ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF EMERGENCY CONTRACEPTIVES AMONG FEMALE STUDENTS OF WOLAITA SODO UNIVERSITY

By:

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This is to certify that the thesis prepared by **Senait G/Mariam** entitled: ***"Assessment of Knowledge, Attitude and Practice Towards Emergency Contraceptives Among Female Students of Wolaita Sodo University"*** and Submitted to Partial Fulfillment of the requirements for the Degree of Master of Science (Population Studies) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

Assessment of knowledge, attitude and practice of emergency contraceptives among female students of wolaita sodo University in SNNPR.

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Unwanted pregnancy which may lead to unsafe abortion is common among young adolescent women. Unwanted pregnancy can occur due to missed pills, forced sex, method failures, and condom breakage. To prevent such problem, Emergency Contraceptives are the only method that can be used after unprotected sex. Therefore, this cross-sectional study aimed to examine the level of knowledge, attitudes, and Practice of emergency contraceptive pills among 330 young female students of Wolaita Sodo University, and to determine factors associated with the knowledge and acceptance of emergency contraceptive pill. A self-administered questionnaire was used as an instrument for data collection and for Statistical analyses percentage, mean, standard deviation, bivariate and Binary logistic regression was used. The findings of the study revealed, the sample group comprised 62.4% of the students aged 17-20 and 37.6% aged between21-25; 45.2% of the respondents had ever heard about Emergency Contraceptive; 28.5 % had good knowledge of EC, and 67.5% had favorable attitude toward EC. In the binary logistic analysis, some variables have become significant predictors of awareness of EC including: discussion of reproductive issues with mother and friend, induced abortion, chewing 'Khat', taking alcohol and mother's education level. Finally, there is gap between knowledge and attitude among respondents so the study call for concerned bodies to take some important measures such as; provision of continuous sex education, guidance and counseling services especially during the first year and increasing easy accessibility of the Emergency Contraceptive and other preventive methods to the users.

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LIST OF ACRONYMS AND ABBREVATIONS

AAU = Addis Ababa University

AIDS = Acquired Immune Deficiency Syndrome

CFEC = Consortium for Emergency Contraceptive

CORHA = Consortium of Reproductive Health Association

ECPs = Emergency Contraceptive Pills

ECs = Emergency contraceptives

EDHS = Ethiopian Demographic and Health Survey

ESOG = Ethiopian Society of Obstetric Gynecologists

FGAE = Family Guidance Association of Ethiopia

FP = Family Planning

HIV = Human Immune Virus

KAP = Knowledge, Attitude and Practice

ICEC = International Consortium for Emergency Contraception

IPS = Institute of Population Studies

IUD = Intra Uterine Devices

IUCDs = Intra Uterine Contraceptive Devices

MOH = Ministry of Health

NGOs = Non – Governmental Organizations

OR = Odds Ratio

PRB = Population Reference Bureau

RH= Reproductive Health

SD = Standard Deviation

SNNPR = Southern Nations Nationalities and Peoples' Region

SPSS = Statistical Package for Social Sciences

STIs = Sexually Transmitted Infections

STDs = Sexually Transmitted Diseases

USA = United States of America

WHO = World Health Organization

WSU = Wolaita Sodo University

CHAPTER ONE

1. INTRODUCTION

1.1 Background

The worldwide abortion rate slowed down between 2003 and 2008, after declining substantially between 1995 and 2003. The world overall abortion rate (the number of abortions per 1,000 women of childbearing age i.e., those aged 15–44) dropped from 35 to 29 between 1995 and 2003, but it remained virtually unchanged, at 28, in 2008. During the same period, the proportion of all abortions that were unsafe increased from 44% to 49% (Sedgh et al, 2008).

Nearly half of all abortions worldwide are unsafe, and nearly all unsafe abortions (98%) occur in developing countries. In the developing world, 56% of all abortions are unsafe, compared with just 6% in the developed world (World Health Organization, 2008).

Almost all abortion-related deaths occur in developing countries, with the highest number occurring in Africa. Unsafe abortion is a significant cause of ill-health among women in the developing world. Estimates for 2005 indicate that 8.5 million women annually experience complications from unsafe abortion that require medical attention, and three million do not receive the care they need (Sedgh et al, 2008).

Unsafe abortion has significant negative consequences beyond its immediate effects on women's health. For example, complications from unsafe abortion may reduce women's productivity, increasing the economic burden on poor families; cause maternal deaths that leave children motherless; cause long term health problems such as; infertility and result in considerable costs to already struggling public health systems.

An estimated 215 million women in the developing world have an unmet need for modern contraceptives, meaning they want to avoid a pregnancy but are using a low-efficacy traditional family planning method or no method. (Lester, R., 2011)

In the developing world, women's reasons for not using contraceptives most commonly include concerns about possible side-effects, the belief that they are not at risk of getting pregnant, poor access to family planning, and their partners' opposition to contraception. Hence, reducing unmet need for modern contraception is an effective way to prevent unintended pregnancies, abortions and unplanned births (WHO, 2008).

Many sub-Saharan African countries have persistent high rates of unmet need for family planning and low rates of contraceptive use. The low levels of utilization are typically a function of both the limited capacity of the health system and the framework within which family planning (FP) services are delivered. Other factors affecting service provision include weak commodity security and suboptimal service factors (PRB, 2008). At the individual level also, multiple barriers to utilization have been identified, including risk perception, insufficient knowledge needed to make informed choices, opposition from male partners, and health service limitations.

Consequences of unprotected sex, such as unintended pregnancy and unsafe abortion, can be prevented by access to contraceptive services including emergency contraception. EC is a method used to avoid pregnancy after unprotected sexual intercourse unlike the regular methods of contraception that are taken before sexual contact. It has the potential, as the last resort, to avoid unwanted pregnancy and therefore abortion; a desirable goal especially when abortion is illegal. Oral contraceptive pills and intrauterine contraceptive devices (IUCDs) are mainly used as emergency contraceptives. When used within 72 hours after sexual contact pills have the capacity to prevent pregnancy by 75-85% and with the use of IUCDs unwanted pregnancy can be prevented by as much as 99%. This is especially significant for those young couples that opt not to use a long-term regular contraceptive method and their sexual behavior is rather unplanned, erratic and irregular (CFEC, 2000).

EC is the only method women can use to prevent pregnancy after they have had unprotected sexual intercourse, have experienced a contraceptive failure, have remembered too late that they have forgotten to take their birth control pills, or have been forced to have unsafe sex. EC is sometimes referred to as "morning-after" or "post-coital" contraception. EC is intending for

occasional or emergency use only and not as a regular means of contraception. Formerly, EC was thought to be effective only within 72 hours, but recent studies have confirmed it is effective for up to 120 hours (Schwarz,E., Gerbert, R.& Gonzales, R.,2007). EC methods include taking special doses of ordinary birth control pills as well as inserting an intrauterine device (IUD). Depending on the method used, EC can reduce women's risk of becoming pregnant from a single act of intercourse by between 75 and 99 percent (ICFEC, 2004).

The exact mechanism of action of emergency contraceptive pills is unknown, but the medication is thought to inhibit ovulation, fertilization, transportation of the fertilized egg to the uterus or implantation of the blast cyst in the endometrial (Grimes, D. & Raymond, E., 2002). The hypothesized mechanism of action is most similar to that of oral contraceptives, which inhibit ovulation and fertilization (Rivera, R., Yacobson,I. & Grimes, D., 1999). Because emergency contraceptive pills are a relatively new medication and it attracted the attention of individuals who are opposed to some contraceptive choices, several unfounded concerns have arisen about the consequences of their use. For example, like oral contraceptives, emergency contraceptive pills taken by pregnant women are not associated with birth defects. (Grimes, D., 2002). Repeated use of the method does not appear to pose increased health risks, nor is there evidence that women are at risk of habitual use (Westhoff, C., 2003). Further, because emergency contraceptive pills do not act on a previously implanted embryo, they do not cause abortions; (Boggess, J., 2002) they can, in fact, reduce the need for induced abortions.

Knowledge and practice on emergency contraception are particularly important because of high rates of unwanted and teenage pregnancy and soaring STI and HIV/AIDS rates. Different studies, however, have shown that the knowledge and practice in relation to emergency contraception are limited among women. The practice of emergency contraceptives is almost inexistent in Ethiopia, as the method is not presented with other methods of contraceptives. Recently a survey has been conducted in the country for the purpose of expanding coital dependent and contraception methods and the findings showed that young people opt not to use long-term regular contraceptive methods as their sexual practices are unplanned and irregular (FGAE,2002). The aim of this study is therefore to assess the level of knowledge, attitude and practice of emergency contraception among young students at higher institutes.

1.2. Statement of the Problem

In Ethiopia a lot of women die because of suffering illness and disability due to complications associated with pregnancy and child birth.

An estimated 2.6 million births occur each year in the country. About 15% of pregnant women are estimated to develop life-threatening obstetric complications. Direct obstetric complications account for 85% of the deaths as well as many acute and chronic illnesses. The distribution of maternal deaths due to all causes in health facilities showed that the most important causes of death include: obstructed labor (13%), ruptured uterus (12%) severe pre-eclampsia/eclampsia (11%), severe complications of abortion (6%), post- partum hemorrhage /retained placenta (7%), postpartum sepsis (5%), ante-partum hemorrhage (5%) and direct complications from other causes (9%). Indirect causes such as HIV/AIDS (4%), anemia (4%), malaria (9%), and complications from other causes (9%) contribute to about 21% of the maternal deaths. A host of long-term conditions disable women who survive delivery-related complications, such as fistula, uterine prolapse, chronic pelvic pain, depression and exhaustion. Fistula is especially common in Ethiopia, primarily due to the frequency of adolescent pregnancy combined with neglected prolonged labor (MOH, 2011).

Any pregnancy whether intended or unintended is known to have some risk and expose the woman to a variety of hazards which might even threaten her life (Beruk, T., 1992). Unintended pregnancy poses a major challenge to the reproductive health (RH) of young adults in developing countries (Okonofua, FE., 1995). With decreasing age of menarche and onset of sexual activity, young people are exposed early to unplanned and unprotected sexual intercourse leading to unwanted pregnancy and invariably abortions.

According to the national survey of an abortion conducted by Ethiopian Society of Obstetricians and Gynecologists (ESOG), the low status of women, poor access to family planning service, lack of information about available RH services and RH rights are major factors that aggravated the prevailing unacceptable situation (Mekbib, T., Gebrehiwot, Y. & Fantahun, M., 2007).

Young and unmarried women constitute a high risk group for unsafe abortion (Kongnyuy et.al 2007& Tautz, S., 2004) and its related consequences. In Africa, about one-quarter of all unsafe abortions are among teenagers (ages 15 to 19) and about 60% are among women aged less than 25 years (WHO, 2004).

The consequences of an unplanned pregnancy can be serious and include induced abortion or the birth of an unwanted baby; these may in turn lead to social and psychological problems. Other factors that enhance adolescents' risk of pregnancy related complications include poverty, malnutrition, lack of education and lack of access to prenatal, intra natal and post natal care (WHO, 1998). This can be avoided by use of EC. (Farooq, F., Kadri, SM. & Gash, BA., 2007; Blythe et. Al 2005). Although EC has existed for the last 30 years, it has remained relatively unknown worldwide (A VSC International, 2004).

Emergency contraception, however, can be used to prevent pregnancy following unprotected sexual intercourse. Alternative but less appropriate terms for emergency contraception are 'postcoital' and 'morning after' contraception (Van Look PF, 1993). Despite the fact that emergency contraceptives are readily available, they are effective only if women use them at the appropriate time. The decision to use emergency contraception will also depend on women's attitudes to this form of birth control.

Among the various forms of contraception, emergency contraceptives are the only one that can be used after sexual intercourse, offering a second chance to prevent un- wanted pregnancy. ECs are back-up methods to preventing pregnancies. It can be used by women whose contraceptive failed, who run out of other contraceptive methods, who forget to take consecutive oral contraceptives, who were not planning to have sex, or who have been raped and who do not want to become pregnant. Adolescent women may be more likely to forget their regular method, may not have a method on hand, or may have unplanned sex, and thus can benefit from ECs use (Miller, Shane & Murphy, 1998; PRB, 2006). However, ECs do not terminate existing pregnancies, and do not protect against sexually transmitted diseases. Oral contraceptive pills and intrauterine contraceptive devices (IUCDs) are mainly used as emergency contraceptives. ECs in the form of pill can reduce the risk of pregnancy by 75% or more if taken within 72 hours

of unprotected sex. On the other hand, insertion of IUCDs within seven days after unprotected sex can reduce the risk of pregnancy by 99% (PRB, 2006).

A study conducted in Durban, South Africa to assess the KAP of EC among tertiary students with a total of 436 students, showed that 56.5 % had heard about EC, few knew the correct time limit in which it must be used, only 60 students (7.8 %) know how effective EC was in preventing pregnancy, 91 students (11.8 %) had used EC and 50% responded that if they had to, they want to use it and recommended to others (Burton, R. & Savage,W., 1990). The survey showed the need for a carefully designed education program and pro- motion of EC.

In Nepal the average age for college students to have their first sexual intercourse is 18.5 years for boys and 18.0 years for girls. A considerable proportion of boys (10%) and girls (22%) reported that first sexual intercourse happened without their willingness (Adhikari, K., 2008a). These students are at the greatest risk of unintended pregnancy. The study has also indicated that a large proportion of college students who were studying in Kathmandu (43 percent of male and 55 percent of female) did not use condom at first premarital sex (Adhikari, K., 2008b).

In addition studies outside Nepal manifested that only 60% to 90% of the women had basic knowledge of EC (Harper, CC. & Ellertson, CE., 1999). There is a general tendency throughout the investigations toward a higher knowledge of EC among young, well educated women and among women already using normal contraceptives of any kind (Persley et.al, 2002).One study conducted in USA in college setting showed that almost all (94%) knew about EC (Vahratian et al 2008).

In Ethiopia, 15-60% of adolescent pregnancies are unwanted or unintended, resulting from unprotected sexual intercourse. Unintended pregnancy is one of the enormous problems female youth face due to early most often unprotected and unsafe sexual practices. To reduce unintended pregnancy and its complications, emphasis is made on EC. According to national hospital based survey, about 46% of abortion cases were among women aged below 25 years; about 64% of aborted women had educational status of primary level or higher (Tekle-Ab, M.,

Yirgu, G. & Misganaw, F., 2007). Most researchers have pointed out that lack of knowledge of the method is the major barrier to use (Tigist, A., 1999).

Hence, widespread use of emergency contraception may significantly reduce the incidence of unwanted pregnancies and unsafe abortions, and there by the number of abortion-related morbidity and mortality (Kongnyuy et.al 2007; Farooq, F., Kadri, SM. & Gash, BA., 2007).

1.3. Objective of the study

1.3.1. General Objective of the study

The goal of this study is to assess the knowledge, attitude and practice of Emergency Contraceptives among female students of Wolaita Soddo University.

1.3.2 Specific Objectives of the study

a) To assess the level of knowledge of Emergency Contraceptive among WSU female students
b) To assess the attitude of WSU female students towards Emergency Contraceptive
c) To assess the utilization of Emergency Contraceptive among WSU female students
d) To identify socio-demographic factors affecting female students' KAP of Emergency Contraceptive

1.4 Research Questions

1) Is there lack of knowledge of Emergency contraceptives existence utilization like drug composition, time interval between doses, and levels of effectiveness among WSU female students?
2) Do family members and friends make any difference disseminating knowledge of Emergency contraceptives among WSU female students?

3) Do consumption of alcohol and *Khat* helpful for awareness of Emergency contraceptives among WSU female students?
4) Do the students who participate in anti-HIV/AIDS clubs and those who are close to mass-media have better awareness of Emergency contraceptives than others?

1.5 Significance of the Study

As shown in many countries where the rate of unintended pregnancy is high, widespread use of emergency contraception could prevent very high numbers of unintended pregnancies and abortions. The reproductive health impacts of unintended pregnancy and unsafe abortion are high among adolescents especially in developing countries like Ethiopia. Preventing unintended pregnancies by improving the family planning services including emergency contraception which is convenient to the young people will contribute to the reduction of maternal morbidity and mortality. Thus, every effort should be made to ensure that women know about them before they need them. However, in our country, it is little known by the women especially adolescents who faced the burden.

Primarily the assessment of knowledge, attitude and utilization of EC is mandatory to do on intervention. Therefore this study attempts to generate information regarding knowledge, attitude and utilization of EC in university setting. So the information obtained from this study could indicate the necessary interventions. It can also infer the case in the other universities in the country and helpful to policy makers and programmers to emphasis on reproductive health issues of adolescents starting from the lower education level and it could help as Prerequisite for government in collaboration with non government agencies for successfully integrating ECPs into large-scale reproductive health programs.

