

FEMALE COLLEGE STUDENTS' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS SEX
AND EMERGENCY CONTRACEPTIVES

by

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DECLARATION

I declare that **FEMALE COLLEGE STUDENTS' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS SEX AND EMERGENCY CONTRACEPTIVES** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

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Abstract

Background- At the local, regional, national and global levels, unsafe abortion takes a tremendous toll on girls, women, families, communities, health systems and nations.

An estimated 46 million induced abortions are performed annually with 78,000 deaths globally each year. In Ethiopia, unsafe abortion accounts for nearly 60% of all gynaecological admissions and almost 30.0% of all obstetric admission, about 22-54% of direct obstetric deaths are due to unsafe abortion. EC is increasingly regarded as a means to reduce abortion rates

Objective – The aim of this study is to assess the knowledge, attitude and practice of female college students' towards sex and emergency contraceptives so as to prevent unintended pregnancy.

Methods – A descriptive cross sectional survey was conducted among 352 sampled female college students of Dessie, Ethiopia from June 4 to June 5/2012. Self-administered questionnaire was used to collect the data. Data was entered into a computer using Microsoft Excel 2007 and analyzed using SPSS version 16.0 statistical software and Binary logistic regression analyses are used to measure the associations.

Result- The age of students ranged from 18 to 25 years. Of the total respondents 36.6% ever had sexual experience, 53.3% know at least one regular modern contraceptive method, 69.9% heard about emergency contraceptives (EC) but, only 33.9 % had good knowledge about EC and 15.4% of them had ever used it.

Conclusion & recommendation- Less than fifty percent of the respondents were knowledgeable about EC. The correct knowledge of the method such as the time limit is lacking for most of the students.

Information, education & communication to increase awareness and knowledge about emergency contraceptive is important. Contraception information sessions should address; full details how the EC works and full details of how the contraceptives should be taken.

KEY TERMS:

Attitude, Emergency Contraceptives, knowledge, Practice

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LIST OF ABBREVIATION

EC	Emergency contraceptives
ECPs	Emergency contraceptive pills
ESOG	Ethiopian Society of obstetrician and Gynaecologists
FGAE	Family guidance association of Ethiopia
FMOH	Federal ministry of health
HBM	Health belief model
HIV/AIDS	Human immune-deficiency virus and acquired immune-deficiency syndrome
IEC	Information education and communication
IPAS	International pregnancy advisory service
IUCD	Intra-uterine contraceptive device
KAP	Knowledge attitude and practice
NGO	Nongovernmental organisation
RH	Reproductive health
UN	United nation
UNICEF	United Nations international children's emergency fund
UNISA	University of South Africa
WHO	World health organisation

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Emergency contraception (EC), also called post coital contraception, is a method of preventing unwanted pregnancy that result from unintended sexual activity, contraceptive failure, or sexual assault (Gebreyohannis 2009:10) and lack of knowledge or access to contraception, thereby reducing the need for abortions and the negative maternal health consequences associated with them (Lemma 2009:1). Studies show that, for most of the youth, college represents; a shift towards greater independence from home and school settings, an opportunity to form new friendships, and for several, an opportunity to experience romantic and/or sexual relationships. Higher Education students' unwanted pregnancies pose a major public health problem in the developed and developing countries including Ethiopia and are associated with far reaching effects such as jeopardising the students' educational progress and future careers. These pregnancies are mostly unplanned and unintended and many are terminated either legally or illegally (Tilahun 2010:195). Different studies suggested that emergency contraception (EC) can substantially reduce a woman's chance of becoming pregnant when taken soon after sex (National Abortion and Reproductive Rights Action League, 2011:1, Association of Reproductive health professionals 2011:3, Guttmacher Institute 2012:1). When used within 72 hours after sexual contact, pills have the capacity to prevent pregnancy by 75-85% and with the use of Intra uterine devices (IUCDs), unwanted pregnancy can be prevented by as much as 99% (Friedman et' al., 2003). Although options for and information about EC have increased, further efforts are needed to improve women's access to this important backup method of birth control (Lemma 2009:2). Globally an estimated 46 million induced abortions are performed annually with 78,000 deaths each year (Pavin 2003:230-244) and in Ethiopia, unsafe abortion accounts for nearly 60% of all gynaecological admissions and almost 30.0% of all obstetric admission, (Federal ministry of health of Ethiopia) (FMOH 2006:1). About

22-54% of direct obstetric deaths are due to unsafe abortion. EC is increasingly regarded as a means to reduce abortion rates (Abera & Tebeje 2009:30). In Ethiopia, women who tend to undergo induced abortion, are below the age of 30 years and are literate; many of whom being above the secondary educational level which indicates that more of them are in tertiary level or college level. (Tamire & Enqueselassie 2007:111) Other studies, including; Ambaw (2008:109), Tilahun et al (2010:198), Mengistu (2007:15), Tamire & Enqueselassie (2007:112), conducted in different universities of the country, revealed that the number of students who have positive attitude towards sexual practice and the number of those who are experiencing penetrative sex and induced abortion are increasing from time to time; however, their awareness in preventing unintended pregnancy after incidental sex is very limited.

Making Emergency contraceptive pills (ECPS) accessible to college students can help prevent unintended pregnancy and unsafe abortion (Parker 2005:1). A recent National study confirmed that up to 78.0% of unwanted pregnancies were attributable to contraceptive non-use or incorrect use and over 45.0% of all abortions occurred in adolescents and the younger age group (Lemma 2009:3)

1.2 THE RESEARCH PROBLEM

1.2.1 Source and background to the problem

1.2.1.1 Source of the research problem

At the local, regional, national and global levels, unsafe abortion takes a tremendous toll on girls, women, families, communities, health systems and nations. The full extent of its impact is difficult to measure, both because unintended pregnancy and abortion remain taboo in most societies and because few health systems or countries effectively collect data on the subject (IPAS 2007:8). Ending the silent pandemic of unsafe abortion which is still a major problem in the developing world is an urgent public-health and human-rights imperative. Every year about 19–20 million abortions are done by individuals without the requisite skills or in environments below minimum medical standards, or both (Senbeto et, al. 2005:37). Nearly all unsafe abortions (95%) are in

developing countries (Sushanta & Kathryn 2009:8) and an estimated 68,000 women die as a result (Grimes 2006:1).

Compared to women in their twenties, adolescents aged 15-19 are two times more likely to die during child birth (Parker, 2005:2). Adolescents disproportionately resort to unsafe abortion since they have more unwanted pregnancies as a result of contraceptive non-use, misuse, and method failure than older women. Overall risk of death from unsafe abortion is by far the highest in Africa, where the case fatality rate reaches 7 deaths per 1000 unsafe abortions (UN 2004, Desta & Regassa 2011:1106). In Ethiopia, complications of unsafe abortion are estimated to account for about 32% of maternal deaths (Gebrehiwot & Liabsuetrakul 2008:81). It isn't uncommon to find that many of the obstetric admissions are for complications of unsafe abortion which undoubtedly compromises other maternity and emergency services. The treatment of abortion complications in hospitals consumes significant share of resources including hospital beds, blood supply & medications. Thus, the consequences of unsafe abortions place great demand on the scarce clinical material and financial resources of hospitals (Dinku 2007:2).

Even though the number of youngsters seeking abortion services both in governmental and private health facilities is increasing, there is no assessment done on the factors influencing contraception use of college students in the area. Therefore, this study attempts to identify and bridge the knowledge gaps about the influence of pre-existing attitude of the college students in Dessie city towards sex and their awareness about the use of emergency contraception.

1.2.2 Background to the problem

Despite surprising technological advancements in modern contraception methods, unintended pregnancy continues to be a worldwide problem that affects women, their families and the society as a whole (Dinku 2007:2). The potential of EC to prevent unwanted pregnancies and its utilization in developing countries has been well documented. However, in vast majority of the developing countries including Ethiopia, the potential client's, service providers and the service status is not well documented

(Atsede 2007:3). The need for Emergency contraception is clearly demonstrated by the occurrence of high magnitude of unwanted pregnancy and induced abortion. If emergency contraception is easily available and distributed along with appropriate advocacy and information, education and communication (IEC) activities, millions of unwanted pregnancies and abortions could be averted (Gebreyohannis 2009:11). It is now essential to compare the situation of unintended pregnancy and its consequence to the regional and international level.

According to the report of World Health Organisation (WHO), each year throughout the world, 75 million pregnancies end in stillbirth or spontaneous or induced abortion (WHO 2008:2). Again about 46 million pregnancies (22 percent of the total pregnancies and 61 percent of the unplanned/unintended pregnancies) are aborted (Kahn 2005:7). Unsafe abortions are responsible for nearly one third of maternal deaths in West Africa and sub-Saharan Africa. In Africa, about one quarter of the unsafe abortions are among teenagers (aged 15 to 19), a higher proportion than in any other region of the world (Mesce 2005:7).

In Ethiopia, early sexual debut, limited knowledge of sexual physiology, limited use of contraceptives, limited access to RH information and girls' limited control over their sex lives all contribute to the high rate of unwanted pregnancy (Lemma 2009:3). First experience of casual sex is common among female adolescents in Addis Ababa; as 71.0% of female adolescents aged 15-19 reported that they already have had a casual sexual experience (Lemma 2009:3). In a study conducted in Jimma University, Ethiopia, 19% of female students started practicing sex at mean age of 18.8 (Ambaw 2008:110). Another study conducted in Adama University, Ethiopia, showed that 32% of students had an experience of pregnancy in which 92% of them were unintended and 77.7% of them ended with induced abortion. Concerning their awareness about EC, only 5.25% of the students identified it correctly (Tilahun et al 2010:198). As different studies suggested, EC provides women with a last chance to prevent pregnancy after unprotected sex (Trussell et, al 2011:15).

Elimination of legal and regulatory barriers to the provision of contraception, including emergency contraception is an important policy measure. Introduction and promotion of

emergency contraception in the country would greatly reduce the rate of unwanted pregnancy and thereby decrease the high rate of maternal deaths associated with unsafe abortion. Emergency contraception should be available at all levels of the health care system and, where possible. Introduction of emergency contraception was a welcome addition for the campaign against unwanted pregnancy and unsafe abortion. Since most of the regular methods are used before or during sexual intercourse, emergency contraceptives are the only method that can be used with in short time after sexual intercourse, offering a second chance to prevent unwanted pregnancy. Studies estimate that nearly half of the induced abortions could be prevented if emergency contraception is accessible to all women and used correctly (Ayana 2008:3). Introduction of EC began in 2001 by Family Guidance Association of Ethiopia (FGAE) in collaboration with the population council as a pilot project in selected youth center clinics in the country. The project demonstrated that; EC was popular among young people, served as a learning experience, and showed the need to expand services in the public and Non Governmental Organization (NGO) sectors (Mengistu 2007:3).

1.3 Statement of the Research problem

In spite of the high rate of unwanted pregnancy, the uptake of EC to prevent it among college students is very low and the factors behind are not understood. This poses a major public health problem in the country and is associated with far reaching effects such as jeopardizing students' educational progress and future careers. There are few published reports with limited scope to show the magnitude of the problem, specially the influence of unwanted pregnancy on female students' education in Ethiopia other than releases through the mass media. Therefore it is important to gain a better understanding of the reasons for low uptake of EC as a first step towards the reduction of teen pregnancy.

1.4 AIM OF THE STUDY

The aim of this study is to assess female college students' knowledge, attitude and practice about sex and Emergency Contraception to prevent unintended pregnancy.

1.4.1 Objectives

- I. To assess the students' pre-existing knowledge about EC,
- II. To assess students' pre-existing attitudes about sex and how can these affect their use of EC.
- III. To assess the utilization level of emergency contraceptive among the students.
- IV. To utilise findings to develop practical recommendations for service providers

1.5 SIGNIFICANCE OF THE STUDY

Even though there is no specific published study on college students in Ethiopia, a recent national study revealed that up to 78.0% of unwanted pregnancies were attributable to contraceptive non-use, incorrect use, or method failure. It was also disclosed that over 45.0% of all abortions occurred in adolescents and the younger age group (Gebreyohannis2009:13 & Worku et al 2008:28). Emergency contraception could prove to have valuable benefit to a country like Ethiopia which has a high fertility rate and high morbidity and mortality of women due to pregnancy related complications. Even though EC has been in use for long time in Ethiopia, awareness of students about it is very limited. Therefore, to introduce the method effectively, the students Knowledge, Attitude and Practice towards sex and EC should be assessed. This study will give insights into barriers of EC use and it will allow an initial process to understand reasons for low EC uptake and pave ways for solution.

1.6 DEFINITION OF KEY CONCEPTS

Adolescents – Although there is no internationally accepted definition of adolescence, the United Nations define adolescents as individuals aged 10–19: in effect, those in the second decade of their lives (UNICEF 2011:1). In Ethiopia, most of the colleges have students of age 17 years and above. In this study, students below 18 years of age were excluded for ethical reasons. But about 29.8% (n=105) of the study subjects were between 18-19 years of age, which were in the range of adolescent age according to the above definition.

Knowledge: is a complex, multifaceted concept. For example, you may say, you know that the earth rotates around the sun, know how to give an injection, and know pharmacology. These are examples of knowing; being familiar with a person, comprehending facts, acquiring a psychomotor skill, and mastering a subject. Knowledge on EC includes; the types of EC, mode of action, how and when to use EC and their effectiveness, side-effects and contraindications (Burns & Grove 2009).

Attitude: is a hypothetical construct that represents an individual's degree of like or dislike for something. Attitudes are generally positive or negative (favourable or unfavourable) views or evaluations and reactions to objects, a person, place, thing, or aspects of the world, including abstract ideas and social policies. This is often referred to as the attitude object. People can also be conflicted or ambivalent toward an object, meaning that they simultaneously possess both positive and negative attitudes toward the item in question. Attitudes are judgments. They develop on the ABC model (affect, behaviour, and cognition). The affective response is an emotional response that expresses an individual's degree of preference for an entity. The behavioural intention is a verbal indication or typical behavioural tendency of an individual. The cognitive response is a cognitive evaluation of the entity that constitutes an individual's beliefs about the object. Most attitudes are the result of either direct experience or observational learning from the environment (EB 2003. Sv "Attitude (Psychology)" and Atkinson & Hilgards 2009:662)

Emergency Contraceptive PILLS: ECPs are ordinary birth control pills containing the hormones oestrogen and progesterin. (Trussell et' al.1998)

Unsafe abortion: a procedure for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment that does not conform to minimum medical standards or both (Grimes 2006:1).

Unprotected sexual intercourse-intercourse taking place without barrier methods such as; no contraceptive has been used, when there is a contraceptive accident (failure) or misuse, condom rupture, slippage or misuse, failure to abstain on a fertility day of the cycle in a women who uses the calendar method and in case of rape (forced sex).

1.7 FOUNDATIONS OF THE STUDY

1.7.1 Conceptual Frame work

Health Belief Model (HBM) is used as the conceptual frame work for this study. A model is "...a symbolic depiction of reality and use diagrams and symbols to represent ideas. The components of a model can guide the researcher in the research task" (Brink et al 2006:23). The HBM is one of the most widely used conceptual framework for understanding health behaviours and is believed to lay the foundation of this study which enables the researcher to discover what is known or unknown about the topic of interest in order to conduct research that adds to the body of knowledge (Polit & Beck 2007:88).

