# USE OF EMERGENCY CONTRACEPTION BY FEMALE STUDENT NURSES IN IBADAN, OYO STATE, NIGERIA

BY

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# CERTIFICATION

I hereby certify that this research work was carried out by Mohammed Olatunji BELLO in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan.

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## DEDICATION

This work is dedicated to Allah for his sustenance. I also dedicate it to my parents and my siblings for their unflinching support before and throughout the course of this programme.

May Allah continue to keep and sustain your lives. Amen

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# ABSTRACT

Emergency Contraception (EC) is an important option in preventing unplanned pregnancy, which is a public health concern among young women in Nigeria. Few studies have focused on use of EC among Female Student Nurses (FSNs) who are being trained to offer services and educate clients on EC. This study was therefore designed to determine the use of EC and factors associated with its knowledge by FSNs in Ibadan, Oyo State, Nigeria.

The study was cross-sectional in design using total sampling procedure to recruit 498 consenting FSNs from the 8 nursing institutions in Ibadan: {2 Basic Nursing Schools (BNS), 6 Post-Basic Nursing Schools (PBNS),} and the Department of Nursing (DN), University of Ibadan (UI). A semi-structured self-administered questionnaire which included a 16-point knowledge scale, sexual behaviours, and use of EC was used to collect data. Knowledge scores of <6, 6-11 and >11 were categorised as poor, fair and good respectively. Data were analysed using descriptive statistics, Chi-square test and binary logistic regression at p=0.05.

Respondents' age was 22.4±4.2 years. The respondents from BNS, PBS and UNP of UI were 40.4%, 35.9%, and 23.7% respectively. A large majority of the respondents (82.1%) had never married. Most (84.5%) had heard about EC. Majority (72.1%) had poor knowledge, while 24.5% and 3.4% had fair and good knowledge respectively. Also, 61.4% had boyfriend and 45.7% had had sex. Condom use (69.7%) was the most preferred method of contraception. Of those sexually currently having sex, 50.2% had used EC. Postinor II was the commonest brand of EC ever used by 72.2% of respondents. Majority (87.0%) of those who had used EC reported it was effective, and 13.0% said it failed. A significantly higher proportion of respondents (53.2%) with regular sexual partner compared with those with non-regular sexual partners (34.4%) had used EC. Proportion of respondents who had used EC was significantly higher among those who had experienced unwanted pregnancy (78.8%) compared to those who had never done so (21.2%). Those who were younger were less likely to have good knowledge of EC when compared to older respondents (OR=0.27, CI; 0.09-0.76). The basic female nurses students were less likely to have good knowledge than post basic students (OR=0.43, CI; 0.24-0.77). Also, not having

history of unplanned pregnancy was the only significant determinant of using EC (OR=5.21 CI: 1.49-18.19).

Knowledge and use of emergency contraception among nursing students was poor. Health educational strategies such as training and social marketing are required to promote the use of emergency contraception among nursing students.

Keywords: Emergency contraception, Female student nurses, Sexual behaviours,

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# ACRONYMS

| | |
|---|---|
| UPSI | - Unprotected Sexual Intercourse |
| IUD | - Intrauterine Device |
| ECPs | - Emergency Contraception |
| ECPs | - Emergency Contraception Pills |
| STIs | - Sexually Transmitted Infections |
| SPRM | - Selective Progesterone Receptor Modulators |
| UPA | - Ulipristal Acetate |
| OCP | - Oral Contraceptive Device |
| IUCD | - Intrauterine Contraceptive Device |
| WHO | - World Health Organization |
| FMOH | - Federal Ministry of Health |
| NDHS | - Nigeria Demographic Health Survey |
| UNDP | - United Nation Development Program |
| UNFPA | - United Nation Population Fund |
| NPC | - National Population Commission |
| CDC | - Center For Disease Control |
| LAM | - Lactational Amenorrhea Method |
| FAM | - Fertility Awareness Methods |
| BBT | - Basal Body Temperature |
| COCs | - Combined Oral Contraceptives |
| POPs | - Progestine-only Pills |
| PICs | - Progestine-only Injectable Contraceptive |
| DMPA | - Depo- provera |
| FFPRHC | - Faculty of Family Planning and Reproduction Health Care Clinical Effectiveness Unit |

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Emergency contraception (EC) is a type of modern contraception which is indicated after unprotected sexual intercourse, following sexual abuse, misuse of regular contraception or non use of contraception (Neinstein, Gordon, Katzman, Rosen, and Woods, 2008). It can help reduce the number of unwanted pregnancies and is unique in that it is the only option available for somebody who has had unprotected intercourse and is not ready for pregnancy (Josaphat, Florence, Elisabeth, and Kristin, 2006).

