Assessment of Knowledge, Attitude and Practice among Regular Female Preparatory School Students towards Emergency Contraceptives in Mekelle, Northern Ethiopia

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Abstract

Background: Emergency Contraceptive (EC) is a type of modern contraception that is indicated after unprotected sexual intercourse or contraceptive failure. Use of EC with in a defined time period could prevent unwanted pregnancy and its damaging consequences like unintended child birth and unsafe abortion. The objective of this study was to assess the knowledge, attitude and practices of emergency contraceptives among female preparatory students in Mekelle, North Ethiopia.

Method: A cross sectional study was conducted among 366 female students at Atse Yohanesse preparatory school from January to May 2013. A stratified random sampling technique was used to select study participants. Data processing and analyzing was done using statistical package for social sciences version 20.

Result: In this study, about 90.7% of the respondents had heard about emergency contraceptives. The major sources of information were mass media, club in school and friends. About 277 (75.7%) of the students had good knowledge about EC. The older age was significantly associated with the students' awareness (AOR = 2.32, 95% CI: 1.23-4.37). The majority (229(64.9%)) of respondents had a positive attitude towards EC. Age and ethnic group were significantly associated with the students' attitude towards EC. Among those respondents who used contraceptives, 60.5% of them responded to use EC. About two-third (67.4%) of ever users of EC had good knowledge of the correct time of taking EC after unprotected sexual intercourse.

Conclusion: Although the findings of this study showed high prevalence of knowledge and attitude towards EC among respondents, the improvement of female students' knowledge about specific details of the method and timely utilization of emergency contraception is still required.

Key words: Emergency contraceptive, Knowledge, Attitude, Practice, AtseYohannes preparatory school

Introduction

Each year there are about 250 million pregnancies globally and one third of these are unintended and 20% of these undergo induced abortion. In low income countries, more than one third of the 182 million pregnancies are unintended; the fate of 19% of unintended pregnancy in low income countries is induced abortion, and 11% of this is unsafe [1]. Unsafe abortion has much ill effects in women's health, each year about 68,000 women die because of unsafe abortion, and millions of women end up with many complications of unsafe abortion, such as severe infection and bleeding. This could have been immensely reduced by using Emergency Contraceptive (EC) in the defined time period. EC is a type of modern contraception that is indicated after unprotected sexual intercourse, following sexual abuse, misuse of regular contraception or non use of contraception [1, 2, 3]. EC can reduce the risk of an unintended pregnancy after unprotected sexual intercourse or contraceptive failure by 75% to 99%, if it is taken within 72 hours of sexual intercourse. ECs are cost effective, medically safe, and highly effective to be used for prevention of unplanned pregnancy, unsafe abortion and other consequences [4].

In Ethiopia, unwanted pregnancy is a big problem; more than 60% of the pregnancies in adolescents are unwanted resulting from unprotected sexual intercourse which is an alarming figure, and most of these pregnancies particularly in adolescents end up with unsafe abortion [5, 6]. Unsafe abortion is one of the top causes incriminated in the high number of maternal morbidity and mortality in Ethiopia. According to a national survey on abortion conducted in 2000 by World health organization (WHO), abortion related mortality was 1,209 per 100,000 live births [5, 7]. In about half of all unwanted pregnancies, conception and unsafe abortion occurring in the country is due to inadequate guidance to use contraception effectively, including the users' inability to address their feelings, poor attitudes towards contraceptives, and lack of motivations. Despite the effort made by the health authority in Ethiopia to prevent unwanted pregnancies, unsafe abortion among youths of age less than

24 years and the number of youths requesting termination of pregnancy is increasing annually [6]. Thus, understanding the knowledge, attitude and practice of teenage girls towards EC is critical for countries like Ethiopia with a population policy aiming at reducing the unwanted pregnancy. Unfortunately, a few researches have been conducted in the study area. Therefore, the aim of this study was to assess the level of knowledge, attitude and practice of emergency contraception among Atse Yohannes preparatory school female students in Mekelle.

Methods

Settings and study design

A cross-sectional study was conducted at Atse Yohannes preparatory school in Mekelle town, which is located 783 km away from the capital of Ethiopia, Addis Ababa. Atse Yohannes preparatory school is the oldest school in Mekelle and has a capacity of receiving higher number of students compared to the others.