According to the HBM Edelman & Mandle (1995:228) and Rosenstock (1974:332), individuals' intentions to participate in preventive health behaviour are determined by five main factors, namely:

Perceived susceptibility, i.e. the person's subjective perceptions of the likelihood of experiencing a specific disease or condition that would adversely affect their health risk. For the behavior of seeking emergency contraception, the student must believe that she can have unintended pregnancy as a result of incidental sexual practice. This constellation of belief is referred to as "belief in susceptibility".

Perceived Severity or Perceived Seriousness, i.e. the person's perceptions regarding the effects of the disease or condition might have. For this particular issue, consequences of unintended pregnancy like complications as a result of unsafe

abortion, dropout of education stigma and discrimination both from family and the community are some of the outcomes.

Perceived benefits i.e. the students' perceptions of the gains associated with using contraception. On assessing the circumstances, the students believe that benefits stemming from recommended behavior outweigh the costs and inconveniences and it is indeed possible and within their grasp.

Perceived barriers, i.e. the person's perceptions of impediments associated with performing the behavior, perceived barriers explain one's belief about the tangible and psychological "costs" of the advised action. For example fear of stigmatization to ask EC from health institution, inaccessibility of EC, distance from the health institution cost of EC, fear of side effect.

Cues of action; these include a diverse range of triggers such as perception of complication, social influence, health education campaigns, media reports and mass media campaigns.

Stanhope & Lancaster (2001:252) state that the HBM is beneficial in assessing health protection or disease prevention behaviours. It is also useful in organizing information about clients' views on the state of health and what factors may influence them to change their behaviour. The HBM when used appropriately provides organized assessment data about clients' abilities and motivation to change their health status. Programmes can be developed or improved to suit the needs of clients.

This study utilised the HBM to facilitate and acquire insight into female college students' knowledge, attitude, and practice with regard to sex and emergency contraceptives (Dennill, King & Swanepoel 1999:157). Based on the HBM, questionnaires were developed to address the female college students' knowledge and perceptions (perceived susceptibility, perceived severity, perceived benefits and barriers to adopting preventive behaviours) of unwanted pregnancy and unsafe abortion. This conceptual framework formed the basis of the questionnaire of the research. Those questionnaires that ask about pregnancy were based on perceived susceptibility, whereas questionnaires on unsafe abortion stem from perceived severity or perceived seriousness, and those that ask about challenges to get emergency contraceptives

came from perceived barriers. Lastly, questionnaires asking about source of information were based on cues of action.

Components of Health Belief Model Applied to contraception

The HBM is divided into three major components namely individual perceptions, modifying factors and variables affecting the likelihood of initiating action

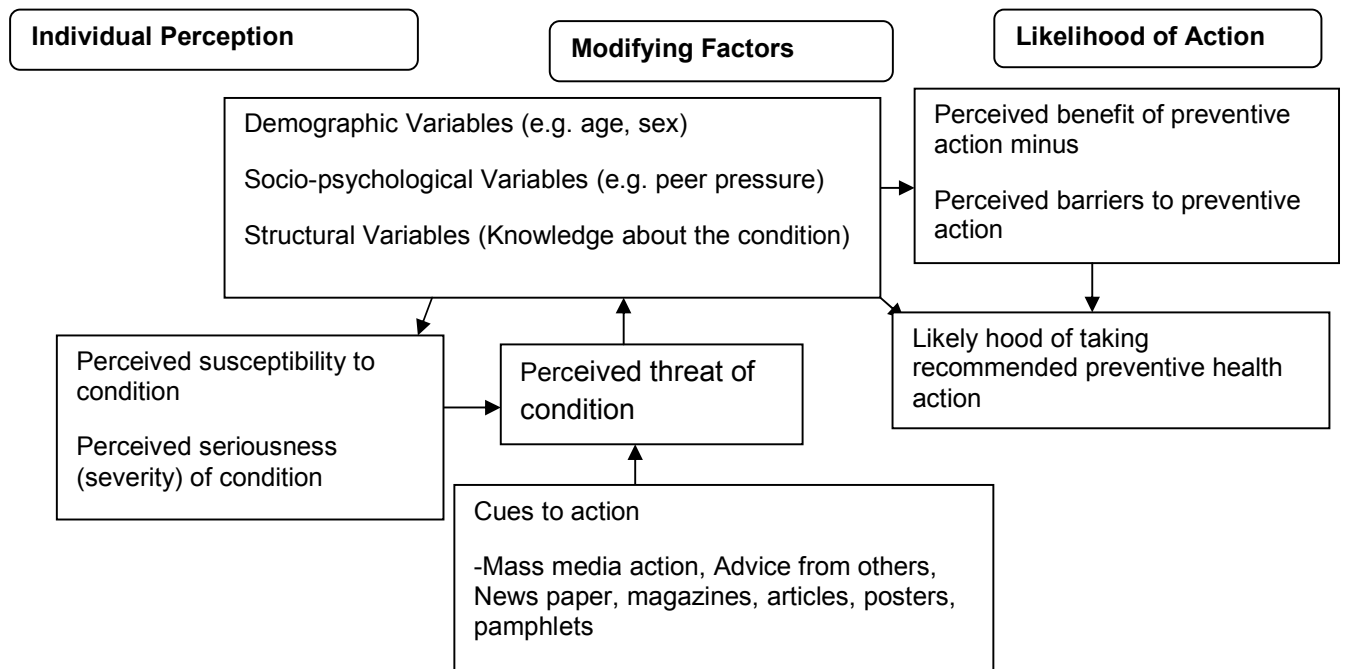


Figure 1: Variables and relationships in the HBM (Cookfair 1991:72)

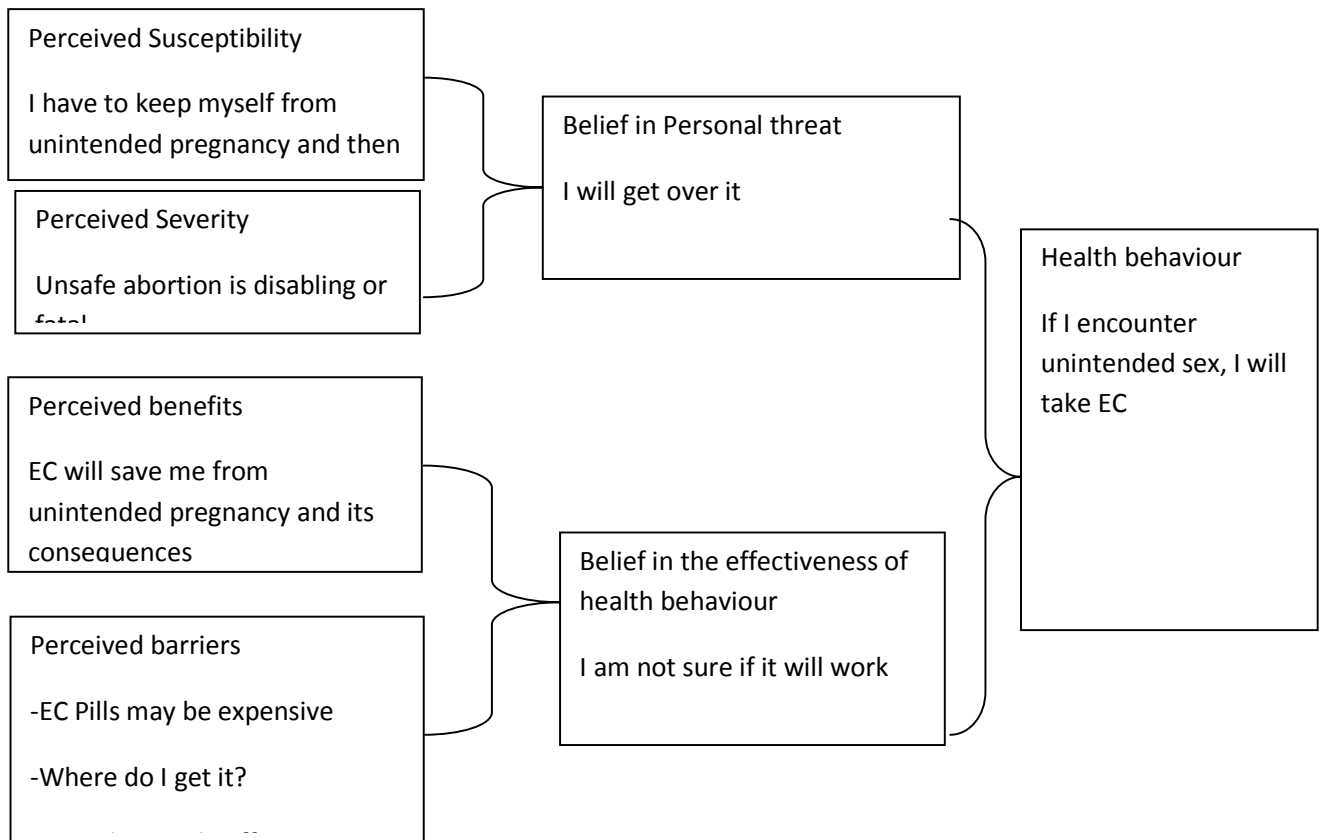


Figure 2: The Health Belief Model in relation to Emergency contraceptives

In applying the HBM, it is important to provide information about unwanted pregnancy and the consequences which arise if unwanted pregnancy is managed unsafely. Female college students should be aware of the consequence of unwanted pregnancy and severity of unsafe abortion as well as the potential benefits of effective utilisation of emergency contraception. Different forms of health education strategies assist and remind students to take action in the prevention of risks of unsafe sex. Local surveys on knowledge, attitudes and practice towards sex and emergency contraceptives in the colleges were beneficial in the planning, implementation and evaluation of family planning programmes.

CONCLUSION

A conceptual framework serves as a foundation on which a study is based and enables a researcher to discover what is known or unknown about the topic of interest in order to conduct research that adds to the body of knowledge. In this chapter an overview was given on the components of the HBM and its application to emergency contraceptives as means of preventing unwanted pregnancy in the colleges.

1.8 RESEARCH DESIGN

A descriptive cross-sectional study was conducted in three colleges of Dessie which is one of the cosmopolitan cities in Ethiopia. There are six colleges in the city, out of which three colleges were selected by lottery method. This includes administration of a self administered structured questionnaire that was conducted to assess Female college students' Knowledge, Attitude and Practice towards sex and Emergency contraception.

1.8.1 Descriptive Research

The purpose of descriptive studies is to observe, describe, and document aspects of a situation as it naturally occurs (Polit & Beck 2008:274). This study design is crafted to gain more information about characteristics within a particular field of study. Their purpose is to provide a picture of situations as they naturally happen (Burns & Grove

2009). This research is descriptive in nature as the data collected was described and contrasted with findings of different literatures to enable other readers study the research findings and apply it to benefit the community. This research studied the female college students' Knowledge, Attitude and Practice towards Sex and Emergency contraception. The findings are analysed, interpreted and described so as to be used by policy makers and health planners to improve the present provision of EC in the city as well as in different similar colleges in the country.

1.8.2 Cross-sectional design

The study design involves the collection of data at one point in time (Polit & Hungler. 1995:145). It examine group of subjects in various stages of development, trends, patterns, and changes simultaneously with the intent to describe changes in the phenomenon across stages (Burns & Grove 2009). The data collection was conducted using self administered questionnaires at a single point in time in all colleges that were eligible for the study.

1.9 RESEARCH METHODS

1.9.1 Background to the study Population

A research population is the entire aggregate of cases in which a researcher is interested. It is sometimes useful to make a distinction between the accessible and target population. The accessible population is the aggregate of cases that conform to designated criteria and that are accessible as subjects of the study. Meanwhile the target population can be defined as the aggregate of cases about which the researcher would like to generalize the findings (Polit & Beck 2008: 337 - 338). Here the research population were 2554 Female college students in Dessie, Ethiopia.

1.9.2 Sample size estimation

Multi stage sampling technique was used for selection of the samples. At first three colleges out of the six colleges of the city were selected using lottery methods. The selected female students from the chosen three colleges were; 1110 female students from 40 classes of the selected six departments of Dessie Teachers Training college , 248 female students from 8 classes of the selected six departments of Admas University College, 451 female students from 15 classes of the selected six departments of ALKAN University College. The sample size was calculated using a one sample population proportion formula. As the degree of precision is pre-specified and assuming the proportion of students who were aware of emergency contraception to be 50%, adding non-response rate of 5%, the required sample was calculated using the following formula. $n = [(z_{\alpha/2})^2 p (1-p)]/d^2$

$= [(1.96)^2 (.5) (.5)]/ .05 = 384.16$ Adding 5% non-response rate, $= 384.16 + 5\% = 423$ study subjects. But since the total population was less than 10,000 or $n/N > 10\%$ it was essential to use population correction. There for, $n_f = n_i / 1 + n_i / N = 423 / 1 + 423 / 2554 = 363$

Where:

n = the desired sample size

P = Proportion of students who have knowledge about emergency contraceptives.

= 50% (To obtain a maximum sample size as there was no previous study conducted in this regard in Dessie).

$Z_{\alpha/2}$ = Critical value at 95% confidence level of certainty (1.96)

d = the margin of error between the sample and the population = 5%

Then the required sample size was 363. Based on proportional allocation, 223 students from Dessie teachers training college, 50 students from Admas University College, and 90 students from Alkan University College were assigned for the study. A simple random selection method was employed for the selection of the studied female students from all female students from each college.

1.9.3 Sampling method

A probability sampling method was used among female students at three colleges in the Dessie city of Ethiopia. In this study, all female students in the selected colleges, which are 2554 in number, were considered as a source population and all female students who were 18 years old and above in the selected colleges, 1809 in number, were considered as a target population required sample size was drawn from this population. In this case, a multi stage sampling design was followed. First of all, target colleges had been sampled using lottery method and then individual students were being sampled from each college using simple random sampling. Here, attendance lists of individual classes were used as a sampling frame.

Here the accessible population were elements within Dessie Teachers' education college, Admas University College, ALKAN University College. The sample was obtained from the accessible population using simple random sampling.