Emergency contraception plays a vital role in preventing unsafe abortion and unwanted pregnancy, which is a major problem of maternal health (Neinstein et al., 2008). In developing countries, one in four sexually active women who want to avoid becoming pregnant have an unmet need for modern contraception. These women account for 82% of unintended pregnancies in the developing countries. Young people are commonly ineffective users of contraceptives. Often they are poorly informed about sexuality and reproductive health and hold myths about the same (Glasier, 1996).

Unmet need is highest among women younger than 20 years and lowest among those aged 35 years or older. Unsafe abortion; a leading cause of preventable maternal mortality and morbidity among young women in Nigeria is attributed to unintended pregnancy.

Emergency contraception is largely underutilized worldwide and has been referred to as one of the best kept secrets in reproductive health (Gemzell-Danielsson & Marion, 2004). Emergency contraception (EC) provides women with a safe means of preventing pregnancy following unprotected sexual intercourse (Faculty of Family Planning and Reproductive Health Care Clinical Effectiveness Unit, 2006). Emergency contraception is recommended to be used in the following situation: breakage of condom, displacement of an intrauterine device (IUD), missed pills, unsuccessful withdrawal or non-use of contraception, and sexual assault.

Emergency contraception can be used up to 72 hours after unprotected intercourse. It works by interfering with ovulation, fertilization and implantation. Many patients and providers are not aware of emergency contraception which limits its use (Davtyan 2000).

The Nigerian government's national family planning guidelines follow those developed by the Planned Parenthood Federation of Nigeria, which include emergency contraceptives. Levonorgestrel-only pills (Postinor-2, a dedicated product) and combined oral contraceptives (Lo-Femenal, a regular contraceptive that in high doses can be used for emergency contraception) are the most common products used in Nigeria; they can be obtained over the counter from patent medicine shops and pharmacies. Although the pills are sold over the counter, health care providers play a critical role in informing their clients about emergency contraception, and so it is imperative that providers themselves be well informed about the methods (Ebuchi, Ebuchi & Ineni 2006).

In addition to preventing pregnancy, EC can serve as a bridge into the health care system and a way to obtain an ongoing contraceptive method for women who do not have one (Grossman and Grossman 1994). The World Health Organization (WHO) recommends that reproductive health services offer EC as part of their routine services (Van Look & Von Hertzen 1993). However, according to Rahaman, Renjhen, Kumar, Pattanshetty, Sagir & Dubey (2010) negative attitudes toward and inaccurate knowledge of the method among health care providers including pharmacists, physicians and nurses can pose substantial barriers to women's timely access to the pills in the event of unprotected intercourse.

## 1.2 Statement of the problem

Unintended pregnancy poses a major challenge to the reproductive health of young adults in developing countries (Okonofua, 1995). With decreasing age of menarche and early onset of sexual activity, young people are exposed early to unplanned and unprotected sexual intercourse leading to unwanted pregnancy and, subsequently, abortions (Society for family health 1998, Family Health International 1997). Students of higher institution mostly reside on their own for the first time. This gives them freedom and opportunity for unplanned and unprotected sexual experiment. This could lead to unwanted pregnancy (Olajide, Odunlade, Afolabi, Olajide &

Olaniyi 2012). Also, Young unmarried women engage in sex for various reasons including fulfilling marital obligations, enhancing marriage prospects by proving their fertility to their future husbands and for financial benefits (Meekers & Calves, 1999).

