EMERGENCY CONTRACEPTION USE AND ASSOCIATED FACTORS AMONG FEMALE STUDENTS IN MIZAN-TEPI UNIVERSITY SNNPR, SOUTH WEST ETHIOPIA

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Abstract

Introduction: - *unintended pregnancy poses a major public health problem among female students at higher institution. One of the key interventions to reduce unintended pregnancy and unsafe abortion as outlined in the national youth strategy is availability of emergency contraception. Despite its availability in many countries emergency contraception has failed to have the desired impact on unintended pregnancy rates and its utilization is limited in higher institution. Identifying those factors associated with emergency contraception utilization is therefore, important to reduce incidence of unintended pregnancy and its complications among university girls.*

Objective: **-** *The objective of the study was to assess emergency contraception use and associated factors among female students at Mizan-Tepi University, south west Ethiopia, 2014.*

Methods: **-** *Institution based cross-sectional study design having both quantitative and qualitative methods were used to assess emergency contraception use and associated factors among regular female students of Mizan-Tepi University from March 15-25/ 2014. For quantitative study a two-stage stratified sampling technique with Probabilities proportional to size of departments and year of study was used; finally study participants selected by simple random sampling technique. Self-administered questionnaire was used to collect data and entered in to Epidata3.1 then exported to SPSS version 20:00 for analysis. Bivariate analysis was used to select variables associated with emergency contraception use and multivariate logistic regression also done to identify predictors of emergency contraception use. For the qualitative data Purposive and volunteer sampling techniques were applied and data analysis was done mainly based on the thematic approach.*

Result: - *In this study a total of 438 female students were involved with 98.9 % response rate. Among those who had unprotected sex only 46.3% of them used emergency contraception. Lack of knowledge and fear of being seen by others were the main reasons given for not using emergency contraception. Respondents knowledge on emergency contraception [AOR: 3.248; 95% CI = 1.320, 7.988], age at first sex (>=20 years) [AOR: 4.048; 95% CI = 1.721, 9.524], history of pregnancy [AOR: 3.122; 95% CI = 1.346, 7.240] and Previous use of regular contraceptives [AOR: 5.019; 95% CI = 2.234, 11.274] were found to be predictors of emergency contraception use.*

Conclusion and Recommendation: - *Generally the study showed that level of emergency contraception use was low when compared with higher risk of unintended pregnancy and respondent's level of knowledge on emergency contraception, age at first sex, previous use of regular contraception and history of pregnancy were the major predictors of emergency contraception use. Therefore, designing strategies to enhance emergency contraception utilization by increasing female students' level of awareness about sexual and reproductive health issues in general and emergency contraception specifically is recommended.*

Key words: - *Emergency contraception use, KAP, Mizan-Tepi University*.

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List of acronyms

AAU= Addis Ababa university

AOR = Adjusted Odds Ratio

EC= Emergency Contraception

ECPs =Emergency Contraceptive Pills

COR= Crude Odds Ratio

EDHS= Ethiopian Demographic Health Survey

ESOG= Ethiopian Society of Obstetrics and Gynecologists

FP= Family Planning

FMOH = Federal Ministry of Health

FGAE= Family Guidance Association of Ethiopia

FGD= Focused Group Discussion

IUCD= Intra Uterine Contraceptive Device

JUCPMS= Jimma University College of Public Health and Medical Sciences

KAP= Knowledge, Attitude and Practice

MTU= Mizan-Tepi University

SPSS=Statistical Package for Social Science

WHO= World Health Organization

Chapter One: Introduction

1.1 Background

Ethiopia has been implementing an ambitious community health program, and data indicates that the use of modern methods of contraceptives among currently married women has increased substantially, from 6% in 2000 to 29% in 2011 (1). Modern family planning (FP) services in Ethiopia dates back to 1966, when the family Guidance association of Ethiopia (FGAE) was established. Then the service was developed and strengthened when the federal ministry of health (FMOH) integrated family planning with maternal health in 1980 (2).

Emergency contraception (EC) also called: "morning after pill", "post coital contraception", and "second chance" was first introduced in Ethiopia in 1997 (3). It is a type of modern contraception which is indicated after unprotected sexual intercourse, following sexual abuse, misuse of regular contraception or non-use of contraception (4). Hormonal emergency contraception pill and intrauterine contraception device (IUCD) are the two common forms of EC. Hormonal EC pill again consists of four types. The first type has a hormone called progestin, the second type contains both progestin and estrogen, the third type contains small doses of mifepristone and the fourth type of hormonal EC contains ulipristal acetate. (5).

When used properly, all types of EC plays a vital role in preventing, around 75% of unintended pregnancy which in turn helps to reduce unintended child birth and unsafe abortion (6). Emergency contraception is unique in that it is the only immediate option left for females of reproductive age group who has had unprotected intercourse and is not ready for a pregnancy (5).

youths in general are sexually active and higher level institutions' students in particular form a high-risk group (7). Youths in this age group are most often at the beginning of exploration of their sexuality, are free of parental guidance, under great peers influence, and often uses alcohol or other illegal substances; which will expose them for unprotected sex and ended with unintended pregnancy & its complication (8).

International organizations, including the WHO, have recognized that access to contraceptive including emergency contraception services constitutes a human right & is fundamental to reproductive and sexual health but EC is largely underutilized worldwide (10).

Especially higher institution female students are expected to have greater knowledge and accesses of EC. Failure to help these young university girls to deal with sexuality and contraception including EC leads to a high incidences of unintended pregnancy and unsafe abortion (9). Therefore, promotion and use of emergency contraception after unprotected sex could be a potential strategy to reduce the incidence of unintended pregnancies and unsafe abortions among higher institutions female students.

1.2 Statement of the problem

Despite the availability of effective modern contraceptives including emergency contraception method, unintended pregnancy among young girls is still a world-wide problem (11). Each year world-wide about 80 million pregnancies (36%) are estimated to be unintended (18). Unintended pregnancy and child birth related deaths are the number one killers of 15–19-year-old girls worldwide with nearly 70, 000 annual deaths and 2 million more left with a chronic illness or disability (19). Every year, unintended pregnancies lead to at least 50 million abortions world-wide, most of them being unsafe. (20). The annual number of induced abortions due to unintended pregnancy in Africa rose from 5.6 million to 6.4 million between 2003 and 2008 (21) , and about 15 million adolescents give birth, and 4 million conduct an abortion Each year (22). Ethiopia has a high incidence of unintended pregnancies and unsafe abortion particularly among adolescents (26). More than 60% of the pregnancies among Ethiopian adolescents are unwanted (25).

Limiting the number of unintended pregnancies is one of the most important ways of decreasing mortality and morbidity associated with unintended pregnancies and unsafe abortions. Experts agree that use of emergency contraception is a safe and effective way to prevent unintended pregnancies after unprotected sex or when other contraceptive method fails (27).

Widespread availability, promotion and use of EC has the potential to reduce number of the unintended pregnancies following an unprotected act of intercourse (28). The use of EC will also help to decrease the cost, the emotional and the physical risk experienced by young females who engage in early sexual activity (29). Since, emergency contraception is essentially female driven, so its use and success rests mainly on how women perceive and practice it (23).

Researches shows that most young female students, especially those in higher institutions, are vulnerable to unintended pregnancy and unsafe abortions (30). It pose a major public health problems in higher education female students' in developing countries including Ethiopia (32). Unintended pregnancy either it ends with unsafe abortion or early child bearing it put a negative impact on the educational progress, future careers and even social interaction of female students by forcing them to drop out of school; which will end with poor participation of girls in the overall socio-economic development of their communities and eventually their countries (33).

Although emergency contraception are now available in many countries, it failed to have the desired impact on unintended pregnancy rates in higher institutions and its utilization is also limited (35). Therefore, in higher institutions where unintended pregnancy poses a major public health problem, promotion and use of emergency contraception could be a potential strategy to reduce the incidence of unintended pregnancies and unsafe abortions (8,34). For this identifying those factors associated with emergency contraception use among university girls and designing strategies for action is therefore, important.

Several studies were carried out on Knowledge, Attitude and practice (KAP) of emergency contraception among female higher institution students, but little is known on the extent of emergency contraception use and the associated factors among higher institutions female students in Ethiopia and in addition to this no published research has been conducted in the study area. Identifying those factors affecting EC use is therefore, very important to improve its utilization which in its turn significantly reduces the incidences of unintended pregnancies and unsafe abortion due to unprotected intercourse. Hence, the objective of this study is also to assess emergency contraception use and associated factors among female undergraduate students at Mizan-Tepi University.

Chapter Two

2.1 Literature Review

Emergency contraception use

Reports show that the rate of emergency contraception use varies from place to place and the knowledge on correct use varies from 83% in Sweden to less than 6% in developing countries (11).

