96 (1.63, 5.39)**
Second and third week of menses During menstrual flow & I don't know	24	118	1	1
Ever had sexual intercourse				
No	80	224	1	1
Yes	102	60	4.46 (2.98, 6.68)**	2.81 (1.32, 6.01)*
Discussion RH issues				
No	36	172	1	1
Yes	146	116	6.01 (3.89, 9.28)**	3.27 (1.95, 5.48)**
Ever used any contraceptive methods				
No	102	162	1	1
Yes	80	43	2.95 (1.89, 4.61)**	1.39 (0.61, 3.19)
Information Source of contraceptive				
Mass media(TV/Radio)	58	81	0.514 (0.293, 0.899)	0.52 (0.28, 0.97)
Health worker/Institution	48	46	0.749 (0.410, 1.368)	0.35 (0.17, 0.72)
Family/Friends	30	45	0.478 (0.251, 0.910)	0.33 (0.16, 0.69)
Formal education	46	33	1	1

* Statistically significant (p-value <0.05) ** Statistically highly significant (p-value < 0.001)

Less than fifty percent of the total respondents mentioned that a woman likely become pregnant with in 2-3 weeks of the menstrual cycle and if they had sexual contact the chance of unwanted pregnancy could be higher. This finding was in agreement with a study conducted among University students in Mekele Town [30]. Furthermore, 74% of sexually experienced respondents or 26.1% of the total respondents had ever used at least one type of contraceptive method. This result was higher than the study done among female university students in Addis Ababa and Mekele where contraception use was about 10% [28,30] and this difference could be due to methodological differences between the studies. Nevertheless, the findings of this study were less than the study result of Nigerian undergraduate female students where 39% of the respondents had practiced contraception [25]. This might indicate that the utilization of contraception among the respondents in this study was very low.

In this study the most commonly used contraception method other than male condom was Oral pill 59.9% followed by injection 18.7 %. This is slightly higher from the study done among female university students in Addis Ababa (44% pill and

21% Injection) and similar to Mekele where 60.3% and 36.2% used pill and injections respectively. This result was also different from studies done in Nigerian female undergraduate students where 45% and 26% of respondents used withdrawal and condoms respectively, in Kampala condom 48, 9% and coitus interrupts 23.4% were the common contraception method used by the students [25,26,28,30]. From the total study participants 38.7% had ever heard of emergency contraception. This result lower than the study done among female university students in Addis Ababa (43.5%), Mekele (44.7%) and Kampala where 45% of respondents had heard of EC and it was also lower than a study conducted among Nigerian undergraduate students where 58% of respondents had heard of EC [25,26,28,30]. But awareness about EC in this study was significantly higher than studies conducted at Asella colleges (27.4%), AA post abortion care seeking women (14%) and antenatal clients (10.2%) were aware of EC [31-34]. This great discrepancy could be due to the socio demographic difference of the respondents such as the age, occupation, educational status and marital status of the respondents.

The major sources of information for EC were television and radio these sources had similarity to the information sources in Kampala, Ghana, in Mekele and Addis Ababa [26-28, 30]. Next to the television and radio source health workers were the second main sources of information in this study, but in others studies family and friends were the second main source of information about EC. These differences could be due to socio-demographic differences such as educational status, occupation and age. In addition to above sources schools were also important sources of information in this study. This could be very important indication that high media coverage, discussion with family/friends could increase the knowledge family planning not only for the young people but also to the general population.

The knowledge of correct timing for emergency contraception in this study was better than the other studies. Of those who had ever heard of ECPs, eighty one percent correctly identified 72 hours as recommended time frame limit to start the first dose of ECPs after unprotected sexual intercourse and this result was higher than the findings of the studies conducted in university students and antenatal clients [21,24,25,28-30,33,34]. Although higher proportion of respondents identified the time limit, still the proportion of respondents who didn't know the correct time limit is not negligible, near to 19% of those ever heard of EC mentioned 24 hours and immediately after sex as the correct time limit to start the first dose of ECs after unprotected sexual intercourse. Such misinformation could inhibit from taking EC, because they thought that they had missed the time frame. Some respondents mentioned that EC could be taken within one week after unprotected sexual contact and after cessation of menses. This could also lead to delay in taking emergency contraception which leads to increase the risk of unwanted pregnancy.