1.6 Definition of Terms

Knowledge- is awareness of the presence of the methods, type of EC methods, their sources, drug content, and the ability to identify when to take EC after unprotected sex, situations to take EC, mechanism of action, its side effects, legal status, and effectiveness of ECs to prevent

unintended pregnancy. The study subjects' knowledge of EC are classified as good, fair and poor according to the number of correct responses to the series of six knowledge questions.

Attitude – is opinions, out looks, values, position and intentions of the study subjects towards the utilization of EC methods. Study subjects who have concerns and negative opinion about ECs and responded negatively for attitude items are regarded to have negative attitude towards EC. While those who have positive outlook and no concern towards ECs and responded the attitude questions positively are considered to have a positive attitude towards ECs.

Practice – is the utilization skill or ever use of EC on the basis of their knowledge when the study subjects are exposed to unprotected sexual intercourse to prevent an intended pregnancy.

Sources: (Berhanu, D., 2006, Atsede,D., 2007& Wondimu, B., 2008).

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

2.1. Literature Review

A literature review helps to lay the foundation and provides the context for a new study. By doing a thorough review, researchers can determine how best to make a contribution to the existing base of evidence, for example, whether there are gaps or inconsistencies, or whether a replication with a new study was done. Reviewing the literature can also help to develop relevant conceptual frameworks or appropriate research methods. A literature review also plays a role at the end of the study as researchers try to make sense of their findings (Polit, DF. & Beck,CT., 2008).

The primary purpose of this study is to explore and describe the knowledge, attitude and practice of Wolaita Sodo University female students towards Emergency contraceptives (EC). In the following sections of this review all key concepts and aspects on EC covered. The key concepts reviewed for the topic were; the current state of knowledge, Attitude and Practice of EC among University students, History of emergency contraception, types of EC available, ECs' effectiveness, when and how EC administered and if there are any contraindications or side effects for its use.

2.1.1. History of Emergency Contraception

In 1974, the Canadian physician Albert Yuzpe reported that emergency contraceptive pills available in the market are effective for pregnancy prevention and had fewer side effects (Yuzpe, et al, 1974). The method is known as "Yuzpe regimen". Around the same time, there was a report of effectively use of a high dose of levonorgestrel (LNG), the second generation of synthetic hormone of Progestin, and the postcoital insertion of a copper IUD, as emergency contraceptions. Later in the 1980s, Danazol, the antigonadotropin synthetic hormone, was

introduced, but found less effective than the Yuzpe regimen, hence not becoming popular (Webb, et al., 1992).

During the past decade, mifepristone; RU486, the antigonadotropin sysnthetic hormone was used as contraception after unprotected coitus. Mifepristone is effective in prevention of implantation and its growth, thus regarded as an abortifacient that is limited and accepted in some countries. The mifepristone has proved its higher efficacy in preventing pregnancy than both the Yuzpe regimen and danazol (Webb, et al.,1992).

In 1995, experts from around the world had met in Bellagio, Italy, and produced a Consensus Statement on emergency contraception, calling on providers to realize the importance of the method and to make the service available for prevention of unwanted pregnancies. In the same year, the WHO added the emergency contraceptive pill in the model list of essential drugs. Later in October 1996, the American College of Gynecologists (ACOG) had announced the practice guides for emergency contraception that influenced on medical practice of gynecologists both in and outside the USA (WHO, 1998).

In 1998, WHO had published a research on efficacy of emergency contraceptive pill, identifying that administration of 0.75 mg. levonorgestrel within 72 hours after unprotected intercourse, followed by a second dose 12 hours later can reduce the risk of pregnancy by 85 %. However, the efficacy is delayed if the pill is taken within 12, 24, 48, and 72 hours after unprotected intercourse respectively, and the risk of pregnancy will increase to 0.5 %, 1.5 %, 2.6 %, and 4.1 % respectively. WHO had prepared a handbook "Emergency contraception: a guide for servicedelivery" as a standard guideline for medical personnel to provide the service to the people (WHO, 1998).

2.1.2. The Concept of Emergency Contraception

Despite the availability of highly effective methods of contraception, many pregnancies are unplanned and unwanted. These pregnancies carry a higher risk of morbidity and mortality, often

due to unsafe abortion. Many of these unplanned pregnancies can be avoided using emergency contraception (ICEC, 2004).

Emergency contraception refers to contraception methods that can be used by women following unprotected intercourse or if the women had a contraceptive accident such as leakage or slippage of condom to prevent an unwanted pregnancy (ESOG, 2002 and Trussell, J. & Rymond, M., 2007).

Formerly, emergency contraceptive pills (ECPs) were thought to be effective only within 72 hours, but recent studies have confirmed that they are effective for up to 120 hours (International consortium for EC, 2004; Schwarz et.al, 2007). These methods include special doses of ordinary birth control pills as well as insertion of an intrauterine device (IUD). Intra Uterine Device (IUD) also can be used as EC up to 120 hours after sex. They offer women an important second chance to prevent pregnancy when a regular method fails, no method was used, or sex was forced. Research over the past 30 years has shown that these methods are safe and effective. Depending on the method used, EC can reduce women's risk of becoming pregnant from a single act of intercourse by between 75 and 99 percent (Consortium for EC, 2000).

There are two types of emergency contraception: hormonal methods and the insertion of intrauterine device (IUD). Hormonal emergency contraception consists of:

i) Combined oral contraceptive pills: contain 200mcg of ethinyle stradiol and 1.0 mg of levonorgestrel, taken within 72 hours of unprotected intercourse and then 12 hours later. This regimen is known as the Yuzpe's method, and it has been used since the 1970s.

ii) Progesterone only pills: when pills containing 0.75 mg of levonorgestrel available, one pill should be taken as the first dose as soon as convenient, but not later than 3 days (72 hours) after unprotected intercourse to be followed by another one pill 12 hours later. When pills containing 0.03mg of levonorgestrel are available, twenty pills should be taken as the first dose as soon as convenient but not later than 72 hours after unprotected intercourse to be followed by another 2 pills 12 hours later (ESOG, 2002; ICEC, 2004)

Another, non-hormonal method of emergency contraception involves insertion of a copper intrauterine contraceptive device (IUD) into the uterus. They are most appropriate for women in

stable relationships who wish to retain the IUD for long-term contraception and who meet the screening requirements for regular IUD use. This method prevents implantation of fertilized egg and can be used to prevent pregnancy up to five to seven days after unprotected intercourse. However, emergency IUD insertion requires a much higher degree of training and clinical over sight than administration of emergency contraceptive pills. There are also two other methods which have been discovered recently and often more promising: a synthetic progestin and antigonadotropine, danazol and mifepristone, more commonly known as RU – 486 (Ellertson, C., 1996 & Trussell, J. & Rymond, M., 2007).

The exact mode of action of ECPs in any given case cannot be known. ECPs have been shown to inhibit or delay an egg from being released from the ovary when taken before ovulation. They may also prevent sperm and egg from uniting or stop a fertilized egg from attaching to the uterus. ECPs do not interrupt or abort an established pregnancy. They can only help in preventing unwanted pregnancy. ECPs play a crucial role in family planning programs as a backup method to avoid unwanted and unplanned pregnancy as well as a bridge to continuing the use of family planning methods (ESOG, 2002; ICEC, 2004; Trussell , J.& Rymond, M., 2007 & Galvao, L. et al, 1999).

2.1.3. Side Effects and Contraindications

The side effects of ECPs are nausea, vomiting, irregular uterine bleeding, headache, fatigue, abdominal pain and dizziness. For IUCD the side effects are similar to those seen after routine insertion at other times and include abdominal discomfort and vaginal bleeding or spotting. (David A. Grime, MD, and Elizabeth G. Raymond, MD, MPH, 2002) There are no absolute contraindications to the use of ECPs, with exception of pregnancy. ECPs should not be used in pregnancy, not because they are thought to be harmful, but because they are ineffective. (Tekle-Ab, M., Yirgu, G. & Misganaw, F., 2007) The contraindications for emergency insertion of IUD are the same as for insertion at other times like risk of pelvic inflammatory disease and STIs (Faliha, F. & Usha, M., 2004).

2.1.4. Magnitude of Gender Based Sexual Violence in College Students

Gender based violence is physical, mental or social abuse (including sexual violence) including acts, attempted or threatened, done with some type of force, manipulation, or coercion and without the informed consent of the affected person/survivor. Forms of gender based violence include sexual violence, sexual abuse, sexual harassment, sexual exploitation, early or forced marriage, discrimination, and female genital cutting, but to be free from sexual violence is one of the fundamental human rights (ESOG, 2004).

In a qualitative study by Consortium of Reproductive Health Association (CORHA) in four universities in Ethiopia; female university students had reported that they were harassed and raped both in and outside the university campuses (CORHA, 2004).

In a school based survey among high school students in Addis Ababa and West Shoa prevalence of completed and attempted rape was 5% & 10% respectively (Mulugeta E, Kassaye M, Berhane Y, 1998). In similar study among high school students in Debark, North-west Ethiopia, sexual violence was reported by 65.3% of respondents. The prevalence of performed & attempted rape was 8.8 & 11.5% respectively (Worku A. and Addisie M., 2002). From reports of major findings from field research conducted in Merkan & Mareko district in south-central Ethiopia, 59% of women suffered from sexual violence, and 49% from physical violence by a partner at some point in their lives (Gossaye, N., Deyessa, Y. & Berhane Et al, 2003).

2.1.5. Importance of EC for the Youth

The mean age of menarche for girls in Jimma town, Oromia regional state was found to be 14.1 years on study conducted among in school youth revealed. In populations where most women of reproductive age do not have access to contraception, unwanted or mistimed pregnancies occur frequently. Most victims of unwanted pregnancy are adolescents, who are expelled from school, often ending their formal education and the potential for meaningful future employment. For fear of being expelled from school, many adolescent girls resort to clandestine abortion, which often results in serious complications or death (Birhan research & Development consultancy, 2004).

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. Despite programming and messages encouraging delayed sexual debut and abstinence, many youth have unplanned intercourse. Adolescents are subjected to have sex sporadically, which makes contraceptive planning difficult. Others experience contraceptive failure and their failure rates may be higher than adults due to their inexperience. Also many young women experience coerced sex, including rape (Chris, P., 2005).

EC used as bridge to other reproductive health services. A study in Jamaica found that 55% of those who used emergency contraception for the first time adopted an ongoing method of contraception afterwards (Chris, P., 2005).

2.1.6. Accessibility of EC Methods

A New York state comptroller's office study estimated that easier access to EC could save the state 452 million annually, and prevent 122,000 unintended pregnancies and 82,000 abortions each year. This study was based on previous estimates that EC has the potential to prevent half of unintended pregnancies.

Emergency contraception has become a widely accepted method of contraception, and many governments have taken steps to increase women's access to it. However substantial barriers remain for adolescents. To continue expanding availability of ECPs to adolescents and women as a whole, public health and policy advocates recommend that governments explicitly recognize ECPs as a safe, effective method of preventing pregnancy and strengthen their efforts to increase access. Recommendations to government agencies include: i) Register with the government and promote at least one product dedicated for ECP use (instead of using standard combined oral contraceptives in higher dosage); ii) Expanding awareness and access through efforts such as permitting the sale of ECPs without a doctor's prescription (over-the counter); and iii) Enact laws and policies that recognize adolescents' right to use ECPs and that address the barriers they face in accessing and using (Jenni, S. & Lynn, MCF., 2003). It is important to note that there is an

enabling policy and legal environment to expand, promote and ensure the availability and accessibility of FP as well as emergency contraceptive services in the country (ESOG, 2004).

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 Organizations (NGO) sectors (Central statistics Authority & ORC Macro, 2006).

2.2. Knowledge, attitude and Practice of Emergency Contraceptive

According to a study conducted on University students in Cameroon the general level of awareness of emergency contraceptive pills was 63% (418/664). However, knowledge of the general features of emergency contraceptive pills was low and misinformation was high among those students. Knowledge differed according to the source of information: informal source was associated with misinformation, while medical and informational sources were associated with better knowledge. Although the students generally had positive attitudes regarding emergency contraceptive pills, up to 65.0% (465/664) believed that emergency contraceptive pills were unsafe. Those with adequate knowledge generally showed positive attitude with regards to emergency contraceptive pills (Mann-Whitney $U = 592.5$, $p = 0.000$). Forty-nine students (7.4%) had used emergency contraceptive pills themselves or had a partner who used them (Eugene, J., 2007).

A study conducted among Bahir Dar University female students showed; out of the total 517 respondents 40.8% have ever had sexual experience. 99.4% of the total respondents heard one of the regular contraceptive methods but the percent of those who heard of emergency contraception was 34.8 %. Sixty three (35%) of those who heard of EC correctly identified 72 hrs as recommended time limit ,36% mentioned with in 24hrs and 25% immediately after sex as a time limit to start the first dose of ECPs after unprotected sexual intercourse. And the source of information was mainly Television /Radio 26.7%, and female friends 24.4%. About 56.7% of the respondents had positive attitude towards Emergency contraception. Ninety nine percent of the sexually experienced respondent used one of the contraceptive methods. The majority of them

used condoms (67.5%) followed by oral pills (43.1%) and calendar/rhythm method 38.3 %. In the study age of respondents, year of study, sexual experience, contraceptive ever use and discussion with mother about sexual issues were associated with increased awareness of Emergency contraception (Atsede, D., 2007).

Another study conducted on assessment of KAP of EC among women seeking post abortion care services in Addis Ababa showed that 288 (69.1%) of the respondents used regular contraception methods. One hundred ninety nine (47.7%) of the pregnancy were unwanted and their reasons were 60(30%) forgetting to take contraception, 38(19%) rape, 14(7%) contraception failure and 10 (5%) rupture of condom. Fifty nine (14.1%) of study subjects have ever heard EC and 29 (49.2%) of them mentioned the time frame correctly. The source of information for EC was 24(40.8%) health institution, 20(33.9%) friends & relatives and 16.9% mass media. 15(3.6%) Of the respondents used EC (Birhanu, D., 2006).

2.2.1. Knowledge of Emergency Contraceptive

A study conducted in Finland by collecting data every second year using self administered questionnaire among girls aged 12-18 yrs in 1999-2003 indicated that the awareness of EC has increased. In Finland over the counter sales to those aged 15 or older were aware in 2002. In 2003, 61% girls aged 12 and 98% of those aged 18 knew about emergency contraception but the awareness is not related with the change to non prescription status. In 2003, those who used EC were 2%, 15%, and 29% for aged 14, 16 and 18 yrs respectively. Alcohol use, smoking, dating and having good school achievement were related to higher awareness of EC. And EC use increased with increasing alcohol consumption, smoking, dating, and poor school achievement as well as not living in a nuclear family particularly at age 14 (Kobra F., Elise K., Rahman S. and Arja R, 2007).

A comparative study conducted on adolescent clinic and drug treatment center in USA between 1996 and 2002 showed that the percentage of participants : had ever heard of EC, knowledge of the correct time limit for EC, attitude towards EC and ever used EC was significantly increased between 1996 and 2002. Those who heard of EC were 44% and 73 % in 1996 and 2002 respectively. Knowledge about the correct time limit for EC grew from 20% to 51% between

1996 and 2002. Knowledge about where to get EC increased from 78% to 95%. And the percent of who used EC increased from 4% to 13% and participant positive attitude toward EC grew from 72% to 96% for 1996 and 2002 respectively (Allison M., Melanie A. & Andrew M., 2005).

The study conducted among University students in Cameroon revealed that four hundred and eighteen students (63.0%) reported that they heard of "ECPs" or morning-after pills" before. Of the 380 male respondents and 284 female respondents, 240 (63.2%) and 178 (62.7%) respectively reported prior knowledge of EC. The majority of the respondents in this study had the knowledge from friends and family members. The sources were as follows: 291 (69.6%) from friends and family members, 83 (19.9%) from various health personnel (doctors, nurses and pharmacists) and 44 (10.5%) from audio-visual media (television, radio, internet and books).

The mean age of the participants was 21 years. Less than half (45.1%) heard about emergency contraceptive pills (ECPs).The most common sources of information about EC were friends (34%),media (24.8%) and schools (19.4%) .The pregnancy rate was 3.4 percent and 42 percent were in a steady relationship of three or more months. The contraceptive ever-use rate was 14.5 percent. Among the users the most common methods were condoms (48.9%) and withdrawal (23.4%). Emergency contraceptive pills were used by seven students. Forty two percent did not know the time interval within which ECPs can work and one third thought it would interrupt an ongoing pregnancy. Thirty five percent did not know when in the menstrual cycle they were likely to conceive. The majority of the students were against over the counter (OTC) availability of EC because of fear of misuse (Eugene, J., 2007).

