Assessment of Knowledge, Attitude and Utilization of Emergency Contraception Among Women of Reproductive Age in Arsi Zone, Ethiopia

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Abstract

Background: Unintended pregnancies, pregnancies that occur within short intervals as well as unsafe abortion could be avoided by using contraceptives. Therefore: assessment of emergency contraceptives among unmarried women is importance because of high rates of unintended sexual intercourse leading to unwanted pregnancies as well as unsafe abortion.

Methods: A cross-sectional community based household survey was conducted among 965 women chosen by systematic random sampling at Arsi zone. Descriptive statistics was presented with text and frequency tables. Both bivariable and multivariable logistic regression analysis was carried out by Epi Info version 5.3.1 and exported to SPSS version 21. The association was also presented using odds ratios and 95% confidence levels. P-value of < 0.05 is used to declare the significance of association between variables.

Results: From the total respondent participated in the study, 373 (38.7 %), 61.8%, and 11.2% of the total unmarried women had awareness, attitude and used emergency contraception respectively. Age, educational status, occupation, having experience of sexual intercourse and having discussion on reproductive health are significantly associated with awareness of emergency contraception.

Conclusions: There is high level of knowledge, but low utilization of emergency contraceptives among unmarried women. Therefore, there is a need to emphasize on increasing awareness and accessibly as an option with other contraceptive method to all unmarried women in the study area.

Background

Emergency contraception (EC) is defined as contraceptive methods that reduce the chance of pregnancy following unprotected sexual intercourse (¹.) They are intended for use after sexual intercourse when no contraception is used, when a regular contraceptive method does not work properly, or if a woman is sexually assaulted (².) A woman can take ECPs within 72 hours or more after unprotected intercourse to reduce her risk of becoming pregnant. They contain a higher dose of the same active ingredients that regular birth control pills contain. Recent research suggests the pills are also effective, if taken within 120 hours of unprotected sexual intercourse (^{1,2}.) Progestin pills are more effective and are associated with fewer side effects than combined emergency contraceptive pills (³.) Another form of emergency contraception is the insertion of a copper Intra Uterine Device (IUD) by a trained healthcare professional (^{1,4}.)

Emergency contraception adds an important option for helping sexually active unmarried to avoid unintended pregnancy. Many unmarried women are at high risk of unintended pregnancy; they have limited knowledge of contraception and generally lack access to services or do not feel comfortable using these services (².)

Nowadays, ECs have become more available in many developing countries. However, limited awareness and knowledge, as well as limited access, have hindered unmarried and young women in learning about and using ECs ^(2.) A review of the evidence shows that adolescents' restricted access to emergency contraception is due to their lack of awareness of ECs, barriers to their use of family planning clinics, including embarrassment, lack of familiarity with the clinics, inconvenient clinic hours; fear of a pelvic examination and provider attitudes ^(5.)

According to Ethiopian Demographic Survey (EDHS) 2011, 27 % of Ethiopian women of reproductive age (15-49 years) have never been married. Among those never been married the highest proportions (77%) were between the age of 15 and 19 years. But the median age at first intercourse for the women age 15-49 were 17.1years. 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 young women ^(6-10.) As a consequence, most of unintended pregnancies end with induced abortion which contributes for high maternal mortality ^(11.)

Global and regional estimates of annual incidence of unsafe abortion and associated mortality in 2003 shows, the incidence rate of 14 per 1000 women aged 15–44 years which accounts for 13% of all maternal deaths worldwide. In eastern Africa the incidence estimated to be 39 per 1000 and accounts for 17% of all maternal deaths ^(11.) By preventing pregnancy before it happens, ECs help reduce the number of unintended pregnancies, as well as the number of abortions and associated maternal mortality ^(12,13.)

Despite increase in promotional activities of modern contraceptive methods among unmarried women the utilization is relatively low. In Ethiopia current use of contraception is lower (18.7%) among all women of reproductive age group ^(14,15.) In addition, in all reproductive age group only 52.3% of sexually active unmarried women are currently using any modern contraceptive methods ^(15.) As it has been discussed ECs helps in reducing the risk of unintended pregnancy, its consequence unsafe abortion as well as associated maternal mortality among unmarried women which are at risk. Different institutional based studies have shown that the knowledge and utilization in relation to emergency contraception are limited among women ^(16-37.)

Methods

Cross-sectional community based study was conducted at Arsi Zone in Oromia National Regional State about 175 kilo meters to southeast of Addis Ababa, Capital city of Ethiopia. According to the projection from 2007 census, total population of the zone estimated to be 3,202,689. Arsi Zone is currently organized in 25 administrative structures called 'woreda'. The health service coverage is 88%. The proportion of women of reproductive age group in the region is 22.1%, total fertility rate of 5.6 ^(15.)