Ozumba, Obi & Ijioma, (2005) are of the opinion that young people in general are sexually active. Tertiary students form an important high-risk group in any society. The youth in this age group (15-24 years) are most often at the beginning of exploration of their sexuality, very often free of any parental guidance, under great influence from peers and often indulge in alcohol or other influential illegal substances. The spread of HIV/IDS and other STIs and the potential serious consequences make the issue of "safe sex" in this age group a priority. Tertiary students on the other hand, by virtue of their level of education and experience, probably form a group in any community that should have an overall higher level of awareness of available methods of contraception, including that of emergency contraception.

Combining pregnancy with academic work poses a great challenge (U.S.Department of education, 2013). The shame associated with unwanted pregnancies could be possible reasons why such pregnancies are eventually aborted. In cases of sexual assault, most ladies keep the information to themselves or even their trusted friends and relatives who may not give them well informed advice. They therefore do not seek medical help only to discover at a later date that they are pregnant (Olajide, Odunlade, Afolabi, Olajide & Olaniyi 2012).

Nigeria is known to be among one of the countries in the world with a high maternal mortality rate which is mainly the resultant effect of unsafe abortion (Bankole, Oye-Adeniran, Singh, Adewole, Wulf & Sedgh 2006; Okusanya, Okogbo, Momoh, Okogbenin & Abebe 2007; Oye-Adeniran, Adewole, Umoh, Fapohunda & Iwere 2004. Centre for Reproductive Rights 2005). Just like similar occurences in other developing countries; in Nigeria the prevalence of unwanted pregnancy, unsafe induced abortion and high maternal mortality rate are all issues of reproductive health concerns that needs to be tackled with a matter of urgency, as reported by various researchers (Omo-aghoja, Omo-aghoja, Aghoja, Okonofua, Aghedo & Umuen 2009; WHO and Gutterman Institute, 2007; Okusanya, Okogbo, Momoh, Okogbenin & Abebe 2007; Oye-Adeniran , Umoh & Nnatu 2002). It is estimated that over 4 million abortions occurs

annually in Africa. In Nigeria 760,000 abortion takes place annually, of which as high as 36,000 maternal death associated to unsafe abortion occurs annually; representing over 60% of maternal death (Bankole, Oye-Adeniran, Singh, Adewole, Wulf & Sedgh 2006; Okusanya, Okogbo, Momoh. Okogbenin & Abebe 2007; Oye-Adeniran, Adewole, Umoh, Fapohunda & Iwere 2004; Centre for Reproductive Rights 2005,).

Female student nurses face peculiar reproductive health challenges. Being young adults, majority often aged 15-24 years; many are sexually active, some with multiple partners with the risks of Sexually Transmitted Infections, unplanned pregnancies, and unsafe abortions with grave sequelae (McCauley & Salter 1995).

Unlike their age-mates in tertiary institutions, students in certificate – awarding schools of nursing are, by policy, not permitted to get pregnant, regardless of their marital status. Those who become pregnant face sanctions ranging from demotion to expulsion. These students are thus faced with a dilemma: to get pregnant and lose a training opportunity or terminate the pregnancy and continue schooling with the risk of suffering the sequelae of unsafe abortion which include infertility among others (Ndifon, Ogaji & Etuk , 2006).

Several studies have been conducted on knowledge, attitude and use of EC in Nigeria which includes those focusing on post-secondary school students in south western Nigeria (Arowojolu and Adebayo, 2002), female undergraduate students (Abimbola, Adedapo , Folakemi . Olusegun and Olajide, 2012; Aziken, Okonta and Ande, 2003), students in tertiary institutions (Nworah et al., 2010), national youth service corps members (Akiode, 2014), providers' and key opinion leaders (Babatunde Ahonsi, 2012), female adolescent hawkers (Abubakar, Sufiyan . Abdulkadir, Haruna, 2010), and provider knowledge (Olufunke, Osaretin, Ebuchi andVictor, 2006). None has focused on student nurses, which are in unique position to assist clients in needs of EC. As front liner providers, they are in position to offer support, counsel patient, help inform the community and become advocates to improved access.