Another study conducted on perception of University students in Ghana about EC indicated that 43.2% of the 194 respondents (88 males and 106 females) had heard as modern emergency methods. Only 11.3% of the respondents indicated the correct time frame with in which the ECPs are to be taken after unprotected sex. 97.4% of the respondents wanted to learn more about EC (Baiden F., 2003).

Studies conducted among female students in different Universities in Ethiopia showed that the level of awareness & utilization of Emergency contraception were lowA cross sectional study

conducted among Addis Ababa University and Unity University students showed that 43.5% of the female students have heard of EC and among them 279(82.8%) mention pills and 73(26.2%) of them could tell the correct time of administration of the pills after unprotected sexual contact. One hundred fifteen (34.2%) of those who have heard of EC mentioned IUCD, only 10(8.7%) could tell the correct time of administration of IUCD. The main sources of information were media and friends, 39% and 40% respectively. 151(19.5%) of the total respondents had sex in the past and 53 (35.1%) of them had been pregnant and 50% reported that their pregnancy was unwanted and 38(71 %) resorted to abortion. Fifty three percent of the total respondents had positive attitude towards emergency contraception and 38(4.9%) used the method. The trend of use of EC increases with age and was higher among students who are married (Wegene T. and Fikrie E., 2007).

Another cross sectional study conducted in Ethiopia among Arsi college female students: 228(27.4%) of respondents have heard of EC, 107(46.9%) reports emergency contraceptive pills and of those 72(8.6%) mentioned the time limit with in 72 hrs. And 10(1.2) know IUCD is to be inserted with in 120 hrs after unprotect intercourse. 434 (52.1%) of respondents had positive attitude to making EC easily available to all female and 62.9% have an intention to use EC in the future as needed. Only 20 (2.4%) have used EC in their life time. Age of students and year of study were strongly associated with awareness of EC. As the age and year of study increased the awareness also increased and students of health science college had better awareness of EC than students in other colleges (Seife M., 2007).

2.2.2. Attitude towards Emergency Contraceptive

The cross sectional study conducted among eligible couples of rural Haryana showed that more females (79.2%) showed positive attitude for contraception as compared to (20.8%) females who showed negative attitude. The knowledge about one or more methods of contraception, particularly modern contraceptive methods was 95.0%, being 95.6% among males and 94.4% among females. The knowledge about traditional methods of contraception was 72.0% in males and 46.4% in females. The most common source of knowledge for all couples in general was the

"Exposure to family planning messages" (72.0%) followed by discussion with doctors and other health care workers (42.6%).

Attitude of husband was found to be an important predictor for contraception use. In rural areas, husband being the dominant member plays the pivotal role in approving the family size and contraceptive practices. Education is, therefore, considered to improve the ability of women to resist subjugation and to acquire greater power in decision-making. Family Planning services thus need to provide a range of quality methods for family planning that can allow women to either limit or space births, and to focus services to the individual needs of women with differing socio demographic characteristics (Neelu, S., 2011).

The study conducted thus aimed at investigating the level of awareness, knowledge and attitudes of young female students of Haramaya University (HU) on EC from a representative sample of 572 female students defected that 47.6% of the respondents had ever heard about EC; 25.7 % had good knowledge of EC, and 76.5% had favorable attitude toward EC. Certain variables have become significant predictors of awareness of EC including: age, previous place of residence, religion, grade level, knowing other methods preventing unwanted pregnancy, sex education, chewing *Khat*, and consuming alcohol. Similarly, religion, grade level, father's educational level, knowing other methods of preventing unwanted pregnancy, and currently chewing *Khat* were found to significantly predict attitude toward EC. (Berhanu, D., 2009)

2.2. 3. Practice of Emergency Contraceptive

A study done in Nigerian undergraduate students indicated that 43% of all female respondents were sexually active and 34% of them had an induced abortion. 39% of the respondents practiced the use of contraception; the majority of them used withdrawal 45%, condom 26% and rhythm 11% (Michael, E., Patrick, I., Okont & Adedapo, BA., 2003). 510 (58%) of the respondent heard of emergency contraceptive but only 18% of them correctly identified 72 hrs as the time limit for use of the method. And 49% thought that emergency contraceptives are effective only if used within 24hrs after unprotected sex, such misinformation might inhibit someone who could still prevent a pregnancy from taking emergency contraceptives because they thought they had missed their "window" of effectiveness.

The main sources of information for EC were mainly trained Health Providers less than 50% and female friends 33 %. The knowledge of correct timing for EC was significantly related with the level of contraception use sexual activity and year of study. Those who were sexually active and those who have practiced contraception or had studied at the university for 3-6 years were more likely to have correct timing than other respondents (Michael, E., Patrick, I., Okont & Adedapo, BA., 2003).

Contraceptive prevalence has increased dramatically in the last five decade. Concerning contraceptive choices, there are marked differences between countries. Age and stage of life is a major determinant of contraceptive choice (Scott, A. & Glasier, KD., 2006). Although contraceptive use has increased among young women in recent years, consistent reliance on effective form of contraception remains low. Reasons for inconsistent contraceptive use are not easily characterized, as they are as diverse as they are complex (Davies, 2006). Even though continuous correct use of contraceptives during all periods of risk can greatly reduce the likelihood of unintended pregnancy, many women have difficulty adhering to such a regimen over a long period. A better understanding of why young women have difficulty using contraceptives continuously even when they do not want to become pregnant will strengthen programs and policies that are designed to reduce unintended pregnancy. Women's attitude towards pregnancy prevention, service providers experience with contraceptive methods, socioeconomic factors and sexual partner's behavior are some factors that affect the use of contraceptives (Frost, JJ., 2007).

The use of modern contraceptive methods among adolescents in some communities has been found to be low. Only 30.4% of sexually active adolescents were found in a study in Nigeria to be using any form of modern methods and only 6.2 percent use condom. Many relied on traditional methods such as periodic abstinence and coitus interrupts. (Okpani, A., 2000). In spite of significant risk of unwanted pregnancy and induced abortion the practice of contraceptives was found to be very low among young female undergraduates in Ethiopia (Tamire, W, & Enqueselassie, F., 2007).

A cross sectional study done in Makerere University in Uganda indicated that from the total 379 study participant 158 (42%) had sexual relationship at the time of the study, Fifty Five (14.5%) of students used contraceptives mostly condoms (48.9%) and withdrawal method 23.4%, and 13(3.4%) had been pregnant. Nine (69.3%) of those who had been pregnant had abortions. Forty five percent of the respondents had about emergency contraception and the main sources of information were one in every three from friends, and one in every four from the media. From those who heard of EC; one in every five thought that the minimum time limit for the pills is up to 24 hrs.

Among 191 participants who were asked about the role young people could play in provision of EC Sixty one percent were in favor of the youth participating in education and provision of information to their peers. Thirty nine percent were not in favor of the youth being involved at all. Some of the reasons given for the negative perspectives included statements like the method are only for married people that abstinence should be encouraged and the young people should discourage others from using EC.

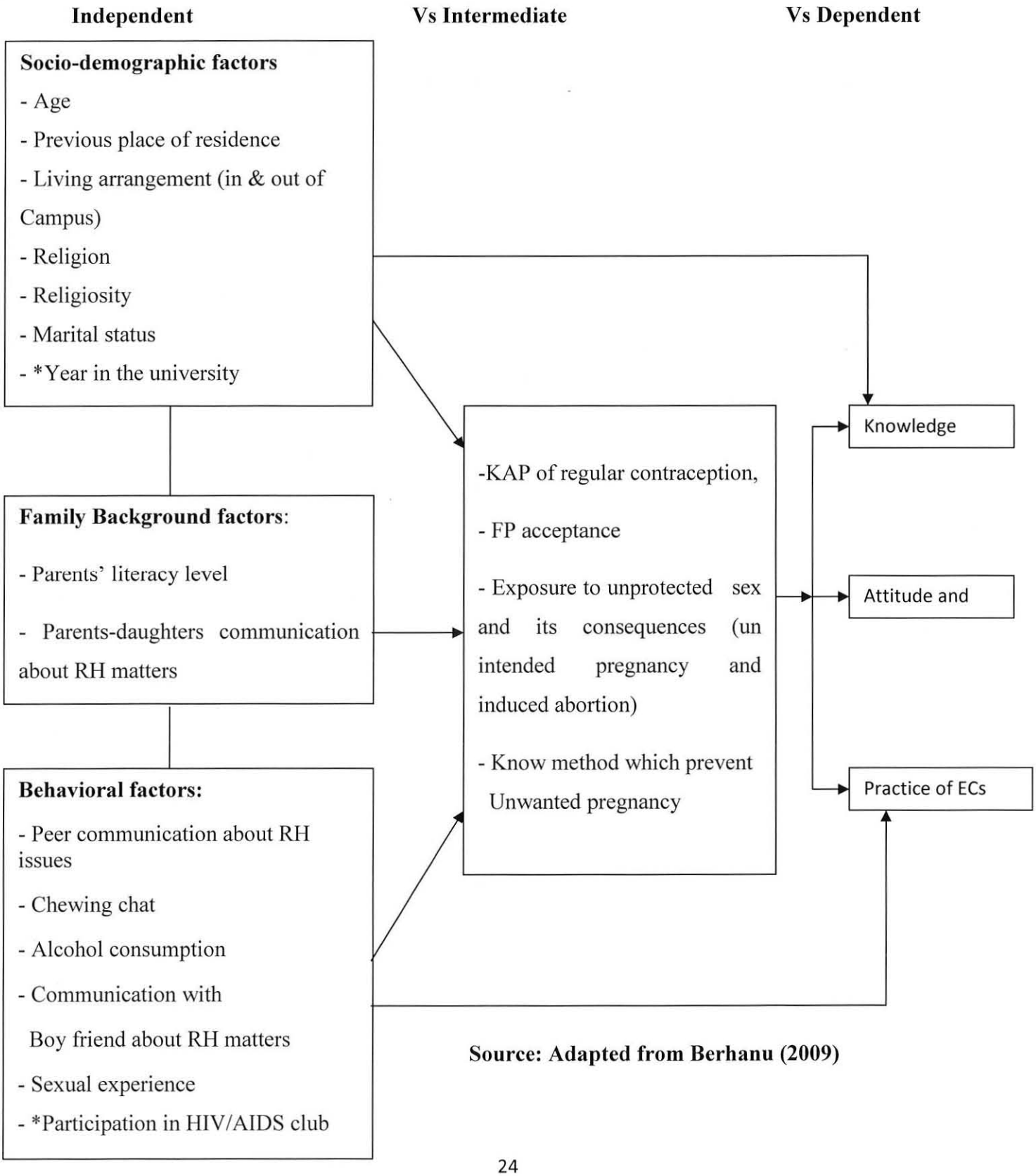
About the role of parents in emergency contraception use, of the 291 students answering the question the majority, 267(92%) thought parents had a role to play i.e. either encourage or discourage use. Every other student (47.4%) thought that parents should participate by either educating or advising the youth about EC. Sixty three (21.6%) students thought that parents should be free/ open about such matters as EC. Some students even thought that parents should buy the pills for their children (8.9%). However, some students thought that the parents should encourage abstinence (11.7%), be very strict to their children (2.1%) or even that the parents had no role (5.5%) at all (Byamugusha, J., Mirembe & Gemzell-D, 2006).

Other study conducted on assessment of KAP of EC among women seeking post abortion care services in Addis Ababa showed that 288 (69.1%) of respondents used regular contraception methods. One hundred ninety nine (47.7%) of the pregnancy were unwanted and their reasons were 60(30%) forgetting to take contraception, 38(19%) rape, 14(7%) contraception failure and 10 (5%) rupture of condom. Fifty nine (14.1%) of study subjects have heard of EC and 29 (49.2%) of them mentioned the time frame correctly. The source of information for EC was

24(40.8%) health institution, 20(33.9%) friends and relatives and 16.9% mass media. Of the respondents 15(3.6%) used EC (Birhanu, D., 2006). This indicated that by using EC most of the unwanted pregnancies could be avoided.

2.3. Conceptual Frame work

Figure2.1. Conceptual Framework



Source: Adapted from Berhanu (2009)

CHAPTER THREE

3. DATA SOURCE AND METHODOLOGY

3.1. Study Area

Wolaita SodoUniversity is located in the mid highlands of southern Ethiopia Wolayita zone. It is one of the 13 zones that are found in SNNPR. It is centrally located in the SNNPR, bordered by Kembata and Tembaro zone to the North, Gamo Gofa zone to the south, Dawro zone to the west, Sidama zone and Oromia region to the East.

Specifically in Wolaita Zone, Sodo city (6°49'N latitude and 37°45'E longitude) in the hub of Southern Regional State. Wolaita Sodo lies approximately 330km south of Addis Ababa, along the main highway that leads to Arbaminch via Hossana.

Based on 1994 national census the estimated population of the zone in 2006/2007 is 1,724,631 residing in seven woredas and 95% of the populations are residing in rural areas. The population density varies 189/km2 in less densely populated district to 624/km2 in highest density district, thus making the average density 234/km2 Sodo is one of the economically significant cities of the Regional State. The city is serving as a junction point of five major roads networking it with different parts of the country thus making it centre of business.

In Wolaita Sodo there is one hospital, one university,15 health centers15 upgrading health center and 310 health posts which are government owned and two hospitals 10 clinics 5 pharmacy, 7 drug stores and 15 rural drug venders are owned by NGO and private investors. As per report from zonal health department, Malaria, Tuberculosis, Malnutrition and HIV/AIDS fueled by overcrowding are the main health problems of the zone.

The university is in the southern outskirt of Sodo town at the altitude of 1800 meters above sea level. The area is enjoying a tropical climate, on average, 1,212 mm of annual rain fall and 20°c of mean monthly temperature.

Based on the underpinning public request as well as the government's plan, it was decided to establish the university at its current location in 2007. After a while the completed first phase of the construction provided the bases for operation of WSU (Wolayita zone health department annual report, 2010).

3.2. Study Design

The main objective of the study was to assess students' KAP of ECs among female students in Wolaita Sodo University. To meet this goal, cross sectional study design was employed.

3.3. Sample Size Determination and Sampling procedure

3.3.1. Sample Size Determination

The sample size of the study was determined based on the assumption that:

P = prevalence of correct knowledge of EC = 25.7% (Berehanu, 2009)

$Z\alpha/_2$ = the desired level of confidence interval, 95% which correspond to the value 1.96

d= the margin of error tolerated, 0.05. Accordingly, the following formula given by [Cochran, S., 1977] is used to determine the sample size

$n = P\ (1\text{-}p)\ Z^2 / d^2$

$n = (0.267)\ (0.733)\ x\ (1.96)^2 / (0.05)^2 \quad = 301$

By taking 10 percent contingency for a non response rate to achieve the final sample size, the final sample size taken was 301 + 10% (non response rate) = **331**

After calculating the sample size all faculty and year of studies students were considered in the sampling process for the selection of the study subjects. 2128 WSU female students were clustered initially in to five groups based on their faculties. Accordingly the total sample size of the study was distributed to each of the faculties using probability proportional to their size. Secondly, since each faculty has various departments, departments from each faculty were

selected by using simple random sampling (SRS) and then the required number of female students selected from each department using probability sampling proportion to size.

3.3.2. Sampling procedure

After calculating the sample size, all faculty and year of study was considered in the sampling process for the selection of the study subjects. The total sample size of the study was distributed over each of the faculty proportional to their size and accordingly the sample size of the study allocated to each department proportional to their size. Finally, the required numbers of female students were selected randomly (applying SRS) from each year of study again proportional to their size from the randomly selected streams and departments.

3.4. Sources and Tools of Data collection

The data for the study was generated through structured questionnaire. The survey questionnaire which generated the quantitative data pertaining to verifying students' knowledge, attitude and practice of EC and their socio-demographic characteristics was adapted from previous studies on EC to keep the quality of the data.

The questionnaire was divided into five parts. The first part was intended to generate information about the respondents' socio-demographic characteristics, family and partner communication about reproductive health issues; the second part was about the sexual background of the respondents and their knowledge, attitude and practices of the regular contraception and the third, fourth and fifth parts were about the study subjects knowledge, attitude and practices of ECs and related issues.

The questionnaire was tested before the actual survey within a pilot survey on 30 University students to ensure its clarity, ordering, consistency and acceptance. Finally, the final questionnaire was prepared after the necessary amendment. The respondents were selected randomly from their attendance list obtained from the registry of their respective department. Instructors of the University permitted and cooperated to use the last 15 minutes of their

respective classes in order to distribute the questionnaire among the selected students only. Then, after obtaining the consent of respondents, the data was collected.

