

ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE, AND PRACTICE ON EMERGENCY CONTRACEPTION  
AND ASSOCIATED FACTORS AMONG FEMALE STUDENTS IN  
GONDAR TOWN, NORTHWEST ETHIOPIA

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ABSTRACT

**Background:** Young unmarried women constitute a high risk group for unsafe abortions. It has been estimated that a widespread use of emergency contraception may significantly reduce the risk of unwanted pregnancy followed by a number of abortion-related morbidity and mortality by 85% and 50%, respectively.

**Objective:** To assess knowledge, attitude, and practice of emergency contraception and associated factors among female students.

**Methods:** A school based cross-sectional study using a self administered questionnaire was conducted on 780 female students selected using a stratified random sampling in Gondar town, in May 2009

**Results:** Five hundred thirteen (65.8%) of the students have never heard about emergency contraceptive. Some 307 (39.4%) were knowledgeable about emergency contraception. About 64.1% of the students had positive attitude towards emergency contraceptives and 64(38.3%) of the sexually active students reported that they had used emergency contraceptive, methods previously. Factors such as being urban dweller, previous sexual practice, and advanced academic level were predictors of knowledge on emergency contraceptive. Students in the preparatory school had 3.5 times better knowledge on emergency contraception than secondary school female students. Being urban resident and preparatory school student were predictors of attitude on emergency contraceptive. Married students had 3.7 times more practice with emergency contraception than unmarried students.

**Conclusion:** Knowledge about and practice with emergency contraceptives were low among students. Urban residents, those who had sex in the past, and preparatory school students were found to have positive attitude and better knowledge on emergency contraception.

**Recommendation:** Strengthening information, education and communication in schools on sexual and reproductive health, with a special emphasis on different modern family planning methods, including emergency contraceptive, and ensuring access to friendly service should be improved in the school. Furthermore, knowledge of modern contraception, including emergency contraceptive and sex education should be incorporated in the curriculum.

**Key Words:** Emergency Contraception, Knowledge, attitude and practice among female students.

INTRODUCTION

Unwanted pregnancy which is the leading cause of unsafe abortion is one of the most important causes of maternal morbidity and mortality. Ethiopia has a high incidence of unwanted pregnancy and unsafe abortion, particularly among adolescents (1-3). The consequences of unprotected sex, such as unintended pregnancy and unsafe abortion, can be prevented by access to contraceptive services, including emergency contraception. Emergency contraception as the

last resort, has the potential, to avoid unwanted pregnancy and unsafe abortion (4-8). It has been estimated that a widespread use of emergency contraception may significantly reduce the risk of unwanted pregnancy which is associated with abortion-related morbidity and mortality to the extent of 85 to 50%, respectively (9-13). Oral contraceptive pills and intrauterine contraceptive devices (IUCDs) are mainly used as emergency contraceptives. When used within 72 hours after sexual contact, pills have the capacity to prevent pregnancy by up to 85%; with the use of IUCDs unwanted pregnancy can be prevented by as much as 99%. (14-20).

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Knowledge and practice with emergency contraception are particularly important to control the high rates of unwanted and teenage pregnancies. Emergency contraceptive related knowledge and practice was low, as such education was not provided to women with other methods of family planning. There were few data available on adolescent knowledge, attitude and practice of emergency contraception in the country (7, 14). Moreover emergency contraception among high school students was not well studied in Ethiopia. The aim of this study was therefore to assess knowledge, attitude, and practice of emergency contraception and associated factors among female students.