Study participants and sampling technique

All voluntary female preparatory school students available during data collection were included in the study. The sample size was calculated by using single proportion formula by considering 95% confidence interval, 5% margin of error, 35.6% of prevalence rate of KAP toward emergency contraceptive [8] and 5% of non-response rate. The final calculated sample size was 366 after adding a 5% of the non-response rate.

A stratified random sampling technique was used to collect the data. Stratification was done based on year and area of study. Study participants from each year and area of study were selected by simple random sampling method proportional to their population size.

Ethical consideration

The study was approved by the Health Research Ethics Review Committee of College of Health Sciences, Mekelle University. The purpose of the study was explained to all study participants; they were also informed that all of their responses are confidential and anonymous, and their verbal (informed) consent was sought.

Data collection and analysis

Data was collected by using structured questionnaire containing close ended questions. The questionnaire was developed by reviewing relevant literature in English; then translated into the local language (Tigrigna) and back translated into English to check the accuracy by an independent translator. To increase the quality of the data, the questionnaire had been pre-tested in similar setups before the actual data collection was commenced.

Data processing and analyzing were done by using statistical package for social sciences (SPSS) version 20. Descriptive statistics such as frequency and proportion for categorical variables including cross-tabulations were used for data summarization. Finally, multivariate logistic regression analysis was used to identify predictors of knowledge and attitudes towards EC by controlling the effect of potential confounding variables. In this model, factors with a bivariate test value ≤ 0.05 were included. All p values were two tailed with the significance level set at 0.05.

To generate the summarized level of knowledge questions were calculated after a number of questions were presented. Correct answers were given score 1 and incorrect answers 0. The sum was computed and those who scored above the mean were labeled as having “good” knowledge and those who scored below the mean were labeled to have “Poor knowledge’.

Four attitude indicators/items of EC were used to measure the overall attitudes of the respondents towards EC. Respondents who scored above the mean were considered as having positive attitude and those who scored below the mean were considered as having negative attitude. The measurement for both Knowledge and attitude was adopted from previous researchers [8].

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 recommend is considered as a positive attitude, and no intention as a negative attitude.

Practice: Any previous history of EC usage.

Results

Socio-demographic characteristics of the participants

A total of 366 students participated in this study (Table 1) making a response rate of 100 %. The age of study participants was ranged from 15 to 21 years with a mean age of 18.11±1.05 years. The majority (68.3%) of the respondents were Orthodox Christians by religion, followed by Muslims (12.3%), Catholic (9.3%) and others

(10.1%). Most (86.3%) of the study participants were Tigre by ethnicity. Majority of the students' parents, 86.6 % of fathers and 60.5 % of mothers, had at least completed their secondary school.

Table 1: Socio-demographic characteristics of female students at Atse Yohannes preparatory school, April, 2013 (n = 366).

Variable		Frequency	Percentage
Age	15-18	220	60.1
	>18	146	39.9
	Mean age(SD)	18.11 ±1.05	
Religion	Orthodox	250	68.3
	Catholic	34	9.3
	Muslim	45	12.3
	Others	37	10.1
Ethnic group	Tigre	316	86.3
	Others	50	13.7
Grade	11	229	62.6
	12	137	37.4
Faculty	Natural science	152	41.5
	Social science	214	58.5
Father's education	Illiterate	12	3.3
	Primary	37	10.1
	Secondary	197	53.8
	Tertiary	120	32.8
Mother's education	Illiterate	37	10.1
	Primary	107	29.2
	Secondary	200	54.6
	Tertiary	22	6.0

Reproductive characteristics

As it is depicted in the Table 2, nearly one fourth (23.5%) of the study participants were sexually active. Of the sexually active respondents, 4.7% (4) were having the incident of unintended pregnancy (UP). Three of the students terminated the unwanted pregnancy through induced abortion at health facilities while one student continued the pregnancy.

Table 2: Response of female Atse Yohannes preparatory School students on sexual experience, April, 2013 (n=366).

Variable	Frequency	Percentage
Sexually active		
Yes	86	23.5
No	280	76.5
Unintended Pregnancy		
Yes	4	1.1
No	82	22.4
Solution (options) for Unintended Pregnancy		
Continue the pregnancy	1	0.3
Abortion by health workers	3	0.8

Knowledge, attitude and practice of EC

In the present study, about three fourth (75.7%) of the respondents had good knowledge while 64.9% had positive attitude towards EC.