In a developed county like America the 2010 report shows that One out of nine sexually experienced women of reproductive age have used emergency contraception. Women aged 20–24 are more likely than others to have used this method (12). In Netherlands the total, rate of use is about one per 100 women of all women receiving emergency contraception from general practitioners, about 70% were younger than 25, and 34% were younger than 20 (13).

Population-based surveys from developing countries show that only less than two percent of youth ages 15 to 24 have ever used emergency contraception in Armenia, Cambodia, Haiti, Malawi, Turkmenistan, and Uganda (14). According to the 2008 Nigerian Demographic and Health Survey (DHS), from all sexually active women's, only 2.8 % of them have ever used EC (15). Similarly as reported in Kenyan DHS from the total only 1.7% of sexually active women's have used EC (16).

Even though, emergency contraception is made available for free at public in 2004 by FMOH, no data exist on the percentage of Ethiopian women who have used emergency contraception at national level and EC use has not been reported separately in Ethiopia's DHS. However, in a campaign survey conducted by DKT Ethiopia on characteristics of EC users in five of the most populated regions of the country revealed that 41% of EC users were married, 47% were between the ages of 20 and 24 and young women under age 19 comprised 20% of the sample who used EC (17).

The prevalence of EC use among female student in higher institutions where by high-risk groups for unprotected sex and unintended pregnancy are available, varies from place to place. In America a Princeton University random-sample survey revealed that 70% of students had had an experience of EC (36). According to the report from Student health survey about 68.6 % of sexually experienced female students in Finland University had used EC (37).

According to Studies conducted in University and postsecondary students in several African countries it is found that while a quarter to three-quarters of youth had heard of emergency contraception, but accurate knowledge about it and its utilization was minimal (14). A survey of KAP on EC among university students in Cameroon, revealed that only 17.2% had used emergency contraception (9). Similarly the result of KAP study on EC among female students of teacher college in Uganda shows that 14.8% of sexually active participants had ever used emergency contraception (39).

In Ethiopia also a study done on KAP of EC among Adama university female students from sexually active female students only 15.9% of them had used emergency contraception methods (32). Another survey conducted in Arbaminch on the same topic also reviles that from sexually active female students involved in the study only 7.9% of them had used emergency contraception (40).

Factors associated with emergency contraception use

Socio demographic factors

According to studies conducted in Nigeria (7) and South Africa (25) on Knowledge, perception and practice of emergency contraception among female students showed that trends of emergency contraceptive use significantly increase with age. Another study done on predictors of EC among Adama university female students also shows students who were 20 years of age and above were 3.4 times more likely to use EC compared to younger ones, (33). Similarly a study conducted in the same study area on female students KAP of EC reported that the likelihood of using EC was twice higher among students aged ≥20 years than those younger (32). Another study done among Addis Ababa (AAU) female students on KAP of EC also revealed that Emergency contraceptive was found to be less practiced among younger sexually active female students than their counterpart (41).

Concerning Marital status a study done on female university students in Mongolia showed that married female students were more likely to practice EC than unmarried female students (26); similarly a survey on KAP of EC among college students found in Arbaminch town reported that use of emergency contraceptives was significantly higher among students who are married (40).

When married students compared to unmarried in AAU regarding EC practice married students were 3. 24 times more likely to use EC than unmarried (41). Similarly another two studies among female students in Adama university on predictors of EC use and KAP on EC reveled that use of EC is higher among married students than singles (32,33).

Researches done on EC in Jimma and Adama University showed that female student's field of study and academic year had association with EC practice; based on this EC practice was observed to be higher among health sciences students and increase year of study in the campus (33,45).

Knowledge of emergency contraception

Several findings show that female students' knowledge on EC has a significant association with EC use. According to a study conducted in Sweden university found that having good knowledge about EC was positively associated with it practice (42). Similarly a study done in Cameroon university on KAP of female students to EC shows that, use of EC was significantly associated with adequate knowledge of EC (9). In Nigeria also a study conducted on Knowledge and Determinants of Emergency Contraception use Among Students in Tertiary Institution in Osun State, found that The impact of good knowledge was demonstrated when more than half of the respondents with good knowledge of EC had used EC, (31). Another study in Nigeria on under graduate students shows students who had adequate knowledge practiced EC more than their counterpart (23).

Studies conducted on KAP in different Ethiopian higher institutions also reported the same result. In Adama university Students who had poor (lacked) knowledge about EC were 99% less likely to use EC (33). In Arbaminch use of emergency contraceptives was significantly higher among students who have good knowledge on EC (40).

Attitude towards emergency contraception

A study conducted at Adama university on Predictors of emergency contraceptive use among regular female students shows that EC use was significantly higher among the respondents who had a positive attitude to EC than those who had negative attitude (33). Similar finding were also

found on a study conducted on colleges female students in Arbaminch town where having positive attitude towards EC is associated with its practice (40).

Sexual and Reproductive History

In some studies Students reproductive history like history of pregnancy, age at first sexual intercourse and previous use of contraceptives, had statistically significant association with EC use. A Study done in Uganda on EC use and fertility awareness among Kampala university students shows that use of EC was significantly associated with history of pregnancy and previous use of regular contraceptive methods (39).

In a study conducted at Adama university respondents who had a history of pregnancy were 4.9 times more likely to utilize EC than their counterparts, again on the same study emergency contraceptive utilization was also significantly higher among female students who had previously used regular contraceptives than those who had no experience of regular contraceptive use (33).

Female students who started sexual intercourse at late age; that means age 20 and above, were found to be 2.3 times more likely to practice EC than their counter parts who started sexual activity earlier (32). Another study in Mekele shows that Female students who ever had sexual intercourse at age of 18 years and above were found 7 times more likely to practice EC than those who had sexual intercourse at age of below 18 years (43).

The literature review provided findings about the level of EC use and factors that have been shown to contribute to under use of EC among higher institution female students like socio demographic factors, the student's knowledge and attitude towards EC and sexual and reproductive history of students.

2.2 Conceptual frame work of the study

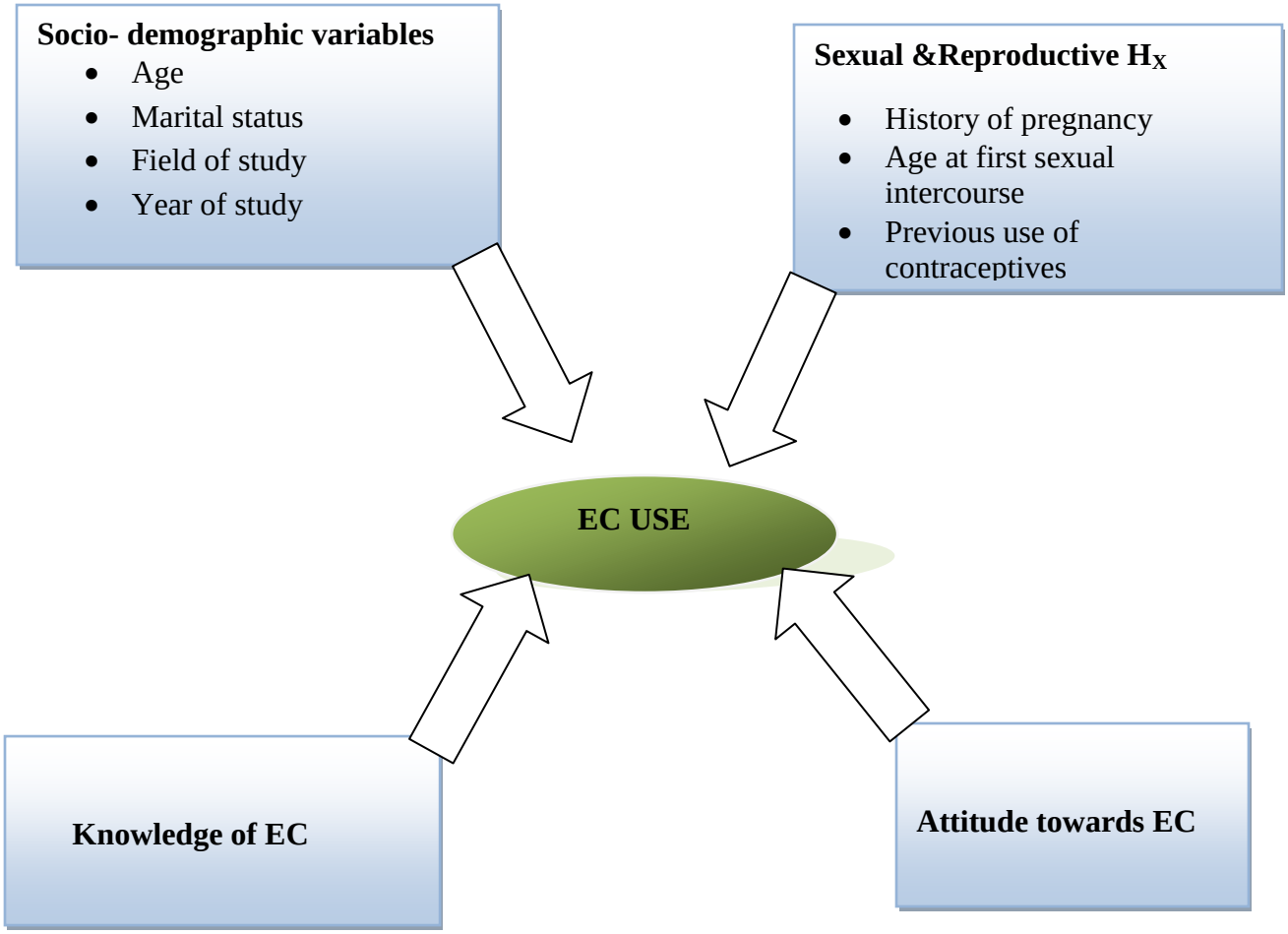


Figure 1Conceptual framework of the study (Developed by the principal investigator after searching different literatures.)