## METHODS

A cross-sectional school based quantitative study was conducted on 780 female students of Gondar town in May 2009. Gondar has a total population of 206, 987 living in 11 kebeles according to the information obtained from census report 2007. Currently the town has 52 primary, 4 secondary, 3 preparatory

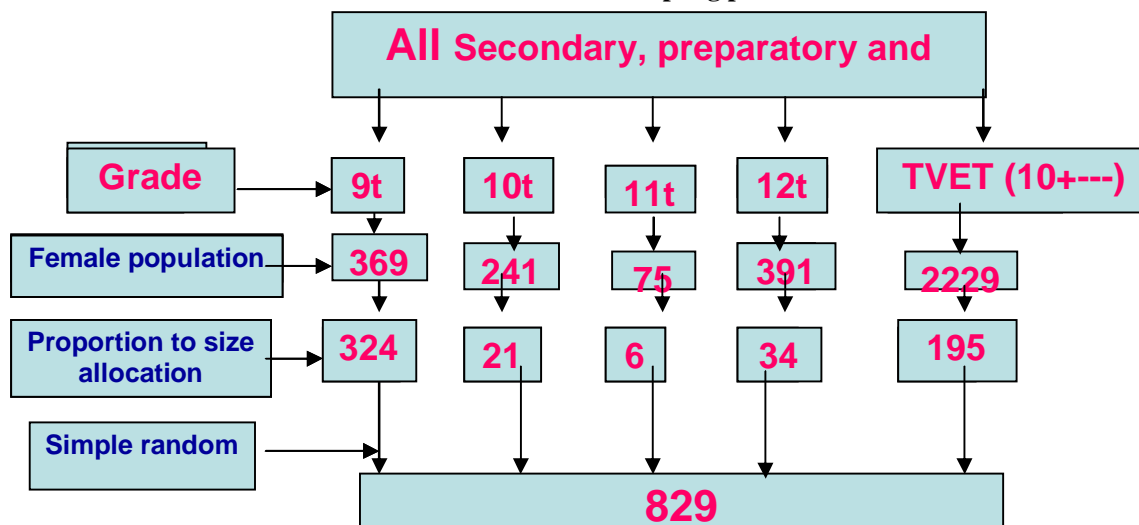
and 2 TVET government schools. According to statistics obtained from Gondar Zonal Education Office, a total of about 19,501 students were enrolled in secondary, preparatory, and TVET school programs with female students accounting for about 48.6% (9,476).

A sample of regular female students drawn from Gondar secondary, preparatory, and TVET schools were the study subjects. The sample size was calculated using a single population proportion with the assumptions that 43.5% of the subjects were aware, 53% had favourable attitude, and 5% had practiced emergency contraception. Our assumption was based on a previous study carried out Addis Ababa and at Unity University College, Ethiopia.

The proportion for attitude was taken to get the maximum sample size and the calculated sample size was 781. Adding 15% of non-response, the final sample size was 829 female students.

Stratified sampling was used according to the educational level of the study subjects. The samples were proportionally allocated to each grade. Finally respondents were selected by simple random sampling.

**Schematic Presentation of sampling procedure**



Data was collected using self-administered anonymous questionnaire. The questionnaire was prepared in Amharic (national language) and was pretested in a school which was not selected for the main study one week before the start of data collection. Eight data collection facilitators were trained and involved in the task.

Ethical clearance was obtained from the School of Public Health, the College of Medicine and Health Sciences, the University of Gondar. Official letters were dispatched to respective bodies. All the study

participants were informed about the objective of the study, and their verbal consent was obtained before conducting data collection. They were also informed about their right not to participate in the study or to withdraw at any time. Privacy and confidentiality of the information was assured and collected anonymously.

The quality of data was controlled at different levels, that is, during pre-testing, supervision, selection and training of field staff, checking for completeness and consistency and finally during data entry by under-

taking computer data cleaning and edition. Since the study is a sensitive issue the students were made to sit apart so that no one was able to see what other students were doing.

The variables included in the study were socio-demographic knowledge, attitude, and practice of emergency contraception. Data processing and analysis was done using the SPSS version 13 for windows program. Descriptive statistics, (frequencies, means, and tables) were used. Binary logistic regressions (Bivariate and Multivariate) analysis were also used.

### Operational definitions

**Knowledge:** The study subjects who answered all of the knowledge questions correctly were considered knowledgeable. They had heard of the variables and knew the appropriate sources of the information. They not only knew the types of EC method, but they were also able to identify the time frame, that is, when EC pills should be taken following unprotected sex.