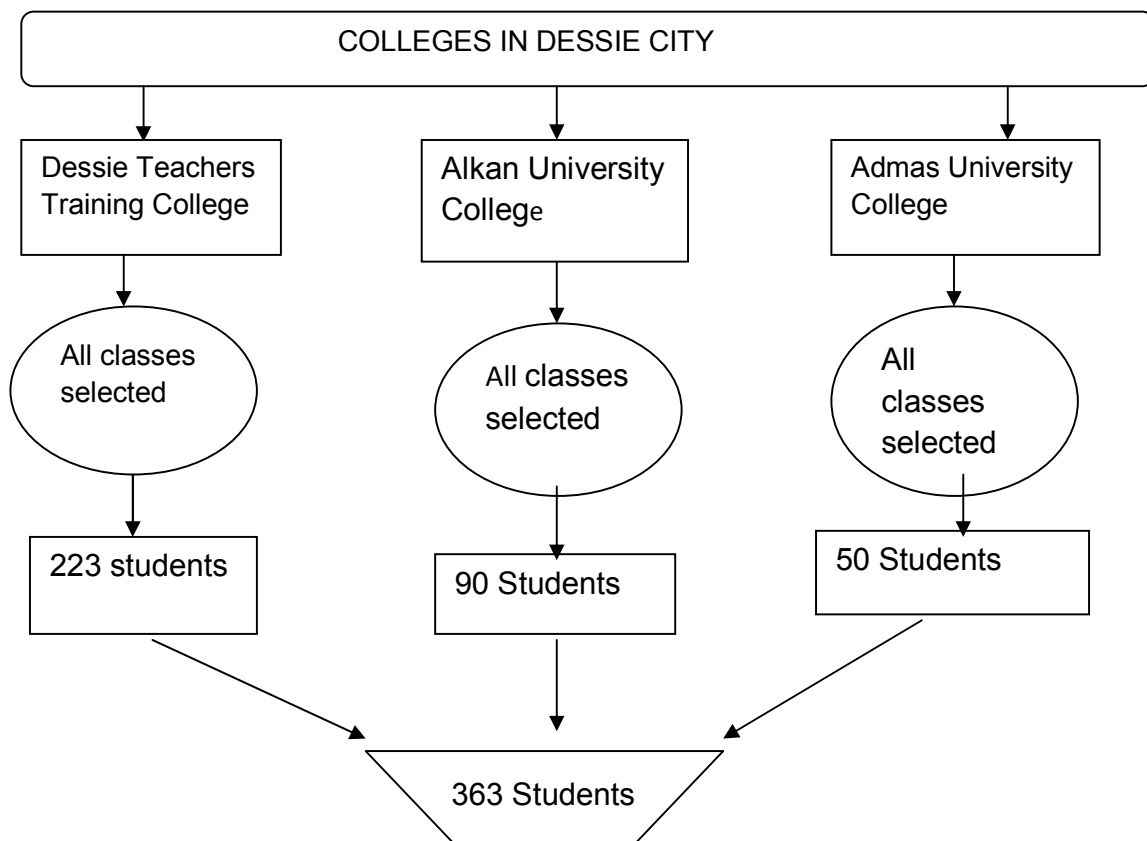


Figure 3: Sketch of sample selection method

1.9.4 Data collection

Quantitative data was collected using self-administered structured questionnaires. A questionnaire is a list of questions which are answered by the respondents, and which give indirect measures of the variables under investigation. Structured questionnaire involves the use of questions, tests and/ or scales which are presented to respondents in the same way, with no variation in question wording, and with mainly pre-coded response choices. The strength of structured questionnaires is the ability to collect unambiguous and easy to count answer, leading to quantitative data for analysis. Because the method leads to greater ease of data collection and analysis, it is relatively economical and therefore, large samples of people can be included. Their weaknesses are that the pre-coded response choices may not be sufficiently comprehensive and not all answers may be easily accommodated. Some respondents may therefore be 'forced' to choose inappropriate pre-coded answer that might not fully represent their views. Self administered questionnaire requires the respondents to fill in the questionnaire themselves without the researcher helping in the way. There are instances in which the question may be read at a time and answers filled in by the respondents in a structured manner (Joubert & Ehrlich 2007, Parahoo 2006:298-299 and Bowling 2009:283-284). In this case, the respondents themselves read and filled independently.

Advantage of self administered questionnaire:

- It keeps the respondents anonymous except in case where the researcher deliberately uses a code to identify non response for follow up purpose.
- Helps all respondents to answer in their own time and at their convenience
- Respondents can have the time to check records especially when they answer factual questions.
- Generally less costly and time-consuming

Disadvantage of self administered questionnaire

- There is no opportunity to ask respondents to elaborate, expand, clarify or illustrate their answer.
- Respondents themselves have no opportunity to ask for clarification
- They may understand questions differently from researchers, thereby not inspiring confidence in the validity of questionnaires.

Therefore, self administered questionnaire is best data collecting method for this study since reproductive health issues are so sensitive and need privacy. In this study, the questionnaire was first prepared in English and then translated in to Amharic, in order to maximise comprehension of respondents to the questionnaire as the study subjects comprehend Amharic more than English. The questionnaire was back translated to English to check for consistency by two different language experts. Then the questionnaire was pretested in students at two departments of Dessie teachers Education College, which were not selected for the main survey one week before the start of data collection. Three Nurses as data collection facilitators were trained and involved in the data collection.

1.9.5 Data analysis

Data collected through self administered questionnaire were entered into the computer for analysis mainly using Micro-soft Excel version 2007 and Statistical Package for Social Sciences (SPSS). Before data analysis, some internal consistency checks were made to assess the quality of the data. The analysis part consisted of descriptive statistics (frequency tables and graphs) to summarise and describe the data and analytic statistics (binary logistic regression, with 95% confidence interval) to show associations between target variables.

1.10 VALIDITY AND RELIABILITY/TRUSTWORTHINESS

1.10.1 Validity

Validity refers to the degree to which an instrument measures what is supposed to be measuring. (Polit & Hungler. 1995: 347) The research instrument which was used to measure the female college students' knowledge, attitude and practice towards sex and emergency contraceptives was properly calibrated by defining each concept and was assessed for content validity by rating the items for readability, clarity and comprehensiveness and came to some level of agreement as to which items should be included in the final instrument. To insure content validity, the instrument items were partly adapted from the questionnaire of the nationwide survey conducted by Ethiopian Family Guidance Association (FGAE 2002), and from Ahrold (2007), Ambaw (2008) and Sujay (2009). To assess whether the instrument covered all dimensions of the construct, literature and experts in the field were consulted. Also, it was being evaluated by the supervisors at the University of South Africa (UNISA) and during the pre-testing of the instrument. On the other hand to maximize the data quality, data collectors were selected carefully based on their educational status; training was conducted on the nature and reason of the research and objective of the study.

1.10.1.1 Internal validity

Restriction was used to limit the study to students of colleges with the same level that is 10+3. This assures that the respondents were in the same age group. Selection of all students that meet the criteria eliminates biases resulting from differential selection of study subjects.

1.10.1.2 External validity

This study used a heterogeneous sample of students in which they were from different cultures, religions and both from rural and urban areas. This can attest that the study results can be replicated for various subgroups in the sample. Selection of students from divergent sites ensures a broader representation of the study population and a broad-based variability in the dimensions considered important for the study.

1.10.2 Reliability

Reliability of an instrument that yields quantitative data is a major criterion for assessing its quality and adequacy. Essentially, the reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring (Polit & Hungler 1995:353). The instruments' measure of reliability was ensured in this research by grouping similar questions sequentially under the same section. In addition, only the researcher was responsible for entering abstracted data into the instrument during the conduct of the actual research and by so doing the chances of consistency in the results were increased.

1.11 ETHICAL CONSIDERATIONS

The following ethical issues were considered during the study:

Institutional review board

The study was carried out after getting permission from the higher degrees committee of the department of health studies at UNISA for ethical clearance and from the heads of each college.

Permissions

Permission was asked with a formal written letters from respected officials of the colleges and permission was gained before the start of data collection.

Informed consent

Informed verbal consent of participants was sought. The objectives of the study were discussed with each participant. The participants were told that there is no incentive but has benefits for the community especially for the youth and it is riskless and that they have full right to discontinue the questionnaire at any time during the session. Privacy and confidentiality was maintained during and after the interview. At the beginning and the end of filling of each questionnaire, data collectors thanked the study subjects for their willingness and giving their time to participate in the study.

Confidentiality:

The data collectors informed the respondents that information that was collected from this research project will be kept confidential. The Information of the respondents put in the questionnaire, which was collected together from all participants, is impossible to identify both by the facilitator and the investigator because it has no name on it.

Right to refuse or withdraw:

Participants were told that they have the full right to refuse from participating in the research (they were able to choose not to respond to some or all questions). It was further explained to the participants that if they do not wish to participate in the study they can withdraw.

1.12 CONCLUSION

For most of the youth, college represents a shift towards greater independence from home and school settings, an opportunity to form new friendships, and for several, an opportunity to experience romantic and/or sexual relationships. EC is the only contraceptive method that can be used following unprotected sex to prevent pregnancy. It's an important "second chance" to prevent pregnancy if a contraceptive method used has failed, if no contraceptive method used or if there was forced sex. EC has been proven to be safe and effective. Studies indicate that greater access to EC can lead to reduction in unintended pregnancy and abortion.

Unwanted pregnancy is one of the major RH challenges of women in Ethiopia. The maternal mortality rate is 1.68 per 1,000 women aged 15 to 49 years, and unsafe abortion is estimated to account for about 32% of all maternal deaths in the country (FMOH 2006:1). Improving EC access to women and young adults could play an important role in preventing unplanned and unwanted pregnancies in the country. As documented from different studies in different countries, women especially young adults and adolescents lack information whom to use to get family planning products. Different studies show that only very few women have the awareness about emergency contraception methods. Of those who are aware of the availability of EC, the majority lack the knowledge on the time limit of taking emergency contraceptives after unprotected sex, how and where to obtain the methods. There are also women who have negative attitude about emergency contraception. In addition, utilization of emergency contraception is very low despite the high proportion of unintended/unwanted pregnancies that may have resulted from lack of awareness about modern contraceptive methods including emergency contraception.

This study is a descriptive type of research, designed to assess Female College Students' Knowledge, Attitude and Practice about Sex and Emergency Contraception in different colleges of Dessie, Ethiopia. The findings from this study will notify authorities on the existing situation and helps to design an intervention to improve their approach on how to increase awareness in the community. In this Chapter, the background of the research problem, the source of the research problem, the statement of the research problem, significance of the study, objectives, as well as the foundation of the research are briefly outlined. An overview has also been given on the design and methodology used to collect data and of the reliability and validity of the research instrument discussed. Ethical aspects pertaining to the research was considered and addressed.

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

Chapter 2 deals with the search for, and review of literature relevant to the research topic, female college students' knowledge, attitudes and practise about sex and emergency contraception.

Researchers rarely conduct research in an intellectual vacuum; their studies are usually undertaken within the context of an existing knowledge base and researchers almost always do a literature review to familiarise themselves with that knowledge base. There are a range of activities associated with conducting a literature search and preparing a written review, including locating and critiquing studies and drawing conclusions about existing evidence. A written research review should provide readers a well-organised summary of the current state of knowledge on a topic. The review should point out both consistencies and contradictions in the literature and offer possible explanations for inconsistencies (Polit & Beck 2008:105).

2.2. PURPOSE OF THE LITERATURE REVIEW

The typical purpose for analysing or reviewing existing literature is to generate research questions to identify what is known and not known about a topic, to identify concept of the theoretical traditions within the bodies of literature, and to describe methods of enquiry used in earlier work including their success and shortcomings (Basavanthappa 2007:92)

2.3. DATA SEARCH STRATEGY

As a primary source, UNISA library was used to obtain books. In addition, scientific journals and internet electronic resources were also handled. Moreover, post graduate library of Addis Ababa University was used as a potential source for many local papers

done in the country. On the other hand, relevant papers were found through computerized literature search engines of scholarly articles. They are Google Scholar- that is used for article online search, MEDLINE (Medical Literature Analysis and Retrieval System Online), and HINARI.

Key words that were searched are:

- Emergency contraception
- KAP Study on Emergency contraception
- Female college students' Knowledge about Emergency contraception
- Factors contributing to low utilisation of Emergency contraception

The resources that were obtained from the search engines were: journals, both electronic and in hard copy, different books, unpublished researches, and local researches published on different journals.

2.4. INCLUSION AND EXCLUSION CRITERIA.

Totally, one hundred thirty documents had been retrieved initially by simply using key words and phrases relevant to the research topic. After the basic search had been accomplished, then the identified materials had been restricted to some inclusion and exclusion criteria. Majority of the papers were selected from those researches done in Ethiopia, in order to use them for comparison, as they are made by different institutions at different corners of the country. Others were Researches which were done in different developing countries so as to utilise information of comparable situations. Some of the researches might not be published and some others were published in local journals of the country.

➤ *Inclusion criteria*

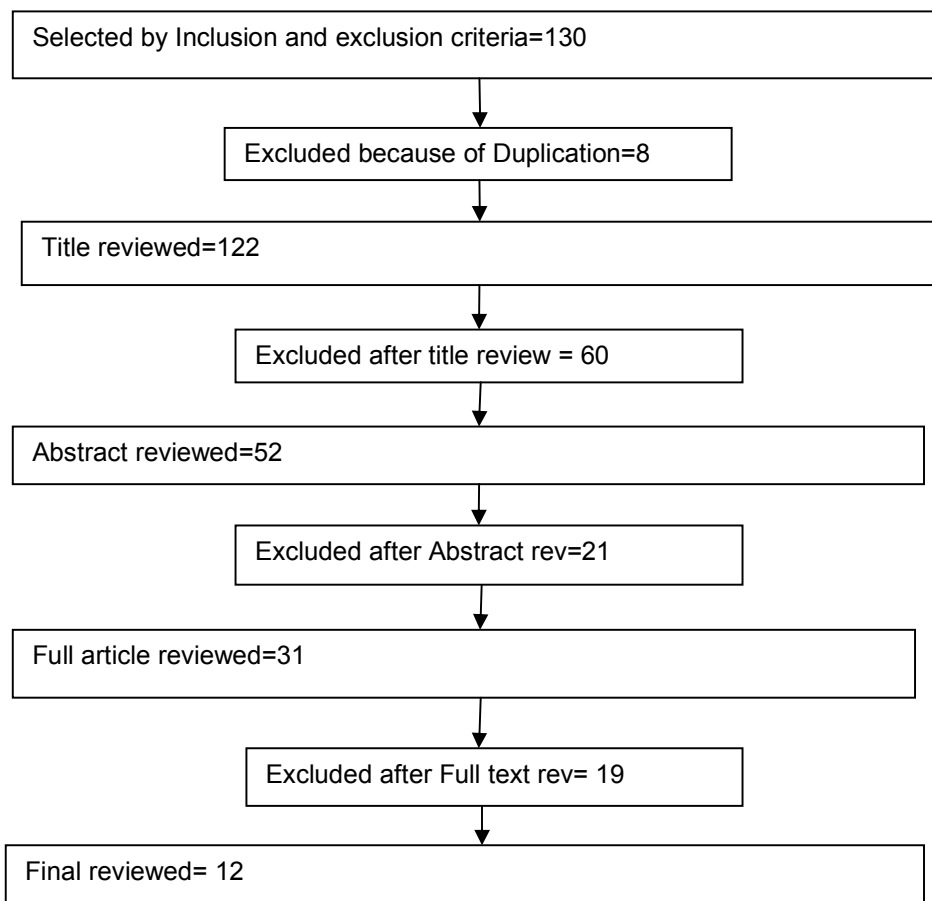
- Entries published in English
- Only research reports
- Research done on college students and Adolescents
- Research done specifically on emergency contraceptives but not on general family planning

➤ **Exclusion criteria**

- Studies written in languages other than English
- Studies published before 2007 to keep the currency of the literature based on the recommendation of summary sheet for ethical clearance of postgraduate students' research proposal for dissertation.
- Community based research
- Research done in developed or advanced countries
- Papers with sample size less than 100 because, according to MNUALLL (2012) to discuss findings in terms of percentage, a minimum of 100 respondents are recommended. Therefore to compare findings it is necessary to review papers with comparable sample size.