The sample sizes were determined using single proportion formula. Assuming the proportion of unmarried women who aware of emergency contraception to be 50% since there is no study conducted at

the community level, 5% marginal error, 95% confidence interval and 10% non-response rate were added. Then multiplied by 2 for design effect due to multistage sampling and total sample size was 998.

A total of 10 rural 'kebeles' and 5 urban 'kebeles' were selected from five 'woredas'. Based on the total population of selected woredas the sample sizes were allocated proportional to population size. Similarly, the sample sizes were distributed to kebeles according to their proportion. Then using systematic sampling the study subject was interviewed at household level using structured questionnaire. Data were collected by female nurses experienced in data collection, and checked for completeness and consistency on daily basis by the supervisors. Data were cleaned and entered to the computer using Epi Info version 5.3.1 and exported to SPSS (Statistical Package for the Social Sciences) version 21 statistical software and analysis were performed. Descriptive statistics (mean and standard deviation) was used and results were present with text and frequency tables. Both bivariable and multivariable logistic regression analysis was carried out to identify factors associated with awareness of EC among the study subject. At bivariable analysis level to select best predictor variables and those variables that are going to show significant association at a p-value of less than 0.20 was entered into multivariable analysis. The association of variables was also presented using odds ratios relative to the reference category and 95% confidence levels. P-value of < 0.05 is used to see the significance of association between dependent and independent variables.

Results

Complete responses were obtained from a total of 965 respondents yielding a response rate of 97.7%. The age of the respondent ranged from 15 to 35 years with mean age of 19.5 and standard deviation of 3.65 years. Above half of them 555(57.5%) were between the age of 15 and 19 years. Regarding residency, 586(60.7%) of the respondent were rural resident. Three hundred eighty one (39.5%) of the respondents were orthodox Christian followers (Table 1).

Table 1
Socio demographic characteristics of unmarried women of
reproductive age in Arsi Zone, January 2018, Ethiopia

Variables	Frequency	Percent
Age 15 -19	555	57.5
20 – 24	307	31.8
25 – 29	87	9.0
30 +	16	1.7
Residence Rural	586	60.7
Urban	379	39.3
Religion Orthodox	381	39.5
Muslim	369	38.2
Protestant	192	19.9
Catholic	23	2.4
Ethnic Group Oromo	548	56.8
Amhara	272	28.2
Tgray	38	3.9
Gurage	87	9
Others	20	2.1
Educational Status No Education	37	3.8
Primary Education	268	27.8
Secondary Education	467	48.4
Higher Education	193	20
Occupation Government Employee	53	5.5
Private Business	78	8.1
Private Employee	141	14.6
Student	626	64.9
Others	67	6.9

Age at menarche ranged from 10 to 18 years with a mean age of 14.1 and standard deviation of 1.2 year. About 458(47.5%) 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 (second and third weeks of the menstrual cycle). Out of the total 965 respondents, 344(35.6%) have had sexual intercourse in their life time.

Among those who had sexual experience (n=344), 124(36%) of the respondents had been pregnant, out of this 96(77.4%) of pregnancy were unwanted and 79(63.7%) ended in induced abortion. Out of 79 induced abortion 45(57%) were performed by untrained personnel. Five hundred thirty nine (55.9 %) of the respondents discuss about reproductive health issue particularly about conception and contraception with at least someone else.

Three hundred seventy three (38.7 %) of the total sampled unmarried women had ever heard about emergency contraception. Three hundred fifty five (95.2%) of those ever heard of EC mentioned oral pills only and the reminder (4.8%) mentioned oral pill and IUD as method of emergency contraception. The major sources of information were from television /radio 168(45%). Of those who have heard about pills as an emergency contraceptive method, 300(80.4%) identified the correct time of administration of pills after unintended/unprotected sexual intercourse. When asked about how EC works, 358(96%) of those aware of EC mentioned that EC prevents from getting pregnant (Table 2).

Table 2
Knowledge of emergency contraception among unmarried women of reproductive age in Arsi Zone,
January 2018, Ethiopia.