3.5. Variable Specification

3.5.1. The Dependent Variables

The dependent variables of this study are Knowledge, attitude and practice *of* ECs.

3.5.2. The Independent Variables

Independent variables which are used to relate the dependent variables are classified as;

- Socio-demographic: age, previous place of residence, marital status, religion, religiosity, year in the University, sexual experience, living arrangement (in & out of campus) and participation in HIV/AIDS club.
- Family background: parents educational level, parents-daughters' communication about RH matters.
- Behavioral variables: peer communication on RH issues, chewing chat, consuming alcohol, and communication with boyfriend on RH matters

Table3.1. Description of some explanatory variables in the study

Variables	Categories
Socio-demographic	
Age	17-20 21-25
Previous place of residence	Urban Rural
Marital status	Never Married Ever Married
Religion	Orthodox Christian Others
Religiosity	Attending Regularly Attending Some times Not attending
Year in the University	First Year Second Year Third and above
Living arrangement	In Campus Out of Campus
Family background	
parents literacy level	Literate Illiterate
parents-daughters' communication about RH matters	Yes No
Behavioral variables	
Sexual experience	Had sex Never had sex
Participation in HIV/AIDS club	Participated Not participated
Peer communication on RH issues	Yes No
Currently chewing *Khat*	Yes No
Currently taking alcohol	Yes No
Communication with boyfriend on RH matters	Yes No

3.6. Methods of Data Analysis

Data collected from the survey entered in to the computer for analysis mainly using the SPSS for windows version 17.0. Then, data were edited, coded, cleaned and some consistency checks were made to assess the quality. It was done by running frequencies and cross tabulation among various reported cases or variables.

Descriptive statistics such as frequency, means, standard deviations, and percentages were used to describe variables. The Chi-square test was used to determine the associations between categorical variables. After selecting the important variables logistic regression model were used. Logistic regression is a more appropriate technique to analyze and test a hypothesis about the relationship between a set of predictor variables (either categorical or interval) and a dependent variable, which is dichotomous. Binary Logistic Regression was used to measure the amount of influence a predictor variable had on a dependent variable. A statistical probability level of p value < 0.05 was considered as significant.

Logistic regression is a more appropriate technique to analyze and test a hypothesis about the relationship between a set of predictor variables (either categorical or interval) and a dependent variable, which is dichotomous. The model assumes that the probability of occurrence of an event (P) is related to the independent variables in the form of logistic function- the natural logarithm (ln).

The logit is the natural logarithm of odds of the dependent Y, where odds of the dependent are ratios of probabilities that the dependent occurring or not.
Then the logistic regression model is given by:

$$P(\text{event}) = \frac{e^{\beta o - \beta 1^x}}{1 + e^{\beta o - \beta 1^x}} \iff P(\text{event}) = \frac{1}{1 + e^{-(\beta o - \beta 1^x)}}$$

Where $\beta 0$ and $\beta 1$ are the regression coefficients (constants), and e (approximately = 2.718) is the base of the system of natural logarithms. X is the independent variable. Since there are more than one independent variables,

$$\text{Let } Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n$$

Therefore the relation could be extended as:

$$P(\text{event}) = \frac{e^z}{1 + e^z} = \frac{1}{1 + e^{-z}}$$

and the probability of the event not occurring is estimated as:

P (no-event) = 1- P (event)

The logistic model can be rewritten in terms of the odds of an event occurring. The odds of an event occurring are defined as the ratio of the probability that it will occur to the probability that it will not.

Then the logit model (log of odds) is:

$$\text{Log}\left[\frac{P(\text{event})}{(P \text{ no - event})}\right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n$$

$$\frac{P(\text{event})}{(P \text{ no - event})} = e^{\beta_o + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n}$$

In this case, P (event) would be the probability of ever heard about EC, having favorable attitude and practicing ECs in case of analysis of knowledge, attitude and practice respectively. Whereas P (no-event) would be the probability of never heard, having unfavorable attitude and not practiced ECs for the corresponding similar cases. (Hosmer and Lemeshow 1989; Agresti, 1996)

3.7. Ethical Considerations

The research permission was obtained from the Institute of Population Studies, AAU and each of the selected institutions respectively before the data collection process started.

The study participants were informed about the purpose of the study and the importance of their participation in the study. The study participants were informed as they can skip question/s that they did not want to answer fully or partly and also to quit the process at any time if they wanted to do so and their participation was voluntary. After assuring the confidentiality of responses and obtaining informed consent from the study participants, the questionnaires were distributed among the selected female students only by the instructors in their respective classes of the last 15 minutes to be filled with strict privacy.

CHAPTER FOUR

4. BACKGROUND CHARACTERISTICS OF THE STUDY POPULATION

A total of three hundred thirty female students of WSU have participated in the study with a non response rate of zero percent. The socio-demographic, family background, partner and peer related characteristics, sexual experience, knowledge of family planning and practices and history of pregnancy and abortion were considered and summarized under this chapter as background characteristics of the respondents.

4.1 Socio- Demographic Characteristics of Respondents

According to the survey findings, age of the study subjects range from 17-25years with mean and median age of 20.38 and 20 respectively and SD of 1.47. As shown in Table 4.1, more than half (62.4 percent) of the respondents were age 17-20 and the remaining were age 21 and above. The majority of the study subjects 65.8 percent had urban background prior to their entry to the University, the rest 34.2 are from rural area. The married respondents account only 6.1 percent and those who never married about 93.9 percent. With regard to their religion, Orthodox Christian 57.3 percent followed by 23.6 percent Protestant, 12.4 percent Muslim and 6.7 percent other. Also, about 35.8 percent of the respondents were attending their respective religious institutions daily, 23.9 percent once in a week, 17.9 percent occasionally and 22.4 percent accidentally attending their respective religious institutions.

The distribution of the study participants on the bases of their year of study is that the majority (46.4 percent) was second year students and the rest 29.7 percent and 23.9 percent were first year and third year students respectively.

Table4.1.The Socio-Demographic Characteristics of Female Students of WS U, March 2012

Socio- Demographic Characteristics	Number(n= 330)	Percent
Age (years)		
17- 20	206	62.4
21- 25	124	37.6
Previous Place of Residence		
Urban	217	65.8
Rural	113	34.2
Religion		
Orthodox Christian	189	57.3
Muslim	41	12.4
Protestant	78	23.6
Other	22	6.7
Religiosity		
Daily	118	35.8
Once in a week	79	23.9
Occasionally	59	17.9
Accidentally	74	22.4
Marital status		
Never Married	310	93.9
Ever Married	20	6.1
Year of Study		
First Year	98	29.7
Second Year	153	46.4
Third and above	79	23.9

4.2. Family Background, Partner and Peer Related Characteristics of the Respondents

As the result shown in Table 4.2, about 82.4 percent of the respondents' fathers were literate and 17.6 percent were illiterate. Only 36.2 percent of respondents' mothers were literate and the remaining 63.8 were illiterate. Concerning communication of study subjects with their parents, the respondents were discussing about reproductive health matters better with their mothers (69.6 percent) than their fathers (41.5 percent).

Table 4.2 Percentage Distributions of Female Students of WSU by Family, Partner and Peer Related Factors, March 2011

Family, Partner and Peer Related Factors	Number	Percent
Respondents' fathers literacy level		
Illiterate	48	17.6
Literate	224	82.4
Total	272	100.0
Respondents' mothers literacy level		
Illiterate	197	63.8
Literate	112	36.2
Total	309	100.0
Discussion about RH issues with father		
Yes	113	41.5
No	159	58.5
Total	272	100.0
Discussion about RH issues with mother		
Yes	215	69.6
No	94	30.4
Total	309	100.0
Discussion about RH issues with boyfriend/husband		
Yes	98	29.7
No	232	70.3
Total	330	100.0
Discussion about reproductive health issues with peers		
Yes	187	74.8
No	63	25.2
Total	250	100.0

As Table 4.2 shows, about 29.7 percent of female students were discussing about sexual and reproductive health issues with their boyfriends or husbands. Moreover, nearly three fourth of the respondents (74.8 percent) were also discussing about reproductive health matters with their friends.

4.3 Sexual Experience, Family Planning Knowledge and Practices of the Respondents

Under this section the reproductive health issues such as sexual experience and knowledge of family planning and utilization were considered as background characteristic of the study subjects. As the survey result shown in Table 4.3, out of the total 330 female students of WSU 36.7 percent had sexual intercourse in their life time within mean age 18.03 and median age at 18 had their first intercourse. This agreed with the study finding at Haramaya University where the mean and median ages of starting sexual intercourse were 18.18 and 18 respectively. (Berhanu, D. & Nigatu, R., 2011). Of those who had sexual intercourse experience 20.7 percent began sexual intercourse before age 18 and 79.3 percent at age 18and above.

However, the prevalence of sexual relationship was lower than the results of University students in Kampala, Nigerian undergraduate students and of Bahr Dar University where 42%, 43%, and 40.8% of the students had sexual experience respectively (Byamugusha, J., Mirembe, F. & Gemzell-Danielsson, K., 2006, Michael, E., Patrick, I., Okont & Adedapo, BA., 2003, Atsede,D., 2007).The low sexual relationship prevalence could be the respondents might not expressed their real history because they considered that premarital sex is not socially accepted norm. Consequently, the number of partners of 58.7 percent of the respondents who had sexual experience was one and 22.3percent had two and 19 percent had three and above during the study time.

Concerning the family planning knowledge of the respondents Table 4.3 shows that, 92.4 percent of the respondents heard about family planning and 7.6 percent of the respondents never heard about family planning method in their life time. This result agreed with the study at Jimma University where 93.9 percent of the respondents had heard about regular contraceptives (Ameha, H. & Nebreed, F., 2006)

Table 4.3 Percentage Distribution of Female Students of WSU by Sexual Experience, Family Planning Knowledge and Practices, March 2012

	Number	Percent
Sexual Experience		
Ever had sexual intercourse	121	36.7
Never had sexual intercourse	209	63.3
Total	330	100.0
Age at first sexual intercourse		
Below 18	25	20.7
18 and above	96	79.3
Total	121	100.0
Number of life time partner/s		
One	71	58.7
Two	27	22.3
Three and above	23	19.0
Total		100.0
Family planning Knowledge		
Ever heard	305	92.4
Never heard	25	7.6
Total	330	100.0
Exposure to family planning methods information		
Yes	187	74.8
No	63	25.2
Total	250	100.0
Ever use of contraceptive		
Yes	46	38.1
No	75	61.9
Total	121	100.0
Ever used contraceptives by methods		
Oral pills	9	8.7
IUD	10	9.6
Injectables	11	10.6
Condoms	46	44.2
Norplant	5	4.8
Withdrawal	10	9.6
Calendar/rhythm	13	12.5
Total	104	100.0
Intention to use modern contraception in the future		
Yes	139	42.1
No	103	31.2
Not sure	88	26.7
Total	330	100.0

Moreover, in the study those sexually experienced female students were asked about their contraceptive use. As shown in Table 4.3 above, out of the 121 sexually experienced respondents 85.9 percent had ever used one of the contraceptive methods. Condoms (44.2 percent), injectables (10.6 percent) and calendar methods (12.5 percent) were the most commonly used regular contraception by the female students in the study. Except the injectables, condoms and calendar methods were similarly mentioned as commonly used contraception by Bahir Dar University students as reported in the study by Atsede (2007). Similarly, condom (64.3 percent) was the most popular method used by post-secondary school students in south west Nigeria (Arowojolu, AO. & Adekunle, OA., 2000).

Finally the study finding shows that out of all the respondents 42.1 percent intended to use modern regular contraception in the future and significant number of respondents (26.7 percent) were not sure about their future use. 31.2 percent of the remaining female students in the study were not interested to use any regular contraceptive method in the future because of the most commonly stated reasons, religious or moral motives (30.2 percent) and lack of knowledge about contraceptives (29.8 percent) (Not shown in the table).

CHAPTER FIVE

5. ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF EMERGENCY CONTRACEPTIVE

5.1. Knowledge of Emergency Contraceptive

This study examined the awareness of respondents about EC prior to the assessment of their knowledge about EC. According to the survey findings, as shown in Table 5.1a, 151 (45.2 percent) of the whole respondents at least heard before about EC and the remaining 179(54.8) never heard about emergency contraception. This result looks better as compared with the study findings at Jimma University on female students (22.2 percent) and among post abortion service seeking women of selected hospitals in Addis Ababa (14.1 percent), while nearly similar with the study result on female students of Mekelle University(44.7 percent)(Etenesh, G., 2009).

Table 5.1a Percentage Distribution of Female students of WSU by Emergency Contraception Awareness, March 2012

Emergency Contraceptive Awareness	Number	Percent
Ever heard about emergency contraception	151	45.2
Never heard about emergency contraception	179	54.8
Total	330	100.0

The female students' awareness on emergency contraception is far less than the figures for some developing nations, 75.7 percent among South West Nigerian post-secondary school female students and 50 percent among the Kenyan female and male university students (Muia et al, 2000)

Table 5.1b Percentage Distribution of Female students of WSU by their First Source of Information about EC, March 2012

First Source of Information about EC*	Number n=151)	Percent
Television / Radio	70	46.4
Magazines / Newspapers	4	2.6
Relatives	9	5.9
Internet webpage	4	2.6
From course / formal lecture	4	2.6
Boyfriend / Partner	6	3.9
Female friends	10	6.6
Health care providers	6	3.9
Campus / College clinic	2	1.3
Reproductive health clubs	22	14.6
Parents	14	9.3

Furthermore, respondents who at least heard before about EC were asked about their first source of information about EC. As shown in table 5.1b, 46.4 percent of those female students who had ever heard about EC mentioned television / Radio as their first source of information about EC. Significant number of respondents also mentioned reproductive health clubs and parents are their first source of information 14.6 percent and 9.3 percent respectively.

Similarly the study finding in Mekelle University undergraduate female students showed the major first source of EC was television / Radio (Etenesh, D., 2009). In addition a study result among female students of Bahir Dar University reported that television and radio as the most popular first sources of information (26.7 percent) followed by reproductive health clubs (24.4 percent) (Atsede, D., 2007).

Table 5.1c Percentage Distribution of female students of WSU, who had heard of EC and gave responses to knowledge assessment questions regarding EC, March 2012

knowledge assessment questions	Number (n=151)	Percent
Which can be used as emergency contraception?*		
Combined oral pills	29	19.2
Progestin only pills/Postinor II	42	27.8
Estrogen only pills	20	13.2
IUD	16	10.6
Herbal Vaginal Passaries	10	6.6
Bitter medications (e.g. Qunine, Lemmon, Potash)	12	7.9
Monthly injectable	22	14.6
Drug compositions in ECPs compared to the regular contraceptives		
The same as in the regular contraceptives	19	12.6
The same but a high doss in the same hormones	43	28.5
Completely different from the drug of regular contraceptives	28	18.5
I do not know	61	40.4
When should be EC taken after unprotected sexual intercourse?		
Immediately after sex	32	21.2
Within 24 hours after sex	20	13.2
Within 72 hours after sex	67	44.4
Within 4-6 days after sex	14	9.4
Even after a missed period	6	3.9
I do not know	12	7.9
The mechanism of action of EC*		
Prevent pregnancy from occurring	52	24.8
Induced abortion	25	11.9
Prevent pregnancy and induced abortion	50	23.8
I do not know	83	39.5
Effectiveness of ECPs in preventing pregnancy		
Highly effective (99%)	32	21.2
Three-fourth (75%)	51	33.8
Half (50%)	15	9.9
Below one- third (30%)	8	5.3
Uncertain	35	23.2
I do not know	10	6.6
Situation(s) that EC should be taken to prevent unintended pregnancy *		
When forced to have sex	82	22.3
When condom slipped or broken	91	24.8
When there is missed pills	54	14.7
When there is failure of contraception	47	12.8
When there is miscalculation in calendar method	93	25.4
Knowledge of Emergency Contraceptive (Summary index)		
Poor /No/ knowledge	49	32.5
Fair knowledge	59	39.1
Good knowledge	43	28.5

***Multiple responses**

To ascertain the level of female students' knowledge about EC, six knowledge assessment questions on the identification of method types, drug composition, correct timing to be taken after unprotected intercourse, its mechanism of action, its effectiveness and appropriate situation for use were given to those respondents who have heard about EC. These respective series of questions were adopted from previous similar studies concerning knowledge about EC (Aziken et al, 2003, Ameha, H. & Nebreed, F., 2006, Berhanu, D., 2006, Atsede, D., 2007, Wondimu, B., 2008 and Berhanu, D., 2009).