After applying each of the above criteria, only 12 met the strict criteria for inclusion, and also fulfilled the academic and scientific rigor expectations for inclusion in the review. The primary research studies that fully fulfilled the inclusion criteria are reviewed in the following chapter.

Review Flow



2.5. APPRAISAL OF IDENTIFIED STUDIES FOR THE LITERATURE REVIEW.

The Table below shows a summary of the primary research studies included with in this literature review.

SUMMARY OF REVIEWED RESEARCHES

AUTHOR/ DATE	SAMPLE SIZE/ (N)/DESIGN/ CLIENT GROUP	RESEARCH OBJECTIVE	RESULTS/ CLAIMS
Mengistu (2007)	N=830- Female college students cross-sectional, descriptive study/ self administered questionnaire /	Assessing awareness, attitude and utilisation of emergency contraception	High sexual violence and sexual harassment (high rate of unintended sex) low awareness, knowledge and utilization of EC about 548(65.8%) of respondents had favourable attitude towards emergency contraception
Tamire et al (2007)	N=774- Female university students Descriptive, cross-sectional study/ self administered questionnaire/	Assessing the knowledge, Attitude and Practice of EC among young female	Low level of knowledge and practice of emergency contraceptives among female University students. Only about 4.9% respondents reported that they had used EC.
Zelege et al 2008	N=400- Female University students/ Descriptive cross-section/ Structured self administered questionnaire	Assessing the knowledge, Attitude and practice of emergency contraceptives among university students	Majority of students have about Emergency contraceptives. However, there is a great knowledge and attitude gap among female university students out of 124 who practiced unsafe sex, 91(73.4) used EC.
Telahun et al 2009	N=660- Female University students/Descriptive cross-sectional /self administered questionnaire	Assessing Adama University students' knowledge, attitude and practice of EC	Lack of awareness, knowledge and utilisation of EC among the students
Desta et al 2011	N=572- Female University	Investigating the level of awareness, knowledge	About 47.6% of the respondents have

	students/Descriptive Cross-sectional study/ self administered structured questionnaire	and attitudes of young female students of Haramaya University on EC	mentioned EC spontaneously by name when asked if there is anything a woman could do soon after unprotected sexual intercourse to try to prevent pregnancy
Gebreyohannis 2009	N= 561- Female University students/Descriptive cross-sectional study self administered questionnaire/	Assessing the knowledge, Attitude and utilisation of emergency contraceptive and identifying associated factors among female undergraduate students of Mekele University.	Less than fifty percent of the respondents were aware of EC. The knowledge of the correct method is lacking such as the time limit.
Relwani et al 2012	N=155- Engineering college girls self administered multiple response questionnaire/	Assessing the knowledge, Attitude and practice of EC among engineering college girls	Knowledge of emergency contraception by students is low and the method is underused.
Adhikari 2009	N=1137, 564 female students/Descriptive Cross-sectional study/ structured self administered questionnaire	Investigating the level of awareness and factors influencing awareness of EC among college students	Awareness of EC is low among college students in Nepal only about two thirds of college students (68%) had ever heard about EC.
Sujay 2009	N=3173, college students, self administered questionnaire	Applying the extent of and factors associated with pre-marital sexual relations among unmarried college students in Gujarat.	Awareness of sexual and reproductive matters was relatively limited and fewer than half of all students had been exposed to sexuality education in school or college
Freitas 2007	N=100, adolescents who used the services of health centre in the Categna Municipality in the province of Luanda/self administered questionnaire	To describe and explore the knowledge of female adolescents in Angola with regard to contraception	The results portrayed a lack of knowledge of contraceptives.
Ahimed et al 2012	N=368/Under graduate University students/ cross-sectional quantitative study/ self administered	Assessing the knowledge attitude and practice of emergency contraception among Ethiopian undergraduate	Majority (84.2%) had heard of emergency contraceptives; 32.3% had positive attitude towards it. Only 23.4%

	questionnaire.	female students.	were sexually active.
Lanre 2010	N=400-University students/ Cross-sectional study/ structured self administered questionnaire	To investigate the perception of unwanted pregnancy among university students in south west Nigeria	University students have significant perception of what causes, consequence and perception of unwanted pregnancy are.

2.5.1. KNOWLEDGE ATTITUDE AND PRACTICE OF FEMALE COLLEGE STUDENTS' ABOUT SEX AND EMERGENCY CONTRACEPTION

2.5.1.1. Female college students' Knowledge about Emergency contraception

Emergency contraceptive pills have become more available in many developing countries. However, limited provider knowledge and negative attitudes, as well as poor user awareness and access, have hindered adolescents in learning and using Emergency contraception. (Mengistu 2007:2)

A cross sectional study done by Ahimed et al; (2012) on 368 undergraduate university students to assess their knowledge, attitude and practice of emergency contraception, showed that participants who had ever heard of EC were 84.2%. In this study, an appropriate design was clearly identified. On the other hand, the data collection instruments were appropriate for the purpose of the study even though not piloted. This study showed high EC awareness and usage in contrast to other studies in the city, and concluded that this could be due to the fact that university students are relatively in a better educational level. Another quantitative study done by (Tamire & Enqueselassie 2007:114) on the same university students revealed that about 43.5% (95% CI 4.00-47%) of the students said that they have heard about emergency contraceptives and as a result the paper concluded that the awareness of the students was low. This study also has a clearly defined design which was appropriate for the study. Here pilot study was conducted to validate the instrument though the result of the pilot study was not discussed. Similar study done by Desta et al (2011:1112) on 572 students of Haramaya University of Ethiopia, which is found about 560 kilometres away from the capital city,

had appropriate design for the purpose of the study. A pilot study was conducted to check the clarity ordering and consistency of the instrument and the result of the pilot study were discussed. This study showed that while the overall awareness of EC is fair (46.7%), actual knowledge of EC is very low 25.7%. Again, Mengistu (2007:17) conducted a study on 830 students, sampled from 10 colleges in Arsi, which is one of the provinces in Ethiopia; this cross-sectional study had a clearly defined design which was appropriate for the purpose of the study. Sampling and data collection procedures were clearly described and the instrument was pretested though the result of the pre-test was not discussed. According to the study, there was low awareness, knowledge and utilization of emergency contraception even though there was high sexual violence and sexual harassment (high rate of unintended sex).

From all the aforementioned studies, one can conclude that awareness of students about EC is low except one study done by Ahimed et al 2012. Also in a study done in Nepal only about two-thirds of the college students (68%) had heard about EC. This study concluded that, awareness about EC among college level students is low and suggested health education initiatives should target such students as they are more likely to be sexually active. There is a need to educate students about EC, which can help to reduce unintended pregnancies, many of which result in unsafe abortion and take a large toll on women's health. Education about EC at college levels could benefit youths even out-of-college, because their friends often are students. In this study, the researcher clearly identified the research design appropriate for the research purpose (Adhikari 2009).

2.5.1.2. FEMALE COLLEGE STUDENTS' ATTITUDE TOWARDS EMERGENCY CONTRACEPTION

According to a study conducted on 660 students in Adama university of Ethiopia, with objective of assessing the university students' knowledge, attitude and practice on EC, about 62% of the respondents had positive attitude towards emergency contraception (Tilahun et, al 2010). In (Mengistu 2007:21) of Arsi Ethiopia, majority (52.1%) of the

respondents have positive attitude to ideas making easy access/availing of EC for all females. Five hundred and twenty four (62.9%) have an intention to use EC in the future when need arises. Six hundred and thirty-four (76.1%) of the study subjects have responded willingness to advice their peers to use EC whenever they faced a problem. More than half of the students 54.9% (n=457) believe that unintended sexual intercourse and 783 (94.0%) of them believe unwanted pregnancy are problems to all youth.

Summarized figure obtained from study of Desta et al (2011:1113) on 572 students indicated that 76.5% of the respondents who have ever heard of EC had favourable attitude towards using EC, which is higher than the numbers obtained from different studies in Addis Ababa. In a cross sectional study conducted on 155 of an engineering college girls, using structured self administered questionnaire, indicated that 101 students (72.2%) either agreed or strongly agreed that they would use EC in the future if need arise. But most of them believed that EC were unsafe for their users (Relwani et al 2012:16). A cross-sectional study done on 561 female students of Mekele University of Northern Ethiopia, showed that two hundred fifty one (44.7 %) of the total respondents had ever heard of emergency contraception. Two hundred twenty one (88.04%) of those ever heard of EC mentioned pills, 3.18% (n=8) IUD and the remainder 8.76% (n=22) mentioned injection and implant. One hundred ninety (75.7%) of those ever heard of EC had positive attitude towards making EC available to all women who need it. The researcher defined clearly the research design. The design was appropriate for the purpose of the study; sampling procedures are clearly described, data collecting instruments are piloted for clarity and consistency in which the result was used for modifications such as amending questionnaire with multiple possible answers (Gebreyohannis 2009:37-38). As the study of Tamire et al (2007:113), fifty-three percent of students believed that emergency contraceptives are important and they should be available for all couples. However, a considerable proportion of respondents reported problems of using emergency contraceptives and misconceptions about emergency contraceptives including that they protect from sexually transmitted diseases and HIV/AIDS. Positive attitude towards emergency contraceptives was significantly higher

among followers of Orthodox and Muslim religions compared with Catholic and Protestants and among senior students compared to their juniors.

2.5.2. FEMALE COLLEGE STUDENTS' PRACTICE ON EMERGENCY CONTRACEPTION

Different sources have indicated that EC use has significant impact in reducing unwanted pregnancies. But EC's use in countries like Ethiopia where there is a higher burden of maternal mortality due to unsafe abortion is low and EC's impact in preventing unwanted pregnancy is not realised. The Ethiopian Society of Gynaecologists (ESOG) in its 7th annual conference deliberated on illegal and unsafe abortion in Ethiopia, and strongly recommended that EC promotion and use in the country would reduce the incidence of unwanted pregnancies (Lemma 2009:28). The above idea can be strengthened by different studies in different higher institutions of the country. According to Mengistu (2009:22), very small proportion of respondents (2.4%) had ever used emergency contraception.

According to Gebreyohannis (2009:34), out of the total 561 respondents, 17.3% (n=97) had ever had sexual experience. Among these, 61.9 % (n= 60) of them started before joining the university and 83.5% (n=81) had only one partner. Twenty seven (27.8%) of those who had sexual contact stated that their reason was marriage. The study revealed that the prevalence of premarital sex among those that ever had sexual experience was 72.2%, out of which 8 was due to rape.

2.5.3. FEMALE COLLEGE STUDENTS' ATTITUDE TOWARDS SEX

College life is characterised, for many students, by more independence and opportunities for social mixing than before. Many students, moreover, have begun to reside independently, that is, in hostels and private accommodations away from their families; others who continue to reside with their families may be less supervised by parents than when they were in school. (Sujay 2009:4)

2.5.4. FEMALE COLLEGE STUDENTS' SEXUAL PRACTICE AND ITS CONSEQUENCE ON THEIR LIFE

In a study done in Haramaya University of Ethiopia, 49.5% of respondents had one life time partner, 45.6% had two and above partners, 2.91% could not remember, and 1.94 percent did not know the exact number of partners they had since they started sexual intercourse. Out of the total sexually experienced, 73.8% have had sexual intercourse during the six months prior to the survey date, which can be considered as sexually active (Desta and Regasa 2011:1112). In another study conducted in different colleges in Addis Ababa, at the time of the survey, about 19.5% (n=151) respondents have ever had sex in the past. Of those who are sexually active, about 6% started sex before the age of 15 and 16% started sex between 15 to 19 years of age. Ten percent of the respondents claimed to have used contraceptive methods other than male condoms by their partners. The most commonly used contraceptive method was pills (44%) followed by injectables (21%). A total of 53 respondents replied that they had been pregnant at least once previously. This represents 6.8% of the total respondents and 35.1% of those who are sexually active. Almost half of those who were pregnant were below the age of 20 years and two of whom below the age of 15 years (Tamire 2007:112).

Again in a study conducted in Angola, it was observed that the majority started having sexual intercourse at an early age; 56% of adolescents stated that premarital sex was an acceptable act (if the couple were in love or engaged), and in the majority of cases they were 15 years and or older when they engaged in sexual intercourse, with 12 years of age being the youngest age during which an adolescent started having sexual intercourse (Freitas 2007:113).

A study shows that unwanted pregnancy poses health risks to the mother as well as to the children such as prematurity, low birth weight, birth injuries and damage that can occur in the birth process that renders them infertile or endangers their lives. Abortion, as most victims of unwanted pregnancy do, is often a frightful expensive operation, only the few who have enough money ever seek the services of qualified gynaecologists while poorer girls either run to quacks or try to get rid of the pregnancy themselves by drinking toxic substance which brings about tragic result and death at times. Even when

the abortion bid initially seems to have gone hitch-free, its scars could still affect future pregnancies especially by heightening the risk of miscarriage and premature delivery. (Lanre 2010:197)

A study by Mengistu (2007:15) shows that, out of 830 students about 29.2% (n=243) of the respondents has had sexual intercourse in their life time. Of those who ever had sexual intercourse, about 51.0% (n=124) were by the consent of the female, while 49.0% (n=119) were forced. A total of 34.9% (n=291) reported that they have encountered sexual harassment and escaped from the attempt of forced sex once or more times. Of those who had forced sex, student peers 22.5% (n=30), unknown persons 21.8% (n=26) were ranked high in committing forced sex. Most of the students 43.7% (n=52) encountered forced sex at their vicinity (home). More than half of the forced sex 52.1% (n=62) resulted in unwanted pregnancy and 64.5% (n=40) of them proceeded pregnancy to delivery while 35.5% (n=22) undergo induced abortion.

2.6. CONCLUSION

This chapter presented an overview of literature related to the topic which indicated no similar research has been conducted in the study area and studies done on Female college students' knowledge attitude and practice about emergency contraceptives but not about both sex and emergency contraceptives. It presents the manner in which emergency contraception is related to the other key terms knowledge, Attitude and Practice of college students. The literature review of the terms provided the researcher with a substantial background in terms of acquisition of knowledge with regard to the study. All reviewed papers had similar study designs with this research and data collecting materials except (Adhikari 2009) which has used both self administered questionnaire and structured interview schedule.

CHAPTER THREE

RESEARCH DESIGN AND METHOD

3.1. INTRODUCTION

In Chapter 2, important aspects relevant to the study found in the literature have been discussed.

The aim of this study was to investigate the Female college students' knowledge attitude and practice about sex and emergency contraceptives.

This chapter describes the research methodology, delimiting the study, geographical area, research design, target population, sampling method data collection, data analysis, validity and reliability of the study and ethical considerations. A descriptive and cross-sectional research design was used to investigate the Female college students' Knowledge, Attitude, and Practice about sex and emergency contraception.