Characteristics	Response	Frequency	Percent
Ever heard of EC (n= 965)	No	592	61.3
	Yes	373	38.7
Types of EC ever heard (n=373)	Oral pill only	355	95.2
	Oral pill and IUD	18	4.8
Source of information about EC (n= 373)	TV/ Radio	168	45
	Health worker	99	26.5
	Family/friends	56	15
	Formal education	30	8
	Health institution	20	5.5
When to take ECP after unprotected sex (n=373)	Within 72 hrs after sex	300	80.4
	Within 24 hrs after sex	36	9.7
	Immediately after sex	21	5.6
	Within 5 days	6	1.6
	Others (one wk, after missed period, don't know)	10	2.7
How EC works (n=373)	Prevent pregnancy occurrence	358	96
	Don't Know	13	3.5
	Induce abortion	2	0.5

About 596(61.8%) of the study participant women had positive attitude towards making EC available to all women who need it. The remainder mentioned to raped victims 201(20.8%), to young female 135(14%), and to married women only 33(3.4%). The majority (79%) of the respondent have an intention to use EC in the future if the need arises and the rest has no intention to use EC in the future. Those who have an intention to use EC when the need arises prefer to get service from public health institution 525(68.9), from private pharmacy 165(21.7%), and from private clinic 72(9.4%) (Table 3).

Table 3
Attitude of emergency contraception among unmarried women of reproductive age in Arsi Zone,
January 2018, Ethiopia.

Characteristics	Response	Frequency	Percent
To whom EC should be given (n=965)	To all women who need it	596	61.8
	To raped victims	201	20.8
	To young female	135	14
	To married women only	33	3.4
Intention to use EC in future if need arise (n= 965)	Yes	762	79.0
	No	203	21.0
Ever used EC (n=373)	No	331	88.8
	Yes	42	11.2

In multivariate analysis, age, educational status and occupation had statistically significant association with the awareness of emergency contraception. Women aged 20 years and above were more likely to have knowledge about emergency contraception than those below 20 years of age AOR=2.06(95% CI: 1.52, 2.81). Awareness of EC was higher among the respondent with secondary [AOR 4.07 (95% CI: 2.81, 5.91)] and above education [AOR=6.33(95% CI: 4.04, 9.90)] when compared to those with primary education and no education. Government employees and those engaged in private business more likely to have awareness of EC than private employees and others (house maid, daily laborers) AOR= 1.83 (95% CI: 1.10, 3.06), and students were 1.70 times more likely to have knowledge of EC than private employees AOR=1.70(95% CI: 1.14, 2.53) (Table 4).

Those who ever had sexual intercourse were more likely to have knowledge of EC than those who never had sexual intercourse (AOR=3.08 (95% CI: 2.24, 4.22). The EC awareness was higher among those who had discussion of Reproductive Health (RH) issue than never had discussion (AOR=2.95 (95% CI: 2.08, 4.17) (Table 4).

Table 4

Relationship between Variables and awareness of emergency contraception among unmarried women of reproductive age in Arsi Zone, January 2018, Ethiopia.

Variables	Awareness of EC		COR (CI: 95%)	AOR (CI: 95%)
	Yes	No		
Age				
15-19	165	390	1.00	1.00
20+	208	202	2.43(1.86,3.17)	2.06(1.52, 2.81)*
Educational Status				
No and Primary Education	46	259	1.00	1.00
Secondary Education	208	259	4.52(3.14,6.49)	4.07(2.81,2.91)*
Higher Education	119	74	9.05(5.90,13.88	6.33(4.04,9.90)*
Occupation				
Student	251	375	2.06(1.44,2.93)	1.70(1.14,2.53)*
Government Employee & private Business	71	60	3.64(2.28,5.81)	1.83(1.10,3.06)*
Private employee and others	51	157	1.00	1.00
Religion				
Orthodox	223	158	1.00	1.00
Muslim	249	120	0.68(0.50,0.91)	0.73(0.42,1.27)
Protestant and Catholic	120	95	1.1(0.79,1.56)	1.34(0.79,2.26)
Ethnic Group				
Oromo	332	216	1.00	1.00
Amhara	168	104	0.95(0.70,1.28)	0.91(0.56,1.49)
Gurage	64	23	1.64(0.95,2.83)	0.86(0.48,1.53)
Tigre and Others	28	30	0.55(0.33,0.91)	0.43(0.40,1.32)
Ever had sexual intercourse				
No	459	162	1.00	1.00
Yes	133	211	4.41(3.33,5.85)	3.08(2.24,4.22)*
Discuss RH issues				
No	349	75	1.00	1.00

Variables	Awareness of EC		COR (CI: 95%)	AOR (CI: 95%)
yes	243	298	5.70(4.22,7.71)	2.95(2.08,4.17)*
Ever used any contraceptive method				
No	336	207	1.00	1.00
Yes	89	166	3.02(2.22,4.12)	1.39(0.61,3.19)