Research has shown that, despite increased concern about human sexuality especially with regards to fertility regulation and control of sexually transmitted infections, the knowledge on the

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Research has shown that, despite increased concern about human sexuality especially with regards to fertility regulation and control of sexually transmitted infections, the knowledge on the

use of safe modern contraceptives is still discouragingly low even among students in tertiary institutions (Nigerian Demographic and Health Survey, 1999, UNDP/UNFPA/WHO 1996). Unconventional techniques of emergency contraception are common among young women in our setting. As much as 75% of sexually active teenage girls (14-19 years) have been reported to have some form of perceived contraception device such as laxatives, local potash, "white quinine" and menstrogen pills in the South-West geopolitical zone of the country (Akani, Enyindah & Babatunde, 2008). Therefore, female student nurses while meeting their sexual needs, need to use contraceptive methods that are not only safe in the short term. but will also preserve their fertility for future childbearing (FMOH 2001)

It is important to note that the need for emergency contraception exist throughout societies where prevalence of unintended pregnancy remain high (Ahmed et al., 2012). Emergency Contraception should be available at all levels of the health care system and, where ever possible (Ipas, 2005 & ESOG, 2000). Experts agree that widening the methods of contraceptive choice are desirable, and that a method to prevent pregnancy after unprotected intercourse or after a Contraceptive failure is critically needed (Marie et al, 1999). It is also evidenced that no single contraception is 100 percent effective; therefore, emergency contraception will be a very important back up to other methods of contraception (Ahmed et al., 2012).

Emergency contraception (EC) are considered very important and necessary to reduce unintended pregnancy in Nigeria where the awareness of emergency contraception among women of reproductive age (15-49) and women ever used is said to be 15% and 3 % respectively (NDHS, 2008). It said that by the age of 20 years, most adolescent will be sexually active whether they are married or not (Irala et al.,2011 and Gutmacher institute, 2004). And they tend to engage in unprotected sexual intercourse with multiple or casual partners with no form of contraception used. Student of higher institution of learning form an important high risk group for unplanned pregnancy and unsafe abortion in Nigeria in which nursing education fall within (Arowojolu and Adebayo . 2002)

This study conceptualizes that majority of young adults are sexually active and engaged in unprotected sex and may use or need an emergency contraceptive methods. It will enquire about

student's willingness to use emergency contraception when necessary and their sources of relevant information and available methods. There is dearth of information on use of EC among female student nurses. This study therefore, showed knowledge gap in use of emergency contraception among female student's nurses in Ibadan. And it helps to understand the factors that affect the knowledge and utilization of emergency contraception by this group of female students and the circumstances under which they use it. Findings from this study are basis to help in developing Health Promotion and Education intervention for student nurse.

## 1.3 Justification

Limited studies in Nigeria have focused on issues relating to use of emergency contraception among female student Nurses. This study however, will contribute to available information on this important subject matter. A better understanding of use of emergency contraception and its underlying and immediate factors can inform the development of programme and policies that may help female student's nurses to prevent unintended pregnancy and promote healthy sexual lifestyles that will enable them focus on their training programme. Also, female nursing students in diploma awarding institution are restricted by policy from getting pregnant whether they are married or not; hence it will be expected that most of the students would want to finish their education before marriage most likely to avoid getting pregnant.

This study also assessed the knowledge of female students nurses on emergency contraception and its uses will provide evidence based information which aim at improving their knowledge of emergency contraception. Female student nurses are expected to demonstrate high knowledge of emergency contraception as it constitutes essential part of their training curriculum contents as well as expected competencies as nurses.

## 1.4 Research Questions

1. What is the level of knowledge of female student nurses about emergency contraception?
2. What are the sexual behaviours of female student's nurses?
3. What is the extent to which female nurses report use of emergency contraception?
4. What factors influence use of emergency contraception among study participants?

## 1.5 Broad Objective

To investigate the use of emergency contraception among female nurses students in Ibadan, Oyo State, Nigeria

## 1.6 Research Objectives

1. To assess the level of knowledge of emergency contraception among student nurses
2. To examine the sexual behaviours of female students nurses in Ibadan.
3. To determine the proportion of use of emergency contraception among female students nurses
4. To identify the factors influencing use of emergency contraception among female student nurses.