3.2. Back ground to the study Population

A research population is the entire aggregate of cases in which a researcher is interested. It is sometimes useful to make a distinction between the accessible and target population. The accessible population is the aggregate of cases that conform to designated criteria and that are accessible as subjects of the study. Meanwhile the target population can be defined as the aggregate of cases about which the researcher would like to generalize the findings (Polit & Beck 2008: 337 - 338). Bryman (2004:85) describes a population as the totality of persons, events, organisation units, case records or other sampling units from which the sample is selected and with which the research problem is concerned. In addition, Somekh and Lewin (2005:217) refer to a population as a "complete 98 set of units being studied when time, costs and accessibility often prohibit the collection of data from every member or about every item". Here the research population were 2554 Female college students in Dessie Ethiopia.

Inclusion criteria

- All regular or day time female students in the selected colleges
- Female college students 18 years old and above

Exclusion criteria

- Students less than 18 year old
- Night students

3.3. STUDY DESIGN

The research design of a study spells out the basic strategies that researchers adopt to develop evidence that is accurate and interpretable (Polit & Beck 2008:203). The design guides the researcher to plan and implement the study so as to achieve the set goals and is referred to by Polit and Beck (2006:509) as a “general plan for addressing research questions, including specifications for enhancing the studies’ integrity”. Green and Thorogood (2004:34) refer to the research design as “the what, how and why of data production” to answer the research question.

The methodological approach employed in this study was a quantitative and descriptive design. The appropriateness of the design was assessed in order to determine whether it addresses the research objectives and produces results that are interpretable and meaningful.

The concepts related to the research design are explained below:

3.3.1. Descriptive research

The purpose of descriptive studies is to observe, describe, and document aspects of a situation as it naturally occurs (Polit & Beck 2008:274). It is often a preliminary to correlational research or to experimental studies. Descriptive research studies (not to be confused with qualitative research) can serve to discover new meaning and to provide new knowledge when there is very little known about a topic of interest (Basavanthappa 2007:78). Salks and Allsop (2007:6) describe a descriptive study as

“providing current information or intelligence on a problem”. In descriptive studies, researchers’ intention is to “portray an accurate picture of reality” (Stommel & Wills 2004:437). The researcher of this study describes the level of Female college students’ knowledge attitude and practice about sex and Emergency Contraception.

3.3.2. Cross-sectional design

This study design involves the collection of data once: the phenomena under study are captured during one period of data collection cross-sectional studies are appropriate for describing relationships among phenomena at a fixed point in time (Polit & Beck 2008: 206-208). Descriptive studies provide valuable baseline information. The method is also flexible and can be used to collect information from a large group of respondents.

In this study the data collection took place using self administered questionnaire at a time in all colleges eligible for the study.

3.4. Sample size estimation

The sample size was calculated using a one sample population proportion formula. Assuming the proportion of students who are aware of emergency contraception to be 50%, adding non-response rate of 5%, the required sample was calculated using the following formula. $n = [(z_{\alpha/2})^2 p (1-p)] / d^2 = [(1.96)^2 (.5) (.5)] / .05$.

= 384.16 Adding 5% non-response rate,

= 384.16 + 5% = 423. Study subjects. But since the total population is less than 10,000 or $n/N > 10\%$ it was essential to use population correction. There for, $n_f = n / (1 + n/N) = 423 / (1 + 423/2554) = 363$

Where:

n = the desired sample size

P = Proportion of students who have knowledge about emergency contraceptives.

= 50% (To obtain a maximum sample size as there was no previous study conducted in this regard in Dessie).

$Z_{\alpha/2}$ = Critical value at 95% confidence level of certainty (1.96)

d = the margin of error between the sample and the population = 5%

Then the required sample size became 363.

Based on proportional allocation, 223 students from Dessie teachers training college, 50 students from Admas University College, and 90 students from ALKAN University College have been included the study. Finally simple random sampling which is the most basic probability sampling method (Polit & Beck 2008:344) was used to select these 363 students from all female students of the three colleges.

3.5. Sampling methods

Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made (Polit & Beck 2008:339).

There are six mid level colleges in the Dessie City out of which three target colleges first sampled using lottery method and then individual students were sampled from each class of each colleges using simple random sampling system. Multi stage sampling technique was used for selection. First three colleges out of the total six colleges in the city had been selected using lottery method. The selected colleges were Dessie Teachers Education College, with 6 departments, 40 classes and 1110 female students, Admass University College with 6 departments 8 classes and 248 female students and ALKAN University College with, 2 departments 15 classes and 451.

After calculating the sample size, the three colleges and all year of study was considered in the sampling process for the selection of the study subjects. Sample was distributed to each colleges using probability proportional to their size. Secondly using Simple Random Sampling (SRS) 14 departments from the 3 colleges were identified. The required number of female undergraduate students (sample size) was distributed to each year of study and department again using probability proportional to size. The study subjects were selected from each department and year of study using simple random sampling.

Here, list of female students were prepared from attendance lists of individual classes to be used as sampling frame. The sample size of this study was 363, which accounts 14.2% of the total population of 2554 Female students in the six colleges.

3.6. Data collection tools and techniques

Data collection is a systematic way off gathering information relevant to the research purpose or question (Burns & Grove 2005: 422).

In this study the data collection instrument was developed after reviewing relevant Pre-existing instruments and literature on the phenomenon under study and with due consideration of the research problem. In addition to this, the instrument items were partly adapted from the questionnaire of the nationwide survey conducted by Ethiopian Family Guidance Association and others from instruments of similar studies conducted and published on different journals. The instrument was structured self administered questionnaire and was distributed to a group of students to be filled at the same time. The instrument had mainly closed questions and questionnaires prepared using five step Likert scale. This questionnaire is formulated or prepared based on the conceptual framework. Each of the components of the health belief model i.e. perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues of action made the basis of questionnaire about unwanted pregnancy, unsafe abortion, challenges to get emergency contraceptives, and sources of information about emergency contraceptives respectively. The questionnaire consisted of the following main aspects:

Section A

This section covered respondents' demographic and previous training qualification information.

Section B

Items used to assess the knowledge of respondents on types, effectiveness, and safety on EC was included in this section.

Section C

This section consisted of items where attitudes of respondents towards EC service provision were assessed.

Section D

Here there were items to assess the attitude of respondents' attitude towards sex.

Section E

In this section items which were used to assess the practice of respondents on EC included.

The questionnaire was first prepared in English and then translated in to Amharic, in order to maximise comprehension of respondents to the questionnaire as the study subjects comprehend Amharic more than English. The questionnaire was back translated to English to check for consistency by two different language experts. Then the questionnaires were pretested in students at two departments of Dessie teachers teaching College, which were not selected for the main survey one week before the start of data collection to identify any questions that may have been difficult to understand, to determine whether the sequencing of the instrument was sensible, and the time needed to administer was realistic.

Based on pre-test feedbacks and suggestions, some questions were rephrased, amended, and the final questionnaire was prepared. The questionnaire was administered in three colleges within two days. There were three data collectors who collected the data from each college. The study subjects who were selected from each department and year of study using simple random sampling were divided into groups of ten students and distributed into different rooms.

To reduce the non-respondent rate, the information was not disclosed until all students were gathered in the lecture halls. They were then informed of the survey, its objectives and procedures, and assured that the information collected would be treated as confidential and used only for research purposes. Students who gave their verbal informed consent were provided with the questionnaire. Students were well spaced out to avoid communication among them during the exercise. They were also asked to request for clarification if any item in the questionnaire was not clear.

After the data collectors explained the aim of the data collection, ascertained that respondents have full right to withdraw any time they want and got oral consent, they distributed the questionnaire to the respondents. After the questionnaires were filled the respondents put each questionnaire in separate posts and returned back. Among the total questionnaires distributed to the respondents, 5 were incomplete, 6 were returned blank, resulting in a response rate of 97%.

3.7. Data analysis

According to (Basavanthappa 2007:442), the analysis and interpretation of data involve the objective material in the possession of the researcher and his subjective reactions and desire to drive from the data the inherent meanings in relation to problem.

The completed questionnaires were given to a statistician who used the Micro-soft Excel version 2007 and SPSS version 16.0 computer program to analyse the data. Most of the questions included in the questionnaire are closed questions questionnaires prepared using five step Likert scale. These were coded for easy analysis by computer. Descriptive statistics, such as frequency tables and bar graphs were used to summaries the findings as shown in chapter 4. To determine association between dependent and independent variables, binary logistic regression analyses were used.

3.8. Ethical considerations

Ethics deals with matters of right and wrong. *Collins English Dictionary* (1991:533) defines ethics as “a social, religious, or civil code of behaviour considered correct, esp. that of a particular group, profession, or individual”. Research ethics involves protecting the rights of respondents and institutions in which research is done, and maintaining scientific integrity (Babbie & Mouton 2001:531; Burns & Grove 2005:181). A researcher is responsible for conducting research in an ethical manner. Failure to do so undermines the scientific process and might have negative consequences (Brink et al

2006:30). The researcher must address a range of ethical issues especially when a study involves human as study participants. In observance of ethical concerns of the study, the following aspects were considered:

3.8.1. Permission to collect data

The data collection was carried out after getting permission from the higher degrees committee of the department of health studies at UNISA for ethical clearance. Permission was asked with a formal written letters from respected officials of the colleges.

3.8.2. Informed consent

Informed verbal consent of participants was sought; the objectives of the study were discussed with each participant. The participants was told that there is no incentive but has benefits in the long run by contributing problem solving findings to save lives the youth as well as it is riskless and that they have full right to discontinue the questionnaire at any time during the session. Privacy and confidentiality was maintained during and after the administration of the questionnaire. At the beginning and the end of filling of each questionnaire, data collectors thanked the study subjects for their willingness and giving their time to participate in the study. The following information was given:

- The purpose and objective of the study.
- The time/duration required during the interview.
- The type of participation required or expected in the study.
- How results will be available/published.
- How confidentiality, anonymity and privacy would be ensured.
- The identity and qualification of the researcher.

3.8.3. The right to confidentiality and anonymity

The participants had been told that the information that we collected for this research project will be kept confidential. The researcher also informed that information the participants put in the questionnaire that will be collected together from all participants is impossible to identify both by the facilitator and the investigator because it has no name or other identification on it.

3.8.4. Right to refuse or withdraw

Participants were told that they have the full right to refuse from participating in the research (they can choose not to respond to some or all questions). It was further explained to the participants that if they do not wish to participate in the study they can withdraw.

3.8.5. The right to protection from discomfort and harm

The risk/benefit ratio was explained to respondents as the study has the potential to improve the health and wellbeing of women, and the risks being minimal. Minimal risk is defined as a risk anticipated being no greater than those ordinarily encountered in daily life (Polit & Beck 2008:175).

3.8.6. The right to self-determination

The principle of self-determination means that prospective participants have the right to decide voluntarily whether to participate in a study, without risking any penalty or prejudicial treatment (Polit & Beck 2008:172). In this research, respondents (Female college students) were treated as 'autonomous agents' and the following steps were taken. The respondents were:

- informed of the study's objectives

- requested to participation in the study
- informed of their rights and that they were allowed to withdraw from the study without fear of any penalty
- Not coerced or deceived to participate. Their participation was totally voluntary

3.9. Limitations to study

- The study included only undergraduate students. So, postgraduate and extension students were excluded.
- Only female students were included in the study
- Self reported information is subjected to errors and missed information

3.10. CONCLUSION

Describing college students' knowledge, attitudes and practice about sex and EC is important in understanding access to such kind of contraceptive method by the students. This will contribute in reducing the incidence of unwanted pregnancies and its consequences in Dessie Ethiopia. Similar studies were conducted using the same design in various countries of different socio-economic status. The researcher used a similar design to determine the knowledge and attitudes and practice of female students' towards sex and EC.

This chapter discussed the research steps and procedures that guided this study. The descriptive quantitative, cross sectional research design guided this study. Research method including data sources, research population and setting, sampling technique, sample size and data collection approach were described. The data collection process and analysis, data collection instrument and ethical considerations related to the research were also described. How the research internal and external validity is ensured was explained. The next chapter presents and describes the findings of the research.

CHAPTER 4

PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1. INTRODUCTION

The previous chapter outlined the methodology that was used to conduct this research. The quantitative, descriptive, cross-sectional research design used in this study as well as the research instrument, namely the structured self administered questionnaire was discussed. The main purpose of this chapter is to present the findings of this research. In this chapter the data was obtained from 352 Female college students using a structured pre-tested instrument with response rate of 97%. The data from the the questionnaire were presented as follows.

4.2. DATA MANAGEMENT AND ANALYSIS

The researcher collected data from respondents using structured self administered questionnaire. After obtaining verbal consent indicating their willingness to participate in the study, college female students were given the questionnaire to fill. Then the questionnaire was folded and put into a separate post to ensure anonymity. A total of three hundred fifty two female college students filed the questionnaire at Dessie Teachers Education College, Admas University College and ALKAN University College Ethiopia, June 2012. The data from the questionnaires were statistically analysed by statistician. The Micro-soft Excel version 2007 and SPSS version 16 computer programme were used for the data analysis. Summary statistics used for the response to each individual question are frequencies, illustrated by means of bar charts and frequency tables. Binary logistic regression analyses were used to determine association between dependent and independent variables.

4.3. RESEARCH RESULTS

4.3.1. RESPONDENTS' DEMOGRAPHIC INFORMATION

The Demographic data include respondents' age, religion, educational status, marital status, with whom they live, Fathers' education and Mothers' education.

4.3.1.1. Age distribution of respondents (N=352)

Table 4.1 depicts the participants' age distribution.

Table 1: Age distribution of Female college students

Age of respondents

	Frequency	Percent
Valid 18-19	105	29.8
20-21	120	34.1
22-23	65	18.5
24-25	62	17.6
Total	352	100.0

It is seen that all the respondents are youth in the age of 18-25; of the participants 105(29.8%) were between 18 and 19 years old; 34.1% (n=120) were between 20 and 21; 18.5% (n=65) were between 22 and 23 and 17.6% (n=62) between 24 and 25.

4.3.1.2. Respondents' religious background (N=352)

Of the respondents, 67.3% (n=237) were Orthodox Christians; 30.1% (n=106) were Muslim, 2% (n=7) were protestant; .3% (n=1) were Catholic and .3% (n=1) were other.

4.3.1.3. Respondents' educational level (N=352)

Educational level of the respondents ranges from first year 25% (n=88) to third year 40.62% (n=143) as indicated below in figure 4.

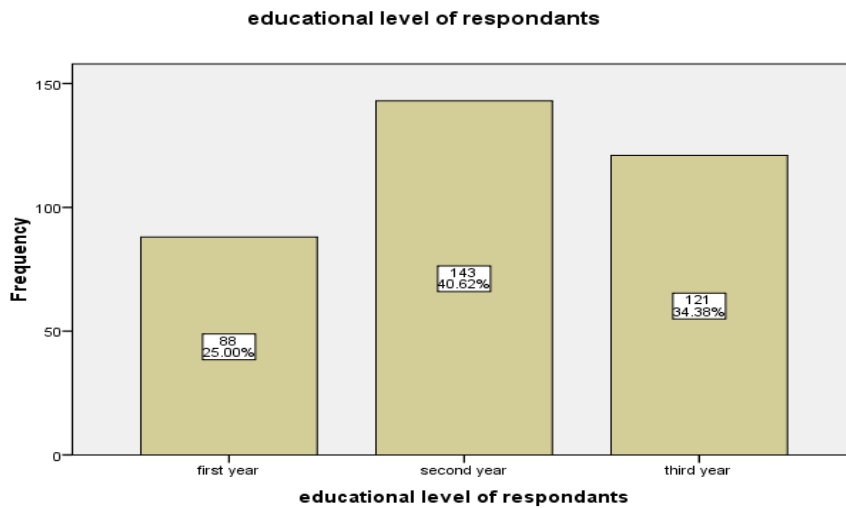


Figure 4: Respondents Educational Level (N=352)

4.3.1.4. Marital Status of Respondents

Of the respondents 83.24% (n=293) are unmarried and 16.76% (n=59) married as shown by Figure 5 below.

