Original article

Knowledge, attitude and practice of emergency contraceptives among female college students in Arba Minch Town, Southern Ethiopia

Alemitu Worku

Abstract

Background: Young and unmarried women constitute a high risk group for unplanned pregnancies and unsafe abortions. It has been estimated that widespread use of emergency contraception (EC) may significantly reduce abortion-related morbidity and mortality.

Objective: To assess knowledge, attitude and practice of emergency contraceptives among female college students in Arba Minch town.

Method: A cross-sectional institution-based study was conducted from March 1st to 5th 2010 among 407 female students that were selected by using a stratified sampling technique.

Result: One hundred seventy three (42.5%) of the respondents said that they heard about emergency contraceptive. Of those who mentioned pills as an emergency contraceptive method, 26.4% correctly identified 72 hours as the time limit for use of the method. The summary index for knowledge disclosed that 21.9% had good knowledge about EC. Though 50% of students had positive attitude towards EC, 11 (2.7%) of the total students had used emergency contraception. EC use was significantly higher among students who were married and among students who have good knowledge on EC, ($P<0.027$, $P< 0.01$ respectively).

Conclusion: The study showed that knowledge of emergency contraception among female students is low and the method is still underused. Therefore, there is a need to expand IEC about RH and regular methods in general and EC in particular at college level. [*Ethiop. J. Health Dev.* 2011;25(3):176-183]

Introduction

Worldwide estimates indicate that 80 million women have unintended pregnancy and about 20 million of them end in illegal abortions every year. A recent systematic review of causes of maternal mortality estimated that abortion accounted for 49 percent of deaths and millions more have complications, many of which are permanent. Half the deaths occur in Africa where one in four unsafe abortions is done with teenagers (1).

The most comprehensive study on abortion in Ethiopia revealed that 46 percent of induced abortion cases occurred among women aged less than 20 years and 54 percent of abortion related deaths were also in this age group (2). Studies conducted under the auspices of the FGAE indicated that abortion is very common among single women, teenagers and students (3).

Given increasing adolescent sexual activity and decreasing age at first sex in developing countries, the use of contraceptives to prevent unwanted pregnancy and unsafe abortion is especially important. The potential effect of emergency contraceptives (EC) in this regard is obvious in sub-Saharan Africa (4). Its potential as the last resort to avoid unwanted pregnancy and therefore abortion makes it especially significant for those young couples that opt not to use a long-term regular contraceptive method and their sexual behavior is rather unplanned, erratic and irregular (5).

An Ethiopian reproductive health need assessment report showed that there is little knowledge and information available about EC in the country (3,). The major factor limiting the use of ECs was inadequate information about their effectiveness and availability or unfavorable opinions about their safety due to misinformation (6).

The limited studies conducted on the issue of EC in the country, most of them focused on University students. Knowing the level of knowledge, attitude and practice on EC is particularly important for female college students. Since most college students are from rural areas, where the chance of getting information on sexual and reproductive health is limited and must go outside campus and without parents' supervision, their vulnerability to unintended sex and unwanted pregnancy is high. Therefore, this study aimed at assessing the level of knowledge, attitude and practice of emergency contraception among female students at the college level in one rural town.

Methods

An institution-based cross-sectional study was conducted from March 1st to 5th, 2010 among female students in the five colleges found in Arba Minch town, namely Arba

Arba Minch Health Science College, P.O. Box 155, Fax 0468811147, Tel. 0911705931, E-mail alemitu.worku@yahoo.com

Minch Teachers Training College, Arba Minch Health Science College, Omo Teachers Training College, Union College and Zuma Health Science and Business College.

A single population proportion formula was used to calculate the required sample size. Assumptions included proportion of students who were aware of emergency contraception to be 43.5%, obtained from a previous study conducted in AAU (5), a 5% margin of error, a 95% confidence level and adding a non response rate of 15 percent. Accordingly, a sample of 435 was obtained. Following proportional allocation to size of each department and length of attendance students in each college, respondents were selected through simple random sampling.

