

# Utilization of Emergency Contraception and Associated Factors Among Vocational College Female Students in Shashemene Town, Oromia, Ethiopia, 2018

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**Abstract:** *Background:* Emergency contraception is a method to prevent unwanted or unintended pregnancies that could happen after unprotected sexual intercourse. It is a type of modern contraception that can be used following wrong use of contraception. In Ethiopia studies conducted in health facilities showed that unintended pregnancies and unprotected sexual intercourse are causing major reproductive health problems to adolescents. *Objective:* to assess the utilization of emergency contraception and associated factors among Technical and Vocational education training college female students in Shashemene town from June 10 – 30/2018. *Method:* an institution based cross-sectional study was conducted among Shashemene town Technical and Vocational education training college female students in June 2018. Collected data was entered into EPIINF version 7 and exported to SPSS version 21 for analysis. Association between dependent and independent variable was assessed using adjusted odds ratio with 95% confidence interval and p-value for statistical significance (<0.05). *Result:* a total of 476 female students were participated in our study out of these, one hundred forty six (30.7%) of the respondents knew presence of emergency contraception and 58 (12.2%) of them had encountered unprotected sexual intercourse. Out of those who encountered unprotected sexual intercourse 42 (72.4%) had used emergency contraception. However, 17 (29.3%) of the respondents who reported unprotected sexual intercourse had history of unwanted pregnancy. Monthly family income was significantly associated with the utilization of emergency contraception (AOR=4.41 (95% CI: 1.44-13.48)). *Conclusion:* Unprotected sexual intercourse and unwanted pregnancy were available among study participants. Knowledge of emergency contraception among the study participants was low.

**Keywords:** Unprotected Sexual Intercourse, Family Planning, Awareness

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## 1. Introduction

Emergency contraception is a type of modern contraceptive method. There are two types of emergency contraception, these are: emergency contraceptive pills (ECPs) and intrauterine contraceptive device (IUCD). If used correctly, all types of ECPs can reduce the risk of unintended pregnancy and decrease unsafe abortion. [1-4] Usually this contraception is used after unprotected sexual intercourse. Emergency contraception prevents unwanted pregnancy

when taken within 5 days after unprotected sexual intercourse. Female in reproductive age or stage can use emergency contraception after unprotected sexual intercourse to be protected from unintended pregnancy [1]. Emergency contraception should be administered as soon as possible after unprotected sexual intercourse. It is more effective if it is administered within 24 hours of unprotected sexual intercourse than delay more than 24 hours. [2, 3, 5]

How ever, the user of emergency contraception has to know that lovonrgestrel containing emergency contraception (LNG-

EC) prevents pregnancy when taken before the fertilization of ovum has occurred [6]. Another thing that a user of the emergency contraceptive need to know is the following: according to prospective cohort study conducted in 2008 early exposure to combined oral contraceptive (COC) can reduce efficacy of ulipristal acetate (UPA) to use as an emergency contraceptive [7].

There is also evidence that women who do not wish to conceive should be offered emergency contraception after unprotected sexual intercourse (UPSI) [8]. It may be possible that advance provision of emergency contraceptive to teenage girls can shorten the time interval from unprotected sexual intercourse to taking the contraceptive without increasing risk of pregnancy [9].

In the world 80 million out of 210 million pregnancies are unintended 75 million end in still birth and abortion [10]. Globally 529,000 girls and women die from pregnancy related causes each year out of that 13% are due to unsafe abortion and 2 out of 5 unsafe abortions occur among women under age 25 [10].

In developing countries 56% of all abortions are unsafe. In Africa 42% of all pregnancies were unintended. In east African countries 2.5 million (39.1%) induced abortions occurred in 2008 out of all induced abortions in Africa. This is percent is higher than any other countries in Africa. Teenage pregnancies are high in Ethiopia with 187/1000 [11].