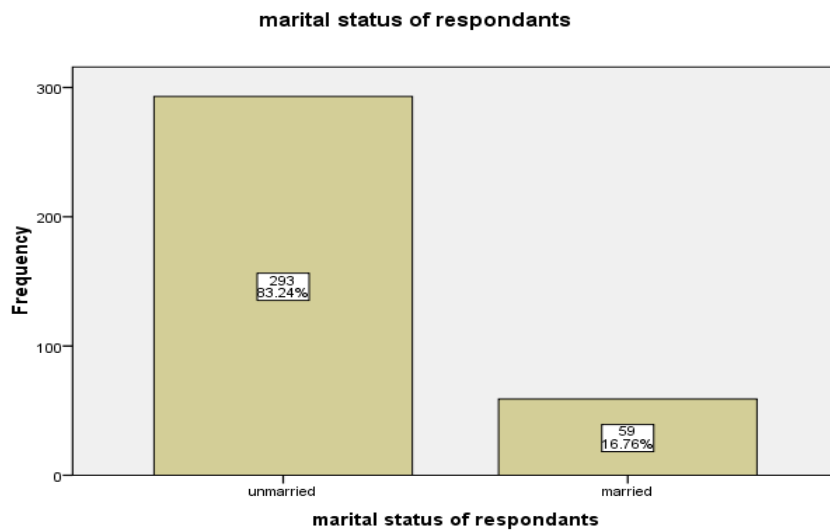


Figure 5: Marital status of Respondents (N=352)

4.3.1.5. People with whom the Respondents live (N=352)

The majority of the respondents 37.5% (n=132) lived with their friends 34.1% (n=120) lived alone and 28.4% (n=100) lived with their family.

Table 2: Number of students by the people with whom they live

with whom do you live

	Frequency	Percent
Valid with father and mother	100	28.4
alone	120	34.1
with friends	132	37.5
Total	352	100.0

4.3.1.6. Educational level of respondents' Fathers

As presented by the figure below, educational level of the respondents' fathers ranges from other non formal educations like religious educations 3.4% (n=12) to read and write 31.8%, (n=112). There were about seventy one (20.2%) who had no study at all and thirty five (9.9%) fathers with first degree and above.

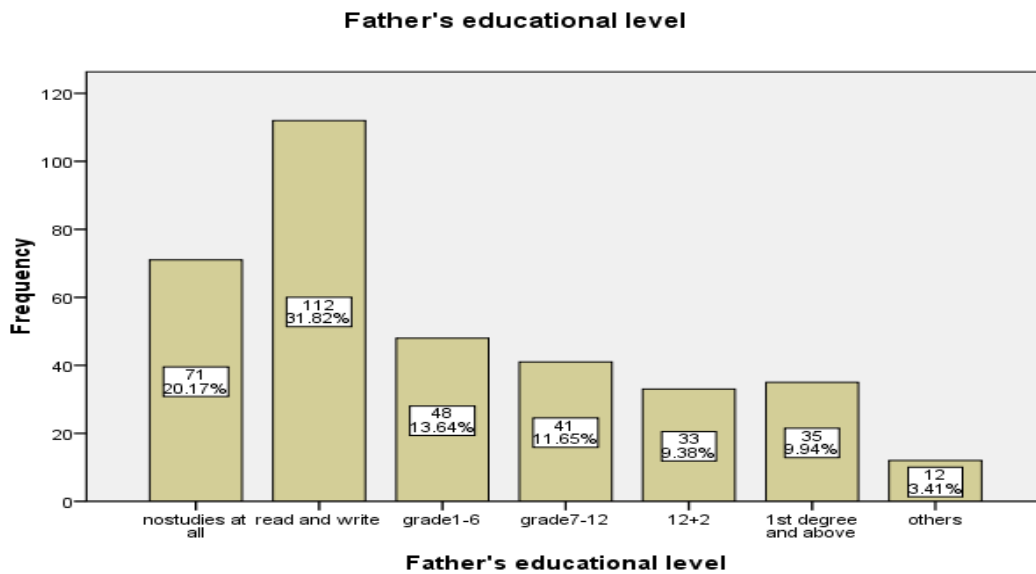


Figure 6: Respondents' fathers' educational level.

4.3.1.7. Respondents' Mothers' educational level

In contrast to the educational level of the fathers of respondents the highest number represents' mothers had no study at all 33.2% (n=117). As indicated in Table 4.7, only 3.4% (n=12) had first degree and above.

Table 3: Respondents' Mothers' Educational level

Mothers' educational level

	Frequency	Percent
Valid No studies at all	117	33.2
read and write	105	29.8
grade 1-6	43	12.2
grade7-12	43	12.2
12+2	24	6.8
1st degree and above	12	3.4
others	8	2.3
Total	352	100.0

4.3.2. Respondents' Attitude towards sex

Students were questioned extensively about their attitudes towards premarital intimate and sexual relationships.

Table 4: Attitudes toward sexual relationship among female college students Dessie
Ethiopia 2012

Attitude Indicators	Agree strongly	Agree slightly	Neither agree nor disagree	Disagree slightly	Disagree strongly	Total
It is all right to have a boy friend during college life.	122(34.7%)	66(18.8%)	47(10.8%)	41(11.6%)	85(24.1%)	352(100%)
It is wrong for unmarried students to kiss each other.	137(38.9%)	36(10.2%)	29(8.2%)	18(5.1%)	131(37.2%)	352(100%)
It is unnatural for female to initiate sex	110(31.2%)	59(16.8%)	33(9.4%)	24(6.8%)	126(35.8%)	352(100%)
It is better to abstain from sex until marriage.	291(82.7%)	17(4.8%)	7(2.0%)	6(1.7%)	31(8.8%)	352(100%)
It is better to abstain from sex until graduation.	241(68.5%)	36(10.2%)	14(4%)	18(5.1%)	43(12.2%)	352(100%)
It is advisable for a girl to remain virgin until marriage.	290(82.4%)	19(5.4%)	6(1.7%)	6(1.7%)	31(8.8%)	352(100%)
It is all right for students to have sex before marriage if they use methods to prevent pregnancy.	49(13.9%)	61(17.3%)	35(9.9%)	38(10.8%)	169(48.0%)	352(100%)
Extra marital sex leads to marital problems.	258(73.3%)	33(9.4%)	9(2.6%)	10(2.8%)	42(11.9%)	352(100%)
Sex without love is okay.	30(8.5%)	7(2.0%)	18(5.1%)	10(2.8%)	287(81.5%)	352(100%)
Attitude towards sex (summary Index)						
Favourable attitude				297(84.4%)		
Unfavourable attitude				55(15.6%)		352(100%)

As shown in Table 4.4, a set of nine statements pertaining to relationships and sex, were included in the questionnaire. Six positive and three negative items were included to maintain the balance of responses. The nine items were answered as either agreed strongly, agreed slightly, had no opinion about the statement under consideration disagreed slightly, disagreed strongly (a five-point Likert scale). For positively worded statements, those who selected “agree” were regarded as having positive attitude and those who chose “disagree” were considered as having negative attitude. Conversely, for negatively worded statements, those who selected ‘agreed” were clustered as having negative outlook whereas those who said ‘disagree” were categorized as having positive attitude. The responses on each attitudinal items was scored, tallied, and then the total of each respondent score was made to range between 0-9 (0-100%). A score

of 50% and above was considered as “*favourable attitude*” whereas those scored below 50% of the total were thought of as having “*unfavourable attitude*”. The summarized attitudinal index indicates that 84.4 % of the total respondents had favourable attitude towards sexual relationship.

4.3.3. Knowledge of Respondents about Emergency Contraception

One hundred eighty seven (53.3%) of students knew about at least one regular modern contraception and seventy nine (22.4%) knew two and more modern methods. Among the modern methods, injectables were the most commonly known method by the respondents (22.7%) followed by pills 12.5% (n=44). On the other hand 22.7% (n=80) students did not know any one of the modern contraceptive method.

Table 5: Knowledge about Emergency contraceptives among female college students; Dessie Ethiopia 2012

Characteristics	Number	Percent
Ever Heard about EC		
Yes	246	69.9
No	106	30.1
Source of information on EC(N=240)		
Leaflet	22	8.9
Radio and TV	95	38.6
Health education	76	30.9
From the college	53	21.5
Type of contraceptives used as EC(N=240)		
Pills	132	56.4
IUCD	28	11.4
Both	47	19.1
Don't know	39	15.7
Type of Drugs used in EC(N=240)		
The same as in ordinary contraception	114	46.3
The same one but stronger	103	41.9
Don't know	29	11.8
What is the time limit for taking emergency contraceptive pills after unprotected sex?		
Within 12 hours	31	16.2
Within 24 hours	44	17.9
Within 48 hours (2 days)	17	6.9
Within 72 hours (3 days)	79	32.1
Don't know	75	31.5

Table 6: Knowledge about Emergency contraceptives among female college students;
Dessie Ethiopia 2012

Characteristics	Number	Percent
What is the time limit for having an IUD (coil) fitted after unprotected sex?		
Within 12 hours	29	11.8
Within 24 hours	72	29.3
Within 48 hours (2 days)	63	25.6
Within 72 hours (3 days)	56	22.8
Within 4 days	10	4.1
Within 5 days	16	6.5
Where does a woman can obtain emergency contraception?		
Hospital /health centre	118	48.0
Community worker	22	8.9
private clinic	30	12.2
Pharmacy	53	21.5
supermarket	2	.8
Different health institutions	21	8.5
How effective is IUCD in preventing a pregnancy?		
99%	93	37.8
75%	29	11.8
50%	6	2.4
not sure	118	48.0

Table 7: Knowledge about Emergency contraceptives among female college students;
Dessie Ethiopia 2012

Characteristics	Number	Percent
How effective is Emergency Contraceptive Pills in Preventing pregnancy?		
<75%	27	11.0
75-85%	79	32.1
> 85%	27	11.0
Not sure	113	45.0
How safe do you think emergency birth control methods are for most women?		
Very safe	35	14.3
safe	124	50.8
unsafe	58	23.8
No response	27	11.1

Table 5, 6 and 7 show that of the total 352 respondents, 69.9% (n=246) had heard about EC. Of those who had heard about EC, 8.9% (n=22) got information from reading leaflets, 38.6% (n=95) heard from radio and TV; 30.9% (n=76) from health education

21.5% (n=53) from college. Regarding the type of contraceptives used as emergency, 53.7% (n=132) answered pills, 11.4% (n=28) said IUCD, and 19.1% (n=47) both pills and IUCD. Of these students, 15.9% (n=39) did not know which particular contraceptive is used as emergency contraception. On the other hand concerning the type of drug used as emergency contraception, 46.3% (n=114) replied that it is the same with the drug found in ordinary contraceptives, 41.9% (n=103) answered the same one but stronger than the ordinary contraceptives. Concerning the time limit of taking pills and insertion of IUCD as emergency contraception, only 32.1% (n=79) answered that emergency contraceptive pills should be taken within 72 hours; whereas only 6.5% (n=16) replied IUCD should be inserted within 5 days.

To assess the level of actual knowledge of EC, a series of eight knowledge questions (on method identification, drug composition, time frame for effective use, time interval between doses, effectiveness of the drug, appropriate situations for use, and place where EC can be found) were asked to those who had ever heard of EC. To generate the summarized level of knowledge, the response on each question was first scored, tallied and then the total of each respondent score ranged from 0 – 8 (0% -100%). A cumulated/total score was calculated and then respondents were classified as; poor, fair, and good with respect to their level of EC knowledge. Hence, respondents who scored zero were considered as “*not having the knowledge*”, those who scored 12.5% - 50% as “*Fair knowledge*”, and who score more than 50% as “*Good knowledge*”. Similar procedures were followed by Ayana (2008) and Desta (2012). Based on the summary index, about 66.1% fell in the range of “*Fair Knowledge*” and only 33.9% had good knowledge of EC.

4.3.4. Attitude of respondents towards Emergency contraception

Respondents again were questioned about their attitudes towards emergency contraception. As shown in Table 8, a set of five statements pertaining to emergency contraception, were included in the questionnaire, and students were asked to record whether they agreed strongly, agreed slightly, had no opinion about the statement under consideration, disagree slightly, disagree strongly (a five-point Likert scale). Findings

suggest that attitudes of students were mixed. Majority of the students disagree on questions that suggest the provision of EC would discourage compliance to other contraceptive methods, the provision of EC would encourage promiscuity and also to the statement EC should be prescribed for a client to have on hand prior to an episode of unprotected sexual intercourse. On the other hand majority agree on statement suggesting that EC should be available over the counter without prescription.

The five items were answered as either agree strongly, agree slightly, neutral disagree slightly, or disagree strongly. For positively worded statements, those who selected agree were regarded as having positive attitude and those who chose disagree were considered as having negative attitude. Conversely, for negatively worded statements, those who selected disagree were clustered as having positive outlook whereas those who said agree were categorized as having negative attitude. The responses on each attitudinal items was scored, tallied, and then the total of each respondent score was made to range between 0-5 (0-100%). A score of 50% and above was considered as "*favourable attitude*" whereas those scored below 50% of the total were thought of as having "*unfavourable attitude*". Similar procedure was followed by previous researchers (Ayana, 2008 and Desta 2011). The summarized attitudinal index indicates that 63.6% of the respondents who had ever heard of EC had favourable attitude toward EC.

Table 8: Attitude towards Emergency contraception among female college students;
Dessie Ethiopia 2012

Attitude indicators	Agree strongly	Agree slightly	Neither agree nor disagree	Disagree slightly	Disagree Strongly
The provision of EC to students would encourage promiscuity.	43(12.2%)	41(11.6%)	31(8.8%)	53(15.1%)	184(52.3%)
The provision of EC would discourage compliance to other contraceptive methods.	37(10.5%)	61(17.3%)	48(13.6%)	33(9.4%)	173(49.1%)
Repeated use of EC poses a health risk.	23(6.5%)	39(11.1%)	141(40.1%)	25(7.1%)	123(34.9%)
EC should be prescribed for a client to have on hand prior to an episode of unprotected sexual intercourse.	15(4.3%)	22(6.2%)	42(11.9%)	99(28.1%)	174(49.4%)
EC should be available over the counter, without prescription.	203(57.7%)	42(11.9%)	52(14.8%)	20(5.7%)	35(9.9%)
Attitude towards EC (Summary index)					
Favourable attitude	224(63.6%)			352(100%)	
Unfavourable attitude	128(36.4%)				

4.3.5. Respondents' Sexual Practice

Table 9 presents sexual experience and Table 10 indicates emergency contraception practices. Respondents were asked whether they ever had sexual intercourse, and if so whether they had history of pregnancy, and at what age did they became pregnant. Among the total respondents who were asked about sexual intercourse, 36.6% (n=129) had sexual intercourse. Of the total 129 students that had sexual experience, 46.5% (n=60) had history of pregnancy. Majority 76.7% (n=45) of these students were pregnant between 15 and 19 years of age. Of these pregnancies, 78.3% (n=47) were not planned. Of the total pregnancies, 43.3% (n=26) were resulted into unsafe abortion.