To obtain the summarized extent of knowledge of female students of WSU, each knowledge assessment question responses were re coded into the value 1 for correct answers and the value 0 for the incorrect answers in the first place. The respondents' correct responses to the questions were aggregated and ranged from 0 – 6 (0-100 percent) with mean of 0.76 and SD of 1.34. Based on the cumulated correct responses score, the study subjects who have awareness of EC were classified as having poor, fair and good knowledge about EC. Respondents who have no any information about EC or those who scored zero (0 percent) classified as having poor knowledge, those who scored 1–3 (16.7 percent - 50 percent) considered as having fair knowledge and those who scored more than 3(50 percent) classified as having good knowledge about EC; similar approach has been exercised by Berhanu, D. (2006), Atsede, D. (2007) and Wondimu, B. (2008).

Given a list of seven drugs and traditional practices related with pregnancy prevention, 19.2 percent of respondents who have heard of emergency contraceptives correctly identified combined oral contraceptive pills, 27.8 percent also identified progestin only pills and only 10.6 percent identified IUD as emergency contraceptive methods. As shown in Table 5.1c, 60.2 percent of female students who have heard about EC knew at least one correct method of EC. Furthermore, the listed traditional practices such as herbal vaginal passaries and bitter medications (e.g. Qunine, Lemmon, and Potash) home remedies were also unexpectedly mentioned as emergency contraception by 7.9 percent and 6.6 percent of respondents respectively. In addition to this 14.6 percent of students selected monthly injectable as emergency contraceptives.

Of the 151 female students who were aware of emergency contraception, about 44.4 percent correctly identified 72 hours as the time limit for the method's use. An additional 13.2 percent

and 21.2 percent thought that emergency contraceptives were effective only when used within 24 hours and immediately after unprotected sexual intercourse respectively. Although these responses were within the 72-hour limit, such misinformation might inhibit someone who could still prevent a pregnancy from taking emergency contraceptives because they thought they had missed their "window" of effectiveness (Aziken et al, 2003).

The finding also shows that significant number of respondents (32.5 percent) did not know anything about the correct time limit for the method's use.

Regarding the drug composition of EC, the majority of the respondents (40.4 percent) mentioned that they didn't know anything about the drug composition of ECs. While 12.6 percent of the respondents who had heard about EC only correctly cited that it is similar with the regular contraception but in a high dose of the same hormones. About 18.5 percent of respondents also thought that it is completely different from the regular contraception.

Concerning the correct time for method use, the student in this study are better than the study Jimma University students (11.7 percent). Whereas, lower than 49.2 percent found in Addis Ababa among post abortion care service seeking women (Berhanu, D., 2006) and greater than (35percent) in Bahir Dar University (Astede, D., 2007) and 31.6 percent (Wondimu, B., 2008). Compared with some other developing nations, the finding is better than 18 percent found in Nigeria among female undergraduates (Aziken et al, 2003) and 13 percent in Kenya among university students (Muia et al, 2000).

Only 24.8 percent of the respondents who had awareness about EC thought that ECs inhibits ovulation and prevent implantation or conception and those 11.9 percent understood it as induced abortion. Moreover, 33.8 percent of the respondents cited that ECs are 75 percent effective in preventing pregnancy.

Awareness of the circumstances under which EC might be needed vary among respondents as shown in Table 5.1c. Sexual assault (22.3 percent) and accidental breakage or slippage of condom (24.8 percent) were the most cited situations followed by missed pills (14.7 percent),

failure of contraception (12.8 percent) and miscalculation in calendar method (25.4 percent) under which EC should be taken to prevent pregnancy.

The overall summary index for knowledge of respondents about EC disclosed that, out of the 151 respondents who had heard about EC, 28.5 percent had good knowledge and 32.5 percent had no specific knowledge about the method. The remaining 39.1 percent of the respondents were included under the fair knowledge category.

5.2. Attitude towards Emergency Contraception and Willingness for Future Use

Female students of WSU those who had heard about EC were asked five standard questions to assess their opinion and concerns about EC. The five attitude indicator items were adopted from previous similar studies concerned on attitude towards EC (Arowojolu, AO. & Adekunle, OA., 2000, Berhanu, D., 2006 , Atsede, D., 2007, Wondimu, B., 2008 &Berhanu, D.,2009).

The questions were made to be responded either "Yes" or "No". For positively worded statements (having positive implication for EC use) those who responded "Yes" were considered as having positive attitude and those who responded "No" having negative attitude. On the other hand, for negatively worded statements (having negative implication for EC use) those who responded "No" were considered as having positive attitude and those who responded "Yes" as having negative attitude.

The respondents attitudinal scores were aggregated and ranged 0 – 5 (0 - 100 percent) with mean 0.67 and SD 0.47. Based on the cumulated score, respondents scored 50 percent and above of the total were considered as having 'favorable attitude'; while those scored below 50 percent of the total were considered as having 'unfavorable attitude' (Similar approach has been employed by Atsede, D., 2007, Dereje, 2006 & Wondimu, B., 2008).

According to the survey findings shown in Table 5.2, 68.9 percent of the 151 respondents thought that taking emergency contraceptive after unprotected sex is much better than the regular use of contraceptive method. 54.9 percent of those who heard about EC shown their willingness to use EC. Significant number (47.9 percent) of respondents thought that EC may hurt the baby

in case it fails to work. On the other hand 42.4 percent of the respondents thought that recommending emergency contraceptive use to friends is dangerous and 41.7 percent 0f the respondents believed that EC is necessary to prevent abortion and its complications.

The summarized attitudinal index indicates that 67.5percent of the respondents who had ever heard of EC had favorable 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; Atsede, D., 2007; Wondimu,B., 2008).

Table 5.2.Percentage Distribution of Female Students of WSU by Attitude towards EC, March 2012

Indicators of Attitude	Yes	No	Total
Taking emergency contraceptive after unprotected sex is much better than the regular use of contraceptive method.	104(68.9)	47(31.1)	151(100)
I will use emergency contraceptive in case the need arises.	83(54.9)	68(45.1)	151(100)
Emergency contraceptive hurts the baby in case it doesn't work.	72(47.9)	79(52.3)	151(100)
Recommending emergency contraceptive use to friends is dangerous.	64(42.4)	87(57.6)	151(100)
EC is necessary to prevent abortion and its complications.	63(41.7)	88(58.3)	151(100)
Attitude towards EC (Summary index)			
Favorable	102(67.5)		151(100)
Unfavorable	49(32.5)		

5.3. Practices of Emergency Contraceptive among Female Students of WSU

In order to assess the regular and appropriate utilization of barrier methods among female University students, sexually active respondents were asked about their experience of failure to use condom or any other contraceptive method during sexual intercourse. Out of all 121 sexually experienced respondents 46(38 percent) reported that they had sexual intercourse without using condom or any contraceptive method at least once. This is a devastating result which signifies how greatly the University students are exposed to unintended pregnancy as well as STDs

including HIV/AIDS. Furthermore, it indicates that sexual relationship among the youth is usually unplanned and it tends to occur during unstable relationships as also stated by (Arowojolu & Adekunle, 2000).

Concerning the utilization of ECs in case of method need, those who had heard about EC before and sexually experienced were asked whether they ever used EC or not. 20(about42.5 percent) female students ever used EC to prevent unplanned pregnancy. Eight were from the age group 17– 20, and twelve were from 20 – 24.

So from the findings we can see that among the participants of this study the utilization of EC was higher than the other Ethiopian studies; 6.1percent of the total respondents used emergency contraceptive method. This result was higher than female university students in Addis Ababa where 4.9 percent, 2.4 percent Arsi College female students and 3.6 percent of women seeking post abortion care services in Addis Ababa had ever used EC (Wegene, T., Fikrie, E., 2007, Seife, M., 2007 & Birhanu, D., 2006). But it was very low when we compared to the studies in Finland, in 2003, where 29% of aged 18 years used EC. This could be related to the higher prevalence of sexual relationship at early age than in our country.

5.4. Differentials of Knowledge, Attitude and Practice towards EC

5.4.1. Factors associated with the knowledge of EC

There are different methods for assessing association between two variables. Chi Square test is one way for examining bivariate relationships. It can measure the statistical significance of the association between two categorical variables. Since for this study, all the variables were categorized, it is found that Chi-square test is suitable for the examination of the bivariate relationship between the dependent and independent variables. Bivariate result tables were presented for each dependent variable separately in the Table 5.3a and b, Table 5.4a and b and Table 5.5a and b respectively.

Referring Table5.3a and b, chi-square showed the status of relationship between the dependent variables and different proximate variables. SPSS reports different measures of *p,* however it is best to use Pearson chi-square test result to see the status of relationship.

The Bivariate analysis suggested that the knowledge on socio-demographic characteristics of students included in this analysis are age, previous place of residence, living arrangement, religion, religiosity, marital status, year of study, sexual experience and participation in HIV/AIDS club. Family back ground factors were parents educational level, parents-daughters' communication about RH matters. And other variables those included were peer communication on RH issues, chewing *khat*, consuming alcohol, communication with boyfriend on RH matters. Among these age, previous place of residence, year of study, Sexual experience, Participation in HIV/AIDS club, mothers' level of education, discussion of RH with mother, boy friend/husband and peer, currently chewing *khat* and taking alcohol significantly associated with awareness of EC.

Previous Place of residence, participation in HIV/AIDS club, ever used contraception, ever had induced abortion, respondents' mothers' level of education, discussion about reproductive health issues with peers, currently chewing *khat* and currently taking alcohol these all indicators had significant association (at 0.000) with the knowledge of emergency contraceptive. In addition to this age, year of study, sexual experience and discussion about reproductive health issues with mother were significantly associated with the knowledge of emergency contraceptive.

This finding is similar with the survey done in Haramaya University about level of EC among female students (Berhanu D. & Nigatu R., 2011).

Table5.3a Chi-square result of Socio demographic factors on EC Awareness among Female Students of WSU, March 2012

Predictor variables	EC awareness status		Total	X^2	P-Value
	Ever heard	Never heard			
Age (years)					
17-20	76(36.9)	130(63.1)	206(100)	17.356	0.000*
21-25	75(60.5)	49(39.5)	124 (100)		
Previous Place of Residence					
Urban	26(23.0)	87(77.0)	113(100)	35.830	0.000*
Rural	125(57.6)	92(42.4)	217(100)		
Living arrangement					
In Campus	142(47.5)	157(52.5)	299(100)	3.856	0.050*
out of Campus	9(29.0)	22(71.0)	31(100)		
Religion					
Orthodox Christian	84(44.4)	105(55.6)	189(100)	0.307	0.579
Others	67(47.5)	74(52.2)	141(100)		
Religiosity					
Attending Regularly	53(44.9)	65(55.1)	118(100)	0.053	0.819
Attending Some times	98(46.2)	114(53.8)	212(100)		
Marital status					
Never Married	139(44.8)	171(55.2)	310(100)	1.74	0.187
Married	12(60.0)	8(40.0)	20(100)		
Year of Study					
First Year	33(33.7)	65(66.3)	98(100)	8.201	0.004*
Second Year and above	118(50.9)	114(49.1)	232(100)		
Participation in HIV/AIDS club					
Participated	116(53.5)	101(46.5)	217(100)	15.133	0.000*
Not participated	35(31.0)	78(69.0)	113(100)		
Sexual Experience					
had sex	69(57.0)	82(39.2)	121(100)	9.772	0.002*
Never had sex	52(43.0)	127(60.8)	209(100)		
Number of life time sexual partners					
One	24(46.2)	28(53.8)	52(100)	0.447	0.504
Multiple	26(40)	39(60)	65(100)		
Ever used contraception					
Yes	16(84.2)	3(15.8)	19(100)	19.397	0.000*
No	5(18.5)	22(81.5)	27(100)		

Table5.3b Chi-square result of Family background and other factors on EC Awareness among Female Students of WSU, March 2012

Predictor variables	EC awareness status		Total	X^2	P-Value
	Ever heard	Never heard			
Ever been pregnant					
Yes	2(11.8)	15(88.2)	17(100)		
No	3(33.3)	6(66.7)	9(100)	1.762	0.184
Ever had induced abortion					
Yes	7(31.8)	15(68.2)	22(100)		
No	139(51.5)	131(48.5)	270(100)	21.557	0.000*
No response	5(13.2)	33(86.8)	38(100)		
Respondents' fathers level of education					
Literate	102(45.5)	122(54.5)	224(100)	0.567	0.451
Illiterate	19(39.6)	29(60.4)	48(100)		
Respondents' mothers level of education					
Literate	70(62.5)	42(37.5)	112(100)	19.363	0.000*
Illiterate	72(36.5)	125(63.5)	197(100)		
Discussion about reproductive health issues with father					
Yes	50(45.0)	61(55.0)	111(100)	0.138	0.710
No	68(42.8)	91(57.2)	159(100)		
Discussion about reproductive health issues with mother					
Yes	112(52.1)	103(47.9)	215(100)	10.722	0.001*
No	30(31.9)	64(68.1)	94(100)		
Discussion about reproductive health issues with boyfriend /husband					
Yes	55(56.1)	43(43.9)	98(100)	6.034	0.014*
No	96(41.4)	136(58.6)	232(100)		
Discussion about reproductive health issues with peers					
Yes	119(63.6)	14(22.2)	187(100)	32.463	0.000*
No	68(36.4)	49(77.8)	63(100)		
Currently chewing khat					
Yes	40(70.2)	17(29.8)	57(100)	16.552	0.000*
No	111(40.7)	162(59.3)	273(100)		
Currently taking alcohol					
Yes	45(65.2)	106(40.6)	69(100)	13.311	0.000*
No	24(34.8)	155(59.4)	261(100)		

5.4.2. Factors associated with the attitude towards EC

As it is indicated in the table 5.4a and b, the independent variables which analyzed in the chi square showed that religion, sexual experience, knowledge of EC, practice of EC and respondents' father level of education were significantly associated with attitude towards EC.

Religion – Table 5.4a shows that religion has significant association with the attitude of respondents. About 51(60.6percent) of Orthodox Christian and 49(75.4 percent) of others had favorable attitude towards EC and it had significant association with attitude at p value (0.048).

Sexual Experience -- the attitude towards EC also varied among sexually experienced and not experienced respondents. Sexual experience of respondents was statistically determinant factor of attitude towards EC. According to the result, as shown in the table 76.5 percent of the respondents had favorable attitude towards EC and it is significant at (0.026).

Knowledge of EC -- it is one of the dependent variable, but here it is used as independent variable of attitude towards EC. Table 5.4a indicated that knowledge of EC had significant association with attitude p value at 0.045. 86.7 percent of the respondents who had fair knowledge of EC and 66percent of them with good knowledge had favorable attitude towards EC.

Practice of EC – like the previous variable it is dependent, but here used as independent. Their association cheeked by using chi square and the result shows there exist significant association of attitude and practice of EC. Almost all who practiced EC had favorable attitude towards it.