Mortality of women age between 15 and 49 is 30% in Ethiopia. This percent puts the country among the countries with high mortality of this age group [12]. In Ethiopia 47% of abortions performed outside health facilities that cause major reproductive health problems among adolescents and women and among unsafe abortions unintended pregnancies accounted 49.1% and non-use of contraceptive method accounted 78% of pregnancies [4, 13].

Study conducted in one of Ethiopian university (Mada Wolabu University) showed that prevalence of unintended pregnancy was about 32.4% [14].

Study done among Adama university female students showed that 27.2% and 62.9% students had good and favorable attitude respectively. Among these students the study found 4.7% utilized emergency contraception [15]. Study done among Jimma university graduating female students revealed that 41.9% of the participants aware of emergency contraception. Among the respondents 72.1% had favorable attitude and 6.8% were used the contraception [16]. Study on emergency contraception (EC) showed that twenty five percent of female students of Haramaya University had good knowledge and 47% were used emergency contraception among the study participants [17]. Study done among Hawassa university female students indicated that 72.2% had awareness and 10.8% had used the emergency contraception [18]. Study conducted among Debrae Markos university female students found that among 549 74.9% had awareness, 48.5% had favorable attitude and 18.4% had used emergency contraception [19].

Study conducted among female students of Fasiledes

preparatory school showed good knowledge of emergency contraception among the students were 69.4% and those who used the method were 13% [20].

Survey conducted in Mizan –Tepi University found that 43.1% of unwanted pregnancies occurred out of those 46.3% were due to unprotected sexual intercourse [21]. According to the study conducted among Hawassa university students 39.7% of all participants were escaped from forced sexual attempt and 2.2% were experienced unprotected sexual intercourse [18].

Study conducted among female students of Jimma University showed that awareness of emergency contraception was associated with the origin of residence [16].

As we can see from the above studies conducted in different areas among female students of universities, Colleges or preparatory schools in Ethiopia indicated that unintended pregnancy, unsafe abortion, unprotected sexual intercourse, attempt of forced sexual intercourse, experience of forced sexual intercourse and utilization of emergency contraception (EC) have different magnitude. These indicate utilization and factors associated with the utilization of emergency contraception may have different magnitude among different colleges or places. That is why we conducted this study.

## 2. Materials and Methods

### 2.1. Study Area and Period

The study was conducted in Shashemene town that is found in west Arsi zone, Oromia regional state, Ethiopia. Shashemene is 250 KM from Addis Ababa (capital city of Ethiopia). The projected total population of Shashemene town is about 264,780 out of which 131,952 and 132,828 are males and females respectively in 2017/18. About 92,673 are adolescents in the same year.

There are 2 functional governmental and 1 Private Hospital, 4 governmental and 1 non-governmental health centers. The health service coverage of the town by the health center is 71.4%. There are 3 private University Colleges, 1 TVET College and 3 Preparatory Schools in Shashemene town.

Shashemene TVET College is found in Shashemene town. The college has four main sectors namely, Economic Infrastructure sector (12 departments), Industry development sector (6 departments), Agriculture sector (9 departments) and Culture, Sport & Tourism sector (9 departments) sectors. Recently for the year 2017/2018 admission documents shows a total of 6613 regular students out of them, 3973 are females'. The study will be conducted from June, 10/2018 – June, 30/2018.

### 2.2. Study Design

A quantitative community based cross-sectional study design, supplemented by qualitative data was conducted.

### 2.3. Source Population

All female TVET college students of Shashemene Town found on admission records in the year 2017/2018.

### 2.4. Study Population

All female TVET college students those were randomly selected for this study.

### 2.5. Sample Size

The required sample size was determined by using single population proportion formula. We used the proportion of students who utilized emergency contraception (18.4%) from the study conducted among the female students of Debra Markos higher institution, North West Ethiopia.<sup>19</sup> Considering 5% margin of error and 95% confidence interval and design effect of 2 with 10% non-response rate the final sample size was 480.