Data were collected using self-administered Amharic version structured and pretested questionnaire facilitated by three B.Sc. health officers. Questionnaires included socio-demographic variables, variables used to measure sexual and reproductive history of the respondents and knowledge, attitude and practice questions about EC. Knowledge about EC was determined using six multiple choice questions. Students were considered to have adequate (good) knowledge, if they scored three and above out of six. Otherwise they were considered as having inadequate (poor) knowledge. The students' attitude was measured using four items rated on a five-point Likert scale. Based on the cumulated score, respondents who scored greater than or equals to 50% percent and less than 50% of the total were considered as having 'favorable attitude' and 'unfavorable attitude', respectively.

An ethical clearance was obtained from the research ethical committee of Haramaya University College of Health Sciences. Official permission was secured from Arba Minch zonal health office and from each college. Data collection took place after obtaining written consent from the study subjects.

Data processing and analysis was done using SPSS version 16.0. First descriptive statistics was calculated and then, odds ratios with 95% CI were used to measure risk and statistical significance respectively. Logistic regression analysis was used to assess the relative effect of independent variable on the dependent variables.

Results

A total of 407 female college students participated in the study making response rate of 93.6%. The mean age was 20±2.5 years with the minimum and maximum ages of 16 and 32 years, respectively. Ninety two percent of the students were in the age group of 15-24 years. Forty seven percent of the respondents were from rural areas and 83.3% were unmarried (Table 1).

Of the total respondents, 33.9% had had sexual intercourse in their life time. Of those who were sexually active, 72.7% started sex between 15 to 19 years of age with mean age of 18±1.7. Ninety seven percent of the students had experience with at least one modern regular contraceptive method. Out of sexually active respondents, 30% had never used any contraceptive method. Among these, 40% replied that accidental/casual sex was the main reason (Table 2).

Table 1: **Socio- demographic characteristics of female college students in Arba Minch town, March 2010**

Characteristics	Number (407)	Percent
Age (in years)		
15-19	190	46.7
20-24	183	45.0
25+	34	8.3
Mean ±SD	20±2.5	
Residence		
Urban	216	53.1
Rural	191	46.9
Marital status		
Single	339	83.3
Married	68	16.7
Religion		
Orthodox	192	47.2
Muslim	18	4.4
Protestant	178	43.7
Catholic	19	4.2
Field of study		
Health science	179	44.0
Education	101	24.8
Accounting	50	12.4
Community development	36	8.8
Secretarial science	25	6.1
Others	16	3.9
Year of study		
Year I	188	46.2
Year II	129	31.7
Year III	90	22.1

Fifty two percent (72) of sexually active female students had had pregnancy and 46 (64%) of them were below the age of 20 years. Fifty one percent (37) of those who were pregnant reported that their pregnancy was unplanned. Of those who reported having unplanned pregnancy, 27% failed to prevent pregnancy because of accidental/casual sex and 24.3% due to lack of knowledge about contraceptives. Similarly of those unplanned pregnancies, 74.3% were terminated by induced abortion (Table 3).

One hundred seventy three (42.5%) of the respondents said that they have heard about emergency contraceptives. Thirty one percent of those who had ever heard about EC mentioned mass media as their first source of information followed by family/friend (30%). Among those who have heard about EC, 52.6% mentioned pills, 5.2% mentioned IUCD and 5.2%

mentioned both pills and IUCD. Of those who had heard about pills as an emergency contraceptive method, 26.4% told the timing of taking the pills after an unexpected sexual contact to be within 72 hours, while, of those who had heard about IUCDs, 11.1% said that IUCD could be administered within five days after the unexpected sexual contact. The overall summary index for knowledge about EC disclosed that 89 (21.9%) had good knowledge (Table 4).