* Statistically significant

Discussions

Less than fifty percent of the total respondents mentioned that a woman likely become pregnant within 2-3 weeks of the menstrual cycle if they had sexual intercourse. The finding was in agreement with a study conducted among University students in Mekele (³³.) Out of the total 965 respondents, 344(35.6%) have had sexual intercourse in their life time. The prevalence of sexual relationship was lower than the results of University students in Kampala, Nigerian undergraduate students where 42% and 43% of the students had sexual experience respectively (^{24,25}.) The low sexual relationship prevalence could be the respondents might not express their real history because they considered that premarital sex is not socially accepted norm. The result of this study was higher than the findings among female university students in Addis Ababa, Mekele, Deberemarkos and Adama where 19.5 %, 17.3%, 26.4% and 29.4% had ever had sexual experience respectively (^{22,28,31,33}.)

In this study, about 83.3% of the total respondent had ever heard about modern contraceptive methods. This result shows lower knowledge of modern contraceptive methods than studies done among university students in Debreworkos (91.9%), Adama (95.2%) and Mekele (93%) (^{27,28,33}.) This difference could be due to difference in socio-economic differences of the study participant especially educational level. Furthermore, among the respondent who had ever heard about modern contraceptive methods only 32% reported ever used any modern contraceptive methods and the result of this study was higher than the studies done among under graduate students in Debreworkos (24%), Adama (10.7%) & Mekele (10.3%) (^{27,28,33}.) This difference could be due to difference prevalence of sexual relationship in these universities and the community.

From the total study participants, three hundred seventy three (38.7 %) had ever heard of emergency contraception. This result lower than the study done among female University Students in Addis Ababa (43.5%), Debreworkos(71.1%), Adama (46.8%), Mekele University (44.7%), Kampala University (45%) and Nigerian undergraduate students (58%) (^{24,25,27,28,31,33}.) This great discrepancy might be due to the socio demographic difference of the respondents such as the age, occupation, educational status and marital status of the respondents.

In this study 61.8% of the total respondent had positive attitude towards making EC available to all women who need it and 79% 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 Addis Ababa University students where 52.6% 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^(30,31.) On other hand, the finding of this study is lower than the studies among university students in Mekele and Adama where 75.5% and 63% of the respondent had positive attitude towards emergency contraception ^(28, 33.) The difference in attitude could be due to difference socio- demographic characteristics such as educational status and occupation.

Awareness of EC remained higher for the respondent aged 20 years and above compared to their younger with AOR 2.06(1.52, 2.81.) This result had similarity with study done in Deberemarkos, Adama and Mekele University, ^(27, 28, and 33.) 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. In others studies this had similar findings that is as the level of education increases awareness also higher ^(27, 28 & 33.)

Government employees, private business owners and students had better awareness than those classified as private employees and others. But this is not shown in other studies ^(27, 28 & 33.) The significance seen in this study could be due deference in socio-demographic characteristics among study subjects.

Eve had sexual intercourse, ever had discussion about RH issues and pervious knowledge of contraceptive methods use remains highly significant to increase awareness of emergency contraception. This finding is in agreement with the result of the studies in Debremarkos, Adama and Mekele University students ^(27, 28 & 33.)

Conclusions

The study has shown that the knowledge of modern contraceptive was higher but the utilization is relatively low. This is an indication of significant risk of unwanted pregnancy and induced abortion among the sexually active unmarried women. With regard to emergency contraception the study shows low awareness and better level of positive attitude towards emergency contraception. Therefore, there is a need to develop strategies in order to raise awareness of the community about emergency contraceptive as an option with other contraceptive method. Further research of providers and male partners and follow-up stud of all females on emergency contraception provision and utilization could be important to strengthen the service.

Abbreviations

AOR: Adjusted Odds Ratio

COR: Crude Odds Ratio

EC: Emergency Contraception

EDHS: Ethiopian Demographic Survey

IUD: Intra Uterine Device

RH: Reproductive Health

SPSS: Statistical Package for the Social Sciences

Declarations

Ethical Approval and consent to participate

Ethical clearance was obtained from research review board of Arsi University and Arsi Zonal Health Department. Verbal informed consent was also obtained from the respondents.

Consent for Publication

Not Applicable

Availability of Data and Material

The data generated or analyzed during this study is available from the corresponding author on reasonable request.

Competing Interests

The authors declare that they have no competing interests

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Authors' Contributions

All stated authors: GTN, AJ and AS are involved in the study from the inception to design, developed the tool, coordinated and supervised data collection, analyzed and interpreted statistical analysis, and drafted manuscript. All authors read and approved the final manuscript

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