Out of those aware about EC 96.2% mentioned EC prevents pregnancy from occurring, the rest mentioned that they don't know and interrupt an ongoing pregnancy. This is encouraging since it shows almost all of them who are aware of EC had correct information about mechanism of action. In other studies the result was lower [28-30,33,34] indicating misconception that could affect attitude and utilization. This perception could be a barrier for the utilization of EC by the women who need it. In this study, awareness of EC significantly higher for the respondent aged 20 years and above compared to their younger age with AOR 2.04(95% CI, 1.31-3.19). This result had similarity with studies done in Mekele, Adama, Haromaya and Asella College female students [30,34-36]. Educational status were significantly associated with awareness of EC in this study i.e. those who had secondary education or above had better awareness than those with no education and primary education. This is true that as the level of education increases also awareness increases which is shown by other studies too [30,34-36].

Correct knowledge of about fertile period in menstrual cycle and ever had discussion about RH issues had highly significant association with awareness of emergency contraception. This finding is similar with the result of the study among Mekele

University students [30]. So creating a floor for convenient way of discussion may increase the awareness and utilization of contraception methods including emergency contraception and it could prevent unwanted pregnancy and its consequences. Two hundred eighty eight (61.3%) of the total respondent had positive attitude towards making EC available to all women who need it and 371 (78.9%) have an intention to use EC in the future when the need arises. Respondents in this study had better attitude towards EC when compared to study in AA University students (52.6%) and Asella 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 [34]. But it is lower than the studies among university students in Mekele and Haromaya where 75.5% and 76.5% of the respondent had positive attitude towards emergency contraception [30,36]. The difference in attitude could be due to difference in educational status and occupation.

The utilization EC were lower than the other studies in Ethiopia, (Mekele, AA and Jimma), 4% of the total respondents had ever used emergency contraceptive method [28-30]. This result was also higher than female college students in Asella where 2.4%, 3.6% of women seeking post abortion care services in Addis Ababa and 1.9% of antenatal client in Addis Ababa had ever used EC [33,35]. But it was very low when compared to the studies in Gahana 41%, Hong Kong 12.9%, and Kampala 7.4% [21,26,27]. This could be related to the higher prevalence of sexual relationship at early age than our country.

In conclusion, this study shows knowledge and utilization of emergency contraceptive methods were low, but positive attitude towards EC was high. Positive attitude of the respondents could be an indication of created conducive environment for possible interventions. Despite current level of awareness, the utilization of emergency contraception was relatively very low, only 4% of the total respondent had ever used emergency contraception in the past. This may increase the risk of unintended pregnancy which may result in induced abortion among unmarried women of reproductive age group. There is a need to raise awareness of the community about emergency contraceptive as an option with other contraceptive method. Moreover, further research on knowledge & attitude of all females on emergency contraception and utilization could be important to strengthen the service.

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References

1. World Health Organization (2007) Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/ Center for Communication Programs