**Attitude:** Study subjects who responded positively to all attitude questions were considered to have posi-

tive attitude on EC. The attitude questions included were willingness to use emergency contraception in the future when the need arises and support the idea of availing EC for all females.

**Practice of emergency contraceptives:** Study subjects who had knowledge about emergency contraception used it to prevent unplanned pregnancy after unprotected sex or method failure.

## RESULTS

Response was obtained from 780 female students making the response rate 94%. Four hundred ninety-five (63.4%) were from secondary, 94(12%) from preparatory, and 191(24.5%) from TVET schools. The mean age of the students was 17.6 years  $\pm 1.97$ .SD. The majority of the students were single 717(91.9%).Most of the respondents, 707(90.6%) were followers of Orthodox Christianity. Out of the total respondents, 651 (83.5 %) were living in the town (Table-1).

**Table1 - Socio-demographic Characteristics of Secondary, Preparatory, and TVET Female Students in Gondar Town, May 2009 (n=780)**

Characteristics	Number (%) N= 780
<b>Age</b>	
11-15	227(29%)
16-20	525(67.3%)
21 -25	28(3.6%)
<b>Marital status</b>	
Single	717(91.9%)
Married	63(8.1%)
<b>Religion</b>	
Orthodox Christians	707(90.6%)
Muslims	62(7.9%)
Protestant	11(1.4%)
<b>Residence</b>	
Urban	651(83.5)
Rural	129(16.5)
<b>Grade</b>	
Secondary school (9-10)	495 (63.4%)
Preparatory school (11-12)	94 (12%)
TVET	194 (24.5%)
<b>Ethnicity</b>	
Amhara	750(96.2%)
Tigrie	30(3.8%)

At the time of the survey, about 167(21.4%) respondents had sex in the past. In this study, the prevalence rates of unwanted pregnancy and induced abortion were 4.1% and 4%, respectively. About 725

(92.9%) of the respondent had never heard of any family planning methods. One hundred twenty one (15.5%) of the students used contraceptive methods (Table-2).

**Table -2** - Sexual and reproductive characteristics of respondents among Secondary, Preparatory and TVET school female students in Gondar town, May 2009

<b>Characteristics</b>	<b>Number %</b>
<b>Had sex</b>	
Yes	167 (21.4%)
No	613 (78.6%)
<b>Had experienced pregnancy (n=167)</b>	
Yes	49 (29.3%)
No	118(70.7%)
<b>Unwanted pregnancy (n=49)</b>	
Yes	32 (65.3%)
No	17 (34.7%)
<b>Induced abortion n=49</b>	
Yes	31 (63.3%)
No	18 (36.73%)
<b>Had heard of contraception n=780</b>	
Yes	725 (92.9%)
No	55 (7.1%)
<b>Had used contraceptive methods n=167</b>	
Yes	121 (15.5%)
No	659 (84.5%)

Out of the 780 respondents, 513 (65.8%) had heard about emergency contraception. The main sources of information about emergency contraception were health institution 312(60.8%) and the mass media 113 (22 %). Concerning emergency contraceptives, among those who have heard of emergency contraceptives, 304 (59.3%) mentioned pills, 41(8%) mentioned IUCDs, and 91 (17.7%) mentioned both pills and IUCDs. Among those who heard about emergency contraception, 358 (69.8%) mentioned the correct time frame for pills (with in 72 hours) after unprotected sexual intercourse .On the whole, 307 (39.4%) of the respondents had comprehensive knowledge regarding emergency contraceptives. Sixty four (38.3%) of those who were sexually active female students reported that they had used emergency contraception (Table 3).

Out of those who had heard about emergency contraception, 329 (64.1%) had positive attitude towards emergency contraceptives. Three hundred ninety-five (77%) supported emergency contraception access for all females; 361(70.4%) were willing to use emergency contraception in the future when the need arises (Table-4).

Cross tabulation and logistic regression analyses was carried out to determine the association between

socio-demographic factors with knowledge, attitude, and practice of emergency contraception among study participants. As shown in Table -5 preparatory students had 3.5 times higher knowledge on emergency contraception when compared to secondary school female students.