Most (98.7%) of the respondents had heard about contraceptives. Among the contraceptives, pill, condom, and injection were the most commonly known methods by the respondents (42.6%) followed by oral pill and condom (35.5%), oral pill only (13.9%), and condom only (5.7%). A majority (90.7%) of the students had ever heard about EC. Mass media, club in school and friends were the major sources of information for almost half of the study participants (49.2%) (Table 3). Most of the students (60.1%) reported that EC was obtained from a pharmacy.

Table 3: Knowledge of the respondents on EC among female Atse Yohannes prepartory School students in Mekelle, April, 2013 (n=366).

Variable	Number(n=366)	Percent (%)
Ever heard of contraceptives		
Yes	362	98.9
No	4	1.1
Type of contraceptives		
Pill	51	13.9
Injection	1	0.3
Condom	21	5.8
IUCD	2	0.6
Implant	1	0.3
Pill, injection, condom	156	43.1
Pill, condom	130	35.9
Ever heard of EC		
Yes	332	90.7
No	34	9.3
Source of EC		
Pharmacy	220	60.1
Shop	8	2.2
Privet clinic	1	0.3
Governmental health institution	2	0.5
Pharmacy and shop	106	29.0
Source of information		
Mass media	70	19.1
Parents	29	7.9
Teachers in class	24	6.6
Health worker education	19	5.2
Mass media, club in school, friends	180	49.2
Club in school, friends	40	10.9

Table 4 indicates socio-demographic factors associated with knowledge of EC among female students at Atse Yohannes preparatory school. The only factor among socio-demographic characteristics significantly associated with knowledge about EC was age of the students. Older female students were more likely to have good knowledge about EC compared to the younger ones (AOR = 2.32, 95% CI: 1.23-4.37). Grade of the students was retained in the multivariate model as a confounder of being older age of the students.

Socio-demographic variables associated with attitude towards EC among female students at Atse Yohannes preparatory school are shown in Table 5. From logistic regression models, younger female students had a 46% reduced odds of positive attitude towards EC compared to the older students (AOR = 0.54, 95% CI: 0.31-0.95). On the other hand, being Tigre by ethnicity was more likely to have a positive attitude towards EC than other ethnic groups (AOR = 3.53, 95% CI: 1.69-7.35).

Table 4: Socio-demographic factors associated with knowledge of EC among female students at Atse Yohannes preparatory school (n=366).

Variable		Good knowledge, n(%)	Poor knowledge, n(%)	COR (95% CI)	AOR (95% CI)
Age	15-18	151(68.6)	69(31.4)	1	1
	>18	126(86.6)	20(13.7)	**2.88(1.66, 4.99)**	**2.32(1.23, 4.37)**
Religion	Orthodox	189(75.6)	61(24.4)	1	1
	Catholic	26(76.5)	8(23.5)	1.05(0.45, 2.44)	1.06(0.43, 2.63)
	Muslim	34(75.6)	11(24.4)	1.00(0.48, 2.09)	0.44(0.44, 2.13)
Ethnic group	Tigre	237(50.0)	79(25.0)	1	1
	Others	40(80.0)	10(20.0)	1.33(0.64, 2.79)	1.42(0.62, 3.30)
Grade	11	162(70.7)	67(29.3)	1	1
	12	115(83.9)	22(16.1)	**2.16(1.26, 3.70)**	1.77(0.93, 3.37)
Faculty	Natural science	108(71.1)	44(28.9)	1	1
	Social science	169(79.0)	45(21.0)	1.53(0.95, 2.47)	1.60(0.93, 2.77)
Father's education	Illiterate	7(58.3)	5(41.7)	1	1
	Primary	27(73.0)	10(27.0)	1.93(0.50, 7.50)	2.42(0.53, 11.08)
	Secondary	147(74.6)	50(25.4)	2.10(0.64, 6.91)	2.56(0.70, 9.40)
	Tertiary	96(80.0)	24(20.0)	2.86(0.83, 9.79)	2.63(0.68, 10.14)
Mother's education	Illiterate	26(70.3)	11(29.7)	1	1
	Primary	72(67.3)	35(32.7)	0.87(0.39, 1.6)	0.68(0.26, 1.79)
	Secondary	162(81.0)	38(19.0)	1.80(0.82, 3.97)	1.36(0.52, 3.55)
	Tertiary	17(77.3)	5(22.7)	1.44(0.42, 4.88)	1.26(0.31, 5.09)

Table 5: Socio-demographic factors associated with attitude towards EC among female students at Atse Yohannes preparatory school (n=366).