Table 2: **Age at first sex and contraceptive use among female college students in Arba Minch town, March 2010**

Characteristics	Number (407)	Percent
Ever had sex		
Yes	139	33.9
No	268	66.1
Total	407	100.0
Age at first sex (n=139)		
15-19	101	72.7
20-24	16	11.5
Don't remember	22	15.8
Total	139	100.0
Ever heard about FP		
Yes	396	97.3
No	11	2.7
Total	407	100.0
Ever used contraceptives		
Yes	98	70.5
No	41	29.5
Total	139	100.0
Ever used cont. by methods (n=98)*		
Pills	49	50.0
Injectable	15	15.3
IUCD	14	14.3
Male condom	21	21.4
Other	3	3.1

*Percentage could be greater than 100 since multiple responses are possible

Table 3: **Pregnancy and related characteristics among sexually active female college students in Arba Minch, March 2010**

Characteristics	Number	Percent
Ever been pregnant		
Yes	72	5.18
No	67	48.2
Total	139	100.0
Age at first pregnancy		
15-19	46	63.9
20-24	23	31.9
25+	1	1.4
Don't remember	2	2.8
Total	72	100.0
Unplanned pregnancy		
Yes	37	51.4
No	35	48.6
Total	72	100.0
Induced abortion		
Yes	37	51.4
No	35	48.6
Total	72	100.0
Number of induced abortions		
One	35	94.6
Two	2	5.4
Total	37	100.0
Place of abortion		
Self	6	16.2
Untrained abortionist	4	10.8
Health Institution	27	73.0
Total	37	100.0

Table 4: **Percentage distribution of female college students in Arba Minch who had heard about EC and Respond to knowledge assessment questions regarding EC, March 2010**

Characteristics	Number	Percent
Which can be used as EC?		
OCP	92	52.6
IUCD	9	5.2
OCP and IUCD	15	8.6
Injectable	33	19.1
Implants	8	4.6
Others	17	9.8
Total	173	100.0
When should be ECPs taken after unprotected sexual intercourse?		
Any time	10	5.7
Before sex	23	13.2
Within 24 hours after sex	49	28.3
Within 72 hours after sex	37	21.3
I don't know	54	31.2
Total	173	100.0
Drug compositions in ECPs compared to the regular contraceptives		
The same as in the regular Contraceptives	36	20.8
The same but a high dose in the same hormones	27	15.6
Completely different from the drug of Regular contraceptives	22	12.7
I do not know	88	50.8
Total	173	100.0
The mechanism of action of EC		
Prevent pregnancy form occurring	48	27.7
Prevent implantation	16	9.2
Prevent ovulation and implantation	29	16.7
Induce abortion	17	9.8
Total	63	36.4
Effectiveness of ECPs in preventing Pregnancy	173	100.0
Highly effective (99%)	57	32.9
Three-fourth (75%)	33	19.0
Half (50%0	20	11.5
Below one third (30%)	10	5.7
I don't now	53	30.6
Total	173	100.0
Situation(s) in which EC should be taken to prevent unintended pregnancy		
When forced to have sex	51	29.4
When condom slip out or breaks	8	4.6
When are missed pills	8	5.2
When there is sex without any Contraceptives	36	20.8
In all above situations	50	28.9
I don't know	19	10.9
Total	173	100.0
Knowledge of Emergency Contraceptive (summary index)		
Poor (inadequate) knowledge	318	78.1
Good (adequate knowledge	89	21.9
Total	407	100.0

After controlling for possible confounding effects of other covariates, residence, religion, year of study, field of study and mothers' education were found to be significantly associated with emergency contraceptive knowledge. The likelihood of EC knowledge among respondents of urban background was 3.9 times higher than those from rural areas. Female students, whose mothers' educational level were above secondary was found to have better knowledge about emergency contraception than those whose mothers had no formal education (OR=2.446, 95% CI=1.119, 5.348). Similarly, students in the health fields had 2.2 times higher knowledge of emergency contraception compared to other students (Table 5).