## 1.7 Hypotheses

The following are the hypotheses tested for this study

1. There is no significant association between demographic factors (age, marital status and religion) and knowledge of EC among female student nurses.
2. There is no significant association between demographic factors (age, marital status and religion) and the use of emergency contraception among female student nurses in selected study locations in Ibadan.
3. There is no significant relationship between knowledge and use of EC among female student nurses.
4. There is no significant relationship between use of EC and experience of unplanned pregnancy.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Concept of contraception

The term contraception refers to the means of avoiding pregnancy despite sexual activity (Harvey, 2005) and contraceptives are used for the achievement of family planning (WHO, 2005). Family planning is defined as a way of living that is adopted voluntarily upon the basis of knowledge, attitude and responsible decision-making by individuals or couples in order to control the number, timing and spacing of the children that they want, so as to promote the health and welfare of the family group, and contribute to the advancement of the society (Park, 2002). It also includes the choice of an appropriate method that will help women realize their goal for using contraceptives (Naomi and Teri, 2004). Family planning allows individuals and couples to anticipate and attain their desired number of children and spacing and timing of their births (WHO, 2005). Both traditional and modern methods of contraception are available with the later more efficient, effective, safe and acceptable. Few examples of modern methods are condoms, intrauterine devices, oral pills and injectible, implants and emergency contraception.

### 2.1.1 History of contraception

Attempts to control increase in population started from the early men. Evidence from medical history indicates that our forefathers did space their children through traditional means, and it has been observed that traditional methods of family planning had been handed down either verbally or in writing from generation to generation as far back as the Stone Age (Delano, 1990). This includes: women avoiding the sun or moon; women wearing the charms made with dead spiders, child's tooth ring on fingers; Women drinking tea made from various kind of roots, weeds, trees, leaves, infusion of gun-powder, froth from camel's mouth, water used in washing dead bodies and deadly poisons, such as arsenic.

Other traditional methods of contraception include: women eating seeds of castors oil plant or dead bees. Violent movements of the body during intercourse to prevent entry of sperm through

the cervix; Women performing various exercises to either dislodge sperm, or prevent its entry through the cervix to meet with the female egg e.g., by jumping up and down;
The woman being requested to hold her breath during the man's orgasm, hoping that a muscular spasm would be created thus preventing sperm entry. Sneezing and blowing one's nose very hard immediately after intercourse to dislodge the sperm;
Soaking cotton wool in pepper and inserting it into the vagina as mechanical and chemical barrier method; Mopping out the sperm from the vagina with vigorous hand movement to kill and remove sperm; Douching with various concoctions to kill and wash out sperm;
Holding down the man and crushing his testicles with a stone to terminate the function of the testes; using animal membranes as condom to cover the vagina so as to prevent the entry of sperm into the vagina; Procuring abortion; putting unwanted children to death.
These methods were used in various part of the world depending on their socio-cultural beliefs. A few of these methods are still in use and form part of what is now regarded as traditional methods of pregnancy prevention. Therefore, family planning is as old as man himself (Garba, Kullima, Adam Kolo and Babagana, 2012).

Before the introduction of modern methods, Africans had methods of fertility regulation. Nigerian culture includes many myths, rituals and the use of herbs in attempts to regulate women's fertility. Although many of these traditional methods of family planning have no harmful effects on a woman's health, some however, do have dangerous or counterproductive effects. In addition, the complete effectiveness of many of the traditional methods (use of rings, waist bands, armlets, invoking the spirit of fertility to cause temporary or permanent sterility, douching and scarification) has remained doubtful (Aniyei, Onyesom, Ukuhor, Uzueghu, Oliti et al., 2008).

The modern birth control movement originated in 1912 out of concern about the health effects of high fertility on women and their children (CDC, 1999). But the fertility-control methods available around this time were limited and primarily coital dependent (e.g., the condom and withdrawal). It was not until 1960 that more modern methods of contraception, including the birth control pill and the Intrauterine Device (IUD), both highly effective and not coital dependent, became available (Hatcher, Trussell, Nelson, Cates, Stewart et al., 2004).