2.3 Significance of the Study

Female students of higher institutions that fall in the youth age category are exposed to many sexual & reproductive health problems out of which unintended pregnancy is one of them, that can be prevented by early use of EC. Appropriate uses of emergency contraception play a vital role in preventing unintended pregnancies & unsafe abortions. However, correct knowledge and use of EC among higher institution female students limited.

Therefore, this study is carried out to assess emergency contraceptive use and associated factors among female undergraduate students at Mizan-Tepi University.

The finding of this study will help strategy and policy makers in developing appropriate evidence-based strategies and curricula in higher institutions to prevent unintended pregnancy and to promote the need based use of emergency contraceptive. Additionally it will also provide professional input to improve delivery services related with EC. Furthermore the finding of the study will be used as a data for further studies in the area of EC.

Chapter Three: Objectives

3.1 General objective

- To assess emergency contraception use & associated factors among female students in Mizan-Tepi university students, 2014.

3.2 Specific objectives

- To determine the level of emergency contraception use among female undergraduate students of Mizan-Tepi university students, 2014.

- To determine factors associated with emergency contraception use among female undergraduate students of Mizan-Tepi University students, 2014.

Chapter Four: Methods and Material

4.1 Study area and period

The study was conducted in Mizan-Tepi University from March 15-25/ 2014. Mizan-Tepi University is located in Mizan Teferi (544 km from Addis Ababa) and Tepi (574 km Addis Ababa) towns of SNNPR state south-west of Ethiopia. It is among the 13 new universities established in the country in the last decade. The university started its operation in 2006 G.C with the aim of making quality higher education accessible to all. Initially it enrolled 215 full time students in the Faculty of Social Science and Humanities. In its humble start the university shared administrative buildings with Mizan Agriculture Technical and Vocational College. Now, after six years of its inception, MTU has 2 fully-fledged campuses: one in Mizan Teferi and the other in Tepi town. Each campus extends over 52 hectares of land and the university has a total of 6 colleges. In the academic year 2012-13 the University enrolled 8652 students including 2263 students in summer programme and 215 extension students of 6174 regular program students around 1988 are females. Currently university has a total of 556 teaching staff and 694 supporting staff.

4.2 Study design

An institution based Cross sectional study was used. Both quantitative and qualitative data collection methods were employed.

4.3 Population

4.3.1 Source population

All female students found in Mizan-Tepi University.

4.3.2 Study population

For quantitative

All regular female students of Mizan-Tepi University

For qualitative

Female students who had rich information on EC use and related experience, female students who are members of gender club and one to five group leaders ("*ande le amist amerar"*) were selected as a study population for the focused group discussions (FGD)

4.3.3 Inclusion criteria

All regular female undergraduate students in Mizan-Tepi University who are registered in the academic year 2013/14 were included in the study.

4.3.4 Exclusion criteria

Regular female students who are critically sick and unable to respond for the questionnaire were excluded from the study.

4.4 Sample size and sampling technique/ procedure

4.4.1 Sample size

For quantitative

The sample size is determined using sample size determination for estimation of a single population proportion formula as follows.

$$\mathbf{n = \frac{(Z\ a/2)^2\ P\ (1\text{-}P)}{D^2} = \frac{(1.96)^2\ 0.25\ (1\text{-}\ 0.25)}{(0.05)^2} = 288}$$

Assumption:

P = Estimate of proportion of students who used EC (25 %) (44)

D = Margin of sampling error tolerated- 5% (0.05)

α = Critical value at 95% confidence interval of certainty (1.96)

Since the source population is 1988 that is below 10,000 finite population correction is needed

$$Nf = \left(\frac{n}{1+\frac{n}{N}}\right) = \left(\frac{288}{1+\frac{288}{1988}}\right) = 252$$

Where $\mathbf{N_f}$ = The sample size from a finite population

N= Finite population size

n = Sample size estimation of single population proportion

After taking additional 10% contingency for non-response rate, the total sample size was:

$$\mathbf{N_f = 252 + 25 = 277}$$

Finally by considering the design effect the total sample size becomes **443**

$$\mathbf{N_f = \ 1.6x277 = 443.}$$

For qualitative

A total of 32 female students in four FGD with an average 8 female students in each group were included for the qualitative study.

4.4.2 Sampling technique/ procedure

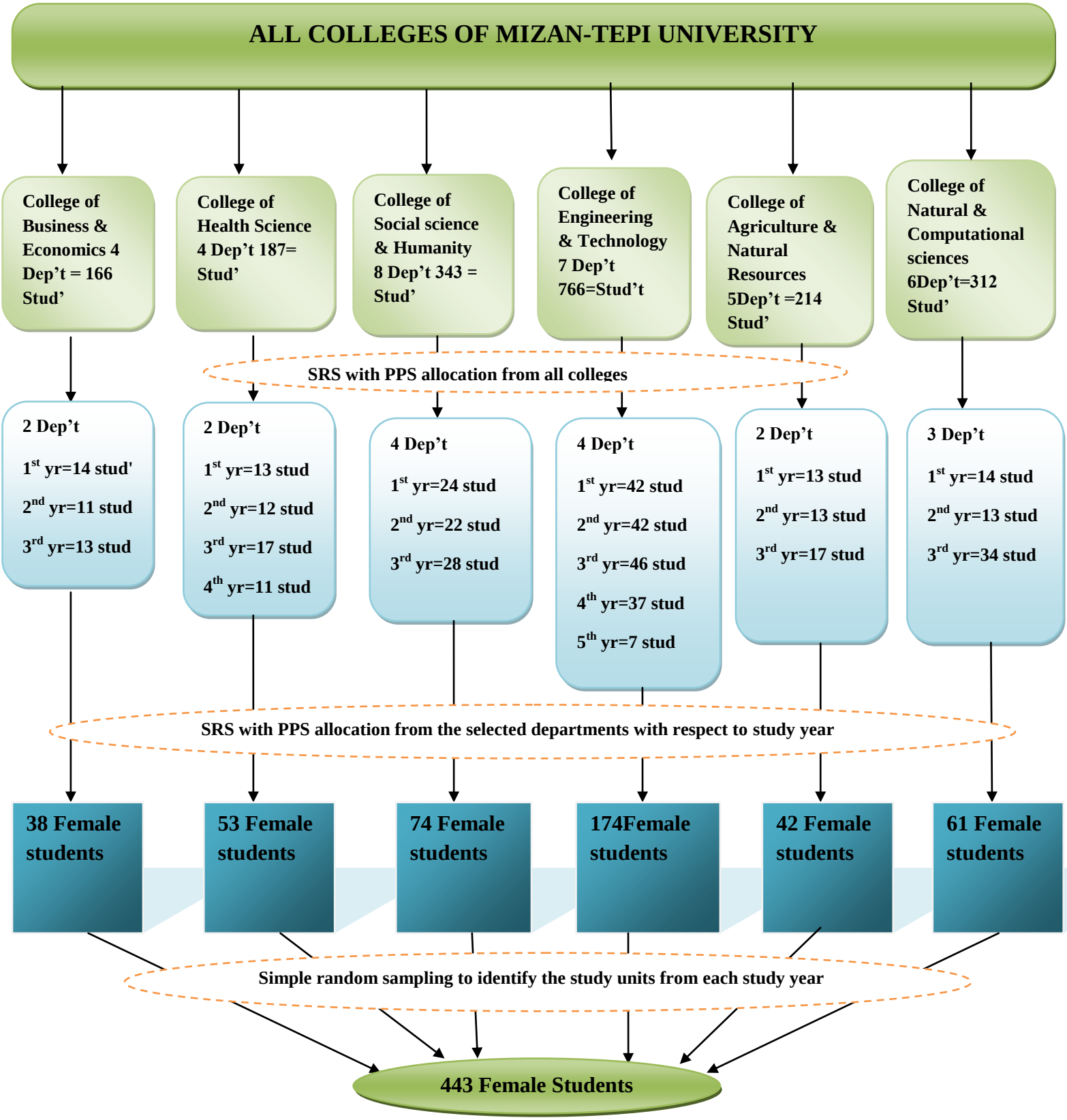
For quantitative

A two-stage stratified sampling technique was used; where first 17 departments were selected from the total 34 departments using lottery method, Then, the total sample size was allocated to each department proportional to the number of female students in the department. Finally, participant students were selected from each department proportional to their year of study using simple random sampling technique.