Table 9: Sexual Practice among female college students; Dessie Ethiopia 2012

Practice indicators	Number	Percent
Do you have history of sexual practice?(N=352)		
Yes	129	36.6
No	223	63.4
Do you have history of pregnancy?(N=129)		
Yes	60	46.5
No	69	53.5
Age at first pregnancy(N=60)		
≤15	5	8.3
15-19	45	76.7
20+	8	13.3
Was the pregnancy planned?(N=60)		
Yes	13	21.7
No	47	78.3
Outcome of the pregnancy(N=60)		
Has been delivered	21	35.0
Safe abortion	31	51.7
Unsafe abortion	26	43.3
Number abortion(N=39)		
Once	36	92.3
Twice	3	7.7
Place of abortion(N=39)		
Home	12	30.8
Clinic	27	69.2

4.3.6. Respondents' utilization of emergency contraception

Of 246 students who have heard about emergency contraception, only 15.4% (n=38) students used it. About 71.1% (n=27) of the students used it only once and 28.9% (n=11) of them utilized twice. Out of the total students who have ever used emergency contraceptives, 68.4% (n=26) got it from nurses and the rest 31.6% (n=12) directly from pharmacists. Regarding reason of taking emergency contraceptives, majority of them 63.2% (n=24) used it because of miscalculation of their safe sexual time. As indicated in table 10, most of the sexually active respondents who had history of sexual practice 56.6% (n=73) complained that their main challenge to utilize emergency contraceptives was its unavailability in pharmacies at the time of need and the second challenge mentioned by 23.3% (n=30) respondents was fear of stigma.

Table 10: Practice on Emergency contraception among female college students Dessie Ethiopia 2012

Practice indicators	Number	Percent
Have you ever used emergency Contraceptive pills?(N=246)		
Yes	38	15.4
No	208	84.6
How many times have you used this method during the last year?(N=38)		
Once	27	71.1
Twice	11	28.9
Who recommend use of EC?(N=38)		
A friend	4	10.5
Partner (male)	9	23.7
Health professional	25	65.8
Who did provide it to you?(N=38)		
nurses	26	68.4
pharmacists	12	31.6
Why did you use EC?(N=38)		
Time was miscalculated	24	63.2
Condom broke	3	7.9
Pills missed	6	15.8
Withdrawal failed	5	13.2
What were the challenges you faced to get EC?(N=129)		
Price	6	4.7
Not available in pharmacies	73	56.6
Fear of stigma	30	23.3
Lack of knowledge	20	15.5

4.4. OVERVIEW OF RESEARCH FINDINGS

The study has aimed at examining the level of knowledge, attitude and practice towards sex and EC among female college students of Dessie Teachers Education College, Admass University College and ALKAN University College. Regarding the demographic data of the respondents, majority (34.1%) of the respondents were between 20 and 21 years old, 67.3% were Orthodox Christians in religion and 40.6% of them were third year by education. Concerning their marital status, 83.2% were unmarried; most of (37.5%) live with their friends. With regard to the educational level of the parents of the students, there were only 9.9% fathers and 3.4% mothers who had first degree and above. According to the summery index, of the total 352 students 84.4% (n=272) had positive attitude towards sex.

In this study more than half (53.3%) of the respondents reported that they know at least one of the regular modern contraceptive methods. Among modern methods, injectables were the most commonly known method by the respondents (22.7%) followed by pills 12.5% (n=44). On the other hand 22.7% (n=80) students did not know any modern method.

The finding also revealed that 69.9% of the respondents have heard EC as it is something a woman could do soon after unprotected sexual intercourse. However, according to the summery index, their actual level of knowledge of EC was generally low (33.9%). Regarding the type of contraceptives used as emergency contraceptives, 53.7% (n=132) answered pills, 11.4% (n=28) said IUCD, and 19.1% (n=47) both pills and IUCD. Of these students, 15.9% (n=39) did not know which contraceptive is used as emergency contraception. Concerning the time limit of taking pills and insertion of IUCD as emergency contraception, only 32.1% (n=79) answered that emergency contraceptive pills should be taken within 72 hours; whereas only 6.5% (n=16) replied IUCD should be inserted within 5 days after incidental sex. Main Source of information about EC was Radio and TV (38.6%).

The summarized figure for attitude towards EC indicated that 63.6% of the respondents who have ever heard of EC had favourable attitude toward EC.

The findings of the study have shown that about 36% of the respondents had sexual intercourse. From students who had history of sexual activity nearly 46.5% of respondents have had pregnancy out which 78.3% were unplanned and 39(65.0%) ended by induced abortion in which 43.3% (n=26) of them were unsafe.

In this study of those respondents who have heard of emergency contraceptives, only about 15.4% (n=38) students have ever used emergency contraception. Regarding reason of taking emergency contraceptives, majority of them 63.2% (n=24) used it because of miscalculation of their safe sexual time. Most of sexually active respondents who had history of sexual practice 56.6% (n=73) complained that their main challenge to utilize emergency contraceptives is its unavailability in pharmacies at the time of need

and the second challenge mentioned by 23.3% (n=30) of respondents was fear of stigma.

4.5. CONCLUSION

This Chapter presented the findings of the research obtained through self administered questionnaire using a structured self administered questionnaire.

In the next Chapters, Data analysis interpretation of findings of the research for each section of the questionnaire namely demographic data, knowledge on EC, attitude towards EC, attitude towards sex, sexual practice and current practice on EC of female college students had been summarised.

CHAPTER 5

DATA ANALYSIS

5.1. INTRODUCTION

Cross tabulation and Logistic regression analysis was carried out to determine the association between socio-demographic factors with knowledge, attitude and practice of Sex and EC among study participants. Selected independent variables were fitted into five separate binary logistic regression models (model 1, model 2, model 3 model 4 and model 5) to examine the association between each of the predictor and the outcome variables (EC awareness, attitude towards sex and EC and sexual practice and utilisation of EC). In model 1, the dependent variable was dichotomized and coded as 1 (aware of EC) and as 0 (never heard about EC). In a similar fashion, the dependent variable (attitude towards sex and attitude towards EC) in model 2 and 3 were dichotomized and coded as 1 (favourable attitude) and 0 (unfavourable attitude). The fourth and fifth dependent variables were dichotomized and coded as 1 (ever practiced) 0 (never practiced). Categorical independent variables were meaningfully categorized and grouped. An odds ratio value less than one imply that individuals in that category have a lower probability of knowing EC, having favourable attitudes towards EC or have less practice sexual practice and less utilization of EC than individuals in the reference category. Likewise, a value greater than 1 indicates increased likelihood of awareness, favourable attitude, sexual practice and utilization of EC.

5.2. Knowledge of respondents about emergency contraceptives

In model 1, the Logistic regression analysis carried out to determine the association between socio-demographic factors with knowledge of EC and sex among study participants shows that, there is no statistical association between, religion of respondents, living condition of respondents, respondents' fathers' education, and respondents' mothers' education with Knowledge of respondents about EC.

But there is highly statistically significant association between age education and marital status of respondents with knowledge of respondents about emergency contraception.

Students with age 18-19 and 20-21 are 86.5% and 74.5% less knowledgeable than their reference age (24-25), with $p < 0.001$ AOR 0.135 95%CI 0.056-0.323 for 18-19 students and $p < 0.005$ AOR 0.255 95% CI 0.106-0.610 for age 20-21 students. In the case of level of education, as years of study increased there was a relative increase in the knowledge about EC, making year three students a reference, $p < 0.001$ AOR=0.077 (95%CI .035-.170) for year one students & $p < 0.001$ AOR=0.141 (95%CI .066-.301) for year two students which means 92% and 86% less knowledgeable than third year students respectively. There is also statistically significant association between marital status and knowledge about EC. Married respondents had more knowledge than unmarried respondents AOR= 2.094 (95%CI 1.040-4.213).

5.3. Attitude of respondents towards sex

In model 2, level of education has significant association with attitude towards sex in which those in first years were .258 times less likely to have favourable attitude towards sex compared to respondents at third year level. Other socio demographic variables have no statistically significant association.

5.4. Attitude of respondents towards emergency contraceptives

In the third model, there is a statistically significant association between age and education of respondents and their attitude towards EC. Students of age 18-19 have 86.5% less attitude towards EC with $p < 0.001$ and 95% CI. 0.056-0.323 and students of age 20-21 have 74.5% less attitude towards EC than their reference 24-25year of age with $p < 0.005$ and 95 CI.0.106-0.610. Similarly, first and second year students have lesser attitude towards EC than third year students. ($p < 0.001$, AOR 0.077, 95% CI. 0.035-0.170) and ($p < .001$, AOR 0.141, 95%CI0.066-0.301) respectively.

5.5. Respondents' sexual practice

Regarding model 4 or sexual practice, there are no independent variables having statistically significant association with it except the marital status of the respondents in which unmarried students are less likely to practice it with $p < 0.001$, AOR = 0.370 and 95% CI 0.124-0.535.

5.6. Respondents utilisation of emergency contraception

In the fifth model also there are only two independent variables that have statistically significant association with utilization of EC age of respondents and marital status. Students at the age group of 22-23 are 2.9 times more likely to utilize EC than students below them with $p < 0.05$ and 95 CI 1.007-8.368 and married students are 0.359 times less likely to utilize EC than unmarried students with $P < 0.005$ and 95%CI 0.169-0.760.

5.7. CONCLUSION

Increasing the awareness and use of emergency contraception is one means of reducing unwanted and teenage pregnancies. Knowledge of EC is crucial and it is important that potential users have information and are educated about EC before they actually need. The study finding showed that the actual level of knowledge about EC is low, only 39.9% of the students were knowledgeable about EC. As college students would be expected to have higher knowledge than less educated ones, this shows low proportion. The knowledge of correct timing for emergency contraception was very low in which higher proportion of respondents didn't know the correct time limit for the first dose of emergency contraception. The knowledge of how EC prevents pregnancy is lacking. The absence of correct information about EC could be a barrier from being

utilised by individuals who need it, including the college students who are at more risk of unintended pregnancy. The utilisation of EC was very low, 15.4% of the total respondents had ever used emergency contraceptive method. This leads to higher chance of unintended pregnancy. Discussion of RH issues and contraception awareness had significance association with increased awareness of EC. Medias, friends and schools were playing very important role in the dissemination of information to the students.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1. INTRODUCTION

The purpose of this study was to explore the knowledge, attitude and practice of female college students towards sex and emergency contraceptives. This chapter discusses the conclusion with reference to the objectives and findings, points out the limitations of the study and makes recommendations for practice and further research.

6.2. RESEARCH DESIGN AND METHOD

The methodological approach employed to execute this research was a quantitative, cross sectional, descriptive study design, where the appropriateness of the design assessed in terms of whether it addresses the research objectives and produce interpretable and meaningful results.

6.3. SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS

The study has aimed at examining the level of knowledge, attitude and practice towards sex and EC among female college students of Dessie Teachers Education College, Admass University College and ALKAN University College. According to the summery index, of the total 352 students 84.4% (n=272) had positive attitude towards sex. In this study more than half (53.3%) of the respondents reported that they know at least one of the regular modern contraceptive methods, which is lower than similar study conducted in the Oromia regional state of Ethiopia (85.6%) (Mengistu 2007). The finding also revealed that 69.9% of the respondents have heard EC as it is something a woman could do soon after unprotected sexual intercourse. However, according to the summery index, their actual level of knowledge of EC is generally low (33.9%) : Though

the level of knowledge is slightly higher than a study conducted in Jimma University (22.8%), it is comparable to that conducted in Bahirdar University (34.8%) and lower than a study conducted in Addis Ababa university (43.5%) (Atsede 2007:34, Tamire et'al, 2007:114). The summarized figure for attitude towards EC indicated that 63.6% of the respondents who have ever heard of EC had favourable attitude toward EC. This figure is better than studies conducted in Addis Ababa University (53%), Bahir Dar University (56.7%), and Hawassa post secondary female students (65.6%) (Tamire et,' al. 2007:114, Atsede, 2007:33, Ayana 2008:32) respectively but less than study conducted on female students in Haramaya University (Desta 2011:1112). Main Source of information about EC was Radio and TV (38.6%), which is the same with the findings of a study in Addis Ababa which was mass media but different from the study in Oromia in which main source was from health education by health workers in the health institutions (55.3%). (Tamire 2007:114 and Mengistu 2007:20).

In this study, of those respondents who have heard of emergency contraceptives, only about 15.4% (n=38) students have ever used emergency contraception which is higher than a study conducted in Adama University and Jimma University of Ethiopia (4.7% and 6.8% respectively) (Tilahun 2010:199 and Nasir 2010:94). The higher EC practice rate in this study could be due to the fact that higher proportion (36.6%) of them had history of sexual intercourse compared to the Adama University (29%)

It can be seen from the logistic regression models (model 1, 2, 3, 4, and 5) that certain predictors have significant association with knowledge, attitudes towards sex, attitude towards EC, sexual practice and EC utilisation among the study population. Some of the variables explaining knowledge of EC are age, level of education and marital status. A predictor that has relation with students Attitude towards sex is their level of education. Similarly, the variables significantly predicting respondents' attitudes towards EC were: age and educational level. Whereas the variables significantly associated with use of EC are age and marital status and the only variable having relation with sexual practice was marital status of the respondents.

There is positive relationship between age of the respondents and knowledge of EC. Another related predictor, grade level, has also influenced knowledge of EC in similar

manner. This may hold true since there is a possibility for female students developing positive attitude towards sexual relationship as they stay more in the campus and get older. They also become more aware of their environment and develop risk perceptions through more engagement in extra-curricular activities and relationship within and outside of the campus. The result is consistent with similar studies conducted in other universities (Atsede, 2007; Ayana, 2008).

The findings of the study have shown that about 36% of the respondents had sexual intercourse. From those students who have history of sexual activity, nearly 46.5% of respondents had history of pregnancy out which 78.3% were unplanned and 65.0% (n=39) of them gone into induced abortion in which 43.3% (n=26) of them were unsafe. This result is higher than similar study conducted on higher education students in Addis Ababa (ever had sex 19.5%, ever been pregnant 35.1%) (Tamire 2007)

Similar Study in Addis Ababa showed lower rate of unwanted pregnancy 73.5% (n=36), equivalent rate of induced abortion 71.7% (n=38) and lower rate of unsafe abortion 29% (n=11). The possible explanation for low rate of safe abortion, high rate of unsafe abortion and high rate of unwanted pregnancy and delivery in this study could be due to lack of health facilities with skilled human power, lack of awareness where to get safe preventive methods and economic problems made the respondents to take measures that threaten their life or darken their future carrier.