Table 5: **Socio-demographic and other factors related to knowledge about emergency contraceptives among female college students in Arba Minch, 2010**

Characteristics	Knowledge		COR (95% CI)	AOR (95% CI)
	Poor No (%)	Good No (%)		
Place of residence				
Rural	174 (91.1)	17 (8.9)	1	**1**
Urban	144 (66.7)	72 (33.3)	5.118 (2.886, 9.075)	**3.931 (2.054, 7.522)**
Religion				
Orthodox	135 (70.3)	57 (29.7)	**1**	**1**
Muslim	14 (77.8)	4 (22.2)	0.677 (0.214, 2.145)	0.638 (0.179, 2.276)
Catholic	16 (84.2)	3 (15.8)	0.444 (0.125, 1.583)	1.036 (0.243, 4.423)
Protestant	153 (85.0)	25 (14)	0.387 (0.229, 0.654)	**0.449 (0.249, 0.808)**
Field of study				
Non health science	190 (83.3)	38 (16.7)	1	1
Health Science	128 (71.5)	51 (28.5)	1.992 (1.238, 3.207)	**2.186 (1.270, 3.762)**
Year of study				
Year I	163 (86.7)	25 (13.3)	**1**	**1**
Year II	96 (75)	32 (25.0)	2.173 (1.216, 3.885)	**2.460 (1.287, 4.703)**
Year III	59 (64.8)	32 (35.2)	3.536 (1.937, 6.456)	**4.650 (2.342, 9.231)**
Sexual experience				
Never had sexual intercourse	220 (81.8)	49 (18.2)	1	NI
Ever had sexual inte.	98 (71.0)	40 (29.0)	1.833 (1.133, 2.964)	
Mothers educational status				
Unable to read and write	133 (84.7)	24 (15.3)	**1**	**1**
Elementary	87 (82.1)	19 (17.9)	1.210 (0.626, 2.341)	1.680 (0.795, 3.548)
Secondary	55 (71.4)	22 (28.6)	2.217 (1.148, 4.282)	1.519 (0.721, 3.200)
Above secondary	43 (64.2)	24 (35.8)	3.093 (1.595, 5.997)	**2.446 (1.119, 5.348)**
Family income				
<350.00	124 (83.2)	25 (16.8)	**1**	**1**
351-5000.00	68 (81.9)	15 (18.1)	0.94 (0.541, 2.215)	0.845 (0.383, 1.864)
501-1000.0	65 (81.2)	15 (18.8)	1.145 (0.564, 2.321)	0.511 (0.225, 1.162)
>1000.0	61 (64.2)	34 (35.8)	2.765 (1.516, 5.040)	1.350 (0.649, 2.805)
Ever used contraception				
No	35 (85.4)	6 (14.6)	1	
Yes	64 (85.4)	34 (34.7)	3.009 (1.186, 8.099)	NI

NI=not included (both of them are highly related to the constant (-1))

As shown in Table 6 below, most of the respondents believed that ECs are unsafe for the users (60%). Sixty one percent of the respondents thought that they would recommend ECPs to a friend and most of the respondents (61.2%) approved that EC is necessary to overcome the need for induced abortion and its complications. In contrast to this, 65.3% of the respondents who heard about EC have a worry or concern about EC. Among those who have concern about the method, considerable proportion (37.2%) said EC might affect future fecundity and 36.4% cited it might cause more STI and HIV/AIDS infections due to non use of condoms. On the other hand, majority (80.6%) of the respondents showed willingness to know more about EC and (62.4%) approved (agreed) the availability of EC at college level. As the overall summary finding indicated, 50.1% of the respondents had favorable attitude towards EC.