Those who had sex in the past, had 1.9 times higher knowledge on emergency contraception as compared to female students who reported no sex in the past. Likewise, urban dweller students had 1.57 times higher knowledge on emergency contraception as compared with rural residence female students. Married students had 3.7 times higher practice of emergency contraception as compared with unmarried students. Students whose age was 21-25 years had 4.1 times higher use of emergency contraception when compared with students of age 12-16 years. Students in the preparatory school had 2 times higher positive attitude towards emergency contraception compared with secondary school students with adjusted other variables. Similarly, urban students were 1.75 times more likely to have favorable attitude towards emergency contraception compared with rural students (Table-5).

**Table 3-** Knowledge and practice about emergency contraceptives among Secondary, Preparatory and TVET school female students in Gondar town, May 2009

<b>Characteristics</b>	<b>Number % ( n=780)</b>
<b>Had heard of (knew) EC</b>	
Yes	513 (65.8%)
No	267(34.2%)
<b>Source of information to EC (n=513)</b>	
Health institution	312 (60.8%)
Mass media	113 (22 %)
Pharmacy	28 (5.5%)
Private clinic	35 (6.8%)
Others	25 (4.9%)
<b>Method they know as EC n = (513)</b>	
Pill	304 (59.3 %)
IUCD	41 (8%)
Pill and IUCD	91 (17.7)
I don't know	52 (10.1%)
Other	15 (4.9%)
<b>Time frame of using EC pills listed</b>	
With in 72 hours	358 (69.8%)
With in 72 - 120 hours	32 (6.2%)
After 120 hours	38 (7.4)
I don't know	77 (15%)
Other	8 (1.6%)
<b>Had used EC n=780</b>	
Yes	64(8.2%)
No	716 (91.9%)
<b>The reason EC is not used n=103</b>	
Fear of provider	23 (22.3%)
EC drug is unavailable	17 (16.5%)
Time inconvenient	28 (27.2%)
Fear of confidentiality and loss privacy	30 (30.1%)
Others	5 (4.8%)
<b>Comprehensive Knowledge on EC N= 780</b>	
knowledgeable	307 (39.4)
Not knowledgeable	473 (60.6)

**Table 4-** Attitude to wards emergency contraception, among Secondary, Preparatory, and TVET school female students in Gondar town, May 2009

<b>Characteristics</b>	<b>Number %</b>
<b>Support idea of availing EC for all females n=513</b>	
Yes	395 (77%)
No	118 (23%)
<b>Willing to use EC</b>	
Yes	361(70.4%)
No	152 (29.6%)
<b>Overall attitude to wards EC N=513</b>	
Positive	329 (64.1)
Negative	184 (35.9)

**Table-5-** Factors associated with knowledge, attitude and practice of emergency contraception among secondary, preparatory and TVET school female students in Gondar town, May 2009