For qualitative

For the qualitative study mixed sampling techniques were applied first Volunteer sampling technique were used to select female students who had reach information on EC use and related experience, then female students who are members of gender club and one to five group leaders were selected through purposive sampling technique for the FGD.

Figure 2 Schematic presentation of the sampling procedure



4.5 Study variables

4.5.1Dependent Variables

- Emergency contraceptive use

4.5.2 Independent variables

1. Socio - Demographic variables:

   -Age, marital status, year of study, field of study

2. Knowledge about Emergency contraceptive
3. Attitude towards Emergency contraceptive
4. Sexual and Reproductive History

   -History of pregnancy

   -Age at first sexual intercourse and

   -Previous use of contraceptives

4.6 Operational definitions and definition of terms

- **Emergency contraception:** Is a form either oral contraception or IUCD contraception method that is used immediately or in the first few days after unprotected sexual intercourse.

- **Use of EC:** Respondents experience of EC when they are exposed to unprotected sexual intercourse in their stay in the campus to prevent an intended pregnancy.

- **Knowledge of EC:** Respondents awareness about EC that was measured using eight items like type of EC they knew, time limit to be taken EC after unprotected sex with 72 / 120 hrs. , occasions when EC will used/ not used…etc.

- **Good knowledge on EC:** Those respondents who scored above four out of eight knowledge assessing items on emergency contraception were regarded as having good knowledge on EC.

- **Poor knowledge on EC:** Those respondents who scored four and below out of eight knowledge assessing items on emergency contraception were regarded as having good knowledge on EC.

- **Attitude towards EC:** Is respondents' opinion, out looks, values, position and intentions towards the utilization of EC methods that was measured by eight Likert scale based questions.

- **Favorable attitude:** Based on the cumulated score those respondents who scored, above the mean were regarded as having favorable attitude towards EC.

- **Unfavorable attitude:** Based on the cumulated score those respondents who scored the mean and below were regarded as having unfavorable attitude towards EC.

4.7 Procedure for data collection and data collection instruments

4.7.1 Data collection instrument

For quantitative

The quantitative data was collected using structured self-administered questionnaires. The questionnaire for this study used to assess socio demographic characteristics, sexual & reproductive history, knowledge, attitude and practice of EC. It was adopted from different literatures and prepared in English. Respondent's knowledge about EC was assessed using eight multiple-choice items. Each correct answer corresponded to 1 point, and so there were a total of 8 points for the eight items and students' attitudes towards EC was measured using eight items rated on a five-point Likert scale as (1) strongly agree (SA), (2) agree (A), (3) neutral (N), (4) disagree (D)and (5)strongly disagree (SD). To check internal consistency reliability estimate of cronbach's alpha was computed after pre-test for those items that measures female students' level of knowledge and attitudes towards EC. Accordingly the cronbach's alpha coefficient of knowledge and attitude were found to be 0.84 and 0.85 respectively.

For qualitative

Focused group discussion guide was prepared and used to collect the qualitative data. The discussion guide consist of issues about unprotected sex, unintended pregnancy, emergency contraception use and those factors that affect its use among female students.

4.7.2 Data collection procedure

For quantitative

The quantitative data were collected by distributing a self-administered structured questionnaire to the study units using five Graduate assistants working in Aman College of health science. One supervisor was assigned at the time of data collection for each campus.

For qualitative

The qualitative data was collected through four focused group discussion. Before conducting the discussion, explanation and elaboration of the need to do the focused group discussion was made and the participants were asked their willingness to participate in the FGD. During data collection discussion facilitators and note takers were assigned and tape recorder was used to document and record the information obtained from the discussion.

4.8 Procedure for Data processing and analysis

For quantitative

The collected quantitative data were cleaned then entered in to Epidata3.1 software and then were exported to SPSS version 20:00 for analysis. Frequency distributions were used to organize the data and present the responses obtained. Measures of central tendency were calculated and utilized for appropriate variables to describe the data. Bivariate analysis was used to see the effects of each factor. Those variables with a p value < 0.25 in bivariate analysis were selected as candidate for multivariable logistic regression, to isolate factors which affect EC use and backward stepwise logistic regression was done, then those variables with a p value < 0.05 were considered as significant in multivariate analysis. Finally important findings were displayed using charts, graphs and tables.

For qualitative

Qualitative data was transcribed in the original language of the discussion first word-by -word from the field notes & audio tapes, and then it was translated to English language for analysis. Data analysis was done mainly based on the thematic approach to put together the data in a meaningful category. Finally, some quotes that could explain the context of factors affecting EC was identified and presented in the respondents' own words to give more insight.

4.9 Data quality management

The data facilitators' were trained for one day ahead of the actual data collection period. The training was focused on familiarizing the data facilitators with the instrument. It also includes holding discussion about different sections of the questionnaire, question by question. The study participants were participated based on their willingness in the study. Adequate information was given on how to fill the questionnaire. The principal investigator with the supervisors made the necessarily supervision throughout the data collection period to guide and correct any problems. Questionnaire was pre-tested on 5% of sample a week before actual data collection period in Aman College of health since. At time of data collection filled questionnaires were checked for completeness and consistency of information by the supervisor on daily basis and typographic errors were manually edited.

4.10 Ethical considerations

Before the actual data collection, ethical clearance letter was obtained from Jimma University College of Public Health and Medical Sciences post graduate coordination office. The respondents were well informed about the purpose of the study, and written consent was obtained. The respondents' right to refuse or withdraw from participating in the study was fully maintained and the information provided by each respondent kept strictly confidential.

4.11 Dissemination of study findings

The final report will be presented to Jimma University College of Public Health and Medical Sciences (JUCPMS) School of nursing as partial fulfillment of degree of Master in maternity nursing. The result of the study will be also communicated to JUCPMS Graduate School, MTU, and to other concerned bodies in the study area. Finally an effort will also be made to publish the thesis in a local or international journal.

Chapter: Five Result

5.1 Quantitative data

Socio Demographic Characteristics

In the study a total of 438 female students were involved giving response rate of 98.9%. Majority of them (66.2%) were in the age group of 20-24, followed by age group of 15-19, which accounted for 138(31.5%). The mean age of the respondents was 20.7 (±1.7) years the youngest being 17 and the oldest 31. Nearly 1/3 (34.4%) of respondents were in their third year of study followed by first and second year students which is 27.3% & 25.7% respectively. A little More than half 226 (51.5%) of the respondents were Orthodox Christian by religion followed by Protestants. Concerning ethnicity of the respondents 175 (39.9%) were Amhara, and more than one third (35.7%) of the students were Oromo by ethnicity, followed by Tigres (9.4%) and Wolita (5.9%) respectively. More than ninety percent of the respondents were single, followed by married 34(7.7%). (See table 1).

Sexual and Reproductive history

Out of the total 188 (42.9%) female students were sexually active in the campus and the rest were not. From those 66 (35.1%) of them started sexual activity at the age of 20 years & above, and 122 (64.8%) started sexual activity between 15 and 19 years of age. One hundred twenty three (65.4%) female students involved in unprotected sexual intercourses and the rest were not. Concerning their pregnancy status from a total of sexually active female students 81 (43.1%) had been pregnant. From those who had been pregnant majority 69(85.2%) of the pregnancies were unintended. Different reasons were given for the occurrence of unintended pregnancy from these lack of knowledge about EC 24(34.8%), forgetting to take contraceptives 12(17.5%) and rape (forced to have sex) 11(15.9%) were the main reasons. (See table 2).