### 2.6. Data Collection Procedures

Data collection instrument was self administered questionnaire. It was developed in English and translated to Afan Oromo and back to English for the purpose of consistency. The questions were arranged and grouped according to the particular objectives that they can address all important variables of the study. The questionnaire was pre-test on 5% (24) of similar participants. The self administered questionnaires were offered to the study participants in quiet rooms. Data was collected by four (04) teachers and two (02) Nurse Supervisors.

Qualitative data was collected from purposely selected key informants based on their experience in their respective health institutions and willingness to participate. In-depth interview method was used to collect the data. During the interview the data collectors took notes by the participants own word.

### 2.7. Data Quality Assurance

Data collectors were trained for two days and they practiced data collection. The purpose of the study was adequately explained to the participants. The participants were assured that the confidentiality of the collected data will be kept moreover; they were informed that they should not write their names on the question paper. A problem that may face during data collection was discussed with their solutions. After data collection had completed each questionnaires were checked visually for completeness of all variables in the questionnaires. Data clerks were carefully

selected to employ for double data entry. The two sets of entered data were compared and inconsistent data were corrected.

### 2.8. Data Analysis and Processing

The collected data was entered into EPIINFO 7, and was exported to SPSS (statistical product and service solutions) version 21 for analysis. Frequency, percentage, measures of variation and mean were used to describe the study population in relation to relevant variables.

Binary logistic regression was performed for each variable and then all variables were entered into binary logistic regression at once to control the potential confounding variables. Crude and adjusted odds ratio, 95% CI and P-values for statistical significance were used to see the association between variables. Finally the findings were presented by text and tables.

The qualitative data was organized into thematic area after the data is collected from the key informants.

### 2.9. Ethical Consideration

Ethical clearance was obtained from Arsi University, College of health sciences, Department of Public health. Permission letter was obtained from Oromia regional health Bureau and Shashemene town. All study participants were informed about aim of the study. Consent paper was obtained from study participants.

## 3. Result

### 3.1. Scio-Demographic Characteristics of Respondents

A total of 480 self-administered questionnaires were distributed to the study participants however the response were obtained from 476 students. The response rate was 99.2%. The mean age of the study participants found to be 18.63 (+ 1.38) ranging from 15-25 years old. Four hundred thirty (90.3%) of the respondents age range were from 17-20 years. The age distribution of respondents showed that 381 (80.04%) were 15-19 years of age.

More than seventy three percent 350 (73.5%) were Muslim and majority 454 (95.4%) were single. More than half 281 (59%) of the respondents were from rural. About 208 (43.7%), 169 (35.5%), 79 (16.6%), 13 (2.7%) and 7 (1.5%) were live with parents, live with peer in rental house, live alone in rental house, live with their husband and boyfriends respectively. Majority of the respondents' father 324 (68.1%) and Mother 287 (60.3%) occupation were farmer (Table 1).

**Table 1.** Scio-demographic characteristics of studied population (n=476).

variable		frequency	percent
Age in year (n=476)	15-19	381	80.04
	20-24	94	19.75
	25-29	1	0.21
Ethnicity (n=476)	Oromo	433	91
	Amhara	23	4.8
	Others	20	4.2

variable		frequency	percent
Religion (n=476)	Muslim	350	75.3
	Orthodox	86	18.1
	protestant	33	6.9
	Others	7	1.47
Marital status (n=476)	Single	454	95.4
	married	16	3.4
	divorced	2	0.4
	separated	4	0.8
Residence (n=476)	Urban	195	41
	Rural	281	59
	Parents	208	43.7
	Peers in rental house	169	35.5
Recently living with (n=476)	Alone in rental house	79	16.6
	husband	13	2.7
	Boy friend	7	1.5
	Less than 2000EBR	179	37.6
Family monthly income (n=476)	2000-4000EBR	177	37.2
	Greater than 4000	120	25.2

### 3.2. Sexual and Reproductive Characteristics of Respondents

Out of the total participants of this our study 58 (12.2%) of the respondents have had unprotected sexual intercourse. The overall prevalence of unwanted pregnancies among those who had unprotected sexual intercourse were 17 (29.3%) while 3.8% from the total respondents (Table 2).