In multivariate analysis, religion was found to be a statistically significant factor of attitude towards EC. Female students following Catholic and Protestant religions were found to be less likely to have favorable attitude towards EC than those who follow the orthodox Christian (OR=0.247, 95%=CI 0.074, 0.824 and OR=0.514, 95% CI=0.320, 0.824 respectively). Positive attitude towards emergency contraceptives was better among age groups 20-24 compared to age group 15-19 (OR=1.630, 95% CI=1.022, 2.598) and among senior students compared to their juniors (OR=2.112, 95% CI= 1.173, 3.803) (Table 7).

Table 6: **Percentage distribution of female college students in Arba Minch by attitude towards EC 2010**

Indicators of Attitude	Negative attitude		Positive attitude		Indifferent	
	No	%	No	%	No	%
1. I would use ECP if I have unprotected intercourse during the unsafe period	157	38.6	164	40.3	86	21.1
2. The ECP is safe	246	60.4	108	26.5	53	13.0
3. I would recommend ECP to a friend	115	28.3	250	61.5	43	10.3
4. EC is necessary to prevent abortion and its complications	91	22.4	251	61.7	65	16.0
Attitude towards EC (summary index)						
Favorable	204 (50.1)					
Unfavorable	203 (49.9)					
Have concern about EC						
Yes	253 (62.2)					
No	154 (37.8)					
Want to know about EC						
Yes	328 (80.6)					
No	79 (19.4)					
Want college to provide EC						
Yes	254 (62.4)					
No	153 (37.6)					

Table 7: **Socio-demographic and other factors related to attitude about emergency contraceptives among female college students in Arba Minch, 2010**

Characteristics	Attitude		COR (95% CI)	Adjusted OR (95% CI)
	Unfavorable No (%)	Favorable No (%)		
Age				
15-19	108 (56.8)	82 (43.2)	**1**	**1**
20-24	79 (43.2)	104 (56.8)	1.734 (1.151, 2.612)	**1.630 (1.022, 2.598)**
25+	17 (50)	17 (50.0)	1.317 (0.634, 2.736)	1.501 (0.650, 3.465)
Place of residence				
Urban	112 (58.6)	79 (41.4)	1	1
Rural	92 (42.6)	124 (57.4)	1.911 (1.288, 2.835)	1.035 (0.643, 1.667)
Religion				
Orthodox	77 (40.1)	115 (59.9)	1	1
Muslim	7 (38.9)	11 (61.1)	1.052 (0.391, 2.833)	1.287 (0.435, 3.802)
Catholic	14 (73.7)	5 (26.3)	0.239 (0.083, 0.691)	**0.247 (0.074, 0.824)**
Protestant	106 (59.6)	72 (40.4)	0.455 (0.300, 0.689)	**0.514 (0.320, 0.824)**
Year of study				
Year I	108 (57.4)	80 (42.6)	1	1
Year II	66 (51.6)	62 (48.4)	1.241 (0.790, 1.948)	1.016 (0.611, 1.691)
Year III	30 (33.0)	61 (67.0)	2.686 (1.591, 4.535)	**2.112 (1.173, 3.803)**
Mothers' education status				
Notable read and write	94 (59.9)	63 (40.1)	1	1
Elementary	44 (41.5)	62 (58.5)	2.102 (1.274, 3.470)	**2.321 (1.357, 4.031)**
Secondary	36 (46.8)	41 (53.2)	1.699 (0.981, 2.945)	1.251 (0.665, 2.353)
Above secondary	30 (44.8)	37 (55.2)	1.840 (1.033, 3.279)	1.411 (0.720, 2.809)
Knowledge				
Poor knowledge	190 (59.7)	128 (40.3)	1	1
Good knowledge	14 (15.7)	75 (84.3)	7.952 (4.308, 14.680)	**6.348 (3.286, 12.264)**

Sexually active respondents were also asked about their experience of contraceptive utilization during sexual intercourse. Among 139 sexually experienced respondents 84 (60.9%) reported that they ever had sexual intercourse without using condom or any contraceptive method, 2.7% of the total respondents and 16% of those who are sexually active and heard of EC had ever used EC. All of ever users said that they used pills and 54% reported that they used it within 27 hours.