- (CCP), INFO Project. Family Planning: A Global Handbook for Providers. Baltimore and Geneva: CCP and WHO.
2. Family Health International (2005) Adolescents and Emergency Contraceptive Pills in Developing Countries FHI Working Paper Series No. WP05-01.
 3. Population Council (2005) Emergency Contraceptive Pills, South East Asia Regional Training Manual.
 4. World Health Organization (2009) Medical eligibility criteria for contraceptive use (4th eds).
 5. International Consortium for Emergency Contraception (ICEC) (2000) Expanding Global Access to Emergency Contraception. Seattle, WA: ICEC.
 6. Summary and Statistical Report of the 2007 (2008) Population and Housing Census Results. Population Size by Age and Sex, Federal Democratic Republic of Ethiopia Population Census Commission, Addis Ababa.
 7. World Health Organization (2007) Maternal mortality in 2005: estimates developed by WHO, UNICEF, UNFPA, and the World Bank.
 8. World Health Organization (2004) Beyond the numbers: reviewing maternal deaths and complications to make pregnancy safer.
 9. Moore, Zhuzhi, Pav Govindasamy, Julie DaVanzo, Genene Bizuneh, Albert Themme (2008) Trends in Youth Reproductive Health in Ethiopia, 2000 and 2005. Calverton, Maryland: Macro International Inc.
 10. United Nations Children's Fund (2011) The State of the World's Children.
 11. World Health Organization (2007) Unsafe abortion: Global and regional estimates of incidence of unsafe abortion and associated mortality in 2003. (5th eds).
 12. Program for Appropriate Technology in Health (2004) Resources for Emergency Contraceptive Pill Programming: A Toolkit.
 13. Govindasamy P, Kidanu A, Banteyerga H (2002) Youth Reproductive Health in Ethiopia. Calverton, Maryland: ORC Macro.
 14. Central Statistical Agency [Ethiopia] and ORC Macro (2006) Ethiopia Demographic and Health Survey 2005. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ORC Macro.
 15. United Nations Population Fund (2010) Population Council, Ethiopia Gender Survey: A Study in Seven Regions.
 16. United Nations Population Fund (2010) Population Council, Ethiopia Young Adult Survey: A Study in Seven Regions.
 17. Latin American Consortium for Emergency Contraception (2005) Emergency Contraception Advocacy in Latin America and the Caribbean.
 18. International Planned Parenthood Federation/Western Hemisphere Region (2006) Every Woman's Right: Recommendations for Improving Knowledge and Access to Emergency Contraception.
 19. Susie B, Solorio R, Donna L, HongjianY, Brown R (2008) Who Is Using Emergency Contraception? Awareness and Use of Emergency Contraception Among California Women and Teens. *Women's Health Issues* 18: 360-368
 20. Gurung N, Gupta S, Hays B (2009) Knowledge of Family Planning and Emergency Contraception in a Rural Female Population, *J GMC-Nepal*. 2: 45-50
 21. Lee SW, Wai MF, Lai LY, Ho PC (1999) Women's knowledge of and attitudes towards emergency contraception in Hong Kong: questionnaire survey. *HKMJ* 5: 249-252
 22. Puri S, Goe N, Sehgal A, Walia D, Mangat C (2009) Emergency contraception in Women of Slum in Northern India, *J Family Reprod Health* 3: 77-82
 23. Akani C, Enyindah C, Babatunde S (2008) Emergency Contraception: Knowledge and Perception Of Female Undergraduates in the Niger Delta of Nigeria. *Ghana Med J* 42: 68-70
 24. Nworah O, Sunday M, Joseph U, Monday O, Josepahat A (2010) Knowledge, attitude and practice of emergency contraception among students in tertiary schools in Anambra State Southeast Nigeria. *Int J Med Med Sci* 2: 1-4.
 25. Michael E, Patrick I, Adedapo B (2003) Knowledge and Perception on Emergency Contraception among Female Nigerian Undergraduates. *Int Fam Plan Perspect* 29: 84-87
 26. Byamugusha J, Mirembe F, Faxelid E, Gamzell K (2006) Emergency contraception and fertility awareness among university students in Kampala, Uganda. *Afr Health Sci* 6: 194-200
 27. Baafuor O, Fauster K (2011) Knowledge and Practices of Emergency Contraception among Ghanaian Women. *Afr J Reprod Health* 15: 147-152
 28. Tamire W, Enqueselassie F (2007) Knowledge, attitude, and practice on emergency contraceptives among female university students in Addis Ababa, Ethiopia. *Ethiop J Health Dev* 21: 111-116.
 29. Tajure N (2010) Knowledge, Attitude and Practice of Emergency Contraception among Graduating Female Students of Jimma University, South West Ethiopia. *Ethiop J Health Sci* 20: 91-97
 30. Gyohannes E (2009) Assessment of Knowledge, Attitude and Utilization of Emergency Contraception among Mekelle University Female Undergraduate Students, MPH thesis, AAU.
 31. Worku A (2011) Emergency Contraceptives: Knowledge, Attitudes and Practices among Female College Students in Arba Minch, Ethiopia. *Harar Bulletin Health Sci* 1: 11-23
 32. Dessalegn B (2006) An Assessment of Knowledge, Attitude and Practice of Emergency Contraception among women seeking post abortion care services in Addis Ababa, MPH Thesis, AAU.
 33. Dinku E (2007) Assessment of the Barriers to Emergency Contraception use among Antenatal care clients of Addis Ababa Health Centers, MPH Thesis, AAU.
 34. Mengistu S (2007) Assessment of level of awareness and utilization of Emergency Contraception among college female students, in Oromia regional state, Arisi zone, Asella town, south east Ethiopia, MPH thesis, AAU.
 35. Dejene F, Assefa T, Belachew T (2010) Predictors of emergency contraceptive use among regular female students at Adama University, Central Ethiopia. *Pan Afr Med J* 7:16.
 36. Desta B, Regassa N (2011) On Emergency Contraception among Female Students of Haramaya University, Ethiopia: Surveying the Level of Knowledge and Attitude. *Educ Res* 2: 1106-1117.