Table5.4a Chi-square result of Socio demographic factors on EC Attitude among Female Students of WSU, March 2012

Predictor variables	Attitude of EC		Total	X^2	P-Value
	Favorable	Un favorable			
Age (years)					
17-20	43(57.3)	32(42.7)	75(100)		
21-25	57 (77)	17(23)	74(100)	6.545	0.011
Previous Place of Residence					
Urban	16(64)	9(36)	25(100)	0.132	0.716
Rural	84(67.7)	40(32.3)	124(100)		
Living arrangement					
In Campus	93(66.4)	47(33.6)	140(100)	0.494	0.482
out of Campus	7(77.8)	2(22.2)	9(100)		
Religion					
Orthodox Christian	51(60.7)	33(39.3)	84(100)	4.12	0.048*
Others	49(75.4)	16(24.6)	65(100)		
Religiosity					
Attending Regularly	32(60.4)	21(39.6)	53(100)	1.691	0.193
Attending Some times	68(70.8)	28(29.2)	96(100)		
Marital status					
Never Married	90(65.7)	47(34.3)	137(100)	1.556	0.212
Ever Married	10(83.3)	2(16.7)	12(100)		
Year of Study					
First Year	22(66.7)	11(33.3)	33(100)	0.004	0.951
Second Year and above	78(67.2)	38(32.8)	116(100)		
Participation in HIV/AIDS club					
Participated	76(66.7)	38(33.3)	114(100)	0.044	0.834
Not participated	24(68.6)	11(31.4)	35(100)		
Sexual Experience					
Ever had sex	52(76.5)	16(23.5)	68(100)	4.961	0.026*
Never had sex	48(59.3)	33(40.7)	81(100)		
Number of life time sexual partners					
One	17(70.8)	7(29.2)	24(100)	1.381	0.24
Multiple	22(84.6)	4(15.4)	26(100)		
Knowledge of EC					
Poor knowledge	13(56.5)	10(43.5)	23(100)		
Fair knowledge	26(86.7)	4(13.3)	30(100)	6.217	0.045*
Good knowledge	24(66.7)	12(33.3)	36(100)		
Practice of EC					
Practiced	17(100)	0(0)	17(100)	7.48	0.006*
Not Practiced	3(60)	2(40)	5(100)		

Table5.4b Chi-square result of Family background and other factors on EC Attitude among Female Students of WSU, March 2012

Predictor variables	Attitude of EC		Total	X^2	P-Value
	Favorable	Un favorable			
Respondents' fathers literacy level					
Literate	72(71.3)	29(28.7)	101(100)	4.996	0.025*
Illiterate	8(44.4)	10(55.6)	18(100)		
Respondents' mothers literacy level					
Literate	47(68.1)	22(31.9)	69(100)	0.174	0.677
Illiterate	46(64.8)	25(35.2)	71(100)		
Discussion about reproductive health issues with father					
Yes	30(60)	20(40)	50(100)	1.746	0.186
No	48(71.6)	19(28.4)	67(100)		
Discussion about reproductive health issues with mother					
Yes	71(64)	40(36)	111(100)	2.455	0.117
No	23(79.3)	6(20.7)	29(100)		
Discussion about reproductive health issues with boyfriend /husband					
Yes	36(66.7)	18(33.3)	54(100)	0.008	0.93
No	64(67.4)	31(32.6)	95(100)		
Discussion about reproductive health issues with peers					
Yes	84(71.8)	33(28.2)	14(100)	2.8	0,094
No	7(50)	7(50)	117(100)		
Currently chewing khat					
Yes	27(69.2)	12(30.8)	39(100)	0.107	0.744
No	73(66.4)	37(33.6)	110(100)		
Currently taking alcohol					
Yes	30(68.2)	14(31.8)	44(100)	0.032	0.857
No	70(66.7)	35(33.3)	105(100)		

Respondents' fathers' level of education – the bivariate result in table 5.4b showed that there is statistically significant association between them. As it is indicated in the table 71.3 percent of the respondents whose fathers were literate had favorable attitude towards EC.

5.4.3. Factors associated with the practice of EC

The bivariate result in Table 5.5a and b, showed significant association among the independent variables such as; previous place of residence, religiosity, participation in HIV/AIDS club, sexual experience, attitude of EC and currently chewing *khat*.

Previous Place of Residence -- 52.9 percent of respondents who came from urban area and only 15.4 percent of respondents who had rural origin practiced EC. According to the chi square result previous place of residence and practice of EC had significant association. It is significant at p value (0.02).

Religiosity – table 5.5a showed that religiosity had an effect on the practice of EC. As the p value indicated it is significant at (0.003).

Participation in HIV/AIDS club – the chi square results indicated that significant association between participation in HIV/AIDS club and practice of EC. 61.1 percent of the respondents who Participat in HIV/AIDS club practiced EC.

Sexual Experience – it is significantly associated with knowledge, attitude and practice of EC. As it is indicated in the table sexual experience was significant at (0.024). 51.2 percent of respondents who had sexual experience practiced EC.

Attitude of EC – the bivariate result in table5.5a showed that attitude of EC had significant association with the practice of EC. 85 percent of the respondents who had favorable attitude towards EC practiced it.

Currently chewing *khat* – the study also found out that currently chewing *khat* had significant association with the practice of EC. More than half (61.1 percent) of the respondents practiced EC.

Table5.5a Chi-square result of Socio demographic factors on EC practice among Female Students of WSU, March 2012

Predictor variables	Practice of EC		Total	X^2	P-Value
	Practiced	Not Practiced			
Age (years)					
17-20	8(30.8)	18(69.2)	26(100)		
21-25	12(57.1)	9(42.9)	21(100)	3.305	0.069
Previous Place of Residence					
Urban	18(52.9)	11(84.6)	29(100)	5.426	0.020*
Rural	2(15.4)	16(47.1)	18(100)		
Living arrangement					
In Campus	15(42.9)	20(57.1)	35(100)	0.005	0.943
out of Campus	5(41.7)	7(58.3)	12(100)		
Religion					
Orthodox Christian	12(37.5)	20(62.5)	32(100)	1.047	0.306
Others	8(53.3)	7(46.7)	15(100)		
Religiosity					
Attending Regularly	2(12,5)	14(87.5)	16 (100)	8.963	0.003*
Attending Some times	18(58.1)	13(41.9)	31(100)		
Marital status					
Never Married	15(39.5)	23(60.5)	38(100)	0.770	0.38
Ever Married	5(55.6)	4(44.4)	9(100)		
Year of Study					
First Year	3(23.1)	10(76.9)	13(100)	2.789	0.095
Second Year and above	17(50)	17(50)	34(100)		
Participation in HIV/AIDS club					
Participated	16(61.5)	10(38.5)	26100)	8.58	0.003*
Not participated	4(19)	17(81)	21(100)		
Sexual Experience					
Ever had sex	21(51.2)	20(48.8)	41(100)	5.095	0.024*
Never had sex	0(0)	6(100)	6(100)		
Number of life time sexual partners					
One	5(31.3)	11(68.8)	16(100)	1.706	0.192
Multiple	13(52)	12(48)	25(100)		
Attitude of EC					
Favorable	17(85)	3(15)	20(100)	7.48	0.006*
Un favorable	0(0)	2(100)	2(100)		
Knowledge of EC					
Poor knowledge	1(50)	1(50)	2(100)		
Fair knowledge	9(90)	1(10)	10(100)	3.106	0.212
Good knowledge	7(58.3)	5(41.7)	12(100)		

Table5.5b Chi-square result of Family background and other factors on EC practice among Female Students of WSU, March 2012

Predictor variables	Practice of EC		Total	X^2	P-Value
	Practiced	Not Practiced			
Respondents' fathers level of education					
Literate	18(46.2)	21(53.8)	39(100)	0.839	0.360
Illiterate	0(0)	1 (100)	1(100)		
Respondents' mothers level of education					
Literate	9(47.4)	10(52.6)	19(100)	1.036	0.309
Illiterate	7(31.8)	15(68.2)	22(100)		
Discussion about reproductive health issues with father					
Yes	4(28.6)	10(71.4)	14(100)	2.349	0.125
No	14(53.8)	12(46.2)	26(100)		
Discussion about reproductive health issues with mother					
Yes	11(50)	11(50)	22(100)	2.776	0.096
No	5(25)	15(75)	20100)		
Discussion about reproductive health issues with boyfriend /husband					
Yes	9(40.9)	13(59.1)	22(100)	0.008	0.93
No	11(44)	14(56)	25(100)		
Discussion about reproductive health issues with peers					
Yes	14(58.3)	10(41.7)	24(100)	0.046	0.831
No	5(62.5)	3(37.5)	8(100)		
Currently chewing khat					
Yes	11(61.1)	7(38.9)	18(100)	4.11	0.043*
No	9 (31)	20(69)	29(100)		
Currently taking alcohol					
Yes	5(38.5)	8(61.5)	13(100)	0.123	0.726
No	15(44.1)	19(55.9)	34(100)		

5.5. Determinant Factors of Awareness of Emergency Contraceptives (Multivariate Analysis)

To validate the binary logistic regression model assumptions, the dependent variable was dichotomous and have been coded the dependent category of greatest interest (ever heard about EC) as 1 and the other category (those who never heard about EC) as 0. And also those categorical independent variables were coded meaningfully. All important variables were included so that the error term might not be inflated and any unimportant variable was not included in the model. Previous place of residence was not included in the model to overcome the multi-co linearity effect. In addition, the variables life time number of sexual partners and ever had induced abortion were excluded from testing model because of few number of cases.

Furthermore, the multicollinearity effect among the included variables was tested and the variance inflation factor (VIF) was found to be far less than the cut off value. Except the first variable for the others (categorical covariates) the first group for each categorical variable has been selected as reference category, overriding the default because reference group should have reasonable number of observation. The Hosmer and Lemeshow goodness-of-fit test non significance (P greater than 0.05) assured that the model adequately fit the data. Finally, the variables sexual experience, discussion about RH issues with mother and peers, Mother's educational level, currently chewing khat and currently taking alcohol found to be the statistically determinant factors of awareness of EC among female students of Wolaita Sodo University. Table 5.6 shows the overall summarized outcome of the analysis.

Thus, the logistic regression model has been employed to reveal the direction of the statistically significant association between the independent variables and the dependent variable, awareness of EC.

Table 5.6 Logistic regression results of EC awareness and its correlates among WSU female students, March 2012

Variables	B	S.E.	Sig.	Exp(B)
Age of students				
17-20(1)				
21-25	0.523	0.384	0.172	1.688
Year in the University				
First year(1)				
Second year and above	0.731	0.407	0.072	2.078
Participation in HIV/AIDS club				
Not participated(1)				
Participated	0.472	0.366	0.197	1.604
Sexual experience				
Never had sex (1)				
Ever had sex	0.693	0.399	0.082	2
Mother's educational level				
Illiterate (1)				
Literate	0.71	0.352	0.044*	2.034
Discussion of RH issues with mother				
No(1)				
Yes	1.232	0.401	0.002*	3.427
Currently chewing khat				
No(1)				
Yes	1.241	0.516	0.016*	3.457
Currently taking alcohol				
No(1)				
Yes	0.974	0.458	0.034*	2.648
Induced Abortion				
No(1)				
Yes	0.194	0.83	0.815*	1.214
Discussion of RH issues with friend				
No(1)				
Yes	1.744	0.405	0.000*	5.717
Constant	-4.171	0.951	0.000	0.015

***significant**

NB, df = 1 to all variables

Respondents' mothers level of education: the analysis result showed that respondents' mothers level of education has a significant association with awareness of EC (OR=2.034, P<0.044). Respondents whose mothers' were literate are 2.034 times more likely to be aware of EC than the reference group.

Discussion about reproductive health issues with mother: No one doubt the need of effectively providing adolescent and youth information about contraceptive to prevent both unintended pregnancy and STDs. Such kind of information can be obtained through different sources either from the media, parents, friends or school. This study also saw statistically significant association between discussion with mothers about sexual matters and awareness of EC. Accordingly lack of experience of communication with mothers about sexual issues had a negative impact on EC awareness. As shown in Table 5.6, the likelihood of those who had experience of discussion about reproductive health issues with their mothers' was 3.427 times better than those who had no experience of communicating with their respective mother. (OR = 3.427, $P < 0.002$). This output answered the second research questions. Similar finding was also cited by Atsede (2007).

Currently chewing *khat*- there is significant association between *Khat* chewing and awareness of EC among the study population. Respondents who chew *Khat* were 3.457 times more likely to be aware of EC than their non chewer counterpart.

Currently taking alcohol - as it is shown in Table 5.6 currently taking alcohol was found to be statistically significant predictor of awareness of EC. The result indicated that respondents who had taking alcohol were 2.6 times more likely to know EC compared to the reference category. The above and this finding verified the third hypothesis questions.

Discussion about reproductive health issues with peers: In this study peers communication on sexual and related matters was found to be one of the significant determinant factors of EC awareness. The outcome of the analysis in Table 5.6 revealed that, those who had experience of discussion about reproductive health issues with their peers are 5.717 times more likely to know EC compared to the reference category (OR= 5.717, $P < 0.000$). This output verified the second hypothesis that those female students who had an experience of communication with their friends (peers) about reproductive health issues are more likely to be aware about EC than their counter parts.

CHAPTER SIX

6. DISCUSSION

The study has aimed at assessing knowledge, attitudes and practice of EC among young female students of Wolaita Sodo University. The finding has revealed that their level of knowledge as regards EC is generally low (28.5%) though it is a little higher than that of Jimma University (22.8%), but it is lower than Bahir Dar University (34.8%) and Addis Ababa University (43.5%). (Atsede 2007; Tamire et'al, 2007).

It is even much lower compared to the studies conducted among universities in other African countries such as Nigeria (58%), ,Cameroon (63%),and Niger Delta of Nigeria (50.7%),all documented a rate greater than 50% (Aziken et'al, 2003; Eugene et al, 2007; Akani et'al, 2008).

The study output ascertained that awareness about EC was significantly associated with the variables age, previous place of residence, religion, religiosity, marital status, year of study, exposure to FP methods information, sexual experience, exposure to the use of contraception, history of pregnancy and induced abortion, respondents' mothers level of education, discussion about reproductive health issues with mother, friends, and boyfriend /husband. Of these differentials in awareness of EC mother's education level, discussion about reproductive health issues with peers and mother, induced abortion, currently chewing *khat* and taking alcohol were found as the major determinant factors to be aware of EC.

The summarized figure for attitude towards EC indicated that 67.5% of the respondents who have ever heard of EC had favorable attitude toward EC. This figure is better than that of Addis Ababa University (53%), Bahir Dar University (56.7%), and Hawassa post secondary female students (65.6%) (Tamire et'al, 2007; Atsede, D., 2007 & Wondimu,B., 2008). But it is lower than that found out by a study on students of Haramaya University (76.5%). (Berhanu,D. & Nigatu, R., 2011)

The findings of the study have shown that about 36.7% of the respondents had sexual intercourse with mean and median age of 18.03 and 18 respectively. The median age of this study is almost similar (18.8) with the national survey result of EDHS, (2011), but which was 15.6 years (2005).

As to sexual relationship, WSU students had less experience than University students in Kampala, Nigerian undergraduate students and Bahr Dar University where 42%, 43%, and 40.8% of the students had sexual experience respectively (Byamugusha, J., Mirembe, F.& Gemzell, K., 2006, Michael, E., Patrick, Okont & Adedapo,AB., 2003, Atsede,D., 2007). However, this might have resulted from the fact that respondents shy away from telling their real story because they considered premarital sex socially unacceptable.

According to the survey findings of this study, Mass media (Television/radio) was mentioned as their main first source of information about EC followed by reproductive health clubs. Besides the role of mass medias and reproductive health clubs, the study result indicated that discussion within female friends about sexual matters had significant role in the promotion of modern contraception in general and emergency contraception in particular.

Correspondingly, survey findings of studies on post –secondary school female students in Nigeria and university students in Kenya cited that communication with friends was the commonest source of information about EC (33 percent and 17 percent of the respondents respectively) (Aziken et al, 2003 & Muia et al, 2000). And also a study on KAP of EC among urban family planning clients in Honduras indicated that friends/family; television/video and radio were the leading sources of information for the method (Garcia et al, 2006). Similarly the study finding in Mekelle University undergraduate female students showed the major first source of EC was television / Radio (Etenesh, G., 2009). In addition a study result among female students of Bahir Dar University reported that television and radio as the most popular first sources of information followed by reproductive health clubs. (Atsede, D., 2007)

The study finding showed that discussion of RH issues with mother and friends had strong association with the respondents' Knowledge of EC. This finding agreed with the study done

among post secondary school female students' and service providers' in Hawassa town (Wondomu, B., 2008).

The most appealing findings of this study are that Chewing *Khat* and alcohols taking have become good predictors of knowledge of EC. It is known that *Khat* and alcohol taking are usually done in a ceremonial way, and believed by many (particularly *khat* chewing) help to increase imaginative ability and improves the ability to communicate with people; opens up the gate for more open discussions on sexual and related matters which normally are not discussed in most formal friendship forums. On the other hand, while *Khat* chewing and alcohol are in no way recommended to students, the finding gives lights to our understanding that these groups are the most vulnerable when it comes to unwanted pregnancy and related consequences of sexual activity during their stay in the campus. A study done by Falah & colleagues, (2007) among Finnish adolescents indicated that alcohol consumption increased the likelihood of EC awareness and use.

Finally, it is worth mentioning one of the weaknesses of this study: Due to the very sensitive nature of the subject, some respondents did not want to respond to some of the questions, and hence, have returned incomplete and blank questionnaire while one refused to return the questionnaire at all. On account of this expected responses for some key variables such as sex experience, age at first sex, contraceptive use, pregnancy history, and existence of unwanted pregnancy might have been affected.

CHAPTER SEVEN

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. 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 educated about EC before they actually need. The study finding showed that the knowledge of EC is low, less than fifty percent of the students were aware of EC. As university students, it would be expected to have better awareness than others.

The knowledge of correct timing for emergency contraception was higher than the studies done in Ethiopia but still higher proportion of respondents didn't know the correct time limit for the first dose of emergency contraception. The participant still lack knowledge of how EC prevents pregnancy, some respondents thought that emergency contraception has an abortifacient effect. The absence of correct information about EC could be a barrier from being utilized by individuals who need it, including the young people who are at more risk of unintended pregnancy. The utilization of contraception and EC was very low, 38.1percent and 6.1 percent of the total respondents had ever used contraceptive method and emergency contraceptive respectively. This leads to higher possibility 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.