Table 1: Socio-demographic characteristics of female under graduate students, Mizan-Tepi university, south west Ethiopia, March, 2014

Socio-demographic characteristics		Number(438)	Percent
Age	15-19	138	31.5
	20-24	290	66.2
	25-29	8	1.8
	>=30	2	0.5
Year of study	First year	120	27.3
	Second year	113	25.7
	Third year	151	34.4
	Fourth year	47	10.6
	Fifth year	7	2.0
Field of study	None health sciences	386	88.1
	Health sciences	52	11.9
Marital status	Single	401	91.5
	Married	34	7.7
	Divorced	3	0.8
Religion	Orthodox	226	51.5
	Muslim	130	29.6
	Protestant	62	14.4
	Catholic	20	4.5
Ethnicity	Oromo	156	35.7
	Amhara	175	39.9
	Tigrie	41	9.4
	Wolita	26	5.9
	Gurage	21	4.7
	Others	19	4.4

Table 2: Sexual & Reproductive history of female students Mizan-Tepi University, South West Ethiopia, March, 2014

Variable	Response	Number	Percent
Had sex (n=438)	No	250	57.1
	Yes	188	42.9
Age at first sex (n=188)			
	15-19	122	64.8
	>=20	66	35.1
Unprotected sex (n=188)	No	65	34.6
	Yes	123	65.4
H_x of Pregnancy (n=188)	No	107	56.9
	Yes	81	43.1
Unintended pregnancy (n=81)	No	12	14.8
	Yes	69	85.2
Reason for unintended pregnancy (n=69)			
Lack of knowledge about EC		24	34.8
Forgetting to take Contraceptive		12	17.5.
Rape (Forced to have sex)		11	15.9
Contraceptive failure		10	14.5
Rapture of condom		8	11.5
Opposition by partner to use condom		4	5.8

Knowledge and attitude of EC

Respondent's knowledge on EC and their attitude towards EC were also assessed. Concerning knowledge assessment Eight multiple-choice items in which each correct question corresponded to 1 point were used , and the students' attitudes were measured using eight items rated on a five-point Likert scale as (1) strongly agree (SA), (2) agree (A), (3) neutral (N), (4) disagree (D) and (5)strongly disagree (SD). Two Statements of attitude measuring items were stated positively & the rest were stated negatively; then reverse coding was done for the purpose of analysis. Based on this from a total of 438 respondents 93(21.2%) and 210 (47.9%) of them were found to have good knowledge on EC and favorable attitude towards EC. From those students who are sexually active (n=188) about 82(43.6%) and 121(64.4%) had good knowledge on EC and favorable attitude towards EC. (See table 3).

Table 3: knowledge & attitude of Emergency contraception, among female under graduate students, Mizan-Tepi University, March, 2014

Variable	Number	Percent
Knowledge(n=438)*		
Good knowledge	93	21.2
Poor knowledge	345	78.8
Attitude (n=438)*		
Favorable attitude	210	48.0
Unfavorable attitude	228	52.0
Variable	**Number**	**percent**
Knowledge(n=188)**		
Good knowledge	82	43.6
Poor knowledge	106	56.4
Attitude (n=188)**		
Favorable attitude	121	64.4
Unfavorable attitude	67	35.6

***** Among all students & ** among sexually active students

Practice of EC

Regarding the practice of EC, among sexually active respondents in the campus only 68 (36.2 %) used EC and from those female students who had unprotected sex 57 (46.3%) of them used EC. Emergency contraception pills were the most common methods used (97.1%). Female friends were the major source of information for EC users 36 (52.9%), followed by sexual partners 30 (44.1%) and mass media 12 (17.6%). (See table 4)

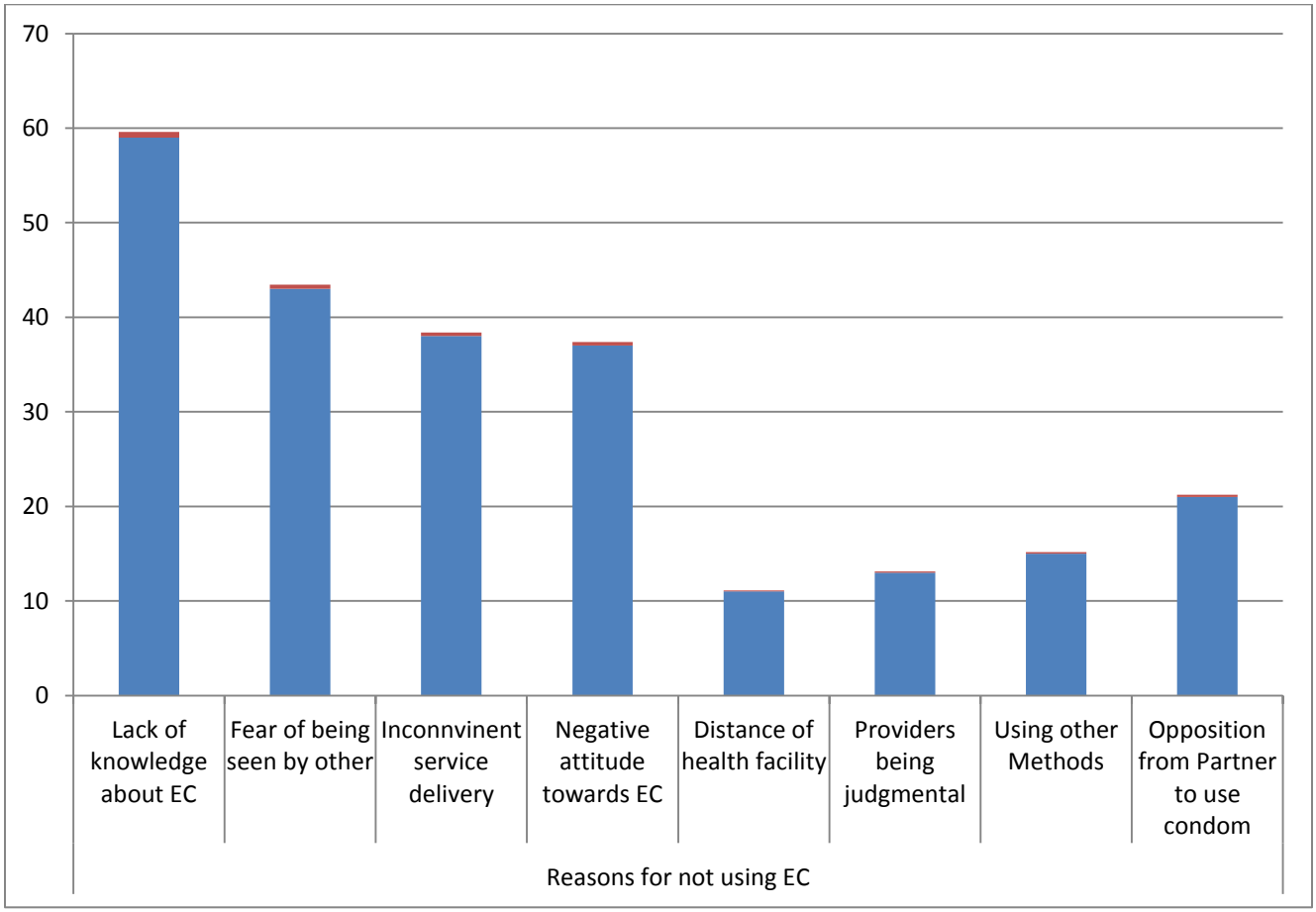
Table 4: Emergency contraception Practice among female under graduate students of Mizan-Tepi university, south west Ethiopia, March, 2014

Variable	Category	Number	Percent
Used EC among those who had sex (n= 188)	Yes	68	36.2
	No	120	63.8
Used EC among who had unprotected sex(n= 123)	Yes	57	46.3
	No	66	53.7
Types of EC used (n=68)			
ECPs		66	97.1
IUCD		2	2.9
Source of information (n=68)*			
Female friends		36	52.9
Sexual Partner		30	44.1
Mass media		12	17.6
Health professional		10	14.7
Web pages		2	2.9

* Multiple responses is possible

Among sexually active respondents but who did not use EC, Lack of knowledge about EC (58.1%) and fear of being seen by others (43.9%) were the major reasons given followed by inconvenient service delivery and negative attitude towards EC which accounted 38.8% and 37.8% respectively. (See figure 3)

Percentage*



*Multiple responses are possible

Figure 3 Reasons for non-users of Emergency Contraception, among sexually active female students, Mizan-Tepi university, south west Ethiopia, March, 2014

Factors associated with EC use

Binary logistic regression analysis was done to see associations between the independent variables with the outcome variable of the study. On Bivariate analysis; respondents age group, year of study, marital status, age at first sex, history of pregnancy, previous experience of regular contraceptive, attitude towards EC and knowledge on EC of the respondents had statistically significant association with EC use.

Based on this respondents who were in the age group of 20 & above were 1.8 times more likely to use EC compared to those respondents who were in the age group of 15-19years [COR: 1.892; 95% CI = 1.021,3.507]. As the result indicates female students of study year two and above were 2.1 times more likely to use EC than fresh students, [COR: 2.154; 95% CI = 1.074,4.321]. Concerning marital status unmarried Participants were 5.3 times more likely to use EC compared than their counterparts [COR: 5.261; 95% CI = 2.310, 11.980]. The bivariate analysis also reviled that respondent's attitude towards EC is also associated with the EC use accordingly, EC use was higher (i.e. 2.1times more) among respondents who had favorable attitude towards EC than those who had not. [COR: 2.143; 95% CI = 1.110, 4.138]. However, after adjusting for possible confounders all these association were found to be insignificant in multivariate analysis.