When adjusted for other variables, ever use of emergency contraceptives was significantly higher among students who are married and among students who have good knowledge on EC [(OR=6.134, 95% CI=1.363, 27.606), (OR=7.474, 95% CI=1.583, 35.277) respectively] (Table 8).

Table 8: **Socio-demographic and other factors related to practice about emergency contraceptives among female college students in Arba Minch, 2010**

Characteristics	Practice		COR (95% CI)	Adjusted OR (95% CI)
	No No (%)	Yes No (%)		
Age				
15-19	188 (98.9)	2 (1.1)	1	1
20-24	177 (96.7)	6 (3.3)	3.186 (0.639, 15.996)	1.385 (0.229, 8.37)
25+	31 (91.2)	3 (8.8)	9.097 (1.461, 56.657)	3.356 (0.373, 30.23)
Marital status				
Single	334 (98.5)	5 (1.5)	1	1
Married	62 (91.2)	6 (8.8)	6.465 (1.914, 21.839)	**6.134 (1.363, 27.505)**
Year of study				
First year	186 (98.9)	2 (1.1)	1	
Second year	125 (97.7)	3 (2.3)	2.232 (0.368, 13.550)	1.152 (0.163, 8.145)
Third year	85 (93.4)	6 (6.6)	6.565 (1.298, 33.197)	3.386 (0.579, 19.781)
Knowledge				
Poor knowledge	315 (99.1)	3 (0.9)	1	1
Good knowledge	81 (91)	8 (9)	10.370 (2.691, 39.970)	**7.474 (1.583, 35.277)**
Attitude				
Unfavorable attitude	203 (99.5)	1 (0.5)	1	1
Favorable attitude	193 (95.1)	10 (4.9)	10.518 (1.334, 82.943)	3.184 (0.339, 29.911)

Discussion

It is evident from the present study that the participants' awareness pertaining to EC was low (42.5%) as compared to their awareness regarding various methods of contraception (97.0%). This study also highlights that even the students, who were aware of EC lack detailed knowledge about the method. This finding is similar to a study in Ghana and AAU which revealed that less than half (43.2% & 43%, respectively) of the respondents had heard about EC although their knowledge of the general features of emergency contraceptives was low (5,7). The reason for lack of detailed information about the subject may be linked to the sources of information. On the bases of this study, knowledge differed according to the source of information in which informal source (family/friend) were associated with misinformation, while media and medical sources were associated with better knowledge (OR=0.370, 95% CI=0.146, 0.942). This indicates that promotion of emergency contraception should be focused on spreading accurate information through health professionals and different mass media.

This study revealed that EC knowledge was significantly higher for senior students (graduating class) as compared to their juniors and for respondents whose mothers' educational levels were above secondary compared to respondents whose mothers had no formal education. It is consistent with the conclusion made by different researchers that once a woman enters the school system, her attitude towards family planning changes and that literacy improve one's access to information and provides a sense of trust in science and technology (8-9). EC knowledge also differs between urban and rural dwellers. Respondents of urban background had higher knowledge compared with those from rural areas which may be due to the fact that urban dwellers have more accessible to health information and are more likely to visit health facilities relative to rural residents.

Although female students generally held favorable opinions about ECs, most of them believed that ECs were unsafe for users (60.4%). Similar findings have been reported in surveys of university students in Cameroon in which 65.0% believed that ECPs were unsafe for the users (6). In this study only 40.0% said that they would use emergency contraception in the future if they have unprotected intercourse during the unsafe period which is far lower than the study reported from Kenya where 84.0% of University students said that they would use emergency contraception or recommend it to friends if necessary (10). This may be related to the concerns/worry that the study subjects had regarding EC which accounts 62.0% according to this study. On the other hand 81% of the respondents wanted to know about EC and 62.0% wanted the colleges to provide EC**.** This reflects lack of knowledge or understanding about detailed information regarding emergency contraceptives and their effectiveness in preventing unplanned child bearing or abortion that could result from unprotected sex. Respondents, whose mothers had completed elementary school and those with adequate knowledge about EC, generally showed favorable attitudes with regards to emergency contraceptive pills. The explanation for this is that parents can be influential sources of knowledge, belief, attitudes and values for their children.