Generally, there is gap between knowledge, attitude and practice among respondents towards Emergency Contraceptives, so the study call for concerned bodies to take some important measures such as; provision of continuous sex education, guidance and counseling services especially during the first year and increasing easy accessibility of the Emergency Contraceptive and other preventive methods to the users.

7.2. Recommendations

Based on the findings of this study and the experiences of some other countries the following recommendations are forwarded.

1) The result of this study pointed out major lack of knowledge on emergency contraceptive pill. Only few numbers of respondents had accurate knowledge about the pill, while some had misconception about how to use the pill and thought that emergency contraceptive pill might have caused an abortion. Therefore, providing accurate knowledge to this particular group is quite sensitive and should be done carefully with emphasize on preventive methods. One possibility can be to promote condom use as it could prevent pregnancy as well as sexually transmitted diseases. Adolescents should decide to use emergency contraceptive pill as another alternative just in case of emergency and be able to use it correctly and effectively. However, condoms are the only contraceptive method available to prevent against the transmission of HIV and other sexually transmitted diseases, efforts at counseling and education need to include proper condom use, to reduce the likelihood of failure particularly for University students and generally for the other youth.

2) Students who had knowledge about emergency contraceptive pill were more likely to more accept the method than those without knowledge about it. One particular concern is that the students with sexual activity still misuse of emergency contraceptive pill, i.e. taking only one pill after coitus. They expected to continue using the pill which might lead to the failure of the method since they did not know how to use it correctly. The World Health Organization confirmed that effective administration of emergency contraceptive pill is to take the first pill within 72 hours after unprotected sexual intercourse, and the second pill 12 hours later. It is thus important to disseminate this information to the target group so that they can be able to use it correctly. However, ethical considerations should also be taken into account. A research in England confirmed that dissemination of knowledge about emergency contraception did not encourage women to increase using the method.

3) It is observed that there is a very wide difference between the finding of this study finding on female students' awareness on EC and findings from countries where there are school sex educational programs, 98 percent among Princeton University students (Harper & Ellerston, 1995). This imposes to suggest well designed sex education programs or organizing reproductive health clubs at higher institution levels.

4) The result of this study pointed out that the sample students had received information by word of mouth from friends and majority from mass media which might lead to incorrect use of the pill, high failure of this method, and increase risk of having undesirable pregnancy. Therefore, policy makers should pay more attention for the problems of the youth.

   In addition adolescent students should be well prepared by providing correct knowledge on how to use emergency contraceptive pill effectively through public relation activities. And dissemination of information about the pill should be made as explicitly as possible in order to respond to the need of the youth. This should focus on providing reliable and trusted source of information and counseling service before and after they had sexual intercourse. Such information and service should suggest emergency pill as one possible choice, but emphasized as an alternative in case of emergency, for adolescents and to make sure that they can use it correctly. It is expected that emergency contraceptive pill will play more role in the future.

5) The study result indicated that discussion within female friends about sexual matters has significant role in the promotion of modern contraception in general and emergency contraception in particular. Thus, the academic institutions and those organizations working on RH matters should work on the promotion and enhancement of peer education or counseling among students of higher institutions.

6) Besides the role of peer counseling and education, the Medias have a significant role in the dissemination of appropriate information about FP methods as stated in this study. Therefore, interventions aiming at adolescents' RH issues including EC should use

different Medias as the main means to broadcast appropriate information and address the target population.

7) Use of EC among participants of this study is far less than findings of studies done in different countries. Hence, there should be an intervention designed to expand service availability particularly at University level and advance provision of dedicated ECs for potential clients especially for higher institutions.

References

A VSC International (2004). Meeting the Challenge: health sector reform and reproductive health in transition.

Adhikari, K. (2008a&b). Correlates of Emergency contraception awareness among college students in Nepal.

Allison, M., Melanie, A. & Andrew, M. (2005) "Changes in young women's awareness, attitudes, and perceived barriers to using emergency contraception" USA 60

Ameha, H. & Nebered, F. (2006). Emergency Contraception Potential Clients' and Provides' Perspective. Ethiopian Journal of Health Science 16(1):1-8.

Arowojolu, AO. & Adekunle, OA., (2000) Knowledge, attitude and practice of emergency contraception among students in tertiary schools in Anambra State Southeast Nigeria. http;//www.academicjournals.org/ijmms/PDF/.../Nworah%20et%20al.pdf

Atsede, D. (2007). "Emergency Contraception among Bahirdar University students, North West Ethiopia." Master's thesis

Aziken Michael E., Okonta Patrick I., Ande Adedapo B.A. (2003). Knowledge and perception of Emergency contraception among Female Nigerian Undergraduates. International Family planning perspectives 29(2):84-87.

Baiden, F. (2003). Perception of university students in Ghana about emergency contraception. 66(1): 23-26

Berhanu, D. & Nigatu, R. (2011). Surveying the Level of Knowledge and Attitude on Emergency Contraception among Female Students of Haramaya University, Ethiopia: Educational Research (ISSN: 2141-5161) Vol. 2(4) pp. 1106-1117

Beruk, T. (1992)Family planning counseling guide. Addis Ababa, Ethiopia. p 75.

Birhanu, D. (2006). "An Assessment of Knowledge, Attitude and Practice of Emergency Contraception among women seeking post abortion care services in Addis Ababa." MPH thesis.

Boggess, J. (2002). How can pharmacies improve access to emergency contraception? Perspectives on Sexual and Reproductive Health, 34(3): 162–165.

Burton, R., & Savage, W. (1990). Knowledge and use of post-coital contraception: a survey among health professionals in Tower Hamlets. Br J Gen Pract.; 40(337):326–330

Byamugusha J., Mirembe, F., & Gemzell-Danielsson, K. (2006). "Emergency contraception and fertility awareness among university students in Kampala,Uganda." (Afr Health Sci4):194-200.

Chris, P. (2005). Working paper series. Adolescent's and Emergency contraceptive pills in developing countries. Family Health International. No.WP05-01 and available at: http://cecinfo.org/html/EC%20Toolkit.htm.

Cochhran, S. (1977). Sample Size Determination.: John Winley & Sons, Inc, NewYork.

CORHA. (2004). Assessment of the reproductive health situation/problems of the students in Addis Ababa, Bahir Dar, Jimma, and Mekele Universities, Addis Ababa.

Davies, SL., (2006). Predictors of Inconsistent Contraceptive Use among Adolescent Girls: Findings from a Prospective Study. Journal of Adolescent Health, 39: 43-49. Delivery Guidelines; October 2000.

EDHS, (2011). Central statistics Authority & ORC Macro. Ethiopia Demographic and Health survey. Addis Ababa Ethiopia and Calverton, Maryland, USA: March, 2012.

Ellertson, C.(1996). History and efficacy of emergency contraception: beyond coca-cola. International Family Planning perspectives 22(2):52-26.

ESOG, (2002). Emergency contraception Guidline. http:// WWW.esog . org.et. Accessed on March 15,2012;

Etenesh, G. (2009). Assessment of Knowledge, Attitude and Utilization of Emergency Contraception among Mekelle University Female Undergraduate Students.

Ethiopian Society of Obstetricians and Gynaecologists in collaboration with ministry of health and ECafrique, (2004). EC A training curriculum for mid-level health workers in Ethiopia. Addis Ababa, Ethiopia.

Eugene J Kongnyuy*1,(2007). Emergency Contraception and Fertility awareness among University Students in Kampala, Uganda.

Eugene J Kongnyuy*1: (2007) A survey of knowledge, attitudes and practice of emergency Contraception among university students in Cameroon.

Falah-Hassani, K., Kosunen, E., Shiri,R. & Rimpela, A., (2007). "Emergency contraception among Finnish adolescents: awareness, use and the effect of non-prescription status". BioMed Central Public Health. 7:201. doi: 10.1186/1471-2458-7-201

Faliha, F. & Usha, M., (2004). Medical and service Delvery Giudelines for sexual and Reproductive health services, 3rd edition: pp. 254-268

Farooq, F., Kadri SM, & BA, Gash., (2007). "Emergency Contraception: Knowledge of Doctors in Kashmir Valley." Journal of Community Medicine, 3(1).

FGAE, (2002).Base line survey of the coital dependant methods, project of the Family Guidance Association of Ethiopia and Population Council.

Finer LB., Henshaw, SK., (2006): Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. Perspective on Sexual and Reproductive Health, 38(2):90-96.

Friedman, S.,Mc Quaid & Grendell, J.,(2003). Current obstetrics & gynecology diagnosis & treatment: 9th Edition;

Frost, JJ., Singh, B & Finer, LB., (2007). Factors Associated with Contraceptive Use and Nonuse, United States, 2004. Perspectives on Sexual and Reproductive Health, 39(2): 90-99.

Gossaye, N. Deyessa, Y. Berhane Et al., (2003). Women's health & life events study in rural Ethiopia. The Ethiopian journal of health development. Vol.17,second special issue

Grimes, D. & Raymond, E.,(2002). Emergency contraception, Annals of Internal Medicine, 137(3):180–189.

Grimes, D., (2002). Switching emergency contraception to over-the-counter status, New England Journal of Medicine, 347(11):846–849.

Harper C.C & Ellerston C.E., (1995). The Emergency Contraceptive Pill: survey of Knowledge and attitudes among students at Princeton University. Am J Obstet Gynecol 173(5): 1438-1445.http://linkinghub.elsevier.com/retrieve/pii/S0010782402003153

ICFEC, (2004). Emergency Contraceptive Pills: Medical and Service Delivery Guidelines. Second Edition, The International Consortium for Emergency Contraception, Washington, DC USA.

Jenni, S. & Lynn, MCF., (2003). Expanding Contraceptive choice: emergency contraception a multi-center situational analysis of emergency contraception provision and utilization at public sector clinics in South Africa. Reproductive Health Research unit.

Kobra F., Elise K., Rahman S. & Arja R,(2007). Emergency contraception among Finnish adolescents: awareness, use and the effect of non-prescription status. BMC Public Health http://www.biomedcentral.com/1471-2458/7/201/prepub

Kongnyuy, Eugene J, Pius N., Nelson F., Charles, S., Wiysonge, LK. & Anderson, S., (2007). "A survey of knowledge, attitudes and practice of emergency contraception among university students in Cameroon." BMC Emerg Med., 7(7).

Lester, R., & Brown, (2011) Earth Policy Institute's Population Indicator,

Mekbib, T., Gebrehiwot, Y & Fantahun M. (2007). Survey of unsafe abortion in selected health facilities in Ethiopia.Ethiop J Reprod Health 1 (1): 28-43

Michael E. Azeiken, Patrick I. Okont & Adedapo B.A. Ande (2003). "Knowledge and Perception on Emergency Contraception among Femal Nigerian undergraduates."International Family Planning Perspectives. http://www.guttmacher.org/pubs/journals/2908403.html

Miller, ER., Barbara, S. & Elaine, M.(1998). Contraceptive Safety: Rumors and Realities. 2nd edition,PRB.

MOH,(2011). Road map for accelerating the reduction of maternal and new born morbidity in Ethiopia.

Muia, E., Charlotte, E. Shelley, C., Morse, L., Batya, E,. Joyce, O, & Elizabeth, W., (2000). What do family planning clients and university students in Nariobi, Kenya, know and think about Emergency contraception? African Journal of reproductive Health 4(1):77-87.

Mulugeta, E., Kassaye, M. & Berhane, Y., (1998) Prevalence and outcomes of sexual violence among high School students. Ethiopian Med. Journal 36(3) 167-74. Addis Ababa, Ethiopia.

Neelu, S., (2011). Contraceptive knowledge, attitude and practice among eligible couple of rural Haryana; The Internet Journal of Health™ ISSN: 1528-8315 Volume 12 Number 1

Okonofua, FE., (1995). Factors associated with adolescent pregnancy in rural Nigeria. J Youth Adolesc:24(4); 419- 438.

Okpani, A. & Okpani J., (2000). Sexual activity and contraceptive use among female adolescents. A report from Port Harcourt, Nigeria. African Journal of Reproductive Health, 4(1): 40-47.

Polit, DF. & Beck, CT.(2008). Nursing research: Generating and assessing evidence for nursing practice. 8th edition. Philadelphia: JB Lippincott.

PRB, (2008). World Population Datasheet. Washington DC. Washington, DC 20009-5728 • USA. http;//www.prb.org/publications/datasheets/2008/2008wpds.aspx

PRB, (2006). Unsafe Abortion: Facts and Figures.
http;//*www.prb.org/pdf06/unsafeabortion2006.*

Rivera, R., Yacobson, I. & Grimes, D., (1999). The mechanism of action of hormonal contraceptives and intrauterine contraceptive devices, American Journal of Obstetrics and Gynecology, 181(5, pt. 1):1263–1269.

Schwarz, E., Gerbert, R. & Gonzales,R., (2007): Need for emergency contraception in urgent care settings. Contracpetion, 75:285-288.

Scott, A., & Glasier, A. (2006). Evidence based contraceptive choices. Best Practice & Research Clinical Obstetrics & Gynaecology, 20: 665-680.

Segal,SJ. & LaGuardia, KD., (1990): Termination of Pregnancy: A global view. Balliere's Clinical Obstetrics and Gynecology, 4(2):235-247.

Sedgh et al, (2008) Induced abortion: incidence and trends worldwide from 1995 to 2008. *http://www.guttmacher.org/pubs/fb_IAW.html and at www.who.int/topics/reproductive_ health/en/.*

Seife, M., (2007). "Assessment of level of awareness and utilization of Emergency Contraception among college female students, in Oromia regional state, Arisi zone, Asella town, South East Ethiopia." MPH thesis.

Tautz, S., (2004). Unsafe abortion. A Review and Discussion Paper, Superregional Project: Promotion of Reproductive Health, GTZ.

Tekle-Ab M., Yirgu G., Misganaw F., (2007). Survey of Unsafe Abortion in Selected Health Facilities in Ethiopia; Ethiop. J. Reproductive Health, 1(1),28-43)
The American Journal of Obstetric, Gynecologic and neonatal Nursing.

Tigist, A., (1999). Emergency contraception: assessment in Black Lion Hospital student (thesis unpublished).

Trussell J. & Elizabeth, G., (2007). Emergency Contraception: A last Chance to prevent unintended pregnancy. Wallace Hall, Princeton University, Princeton.

Vahratian et al (2008). Female college student's knowledge, perceptions and use of of ECs.

Van Look PF, von Hertzen H. (1993). Emergency contraception. Br Med Bul l; 49:158-70.

Webb, AMC., Russel, J., & Elstein M.,(1992). Comparison of Yuzpe regimen, danazol, and mifepristone (RU486) in oral postcoital contraception. BMJ,305, 927-31.

Wegene T. & Fikrie, E., (2007). "Assessment of Knowledge, Attitude and Practice on Emergency Contraceptives among Female University Students in Addis Ababa, Ethiopia." Ethiop. J. Health Dev 21(2): 111-116.

Westhoff, C., (2003) Emergency contraception, New England Journal of Medicine, 349(19):1830–1835.

WHO (2008). Primary Health Care (Now More Than Ever). Why a renewal of primary health care (PHC), and why now, more than ever?
http://www www.who.int/whr/2008/en/index.html

Wolayita zone health department annual report, (2010).

Wondimu, B., (2008). "Emergency contraceptive: Post-secondary school female students' and service providers' perspective: The case of Awassa town". Addis Ababa. Unpublished Master Thesis.

Worku, A. & Addisie, M.(2002). Sexual violence among female high school students in Debark. North-West Ethiopia. East-African Medical journal.

World Health Organiation /SEARO: (2001). Making Pregnancy Safer Delhi: WHO/SEARO.

World Health Organization (2003). Unsafe Abortion; Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003. 5th edition.

World Health Organization, (1998). Emergency Contraceptives - a guide for service delivery.

World Health Organization, (2004). Unsafe abortion: global and regional estimates of incidence of unsafe abortion and associated mortality in 2000. 4th ed, Geneva.Sedgh G et al., Induced abortion: incidence and trends worldwide from 1995 to 2008.

Y. Gossaye, N. Deyessa, Y. Berhane Et al., (2006). Women's health & life events study in rural Ethiopia. The Ethiopian journal of health development. Vol.17,second special issue 2003 Central statistics Authority & ORC Macro. Ethiopia Demographic and Health survey (EDHS) 2005. Addis Ababa Ethiopia and Calverton, Maryland, USA.