Factors	Knowledge			Attitude			Practice		
	Yes(%)	No(%)	AOR (95% CI)	Yes(%)	No(%)	AOR (95% CI)	Yes(%)	No(%)	AOR (95% CI)
<b>Educational status</b>									
Secondary (RC)	151(30)	346 (70)	1	191(61.6)	119(38.4)	1	6(7.3)	76(92.7)	1
Preparatory	56(60.9)	36(39.1)	3.5(2.19-5.64)*	50(78.1)	14(21.9)	2.00(1.50-3.8) *	5(5.4)	87(94.6)	0.74(0.28-1.95)
TVET	100(52)	91(48)	2.23(1.56-3.17) *	88(63.3)	51(36.7)	1.1(0.6-1.47)	23(12)	168(88)	1.45 (0.82-2.58)
<b>Age</b>									
11-15(RC)	51(62.2)	31(37.8)	1	32(62.7)	19(37.3)	1	6(7.3)	76(92.7)	1
16-20	415(62)	251(38)	0.71 (0.48-1.04)	279(64)	156(36)	0.95 (0.60-1.51)	48(7.2)	618(92.8)	1.07(0.57-2.00)
21-25	9(28.1)	22(71.9)	1.38(0.54-3.54)	18(66.7)	9(33.3)	0.89(0.33-2.40)	10(31)	22(69)	4.1(1.47-11.31) *
<b>Marital status</b>									
Single (RC)	272(37.9)	445(62.1)	1	297(65)	162(35)	1	48 (7)	669(93)	1
Married	35(55.6)	28(44.4)	1.45(0.82-2.73)	32(59)	22(41)	0.82(0.45-1.48)	16(25.4)	47(74.6)	3.7 (1.88-7.13) *
<b>Residence</b>									
Urban	274(42.1)	377(57.9)	1.57(1.03-2.45) *	274(42)	377(58)	1.75 (1.06-2.88) *	54(8.3)	597(91.7)	1.12 (0.53-2.38)
Rural(RC)	33(25.6)	96(74.4)	1	42(51.9)	39(48.1)	1	54(8.3)	597(91.7)	1
<b>Religion</b>									
Orthodox(RC)	277(39.2)	430(60.8)	1	293(64)	172(36)	1	61(8.6)	646(91.4)	1
Muslim	22(35.5)	40(64.5)	0.90 (0.52-1.58)	28(70)	12(30)	1.30(0.64-2.65)	5(8)	57(92)	1.11(0.64-2.65)
Protestant	8(73)	3(27.3)	2.76 (0.7-10.92)	7(58)	5 (42)	1.03(0.29-3.61)	0(0)	11(100)	-
<b>Ever sex</b>									
Yes	85(50.9)	82(49.1)	1.91(1.33-2.74) *	87(63.5)	50(36.5)	1.5 (0.40-2.8)	-	-	-
No RC	222(36.2)	391(63.8)	1	242(64.4)	134(35.6)	1	-	-	-

**N.B RC:** referent category

\* Remained significance when adjusted for other variables in the table.

## DISCUSSION

Unintended pregnancy poses a major challenge to reproductive health of young adults in developing countries. With decreasing age of menarche and onset of sexual activity, young people are exposed early to unplanned and unprotected sexual intercourse leading to unwanted pregnancy and un safe abortions(1).Much of this suffering could be averted if more women knew about and had access to emergency contraception methods(5).

In this study almost more than one- fifth of the respondents reported that they were sexually active in their life time. Similar studies conducted among Jimma and Addis Ababa university female students showed that (19.4%) were sexually active (12, 13).

The finding of this study showed that contraceptive prevalence rate was 15.5%. The most commonly used method was pills followed by injectables. This finding is similar to that of other studies (9, 13 14).

The proportion of respondents who had heard about emergency contraception was found to be (65.8%). This finding is similar with that of a study conducted among Jimma high school female students which showed that (64.1%) had heard about emergency contraception (15). However, this finding is significantly lower than the finding among female students of Bahir Dar University in Ethiopia which showed that (83.5%) had heard of emergency contraception (16). This variation could be due to the lower educational status of the females in this study.

More over, a study conducted in Scotland and Finland secondary schools showed that (93%) of the pupils had heard of emergency contraception (17, 20). This wide difference between the findings on awareness of emergency contraception could be the fact that the latter are from well-developed nations.

On the other hand the respondents reported that their major sources of information about emergency contraception were health institution and the mass media. This finding is quite similar with that of female students in Jimma University, Ethiopia (17).

In this study (39.4%) of the respondents were knowledgeable regarding emergency contraception. This study was more or less similar with a Study conducted among high school students in Mexico, where about 36% of the girls had correct knowledge about emergency contraception (18). However, this finding is lower than what was reported from Jimma University which showed that 50% of the respondents were knowledgeable (17).

In this study, 38.3% of those who were sexually active female students reported that they had used emergency contraception which was quite low when compared to the finding of a study done among students of Bahir Dar University which showed that 22.8% of the total and 73.4% of those who were sexually active female students had used emergency contraception (18). The possible reason for a low practice rate in this study could be the proportion of the students who were sexually active which is lower (21%) compared to 31% of Bahir Dar University, Ethiopia.