Among the total, 24.0% had used contraceptives. However, emergency contraception use was 3.0%. This finding isn't much different from that from Ghana (4.2%) and Addis Ababa (5.0%) (5,8). The reason could be lack of knowledge about the method as identified by the study. The trend for first time use of emergency contraceptive was significantly higher among students who are married (OR=6.134, 95% CI=1.363, 27.606) and among students who have good knowledge about EC (OR=7.474, 95% CI=1.583, 35.277). This may be

because usually married have the intention to visit family planning clinics where they may get the opportunity to be told about the use of emergency contraceptive methods as a backup for others during counseling.

In conclusion, the great potential of emergency contraception to prevent unintended pregnancies and their complications is far from being realized. Lack of adequate knowledge on the method among most of the female students in this study suggests that the situation is more likely to get worse for the majority of teenagers and young adults with no or low academic attainment. In addition, utilization of emergency contraception is very low despite the high proportion of unintended/unwanted pregnancies. There are on the other hand, the majority of the respondents wanted to know about EC and asked for the colleges to provide it. Therefore, It is recommended that colleges, organizations working with interventions aiming at adolescents' RH issues and zonal health office should give due attention to design strategies and programs to provide health education in the colleges about RH in general and EC specifically; and expand the service availability at colleges.

Acknowledgments

In the first place, my gratitude and appreciation is to Dr. Thomas Syre, Ato Nega Assefa and Ato Tadesse Alemayhu from Haramaya University, Health Science College. I sincerely acknowledge Arba Minch Health Science College, respondents of the study, coordinators, data collection facilitators and the staffs of the respective colleges. I would like also to thank all my family members and friends.

References

1. Cleland J. Sexual and reproductive health, family planning: The unfinished agenda, Lancet 2006;368(18):1810-7.
2. Govindasamy P, Kidanu A, Banteyerga H. Youth Reproductive health in Ethiopia, ORC Macro and Miz-Hasab Research center. Addis Ababa, Ethiopia, 2002.
3. WHO. 1999 expanding options in reproductive health: An assessment of reproductive health needs in Ethiopia.
4. Frank B, Elizabeth A, Christian C. Perception of university students in Ghana about emergency contraception. Contraception 2002;66(1):23-26.
5. Tamire W, Enqueselassie F. Knowledge, attitude, and practice on emergency contraceptives among female university students in Addis Ababa, Ethiopia. Ethiop J Health Dev 2007;21(2):111-116.
6. Kongnyuy E. A survey of knowledge, attitude and practice of emergency contraception among university students in Cameroon, BMC Emergency medicine 2007;7(10).
7. Hossai N, Sharif M. ECP handbook: Introducing and mainstreaming the provision of emergency contraceptive pills in developing countries. FRONTIERS Manual: Population council: Washington DC; 2009.
8. Heimburger A, Acevedo-Garcia D, Schiavon R. Emergency Contraception in Mexico City, Contraception 2002;66(5):321-330.
9. G. Selassie T. Determinants of contraceptive use among urban youth in Ethiopia, Ethiop J Health Dev 1996;10(2):97-104.
10. Muia E, Ellertson C, Lukhando M, Elul B, Clark S, Olenjia J. Emergency contraception in Nairobi, Kenya: Knowledge, attitudes and practices among policymakers, family planning Providers and Clients, and University Students. Contraception 1999;60:223-232.