ANNEX A

Addis Ababa University

College of Development Studies

Institute of Population Studies

Structured questionnaire for the study

Wolaita Soddo University female students Knowledge, attitude and practice towards Emergency Contraceptives (2012)

Good morning/ afternoon?

My name is Senait G/Mariam. Currently I am a graduate student of Institute of Population Studies (IPS), Addis Ababa University. I am conducting a survey to assess the awareness, attitude and practices of contraceptives particularly Emergency Contraceptives among female students in Wolaita Sodo University.

The main purpose of the questionnaire is to collect information necessary for developing appropriate strategies and programs to prevent unwanted (unplanned) pregnancies and its consequences. To attain this purpose your honest and genuine participation is very important and highly appreciable. I, therefore, kindly request you to fill this questionnaire as accurately and carefully as possible.

Please be assured that all the information gathered will be kept strictly confidential and you do not need to write your name on any of the questionnaire page. Only the researcher has the access of the information and used it for the study purpose only. You have a full right and decision to not respond all the questions or partly.

Are you willing to participate? Yes ---------- No ----------

Thank you for your cooperation!

Data Collector

Name _____ Signature _____ Date _____

Supervisor

Name _____ Signature _____ Date _____

Contact person's/ principal investigator's name and address

Name : Senait G/Mariam

Telephone 09-11-00-58- 71/046-551-05-56

E-mail: g_demo@yahoo.com

Instruction: Circle the code number given parallel to the answer you choose and write the answer in the space provided for questions that you give direct answer.

No	Questions	Response	Skip to
Section I. Socio-demographic Back Ground Characteristics of the Respondents			
Q 101	How old are you?	Age in completed years _____	
Q 102	Where did you come from?	Urban 1 Rural 2	
Q 103	What is your Religion?	Orthodox Christian 1 Muslim 2 Catholic 3 Protestant 4 Other, specify_____ 5	
Q 104	How often do you go to church/ mosque?	Daily 1 Once in a week 2 Occasionally 3 More than once in a week (specify)_____ 4	
Q 105	What is your current marital Status?	Never Married 1 Married 2 Divorced 3 Separated 4 Widowed 5 Living with boyfriend 6	
Q 106	Where are you living now?	In campus 1 Out of campus 2	
Q 107	I Is your father alive?	Yes 1 No 2	**If No go to Q 110**
Q 108	If 'Yes' what is the educational status of your father?	Illiterate 1 Primary education 2 Secondary education 3 Above secondary 4	
Q 109	Have you ever talked/discussed about reproductive health issues with your father?	Yes 1 No 2	
Q 110	Is your mother alive?	Yes 1 No 2	**If No go to Q 113**
Q 111	If 'Yes' what is the educational status of your mother?	Illiterate 1 Primary education 2 Secondary education 3 Above secondary 4	
Q 112	Have you ever talked/discussed about reproductive health issues with your mother?	Yes 1 No 2	
Q 113	Have you ever discussed/talked about reproductive health issues with your boy friend/husband?	Yes 1 No 2	
Q 114	Have you ever chew *khat*?	Yes 1 No 2	

Q 115	Are you currently chewing *khat*?	Yes 1 No 2	**If 'No' go to Q117**
Q 116	If 'Yes' for Q115, how often do you chew *khat*?	Always 1 Sometimes 2 Once in a month 3 As obtained 4	
Q 117	Have you ever consumed alcohol?	Yes 1 No 2	
Q 118	Are you currently taking alcohol?	Yes 1 No 2	**If 'No' go to Q120**
Q 119	If 'Yes' for Q118, how often do you take alcohol?	Always 1 Some times 2 Once in a month 3 As obtained 4 During exam period 5 Other, specify_____ 6	
Q 120	Have you ever got the chance to learn about sex education?	Yes 1 No 2	
Q 121	If 'yes' where did you get the chance to learn sex education? **[More than one response is possible]**	From course offered at class 1 From anti HIV/AIDS club 2 Through media (radio/Tv/ News) 3 From family planning clinics 4 Health institutions/ hospitals/ clinics 5 From girls club in college 6 Other, specify_____ 7	
Section II. Sexual History, knowledge and practices of contraception			
Q 201	Have you ever heard about Family Planning Methods?	Yes 1 No 2	**If No go to Q205**
Q 202	If 'Yes', which one do you know? **[More than one response is possible]**	Oral pills 1 IUD 2 Injectables 3 Condoms 4 Norplant 5 Withdrawal 6 Calendar/ Rhythm 7 Other, specify_____ 8	
Q 203	Have you ever discussed about reproductive health issues with your friends?	Yes 1 No 2	
Q 204	If 'yes' for Q203, is there anyone who has an experience of sexual intercourse?	Yes 1 No 2	
Q 205	Have you ever had sexual intercourse?	Yes 1 No 2	**If 'No' go to Q208**
Q 206	If 'Yes', How old were you when you had the first sexual intercourse?	Age in complete years_____ 1 I do not remember 2 I do not know 3	

Q 207	How many partners have you ever had for sexual intercourse in your life time?	One 1 Two 2 Three 3 More than three 4 I do not remember 5 I do not know 6	
Q 208	If your answer for Q205 is 'Yes', have you ever used contraceptive methods?	Yes 1 No 2	**If 'No' go to Q212**
Q 209	If 'Yes', which method have you ever used?	Oral pills 1 IUD 2 Injectables 3 Condoms 4 Norplant 5 Withdrawal 6 Calendar/ Rhythm 7 Other, specify _____ 8	
Q 210	For how many years you use the regular Contraception (Duration)?	For less than 1 year 1 For 1 year 2 For more than 1 year (specify)_____ 3	
Q 211	If your answer for question 208 is 'No' what was your reason? **[More than one response is possible]**	Contraceptive not available 1 Cost of contraceptive not affordable 2 Lack of Knowledge about Contraceptive 3 Partner opposed 4 Religious/moral reasons 5 Fear of side effect 6 Wanted to be pregnant 7 Had forced sex 8 Other specify_____ 9	
Q 212	Have you ever had induced abortion?	Yes 1 No 2 No response 3	
Q 213	If 'Yes' how many times?	_____	
Q 214	Do you intend to use any modern contraceptive method to delay or avoid pregnancy at any time in the future?	Yes 1 No 2 Not sure 3	
Q 215	If 'Yes' for Q212 what was the reason for your induced abortion?	Health problem 1 Rejection of partner 2 Out of marriage pregnancy 3 No money to bear and rear 4 Family/society not accepted 5 Other, specify_____ 6	

Q 216	If 'No' what is/are the main reason/reasons? **[More than one response is possible]**	Contraceptive not available 1 Cost of contraceptive not affordable 2 Lack of knowledge about contraceptive 3 Partner opposed 4 Religious/moral reasons 5 Fear of side effect 6 Wanted to be pregnant 7 Had forced sex 8 Other, specify_____ 9	
Section III Knowledge About Emergency Contraception for all respondents			
Q 301	Have you ever heard about Emergency contraceptives?	Yes 1 No 2	**If 'No' leave the remaining questions**
Q 302	If 'Yes' when was the first time you heard about emergency contraceptive?	Less than 6 months ago 1 6-11 months ago 2 1-5 years ago 3 More than 5 years ago 4 I do not remember 5	
Q 303	What was your first source of information?	Television/Radio 1 Magazines/ news papers 2 Relatives 3 Internet webpage 4 From course/formal lectue 5 Boyfriend/partner 6 Female friends 7 Health care providers 8 At campus/college clinic 9 Reproductive Health clubs 10 Parents 11 Other, specify_____ 12	
Q 304	Of the listed, which can be used as emergency contraception? **[More than one response is Possible]**	Combined oral pills 1 Progestin only pills/ postinor-II 2 Estrogen only pills 3 IUD 4 Herbal vaginal pessaries 5 Bitter medications,quinine,lemon, potash 6 Monthly injectable 7 Others (Specify)_____ 8 I do not know 9	
Q 305	How do you see the composition of drugs in emergency contraceptive pills compared to other regular modern Contraceptive methods?	The same as in the regular contraceptive pills 1 The same but a high does in the same Hormones 2 completely different from the drug of regular contraceptives 3 Don't know 4	

Q 306	When should emergency contraceptive pills be taken to prevent pregnancy effectively?	Immediately after sex 1 With in 24 hours after sex 2 With in 72 hours after sex 3 With in 4-6 days after sex 4 Even after a missed period 5 Don't know 6 Other, specify_____ 7	
Q 307	What is the mechanism of action of EC? **[More than one response is possible]**	Prevent pregnancy from occurring 1 Induced abortion 2 Prevent pregnancy and induced abortion 3 I do not know 4 Other, specify_____ 5	
Q 308	What is the effectiveness of emergency contraceptive pills in preventing pregnancy?	Highly effective (99%) 1 Three-fourth (75%) 2 Half (50%) 3 Below one–third (30%) 4 Uncertain 5 Don't Know 6	
Q 309	Under what situations that emergency contraceptive should be taken to prevent pregnancy? **[More than one response is possible]**	When forced to have sex 1 When condom slipped or broken 2 When there is missed pills 3 When there is failure of contraception 4 When there is infrequent sex 5 When there miscalculation of calendar method 6 Don't know 7 Other (specify) _____ 8	
Section IV. Attitude towards EC [For respondents who have heard about EC]			
Q 401	Taking emergency contraceptive after unprotected sex is much better than the regular use Of contraceptive method.	Yes 1 No 2	
Q 402	I will use emergency contraceptive in case need a rise.	Yes 1 No 2	
Q 403	Emergency contraceptive hurt the baby in case it doesn't work.	Yes 1 No 2	
Q 404	Recommending emergency Contraceptive use to friends is dangerous.	Yes 1 No 2	
Q 405	EC is necessary to prevent abortion and its complications.	Yes 1 No 2 Don't know 3	

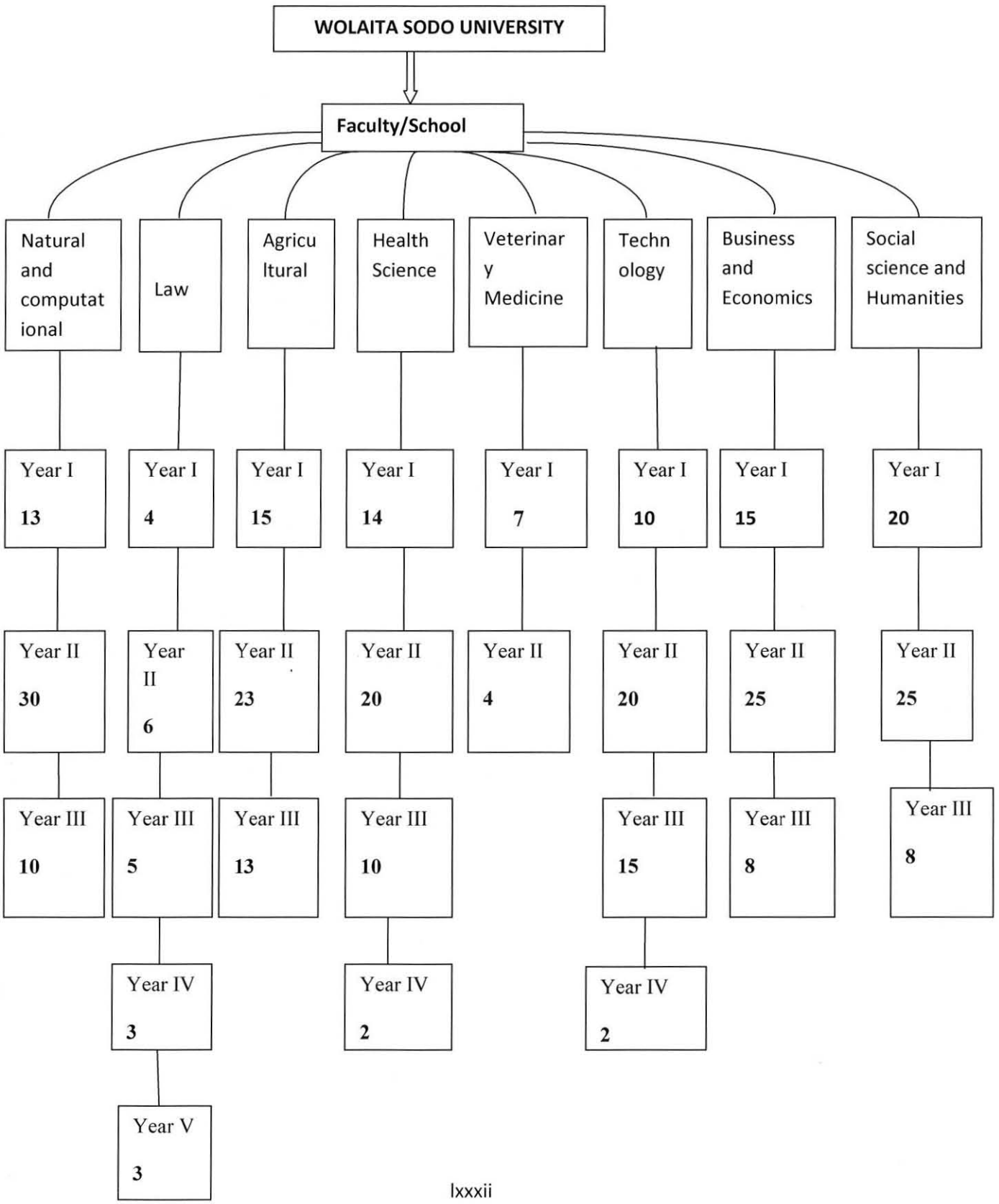
Section V. Practice for who have knowledge of emergency contraceptive and sexually experienced			
Q 501	Have you ever had sexual intercourse without using condom or other contraceptive methods?	Yes 1 No 2	**If 'No' leave the remaining questions**
Q 502	If 'Yes', have you ever use emergency contraceptive methods to prevent pregnancy?	Yes 1 No 2	**If No go to Q507**
Q 503	If 'Yes' for question 502 which method of emergency contraceptive have you used?	Combined oral pills 1 Progestin only pills (postinor-II) 2 Estrogen only pills 3 IUD 4 Do not remember 5 Other method (specify) _____ 6	
Q 504	Why did you use it during that time?	Timing was miscalculated 1 Did not use any contraceptive 2 Condom slipped/broken 3 Missed pills 4 Forced to had sex 5 Contraceptive failure 6 Other, specify _____ 7	
Q 505	Who recommended you to use it?	A friend 1 Partner/ boyfriend 2 Health care provider 3 Internet webpage 4 Parents 5 Don't remember 6 Other, specify _____ 7	
Q 506	From where did you obtain emergency contraceptive?	Public hospitals 1 Private clinics/hospitals 2 Reproductive Health Clinics 3 Pharmacies 4 School/campus clinics 5 Partner/ boy friend 6 Female friends 7 Other, specify _____ 8	
Q 507	If 'yes' for Q502, what type of side effect did you face most when you took emergency contraceptive?	Nausea 1 Vomiting 2 Weight gain 3 Blurry vision 4 Other, specify_____ 5	
Q 508	How many times have you used emergency contraceptive so far?	One time 1 Two times 2 More than two times 3 I don't remember 4	

Q 509	If 'No' for Q502, what is your main reason?	used regular contraceptives correctly and consistently 1 Used safe period correctly 2 Had no enough information of emergency contraceptive 3 Emergency contraceptive cost is unaffordable 4 Had no access to emergency contraceptive 5 Religious/moral reasons 6 Partner opposed 7 Other, specify_____ 8	
Q 510	Have you ever faced unwanted pregnancy because of not taking Emergency contraceptive?	Yes 1 No 2	
Q 511	If 'Yes' for Q510, what type of measure did you take?	I abort traditionally 1 I abort safely at health center 2 I delivered baby 3 Other, specify_____ 4	
Q 512	Have you gone to health care provider to seek counseling of emergency contraceptive during the last 6 months?	Yes 1 No 2	**If 'No' leave the remaining questions**
Q 513	If 'Yes' for Q512, by whom have you been given the counseling? **[More than one response is possible]**	Doctor 1 Midwife /nurse 2 Health worker 3 Pharmacist 4 Health care provider/staff members 5 Other, specify_____ 6	
Q 514	If 'Yes' for Q512, how were the health care providers' approach?	It was good 1 It was fair 2 It was not good	
Q 515	If not good for Q514, how did you see their willingness? **[More than one response is possible]**	No willingness to consult 1 They despise girls 2 They laugh at such girls 3 Other, specify_____ 4	

Thank you!

ANNEX B

Schematic presentation of the sampling procedure



DECLARATION

e under signed declare that this thesis is my original work and has not been ented for a degree in any other University and that all sources of material used ne thesis have been duly acknowledged.

ared by:

Name: SEWAIT G/MARIAM

Signature: 

Date: 25 June 2012