Similarly as shown in table 5 Female students who started sexual intercourse at age of 20 years and above were 7.3 times more likely to use EC than their counter parts. [COR: 7.254; 95% CI = 3.710, 14.183]. The likelihood of EC use among female students who had history of pregnancy was found to be 5.7 times more than those who had no history of pregnancy [COR: 5.66; 95% CI = 2.956, 10.842]. Again emergency contraceptive utilization was significantly higher among the respondents who had previously used regular contraceptives than those who had no experience of regular contraceptive use [COR= 6.003 95% CI = 3.127, 11.523]. With regard to respondent's knowledge on EC the bivariate analysis showed that respondents who had good knowledge on EC were about 11 times more likely to use EC than those who had poor knowledge. [COR= 11.087 95% CI = 5.454, 22.538].

The result of multivariable logistic regression showed that in the adjusted ratio of the analysis respondents age at first sexual sex (i.e. age 20 years and above), history of pregnancy, previous experience of regular contraceptive, and knowledge on EC had statistically significant association with EC use and are found to be predictors of EC use among the respondents.

Based on this the likelihood of EC use were 4 times more among respondents who had started sex at age 20 & above than those who started sex at Younger age (15-19 years) [AOR: 4.048; 95% CI = 1.721, 9.524]. Similarly the odds to use EC among respondents having history of pregnancy was 3.1 times more than those with no exposure of pregnancy [AOR: 3.122; 95% CI = 1.346, 7.240]. The result also showed that respondents who had experience of regular contraceptive use were 5 times more likely to use EC than those who had no experience. [AOR: 5.019; 95% CI = 2.234, 11.274].Similarly respondent's knowledge on EC was found to be associated with EC use. The odds to use EC among students who had good knowledge on EC was 3.2 times more than that female students who were not knowledgeable about EC. [AOR: 3.248; 95% CI = 1.320, 7.988]. (See table 5).

Table 5: Factors associated with emergency contraception use, among sexually active female students, Mizan-Tepi university, south west Ethiopia, March, 2014

Variables	Used EC		Odds Ratio	
	No N (%)	Yes N (%)	COR (95% CI)	AOR (95% CI)
Age				
15-19	59(49.2%)	23(33.8%)	1.00	1.00
>=20	61(50.8%)	45(66.2%)	1.892(1.021,3.507)*	2.128 (.453, 9.987)
Year of study				
Year I	43(35.8%)	14(20.6%)	1.00	1.00
Year II & above	77(64.2%)	54(79.4%)	2.154(1.074,4.321)*	.606 (.132, 2.796)
Field of study				
None Health sciences	95 (79.2%)	47 (69.1%)	1.00	1.00
Health sciences	25 (20.8%)	21 (30.9%)	1.698 (.862, 3.342)	.528 (.188, 1.485)
Marital status				
Ever Married	10(8.3%)	22(32.4%)	1.00	1.00
Singles	110(91.7%)	46(67.6%)	5.261(2.310,11.980)**	2.901 (.958, 8.785)
Age at first sexual intercourse				
15-19 years	97(80.8%)	25(36.8%)	1.00	1.00
>=20 years	23(19.2%)	43(63.2%)	7.254(3.710,14.183)**	4.048 (1.721, 9.524)*
History of pregnancy				
No	86(71.7%)	21(30.9%)	1.00	1.00
Yes	34(28.3%)	47(69.1%)	5.661(2.956,10.842)**	3.122 (1.346, 7.240)*
Ever use regular contraceptives				
No	89(74.2%)	22(32.4%)	1.00	1.00
Yes	31(25.8%)	46(67.6%)	6.003(3.127,11.523)**	5.019 (2.234, 11.274)**
Knowledge on EC				
Poor knowledge	91(75.8%)	15(22.1%)	1.00	1.00
Good knowledge	29(24.2%)	53(77.9%)	11.087(5.454,22.538)**	3.248 (1.320, 7.988)*
Attitude towards EC				
Un Favorable attitude	50(41.7%)	17(25.0%)	1.00	1.00
Favorable attitude	70(58.3%)	51(75.0%)	2.143(1.110,4.138)*	1.955 (.805, 4.750)

* P-value <0.05,** p-value <0.001

5.2 Qualitative data

The qualitative data was collected by conducting focused group discussion on factors associated with EC use for the purpose of obtaining information to explain or support the findings of quantitative study. A total of 32 students were involved in the discussion. Data analysis was done mainly based on the thematic approach to put together the data in a meaningful category.

Theme-1: knowledge on EC.

In the discussion almost all the discussants agreed that lack of adequate knowledge about EC is one of the factors that influence sexually active female students not to use EC after unprotected sexual intercourse especially when it is for their first time, concerning this different points were mentioned and supporting this idea a 20 years old second year student said that **"**……*most of us have no clear information about EC even we don't know how and when to take it due to this female students will go to abortion rather than early prevention of pregnancy by using EC***."** Another a 22 years old third year student and member of gender club mentioned that **"**.....*one day a students came to gender club to get help after she confirm that she is pregnant & when I asked her why she didn't take EC she responded that she even did not know about it at all***."** One participant added her own experience on lack of adequate knowledge by saying **"**.....*while I was in fresh man I did sexual intercourse for the first time at that time I was worried a lot not to become pregnant & I share my concern to my dormitory friend then she brought pills from somewhere and told me to take both pills at a time but by chance at that time I didn't become pregnant*……**"** Almost all discussants finally concluded that generally there is a knowledge gap about EC which extends starting from not knowing its availability at all to incorrect timing and way of taking and the problem is prominent when unprotected sexual intercourse is committed for the first time. At the end the discussant also mentioned some solutions to fill this knowledge gap which includes strengthening club that aim on working females related sexual and reproductive health (RH) issues in the university, and designing awareness creation activities through provision of health information on EC, like placing posters at different places in the campus, distributing pamphlets and preparing a mini lecture about sexual and RH issues for female students at weekends.

Theme-2: Attitude towards EC.

Students negative attitude towards EC was also the other problem mentioned as a barrier that restrict female student not to use EC after unprotected sexual intercourse. Even though they have information about the availability of EC to protect unintended pregnancy after conducting unprotected sexual intercourse some students have myths and misconceptions which guide their attitude towards EC negatively. Of these fear of side effects, becoming sterile in the future and religious views mentioned. A 21 years old third year student share her friends experience as follow **"**……..*my friend and me were friends starting from high school and we also join MTU together one day while we were in first year she told me that she did unprotected sex but she didn't want to take EC and her reason for not taking EC was that since she took it once previously she fears that she might not be able to give birth in her future life so she told me that she prefer to give birth instead of taking the pills for the second time at the end she confirmed that she become pregnant and 6month later she fill withdrawal then went to her family and she gave a baby girl now she is back and is attending first year class*.**"** Adding on this a 20 years old second year said that **"**……*different myths that I heard about EC influenced my attitude towards it negatively and this enforced me not to take EC after unprotected sexual intercourse, unfortunately at that time I didn't become pregnant but if it was occurred I don't know what would happen today*.**"** Some of FGD participants pointed out that student religious perspective is also one factor that guide their attitude towards EC which influence them not use it after unprotected intercourse then ends with unintended pregnancy and its complication. At the end the discussants agreed that although students' level of knowledge how and when to use EC is a very important factor for EC practice having positive perception towards EC could also be helpful to decide on whether to use EC or not.

Theme-3: Fear of disclosure of information.

Beside lack of knowledge on EC, negative attitude towards EC the other main point that most of the discussants raised as factor influencing female students not to use EC was fear of being seen by other while they are buying EC from pharmacy. **"**..... *I always surprised when my friends ask me to buy EC from our pharmacy in the town, even one day I bought three EC pills packs at a time, due to this they gave me a nick name "mami" when I asked them their reason it is only fear*

*of being seen by others. Imagine what would happen if I was not willing to bring the pills for them? ….. Possibly they would rather go to abortion & suffer from its consequences.***”**

This was said by 21 years old first year student. Another student from shared her friends life experience as follow **“**.....*because she fears to go to pharmacy to buy EC pills it passed 5 days after unprotected sex finally she told me about the case then I brought EC to her then she took the pills but at the end my friend become pregnant and she undergoes medical abortion at private clinic in the town which makes her to suffer more.***”** Unlike knowledge and attitude towards EC little opposition were raised in this theme but majority of the discussants were agreed on the issue**.**

Chapter Six: Discussion

This study has examined use of Emergency contraceptive and associated factors among female undergraduate students of mizan Tepi university south west Ethiopia from march 15-25/2014. In the study a total of 438 female undergraduate students were involved making the response rate of 98.9%.