6.4. CONCLUSION

The study has revealed that while overall awareness of EC is fair, actual knowledge of EC is very low (33.9%) among female students of Dessie Teachers education college, Admas University college and ALKAN university college. Among those who have ever heard of EC, 63.6% percent have favourable attitude towards EC. The present study has also documented that knowledge and attitude of female college students towards EC are affected by a range of personal characteristics including; age, level of education, and marital status, attitude towards sex and utilization of EC are affected by level of

education and marital status. Finally, high rate of sexual activity and unwanted pregnancies have been reported. The researcher calls for concerned bodies to take some important measures such as; provision of continuous sex education, guidance and counselling services especially during the first year and increasing easy accessibility of the EC and other preventive methods to the users. It is worth noting that the campus health workers can play important roles by percolating the knowledge of EC deep down in the student community through individual counselling when female students visit the clinic.

6.5. RECOMMENDATIONS

Since the trainees are to be distributed in the community after completing their training, preparing and equipping them with necessary knowledge of sexual and reproductive health will help to disseminate information widely in the community in a sustainable way in addition to protecting themselves;

- Strengthening IEC in colleges on sexual and reproductive health, with special emphasis to emergency contraceptives is a life saving procedure for female college students and therefore, it should be considered thoroughly.
- Contraception information sessions should address; full details how the EC works and full details of how the contraceptives should be taken.
- Clinics providing reproductive health services, only for adolescence and young female students, should be available over weekends and during the evenings.
- Specific policies should guide clinical nurses about issues such as non judgemental attitude towards sexually active female college students and facilitating students' success with emergency contraceptive services.
- There should be a Collaborated effort between service provider, health institutes and colleges.

- As the rate of unintended sexual intercourse and unwanted pregnancy were high, emergency contraception should be given a considerable attention in family planning counselling as a backup service to solve short coming problems of females.
- EC methods especially ECPs should be available at all points of drug dispensing institutes including private, NGO and Government pharmacies, clinics and community based distribution agents, etc. and facilitating conditions to distribute or sell with-out prescription.
- To raise client's skills on RH issues, IEC materials like pamphlet, news papers, posters etc should be available in all libraries of colleges, Health institutes and other accessible areas.
- Young people should be empowered to discuss sexual and RH issues with their parents, friends and others.
- The majority of the college female students did not have actual knowledge about emergency contraceptives. It is thus recommended that emergency contraceptives be advertised in clinics, in colleges, at schools and also during radio and television broadcasts.
- Strengthening of RH clubs starting from the lower level of education should be given due emphasis.
- Educators should provide moments to discuss gender issues.
- Emergency contraception and educational approaches to themes related to human sexuality should be included in the curriculum of students with the other family planning methods.
- Accessibility of emergency contraceptive methods to students and women as a whole should be expanded.
- Counselling should be conducted in view of supporting and encouraging and the counsellor must be able to create a relationship with the user and should speak in language that the user can understand.
- The media should actively participate in the dissemination of programmes on emergency contraception, and create a specific programme for female students.

- Further research on KAP of all female college students about emergency contraception provision and utilization should be conducted in a regular basis.

6.6. CONTRIBUTION OF THE STUDY

Even though there are studies in different Universities at different part of the country, there is no such type of research done specifically in the area before. This study showed that even though the awareness of emergency contraception among the college female students was good, the detail knowledge and practice of EC was very low. There is a need to educate students about emergency contraceptives, with emphasis on available methods and correct timing of use. There should be promotion of emergency contraceptives to enhance their use and making them easily accessible in hospital, pharmacies and student clinic. Moreover, health education program should be set up to the college students to avail accurate information about emergency contraception.

6.7. LIMITATIONS OF THE STUDY

- ✓ The data was collected only from female youth in colleges. In the country where only small proportion of youth got chance of joining college, the result has limited power to be generalized to all youth in the study area and may overestimate the result.
- ✓ Self-reported information is subjected to reporting errors, missed values & biases. Since the study touches sensitive issues the possibility of underestimation cannot be excluded, even though the study was anonymous
- ✓ During the collection the young females were extremely impatient, which expected for this age they were impatient with the questions presented, and the time required. Many felt shy with respect to some issues, especially those related to sex, and there were some non responses.

- ✓ To date, no literature is available on the knowledge attitude and practice of female college students towards sex and EC in the area; thus the researcher had no data for comparison.
- ✓ Another research paradigm such as qualitative research could have elicited different findings.

6.8. CONCLUDING REMARKS

This chapter covered the summary of the study, limitations of the study, conclusions and recommendations for future interventions.

In conclusion, the study has shown that in the face of significant risk of unwanted pregnancy and induced abortion among the sexually active students, the knowledge and practice on emergency contraceptive is very low. There is a need to raise awareness about emergency contraceptives as an option with other contraception methods and revitalizing of the family life education program in colleges to include among others information.

It is therefore of the utmost importance to provide the appropriate information and research findings on EC to the attention of service providers and different stockholders of the district to effect the impact of EC service on female students lives of the colleges in the area.

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Annexure A Approval from of the university



**UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE**

HS HDC/36/2012

Date of meeting: 16 March 2012 Student No: 4328-567-8
Project Title: Female college students' knowledge, attitudes and practices about sex and emergency contraception.
Researcher: Wendwosen Teklemariam Nibabe
Degree: Masters in Public Health Code: DIS4986
Supervisor: Prof T Mgutshini
Qualification: PhD
Joint Supervisor: -

DECISION OF COMMITTEE

Approved

Conditionally Approved

Prof E Potgieter *Potgieter*
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

MM Moleki
Dr MM Moleki
ACTING ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

Annexure B Letter seeking consent from the colleges

June 4/2012

To

ALKAN UNIVERSITY COLLEGE

DESSIE TEACHERS EDUCATION COLLEGE

ADMAS UNIVERSITY COLLEGE

Subject: Asking a permission to conduct a Research on Female Students of the
College

Dear Sir

As it is being observed, the number of college students who are becoming pregnant during college life is increasing and this intern is increasing the number of dropout of female students. So I want to study the students' attitude towards sex and their awareness about Emergency Contraception. I hope this study will help to understand status of the student's awareness about prevention of un-intended pregnancy and utilization of emergency contraception to take necessary measure accordingly. There for, I shall be indebted to you if you very kindly furnish the necessary assistance in this behalf.

Thank you for your cooperation and assistance.

Kind Regards

WENDWOSENTEKLEMARIAM NIBABE



Admas University College

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☒ 1270

Fax: 033 111 8619

☎ 033 111 8619/20

Dessie Campus, Ethiopia

Ref. No AD/DS/1196/12
Date 05/06/12

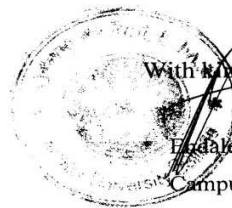
To **Wendwosen Teklemariam Nibabe**
Addis Ababa

Letter of Response For Request:

You have requested us to collect data using questionnaire titled "Questionnaire to assess female college students knowledge, attitude and practice towards sex and emergency contraception" on June 5/2012

Our college has accepted your request and has allowed you to collect the data duly starting from the day you mentioned on ward.

We believe that, everybody in the campus will try to help you in the matter.



With kind Regards,

Hadale Ayalew
Campus Dean



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Ref no 005/02/264/11

Date 6/10/2004

To Wendwosen Teklemariam Nibabe

Addis Ababa

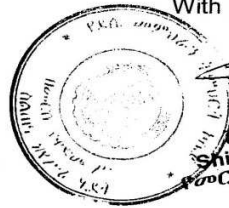
Letter of Response For Request:-

You have requested us to collect data using questionnaire titled "Questionnaire to assess Female college students Knowledge, Attitude, and Practice towards sex and Emergency contraception" on June 5/2012.

Our college has accepted your request and has allowed him to collect the data duly starting from the day he mentioned on ward.

We believe that, everybody in the campus will try to help you in the matter.

With Kind Regards.



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Shimelise Ali Bezie
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ALKAN UNIVERSITY COLLEGE



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To Wondwossen Teklemariam Nibabe
Addis Ababa



Letter Of Response for Request:-

Ato Wondwossen Teklemariam has requested us to collect data using questionnaire on June 04,2012

Our college has accepted his request and has allowed him to carry on his procedures duly starting from the day he mentioned on wards.

We believe that, every body in the campus will try to help him in the matter.



With kind regards.

አዳሙ ካሴ ወርቅ
Adamu Kasse Worede
የኮሌጁ ፕሮቪሽን
Vice President

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✉ 1492

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Dessie, Ethiopia

Annexure D

Verbal consent form before distributing the questionnaire

Greeting

How are you, I am----- . I am working for the research conducted by a student studding in University Of South Africa, Department of Health Studies used as a partial fulfilment to master of public health. I would like to give you a questionnaire about Female student's awareness and Practice on emergency contraception to prevent unwanted pregnancy as well their attitude towards premarital sex; this will help us to improve the access of emergency contraception, awareness creation about it based on your answers to our questions. Your name will not be written in this form and will never be used in connection with any information you tell us. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obligate to answer any question you do not wish to answer. IF you fill discomfort with the questionnaire, please fill free to drop it any time you want. This questionnaire will take about 30 minutes. Could I have your permission to continue?

1. If yes, continue to distribute the questionnaire.
2. If no, skip to the next participant by writing reasons for his/her refusal

Informed consent Certified by

Data collectors Name-----signature-----

Date of Data collection-----Time started----- Time completed-----

Result of data collection:

1. Completed
2. Respondent not available.....
3. Refused
4. Partially completed.....

Checked by.....

Annexure E: Questionnaire for assessment of Female College students' Knowledge, Attitude, and Practice about sex and Emergency Contraceptives. Dessie, Ethiopia.

Department_____

Female college Students' Knowledge Attitude and Practice about sex and emergency contraception: Questionnaire

S. no	Question	Response
I.	Identification Data	
1.1	Date of interview	Day____/Month___/Year___/
1.2	Time interview began	Hour: Min___:___
1.3	Time interview finished	Hour: Min___:___
1.4	Place:	
II	Background information	
2.1	How old are you?	
2.2	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other
2.3	What is your educational level?	1. First year 2. Second year 3. Third year
2.4	What is your current marital status?	1. unmarried 2. Married 3. Divorce 4. Separated 5. widowed
2.5	With whom are you living now?	1. With father and mother 2. With friends 3. Alone 4. Other (specify)
2.6	Father's educational level?	1. No studies at all

		2. Read and write 3. Grade 1-6 4. Grade 7-12 5. 12+2 6. 1st degree and above 7. Other, specify_____
2.7	Mother's educational level?	1. No studies at all 2. Read and write 3. Grade 1-6 4. Grade 7-12 5. 12+2 6. 1st degree and above 7. Other, specify_____
III	Attitude of students towards sex	
3.1	It is all right to have a boy friend during college life	Agree strongly Agree slightly Neither agree nor disagree Disagree slightly Disagree strongly .
3.2	It is wrong for unmarried students to kiss each other.	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
3.3	It is unnatural for female to initiate sex	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly

		Disagree strongly
3.4	It is better to abstain from sex until marriage	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
3.5	It is better to abstain from sex until graduation	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
3.6	It is advisable for a girl to remain virgin until marriage.	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
3.7	It is all right for students to have sex before marriage if they use methods to prevent pregnancy	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly.
3.8	Extra marital sex leads to marital problems	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
3.9	Sex without love is okay	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly

IV	Attitude of students towards Emergency Contraception	
4.1	The provision of EC to students would encourage promiscuity	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
4.2	The provision of EC would discourage compliance to other contraceptive methods	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
4.3	Repeated use of EC pose a health risk	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
4.4	EC should be prescribed for a client to have on hand prior to an episode of unprotected sexual intercourse	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
4.5	EC should be available over the counter without prescription	Agree strongly Agree slightly Neither agree nor disagree. Disagree slightly Disagree strongly
IV	Awareness about emergency contraception	
5.1	Among modern contraceptive methods which once do you know?	1.Pills 2. Injectables 3.Condoms 4.IUDS

		5.Tubal ligation 6.Vasectomy
5.2	Have you heard of emergency contraception that you can use after sex?	1.Yes 2.No
5.3	If your answer for Q 5.2 is yes, from where do you heard?	1.Reading from leaflets 2.Mass media 3.Health workers 4.From college
5.4	What type of contraception can be used in an emergency after sex?	1. Pills 2. IUCD 3. Both 4. Don't know 5.Other,specify
5.5	What type of drug is used in emergency contraception?	1. The same as in ordinary pills 2. The same one but stronger 3. I don't know
5.6	What is the time limit for taking emergency contraceptive pills after unprotected sex?	1.Within 12 hours 2.Within 24 hours 3.Within 48 hours (2 days) 4.Within 72 hours (3 days) 5.Don't know 6.Other
5.7	What is the time limit for having an IUD (coil) fitted after unprotected sex?	1.Within 12 hours 2.Within 24 hours 3.Within 48 hours (2 days) 4.Within 72 hours (3 days) 5.Within 4 days 6.Within 5 days 7.Don't know

		8.Other
5.8	Places where a woman can obtain emergency contraception.	1.Hospital /health centre 2. Community health worker 3.private clinic 4.Pharmacy 5.supermarket 6. Does not know 7 Other, specify.
5.9	How effective is IUCD in preventing a pregnancy?	1.99% 2.75% 3.50% 4.not sure
5.10	How effective are emergency contraceptive pills in preventing a pregnancy?	1. <75% 2. 3. >85% 3. 75-85% 4. 4. Not sure
5.11	How safe do you think emergency birth control methods are for most women?	1.very safe 3.unsafe 2.safe 4.no response
VI	Use of emergency contraception	
6.1	Have you ever used emergency Contraceptive pills?	1.Yes 2.no
6.2	If your answer for Q 6.1 is yes, How many times have you used this method during the last year?	1Once 2. Twice 3.Three times 4. doesn't remember
6.3	Who recommend it?	1.A friend 2.partner (male) 3.Health professional

		4.does not remember
6.4	Who did provide it to you?	<ol style="list-style-type: none"> 1. Doctors 2. Nurses 3. Community health workers 4. Midwives. 5. Pharmacist 6 Other, specify.
6.5	Why did you use it?	<ol style="list-style-type: none"> 1 the timing miscalculated 2. condom broke 3. you missed pills 4. Because of forced sex 5. withdrawal failed 6.other specify
6.6	What were the challenges you faced to get EC?	<ol style="list-style-type: none"> 1. Price 2. Not available in pharmacies 3. Fear of stigma 4. Lack of knowledge
VII	Sexual Practice	
7.1	Do you have history of sexual practice?	<ol style="list-style-type: none"> 1. Yes 2. No
7.2	If your answer for answer for question No 7.1 is yes, Do you have history of pregnancy?	<ol style="list-style-type: none"> 1. Yes 2. No
7.3	If your answer for question No 7.3 is yes what was your age at first pregnancy?	<ol style="list-style-type: none"> 1. ≤ 15 2. 15-19 3. 20+ 4. No response
7.4	Was the pregnancy planned?	<ol style="list-style-type: none"> 1. Yes 2. N
7.5	What was the outcome of the pregnancy?	<ol style="list-style-type: none"> 1. Has been delivered 2. Safe abortion

		3. Unsafe abortion
7.6	How many abortions did you have	1. Once 2. Twice 3. Three and more
7.7	Place of abortion	1. Home 2. Clinic 3. No response