Variable		Positive Attitude, n(%)	Negative Attitude, n(%)	COR (95% CI)	AOR (95% CI)
Age	15-18	122(58.9)	85(41.1)	1	**0.54(0.31, 0.95)**
	>18	105(73.4)	38(26.6)	**1.93(1.21, 3.06)**	1
Religion	Orthodox	81(65.8)	81(34.2)	1.41(0.74, 2.70)	1.66(0.81, 3.39)
	Catholic	21(65.6)	11(34.4)	1.40(0.55, 3.57)	1.48(0.52, 4.21)
	Muslim	26(57.8)	19(42.2)	1	1
Ethnic group	Tigre	207(68.5)	95(31.5)	**3.64(1.64, 5.69)**	**3.53(1.69, 7.35)**
	Others	20(41.7)	28(58.3)	1	1
Grade	11	132(60.8)	85(39.2)	1	0.66(0.37, 1.16)
	12	95(71.4)	38(28.6)	**1.61(1.01, 2.56)**	1
Faculty	Natural science	87(61.3)	55(38.7)	1	0.86(0.51, 1.44)
	Social science	140(67.3)	68(32.7)	1.30(0.83, 2.03)	1
Father's education	Illiterate	9(90.0)	1(10.0)	4.28(0.53, 34.97)	5.04(0.46, 55.70)
	Primary	22(64.78)	12(35.3)	0.87(0.39, 1.94)	0.71(0.26, 1.93)
	Secondary	116(61.7)	72(38.3)	0.77(0.47, 1.24)	0.76(0.43, 1.35)
	Tertiary	80(67.8)	38(32.2)	1	1
Mother's education	Illiterate	29(85.3)	5(14.7)	2.68(0.69, 10.38)	3.01(0.66, 13.86)
	Primary	57(56.4)	44(43.6)	0.60(0.21, 1.70)	0.58(0.18, 1.89)
	Secondary	128(65.3)	68(34.7)	0.87(0.32, 2.39)	0.95(0.32, 2.90)
	Tertiary	13(64.9)	6(31.6)	1	1

Of the sexually active students, 88.4% respondents reported to have ever used contraceptives while 53.5% were used EC. Lack of privacy/confidentiality (70%) was the most common reason cited by the students who had never used EC. Majority (60.9%) of the study participants used EC in their lifetime for less than five times. Among ever used respondents, Just above one third (36%) of the respondents and about two third (67.4%) of ever users of EC reported that they used EC within 72 hours of unprotected sexual intercourse.

Table 6: Utilization of contraceptives among sexual active female students at Atse Yohannes preparatory school, April, 2013

Questions related to usage of contraception		Frequency	Percent
Ever used contraceptives (n=86)	Yes	76	88.4
	No	10	11.6
Ever used EC (n=86)	Yes	46	53.5
	No	40	46.5
Reasons for not to use EC (n=40)	Health workers unwillingness	4	10
	Drug unavailability	8	20
	Lack of privacy/confidentiality	28	70
Frequency of EC usage (n=46)	<5 times	28	60.9
	>5 times	2	4.4
	I don't remember	16	4.7
Time EC can work (n=46)	Until 72hr	31	67.4
	Until 86hr	3	6.5
	Not time dependent	12	26.1

Discussion

Unintended pregnancy poses a major challenge to the reproductive health of youth in developing countries. Some young women who had unintended pregnancies induce 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 those for adult women [9]. Emergency contraceptive can prevent pregnancy when taken shortly after unprotected sex. In this study, 4.7% (4 students) of ever sexually active respondents reported to have the history of unwanted pregnancy. However, the prevalence of unwanted pregnancy among the total study participants was 1.1%, which is lower than reported by other studies conducted in the country, which ranged between 3-50% [1, 5, 9, 10]. Moreover, this study among four unintended pregnancy incidents three of them were terminated through induced abortion. The good news is that all induced abortions were performed at health facilities; therefore, the respondents did not inflict themselves to untrained abortionists that could threaten their life or darken their future career.