The finding of this study revealed that only 21.9% & 48.0% of the respondents were found to have good knowledge and favorable attitude towards EC respectively. This finding is comparable with the study conducted in Arbaminch (40) & Jimma (45) however, it is much lower than the study findings done on female university students in Cameroon (9), Nepal (46), Jamaica (47) and USA (48). The possible explanation for this discrepancy might be due to the provision of sexual and reproductive health education and service availability at schools & higher learning institutions in these countries that help to increase female students level of awareness about sexual and reproductive health issues including EC; comparatively, the presence of better practice of open & free discussion on sex and sexuality between female students in these countries could also be another possible reason for this.

This study pointed out that among those who had unprotected sex 46.3% of them had used EC. It is in line with the findings of studies among female university students in South Africa (25) and Nigeria (7). However, this figure is relatively higher than the findings reported from studies conducted in Adama (32) and Addis Ababa (40) and the possible reasons for a higher EC practice observed in this study might be related to the presence of relatively higher proportion of sexually active students in MTU (42.0%); compared to Addis Ababa (29.4%) and (33.9%) at Adama University. It might also be due relatively better level of knowledge about EC among sexually active respondents in this study. Increment in the level of awareness as the time of the study goes on might also be another possible explanation. Even though, the result of the current study on utilization of EC may seem to be relatively better than the finding of studies in Addis Ababa, Adama and Arbaminch but is still lower when it is compared with the prevalence of unintended pregnancy.

Factors associated with EC use

As shown on the result of this study the bivariate analysis reviled that respondents age, year of study, marital status, age at first sex ,history of pregnancy, previous use of regular contraceptive, knowledge of EC and attitude towards EC were found to have significant association with EC utilization. Furthermore, in multivariate analysis respondents' age at first sex, history of pregnancy, previous use of regular contraceptives and knowledge about EC were found to be major predictors of EC utilization.

Accordingly, respondents who were older (i.e. >= 20 years) were found to have used EC more than their younger counterparts (i.e. <=19 years). This finding is in line with the findings of the study conducted in Adama University (32,33), AAU (41), and universities in South Africa (25), & Nigeria (7); which reported that older age groups are more likely to use EC when compared to younger age groups. Female students at Younger age group in universities may have less information about EC and its proper use due to the fact that they are newly enrolled in university and may not be actively involved in different activities that increase their level of awareness about EC. As observed in this study, increment in sexual practice proportional to age and year of study among female students in the campus; which in turn increases their level of awareness and practice of EC may also be another reason for this.

The bivariate analysis also revealed that respondent's marital status showed an association with use of EC. However, In contrast to the finding of the study conducted in Arbaminch (40), Adama (33), AAU (41) and Mongolia (26); which showed that married female students were more likely to practice EC than unmarried female students; in the current study unmarried respondents were found more likely to practice EC than married ones. The lower proportion of EC utilization among married female students in the current study might be due to sharply increased trends in Use of modern Contraceptives (long acting) methods among Currently Married females in the country; which will in its turn decrease the occurrence of unintended pregnancy and its consequences than would their younger unmarried counterparts.

The finding from bivariate analysis of the current study also indicated that there was statistically significant association between respondent's attitudes towards EC and their practice. Accordingly respondents who had unfavorable attitude towards EC were less likely to use EC than those who had favorable attitude towards EC. This is in line with the finding at Arbaminch (40) & Adama university (33). The qualitative data also supports this finding a 20 years old second year student said that **"***……different myths that I heard about EC influenced my attitude towards it negatively and this enforced me not to take EC after unprotected sexual intercourse, unfortunately at that time I didn't become pregnant but if it was occurred I don't know what would happen today.***"** Adding on this another FGD participant a 21 years old third year share her friends lived experience as follow **"***……her reason for not taking EC was that since she took it once previously she fears that she might not be able to give birth in her future life so she told me that she prefer to give birth instead of taking the pills for the second time……....***"**

In line with the study findings in Adama University (33) and female teachers college in Uganda (39) this study also found that respondents history of pregnancy is a predicting factor for EC use. Hence Emergency contraceptive use was higher among respondents with history of pregnancy than their counterparts. The lesson learned from previous pregnancy could be the possible explanation for higher practice of EC to protect unintended pregnancy among respondents with history of pregnancy when compared to respondents with no history of pregnancy.

Female students, who started sex at late age; that means age 20 and above, were found to be more likely to use EC than their younger counter parts that started sex earlier. This finding is similar to the study done in Mekele (43) and Adama University (33). This may be possibly due to better exposure to information, maturity and increased awareness about EC and consequences of unintended pregnancy held by girls as they started sex at older age than earlier age.

In this study respondents experience of using regular contraceptives had statistically significant association with EC use. Female students who used regular contraceptive methods were more likely to use EC when compared to those who had no previous experience of regular contraceptive use. It is similar with the study done in Adama University (33). This may be possibly due to more intention to visit family planning clinics among respondents with previous experience of regular contraceptive where they may get the opportunity to be told about the use of emergency contraceptive as a backup for others methods during counseling. However, the

finding is inconsistent with the results of other studies in Nigeria (49) and Mongolia (26) which reported that a lower proportion EC use among students with experience of regular contraceptive use. This inconsistency might be explained by the differences in patterns and level of use of regular contraceptives in the studies which were not further explored.

The study also showed that, good knowledge of EC was a significant predictor of their use, which is in agreement with reports of studies conducted in Adama (33), Arbaminch (40), Nigeria (31), Cameroon (9) and Sweden (42); where knowledge of EC was significantly associated with increased likelihood of using them. This finding is also agreed with the reason given among sexually active EC non user female students in this study; were the major reason reported was lack of knowledge about EC followed by fear of being seen by others. Similarly the findings are also supported by the qualitative data report. As mentioned on the FGD Lack of knowledge about EC is one of the major factor that delay female students from using EC on time to protect unintended pregnancy. This knowledge gap extends even from not having any information about EC to incorrect administration. Supporting this idea here is what was said in the discussion by a 20 years old second year student **"**……*most of us have no clear information about EC even we don't know how and when to take it due to this female students will go to abortion rather than early prevention of pregnancy by using EC*.**"** Another a 22 years old third year student and member of gender club mentioned what she faced while working in gender club; that strengthen the finding of students' lower level of knowledge on EC. **"**.....*one day a students came to gender club to get help after she confirm that she is pregnant & when I asked her why she didn't take EC she responded that she even did not know about it at all.***"**

Supporting the quantitative finding fear of being seen by other was also mentioned as one of the factor affecting female students not to use EC. Strengthening this idea a 21 years old third year student present her friends life experience **"**.....*because she fears to go to pharmacy to buy EC pills it passed 5 days after unprotected sex finally she told me about the case then I brought EC to her then she took the pills but at the end my friend become pregnant and she undergoes medical abortion at private clinic in the town which makes her to suffer more*.**"**

Strength and Limitations of the study

Strengths of the Study

1. Both quantitative and qualitative methods were applied in the study.

2. The study analyzes associated factors of EC use among sexually active students rather than the whole respondents.

3. The study participants were selected from randomly selected departments of all colleges found in the university to make it more representative.

Limitation of the study

1. The presence of social desirability bias cannot be totally eliminated as the study touches sensitive issues that may leads to under reporting.

2. Cause and effect cannot be ascertained since it is a cross sectional study.

Chapter Seven: Conclusion and Recommendations

7.1 Conclusion

The finding of this study showed relatively higher proportion of emergency contraception users than other studies however, it still very low with high risk of unintended pregnancy among sexually active students. In general this study came up with findings that female students' level of knowledge, age at first sex, previous use of regular contraceptives & history of pregnancy were the major predictors of emergency contraception use. Therefore, the study concluded that despite higher level of unprotected sex utilization of EC among female students was lower; level of awareness on emergency contraception by MTU students is low; that their knowledge about the general features of EC is low and misinformation is high among these students.

7.2 Recommendations

1. The university should Therefore, design an awareness creation and attitude changing activities towards emergency contraception through provision of different regular health information and communication programs that could increase female student's awareness level on emergency contraception.

2. Mizan-Tepi University together with other organizations that offer services on contraception and related issues; should have to design strategies and programs that help to enhance (scale up) emergency contraception utilization.

3. And finally a separate study to assess the level and the type of forced sexual intercourse is also recommended which was the third major reason for unintended pregnancy.

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Annexes

Annex I-Information sheet and consent form

Dear students!