Considering the high rate of sexual intercourse, it could be said that emergency contraception use was less among TVET and high school students. Some of the important reasons for low utilization of emergency contraception reported by nonusers could be: fear of confidentiality, fear of providers, lack of awareness, lack of convenient time and emergency contraceptive drug inavailability, respectively (15,16). Therefore, increasing access to emergency contraception without prescription, together with appropriate information, can increase the use of emergency contraception.

In this study 64.1% had positive attitude towards the use of emergency contraceptives. This finding is similar with that of the study conducted among university students in Cameroon which was (65%) (19). However, this result was slightly higher than the finding in Jimma (56%), and Addis Ababa University (52.6%) (13,17). This difference may be due to the increasing health education intervention by the health extension workers.

Knowledge of students on emergency contraceptives was significantly higher for senior students as compared to their junior counter parts. Students in the preparatory school had 3.5 times more knowledge on emergency contraception than secondary school female students (Adj OR=3.52, 95%CI: (2.19-5.64)). Those who had sex in the past had 1.9 times better knowledge on emergency contraception as compared to female students who reported no sex in the past (Adj OR=1.91, 95%CI: (1.33-2.74)).

Similar findings were reported from South Africa and Ethiopia (12, 13, 17, 20).

Similarly, urban students had 1.57 times more knowledge on emergency contraception than rural female students (Adj OR= 1.57, 95%CI: (1.003-2.45)). A similar finding was reported by a study conducted in South Africa (20).

Age and marital status showed a non-significant association with knowledge of the students in this study. This finding was similar to the result of a study done in Ethiopia (16, 24).

The use of contraceptive was significantly associated and was higher among married women than their single counter parts. Married students had 3.7 times higher practice of emergency contraception compared with never married students ((OR= 3.72, 95% CI: (1.82-7.12)). A similar finding was reported by a study conducted in Ethiopia (12, 13).

Educational status of the respondents didn't show significant association with the use of emergency contraceptives. A similar finding was reported by a study conducted among students of Addis Ababa University (20).

Positive attitude towards emergency contraceptives was significantly higher among urban compared with rural residents, and among senior students compared with junior students. A similar finding was reported by a study conducted in Ethiopia (13).

Marital status didn't show a significant association with attitude for emergency contraceptives. A similar finding was reported by a study conducted in Ethiopia (13).

Religion didn't show significant association with attitude for emergency contraception. This finding is contrary to that of a number of other studies conducted elsewhere in this country.

The role of religion was difficult to assess as the majority of the (92%) were Orthodox Christians.

#### **Limitations of the study**

- Not supplemented by qualitative methods.
- Private schools, colleges, and other segments of the adolescent population were not included in the study. Therefore, the result has limited power of being generalized to all youth in the study area.
- As the study is related to a sensitive issue, sexual matter, subject responses may not be genuine enough.

## CONCLUSION

- This study has shown that there are significant risks of unwanted pregnancy and induced abortion. This shows that the great potential of emergency contraceptives to prevent unintended pregnancy and unsafe abortion is not realized among the students.
- In fact, almost two-third of the respondents had heard about emergency contraception, but detailed knowledge and practice by the students are inadequate.
- Although the students generally have positive attitudes towards ECPs, misinformation is high among these students; most of them believe that ECPs are unsafe for their users.
- The major sources of information about emergency contraception were health institutions and the media. This finding strongly suggests that there are very limited activities (IEC/BCC) in the schools to wards improving their RH information and services.
- Socio-demographic factors were significantly associated with knowledge, attitude and practice of emergency contraception among the study participants.

## RECOMMENDATION

1. Strengthening IEC in schools on SRH, with a special emphasis on different modern F/P methods, including emergency contraception.
2. The health sector should include emergency contraception packages in their essential drug list and make it available for students without prescription (woreda health office and the schools).
3. Knowledge of modern contraception, including emergency contraception and sex education should be incorporated in the curriculum (MOH and MOE).
4. Finally, there is a need for a large scale further research with different methods and varied subjects.

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