The result of this study showed that more than three fourth of the respondents had heard of the existence of EC. This result is lower than the study done on high school students in Scotland (98%) [11] and Finland (98%) [12]; comparable with the study done in Mexico (72.3%) [13] and Canada (80%) [14]; and higher than the study conducted in Nepal (47%) [15]. Besides, the figure in this study is slightly higher when compared to similar studies done among university students in Addis Ababa University (84.2%) [1] and Bahir Dar university [83.5%][10] in Ethiopia where as it is very high as opposed to 41% in Jimma University, Ethiopia [7] and 49.8% in University of KwaZulu-Natal, South Africa [16].

On overall summary index for knowledge, three quarter (75.7%) of the respondents had good knowledge about EC in this study, which is lower than the result obtained in the study conducted among high school students in Finland (95.5%) [17]. The other studies done among high school students in Mexico and Nepal also indicated the knowledge of EC to have been 39% and 17%, respectively [13, 15], which shows that there is a significant difference with the current study. The relatively high level of awareness and knowledge in this study suggests the unrelenting effort by the government and non-governmental organizations in implementing school sex education program and service promotion on the emergency contraception. This is further complimented by the result found in this study as the commonest source of information about EC was mass media followed by clubs in school.

The students' attitude towards EC was also assessed in this study. Accordingly, 64.9% of them had a positive attitude. The positive attitude of respondents towards EC is lower than the report from Parbat, Nepal on high school students which was 96% [15]. Besides, a significant number of studies conducted on post secondary female students reported positive attitude towards EC even though the level is lower than what is reported in this study. For instance, 53% of respondents in Addis Ababa University [7], 56.7% of respondents in Bahir Dar University [18] and 62.9% of respondents in Adama University [5] had positive attitudes towards EC. However, a considerable proportion of respondents in the current study believed that using ECs can protect from HIV/STI. Thus, responsible governmental and non-governmental sectors have to dedicate some resources and time to raise

the knowledge of the students on the pros and cons of EC and other consequences which the use of EC might bring. These includes, wide spread use of ECs could increase the prevalence of HIV/AIDS and other STIs, emergency contraception promotes promiscuity, and emergence contraception will affect regular methods of contraception negatively.

The prevalence of practice of ECs among sexually active respondents in this study was found to be 53.5%. Practice of EC among participants of this study is high when compared to studies done on female high school students in Scotland (31.4%) [11], Finland (10%) [12], Nepal (8.34%) [15], and Mexico (16.4%) [13]. In contrast, the prevalence of practice of ECs in the current study is lower than the studies conducted amongst female university students with a proportion of 73.4 % in Bahr Dar university [10] and 75% in Addis Ababa University [1]. From the preceding, it can be easily identified that female students with good awareness, attitude and knowledge are more likely to practice ECs. Because of the fact that the respondents in this study are well informed about emergency contraception, the prevalence of use of ECs is high unlike other respondents in the aforementioned high schools. The practice of ECs can also be well supported by low percentage of experiencing an unintended pregnancy revealed by the current study.

The knowledge of the respondents regarding the correct time for taking ECs in this study (67.4%) is much higher when compared to other studies done in high school female students in different countries such as Scotland (26.4%) [11], in Nepal (9.58%) [15] and Canada (8%) [14]. Although a significant number of respondents who practiced EC mentioned the correct timing of administration of the pills after unexpected sexual contact, this figure is not enough due to the fact that among the respondent with incidence of unwanted pregnancies in this study, three of them had no idea about the right time to take their pills. This could be coincidence, nevertheless due attention should be given for the time frame up to which the ECs can be effective during school sex education and media promotion.

Conclusions

Emergency contraceptive is the only option of preventing unwanted pregnancy after unprotected sexual intercourse. The majority of respondents in this study heard about EC and had good knowledge and positive attitude; nevertheless, some respondents lack detailed information about EC. Therefore, to increase knowledge about EC and to bring attitudinal change among female secondary school students there should be a continuous open health education on specific information about EC.

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