**Table 2.** Sexual and reproductive history of studied population (n=476).

variable		frequency	percent
Unprotected sexual intercourse (n=476)	no	418	87.8
	yes	58	12.2
Age of first sexual intercourse (n=58)	10-14	6	10.3
	15-19	49	84.5
	20 and above	3	5.2
History of unwanted pregnancy (n=58)	yes	17	29.3
	no	41	70.7

### 3.3. Respondents' Awareness and Utilization of Emergency Contraception

Out of the total participants of this study 146 (30.7%) participants reported that they know the presence of emergency contraception. Out of 146 participants who knew presence of emergency contraception 42 (28.8%) had utilized emergency contraception. Knowledge of effective timing of emergency contraception among 146 participants who respond for effective timing of emergency contraception was as follows: twenty (14%) said they don't know the effective time of taking emergency contraception and 15 (10%) said emergency contraception is effective if taken at any time.

Out of 158 participants who respond to reasons of not used emergency contraception 59 (37%) and 72 (46%) respondents said that service inconvenient and belief that it is not effective were the reasons for not using emergency contraception respectively (Table 3).

**Table 3.** Awareness and utilization of emergency contraception among studied population (n=476).

Variables		Frequency	Percent
Know presence of emergency contraception (n=476)	no	330	69.3
	yes	146	30.7
Knowledge of effective timing of emergency contraception	Within 5 days	96	66
	Within one week	15	10
	Any time possible	15	10
	I don't know	20	14
Used emergency contraception (n=146)	no	104	71.2
	yes	42	28.8
Willingness to use emergency contraception in the future (n=476)	no	158	33.2
	yes	318	66.8
Reasons for not used emergency contraception (n=158)	Fear of being seen by relatives	16	10
	Service inconvenient	59	37
	Belief that it is not effective	72	46
	I don't know	11	7

### 3.4. Key Informant Interview (KII)

Nine individuals were involved purposely in order to get

information from different health institutions. The themes of each respondent were taken as important point for this study. One informants from Pharmacy, 1 from Health Center, Hospital service provider (02), Family guidance association

(FGAE) (1) DKT (1) TVET college teachers (02) Town health office (01) were participated.

Almost all respondents said; EC pill namely “mela one” is commonly available in almost all pharmacy, FGAE clinics and drug stores. Respondent from TVET College suggests “it is good if the government avail the reproductive health service point including EC in the college compound”.

Almost all key informants have, mentioned most of the users were youths of college students;

Respondents from FGAE and pharmacy said: “the reason why users mostly prefer to get the service from pharmacy despite the cost is because they don’t want to wait and seen by others; when they go to Hospital, HC and Clinic there is a time to wait for card and examination procedure, but when they go to pharmacy/drug stores simply they ask for “mela one” and get the service”.

A respondent from FGAE clinic said “it is good, making the service free of charge at any service point, to maximize the service, including private pharmacy/drug store, because it is costly for student users to purchase it twenty five (25:00) Ethiopian birr from pharmacy/drug store”

Respondent from TVET College said “it is good if the government include reproductive health course which include EC, in TVET college curriculum”.

### 3.5. Factors Associated with Utilization of Emergency Contraception of Respondents

The variables were entered into binary logistic regression and the following variables were significant in the regression: age of first menarche, having boyfriends, ever had sexual intercourse, forced into sexual intercourse and escaped, frequency of forced sexual intercourse, ever used modern family planning method, willingness to use emergency contraception in the future, respondents’ mother educational status and family monthly income. These factors were included in the multivariate logistic regression.

Finally, factors remained significantly associated with utilization of emergency contraception in multivariate logistic regression were forced sexual attempt, used modern family planning, willingness to use emergency contraception and family monthly income. Respondents who escaped three times and above from forced sexual attempt were about seven times more likely to utilize EC compared respondents who escaped one time from forced sexual attempt (AOR=6.66 (95% CI: 1.93-18.97)). Responds that have monthly income of 2000-4000 Ethiopian birr were about 4 times more likely to utilize emergency contraception compared to respondents who have monthly income of <2000 Ethiopian birr (AOR=4.41 (95% CI: 1.44-13.48)) (Table 4).