My name is _____Currently I am a graduate student at department of Midwifery & Nursing, College of public health & medical science, Jimma University. I am conducting a survey to asses' EC use & associated factors among female undergraduate students at Mizan-Tepi University. The ultimate purpose of this survey is to collect information necessary for developing programs to prevent unwanted /unplanned pregnancies and its squeals. To attain this purpose your honest and genuine participation is very important and highly appreciable. I, therefore, kindly request you to fill this questionnaire as accurately and carefully as possible. For close ended questions, please encircle your answer and for those you need suggestions write your opinion shortly, precisely &clearly on the space provided for each question. Please be assured that all the information gathered will be kept strictly confidential and you do not need to write your name or any special identification that might disclose who you are, on any of the questionnaire page. Only the researcher has the access of the information and used it for the study purpose only. You have a full right not to participate in this study.

Campus

- Mizan / Tepi

Data Collector

- Name----------Signature ---------- Date ----------

Supervisor

- Name ----------Signature ----------Date ----------

Consent form

In signing this document, I am giving my consent to participate in the study entitled "Assessment of factors affecting emergency contraceptive use among female undergraduate students at Mizan-Tepi university students south west Ethiopia''. I have been informed that the purpose of this research project and I understand that I am selected to participate in this study randomly. I have been informed that my participation in this study is willing full and voluntary even I have right to refuse or interrupt the filling of questionnaire and my name will not be mentioned on the questionnaire. I, undersigned, have understood the purpose of the study & fully agree to participate in the study.

Signature of the participant---------- Date ----------

Thank you, have a nice day!

Annex II- Questionnaire and Topic guide for the FGDS

SECTION - I - SOCIO- DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

S.NO	QUESTION	POSSIBLE RESPONSES	SKIP
101	How old are you? Age in completed years	---------	
102	Your current Marital status?	1. Single 2. Married 3. Divorced 4. Widowed	
103	What is your Religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 99. If Other,(specify)----------	
104	What is your ethnicity?	1. Oromo 2. Amhara 3. Tigrie 4. Wolita 5. Keffa 6. Gurage 99. If other (specify) ----------	
105	What is your department /stream?	----------	
106	Which year of study are you attending now?	1. First year 2. Second year 3. Third year 4. Fourth year 5. Fifth year	

SECTION - II - RESPONDENTS SEXUAL AND REPRODUCTIVE HISTORY

S.NO	QUESTION	POSSIBLE RESPONSES	SKIP
201	Have you ever had sex since you join this campus?	1. Yes 2. No	If No → 301
202	What was your Age of the first sex in your life	----------	
203	Have you ever had Unprotected sexual intercourse since you join this campus?	1. Yes 2. No	If No → 207
204	Have you been pregnant?	1. Yes 2. No	If No → 207
205	If your response is **YES** for question no. 204 was it Unintended pregnancy	1. Yes 2. No	If No → 207
206	If your response is **YES** for question No. 206 what was the Reasons for unintended pregnancy. (**More than one responses is possible)**	1. Contraceptive failure, 2. opposition by partner to use condom 3. Rape (Forced to have sex) 4. Rapture of condom, 5. Forget to take contraceptive 6. Lack of knowledge about EC 99. If other (specify) ----------	
207	Have you ever used any regular contraceptive previously in your life?	1. Yes 2. No	

SECTION - III - RESPONDENTS KNOWLEDGE ASSESSMENT QUESTIONS ON EC

S.NO	QUESTION	POSSIBLE RESPONSES	SKIP
301	Where do you think emergency contraception could be obtained?	1. Pharmacy/ Health facility 2. Any shops	
302	Which one of these drugs can be used for emergency contraception?	1. Combined oral contraceptive 2. Progesterone only pills & IUCD 3. Anti-biotic like ampicillin	
303	When taken early, emergency contraception prevent sexually transmitted infections	1. Yes 2. No	
304	Situation(s) that emergency contraception should be taken (**more than one answer could be possible**)	1. If condom ruptured during intercourse 2. When there is a missed pill 3. When forced to have sex/raped 4. When there is failure of contraception 5. I don't know	
305	Recommended time to take emergency contraception Pills	1. Within 24 hours after sex 2. Within 72 hours after sex 3. Within 5 days after sex	
306	Effectiveness of emergency contraception Pills in preventing pregnancy	1. Highly effective (>95%) 2. Effective (75-89%) 3. Less effective (<10%) 4. Not effective at all	
307	Recommended number of dose of emergency contraception Pills	1. One dose 2. Two doses 3. Three doses	
308	Recommended time between the doses of emergency contraception Pills	1. 12 hours apart 2. 24 hours apart 3. 72 hours apart	

SECTION –IV - RESPONDENTS ATTITUDE ASSESSMENT QUESTIONS TOWARDS EC

S.NO	QUESTION	POSSIBLE RESPONSES	SKIP
401	Use of EC after unsafe sexual intercourse could prevent unwanted pregnancy	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
402	All females have the right to access EC.	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
403	Emergency contraception promotes promiscuity	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
404	Emergency contraception may hurt the baby in case it does not work	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
405	Emergency contraception is one way of abortion	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
406	It is sinful act to use emergency contraception methods	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
407	Emergency contraception use may cause infertility in a woman	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	
408	Emergency contraception will affect ongoing regular methods of contraception negatively	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree	

SECTION - V - RESPONDENTS EXPERIENCE OF EC

S.NO	QUESTION	POSSIBLE RESPONSES	SKIP
501	Have you ever heard about Emergency contraception	1. Yes 2. No	
502	Have you ever used emergency contraceptive since you joined this campus?	1. Yes 2. No	If No → 506
503	If your response is **YES** for question No. 502 where did you get the information? (**more than one answer could be possible**)	1. Friend / sexual Partner 2. Mass media 3. Club in the campus 4. Web page 5. Health professional 99. If other (specify)----------	
504	If your response is **YES** for question No. 502 Which methods have you used	1. Emergency contraception Pills 2. IUCD	
505	If your response is **YES** for question No. 502 what was the reason for using EC?	1. Condom broke or slipped 2. Contraception, timing miscalculation 3. Forced to have sex 4. The withdrawal method fails 99. If other(specify)----------	
506	If your response is **NO** for question No. 502 what was the reason for not using EC? (**More than one response could be possible**)	1. Lack of knowledge about ECs 2. Fear of being seen by other 3. Inconvenient service delivery 4. Negative Attitude towards EC 5. Distance of health facility 6. Providers being judgmental 7. Using other methods 8. Opposition from partner to use condom 99. If other(specify)----------	

Topic guide for the FGDS

I. Warm-up and Explanation (10 minutes)

A. Introduction

Thanks for coming. My name is ---------- and my assistant is ----------. I am a postgraduate student in maternity nursing at Jimma University. We are going to have group discussion on EC use and those factors associated with its use among female students of Mizan-Tepi University. Therefore, your presence is important we will ask you very general questions.

B. Purpose

We want to learn from your experiences concerning EC use and factors associated with its use so we are interested in all your ideas, comments and suggestions. There is no right or wrong answers. All comments-both positive and negative-are welcome. Please feel free to disagree with one another; we would like to have many points of views. Whatever you say will not make us feel good or bad or affect us in any way. So feel free to give frank and honest answers.

C. Procedure

If you don't mind, we will record (audiotape) the discussion. The purpose is to ensure we don't miss anything you said. All comments are confidential, used for research purposes only. We want this to be a group discussion. So you need not wait for us to call on you. Please speak one at a time, so that the tape-recorder can pick up everything. We expect you to talk to one another but you should not interrupt when someone is speaking. You have to respect the views of others even if it may be different from yours. You all participants have an obligation to keep confidential what you hear from other participants.

D. Self-introduction

Tell us something about yourself. E.g. your age, department, year of study….. Etc.

II. Main discussion - (90 minutes)

Qn1 What comes in your mind when you think about unprotected sexual intercourse

Probe: What does it mean? (How do you describe it?)

What factors expose female students for unprotected sex?

Is unprotected sex is practiced in among female students in this campus?

Qn2 What do you know about unintended pregnancy

Probe: Would you explain it?

Why female students face unintended pregnancy? Explain?

Would you mention some consequences of unintended pregnancy?

Qn3 Have you heard about emergency contraception

Probe: What are the Situation(s) that emergency contraception should be taken?

Could you tell me the recommended time and dose to take EC Pills?

Qn4 What are those factors that influence female students not to use EC after having unprotected sexual intercourse? What measures did female students take when they faced unintended pregnancy after unprotected sex?

III. Closing (5 minutes)

Before we end, do you have anything else you would like to say or ask? Anything you liked or disliked about this discussion? Thank you so much for coming and sharing your views! Your insights have been very helpful!

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research thesis and for provision of required progress reports as per terms and conditions of the college of Public Health and medical sciences in effect at the time of grant is forwarded as the result of this application.

Name of the student: _____

Date._____ Signature _____

APPROVAL OF ADVISORS

This research thesis has been submitted with my approval as University advisor.

Name of the first advisor: _____

Date._____ Signature _____

Name of the second advisor: _____

Date._____ Signature _____

Name of internal examiner_____

Date._____ Signature _____

Date of submission: _____