**Table 4.** Predictors of emergency contraception utilization among studied population (n=476).

Variable		COR	95% CI	AOR	95% CI
Number of escape from forced sexual attempts	One time			1	
	Two times	1.66	0.55-5.04	1.09	0.27-4.32
	Three and above	3.45	1.40-8.49	6.66	1.93-18.97*
Used modern family planning method	No			1	
	Yes	0.10	0.03-0.31	0.08	0.02-0.29*
Willingness to use Emergency contraception	No			1	
	Yes	0.09	0.01-0.70	0.07	0.01-0.62*
Family monthly income	<2000				
	2000-4000	2.04	0.85-4.92	4.41	1.44-13.48*
	>4000	2.29	0.91-5.80	3.62	1.13-11.58*

Abbreviations: CI, Confidence Interval; EC, Emergency Contraceptive; TVET, Technical and Vocational Education Training; OR, Odds Ratio; AOR, Adjusted Odds Ratio.

## 4. Discussion

In our study a total of 74 (15.5%) were reported that they have encountered forced sexual attempt. Study done among Hawassa university female students showed that 39.7% had experienced forced sexual attempt [18]. This difference could be due to the fact that Hawassa town is bigger than Shashemene town where this study was conducted since forced sexual attempt may be more prevalent in big towns.

In our study out of respondents who encountered unprotected sexual intercourse 17 (29.3%) of them had unwanted pregnancy. However, survey conducted among Mizan –Tepi University students revealed that 43.1% have unwanted pregnancies [21]. This could be due to the fact that Mizan Tepi is remote area compared to Shashemene town where this study was conducted.

This study showed 146 (30.7%) respondents have heard about EC. Similarly study conducted among Adama

University revealed that 27.2% of the universities female students have good knowledge of emergency contraception. [15] And another study on emergency contraception among Haramaya university female students showed that twenty five percent the respondents had good knowledge of the contraception [17]. However, study conducted in Jimma University among the university students (graduating) indicated that 41.9% of study participants have awareness about emergency contraception [16]. The difference between our study and that of Jimma University could be due to the fact that the study done in Jimma University is among graduating students those stayed in the campus for longer time than our study participants.

The study conducted in Jimma university found that students those did not aware about emergency contraception were more likely to have unfavorable attitude to use the contraception [16]. In this study willingness to use

emergency contraception if they face unprotected sexual intercourse was 66.8%. This percentage is lower than that of study conducted in Hawassa town among second cycle primary evening school that is 85% [22]. This difference may be due to the fact that our study is among regular students but the study in Hawassa is among evening students.

This study showed that utilization of EC was (72.4%) among the respondents, this finding is much more than that of Mizan Tepi University (46.3%) [21]. and a study conducted in Abdisa Aga high school [21]. The finding is also higher than that of finding of Debre Markos University (18.4%) [19]. But much higher than that done in Jima University (6.8%) [16]. Hawasa University (10.8%). [18] and Seto Semoro high school (11.78%) [24]. These differences among studies conducted in different areas may need further research however; it could be due to availability of information channels in respective areas. It may be due to the unjustifiable reason that women in developing countries may face challenge in accessing and provision of modern contraceptive to delay first birth if study conducted among young adolescent and married women of Tanzania in 2017 works for the rest of developing countries [25].

## 5. Conclusion

Finding from this study showed that utilization of EC was 72.4%. However, unwanted pregnancy was 29.3% among the study participants and knowledge of emergency contraception among the study participants was 30.7%. Factors significantly associated with the utilization of emergency contraception were forced sexual attempt three times and above, used modern family planning and monthly family income.

Strengthening awareness about emergency contraception among TVET College students and supporting female students financially may help to reduce unwanted pregnancy.

## Disclosure

The authors declare no conflicts of interest in this work. All authors reported that no financial and all other conflicts of interest.

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