Between 1960 and 2006-2010, women had more options for birth control, provided that they could obtain these methods. Over this period, women wanting to use a hormonal method could choose among many types of birth control pills, as well as from implants (Implanon was approved in 2006; Norplant was approved in 1990 but withdrawn in 2002), injectables (Lunelle was introduced in 2000 and withdrawn in 2002; Depo-Provera was introduced in 1992), contraceptive patches (Ortho Evra was approved in 2002), contraceptive rings (Nuva Ring was approved in 2001), and IUDs (a copper IUD Paragard T 380A was approved in 1984; and a low-dose, progestin-only hormonal IUD Mirena was approved in 2000) (Hatcher et al., 2004). Like the pill, these newer methods are not coital dependent and are highly effective in preventing pregnancy (Kost, Singh, Vaughan, Trussell and Bankole, 2008; Trussell, 2011), but unlike the pill, they do not require daily action (Hatcher et al., 2004).

### 2.1.2 Methods of contraception

Methods of contraception are broadly categorized into two - the traditional and the modern methods – and they are available in different forms. The 2008 NDHS however classified contraceptive methods as modern, traditional and folkloric methods (NPC and ICF Macro, 2009). While some of these are available only in family planning clinics and hospitals, and many must be given only by trained providers (such as IUDs and implants), others are available in diverse places such as pharmacist store, patent medicine vendors stores and supermarkets etc. (Oye-Adeniran, Adewole, Umoh, Oladokun, Gbadegesin et al., 2005).

#### Traditional family planning

Before the advent of modern contraceptives and up until the present time traditional methods are used worldwide. The efficacy of these methods cannot be guaranteed unless certain other procedures are followed. The three common types of traditional family planning methods are: Lactational amenorhea method (LAM) which is the use of exclusive breast feeding as a contraceptive method. Abstinence, a very effective and acceptable method of birth control but it's only effective if followed without exception.

Coitus interruptus is the withdrawal of the penis just before ejaculation occurs so that sperm does not go into the vagina. It is not a reliable method because there is often pre-ejaculation leakage of

sperm which can often lead to pregnancy (Misgina Fantahun, Gutema, Getachew, Lambiyo et al., 2003), it also requires a high level of mental control which may be difficult to achieve.

Standard day's method (SDM) works for women with menstrual cycles from 26 to 32 days long. To use the method, couples abstain from sexual intercourse on days 8 through 19 of the woman's menstrual cycle. If a woman has more than one cycle per year that is shorter than 26 days, or longer than 32 days, the method effectiveness decreases significantly and a different method of family planning should be used. Cycle Beads are another way of keeping track of the days of a woman's cycle in the Standard Days Method. She moves the marker along the beads with each passing day.

**Natural family planning methods (NFP)**

Natural family planning methods (NFP) or fertility awareness methods (FAM) are methods which use the body's natural physiological changes and symptoms to identify the fertile and infertile phases of the menstrual cycle. The effective use of these methods depends on the client's ability to use calendars, write on charts, and read thermometers. Therefore these methods may not be truly available to a population with low resources and a low rate of literacy (Misgina et al., 2003). There are 4 main types:

The rhythm or calendar method which involves a woman keeping a monthly record of the days she menstruates in order to determine her safe period.

The basal body temperature (BBT): involves the monitoring of body temperature. The hormone progesterone which the ovaries secrete after ovulation induces a slight rise in body temperature which is maintained until menstruation. The fertile phase of the menstrual cycle can be determined by taking accurate measurements of the basal body temperature to determine this shift.

The cervical mucus method (Billings ovulation) is based on detecting the changes in cervical mucus secretions and in the sensations in the vagina. Before ovulation, the cervical mucus becomes slippery and stretchy. The mucus changes are greatest around the time of ovulation. After ovulation, cervical mucus becomes thick or may disappear completely.

The symptothermal method (combination of BBT and Billings Method) is a combination of checking a woman's temperature everyday and checking her vaginal discharge and it is considered to probably be the most accurate of any of the natural family planning methods (Misgina et al., 2003).

**Hormonal contraceptives**

Hormonal contraceptives are methods which are systemic in nature and contain either a progestin combined with estrogen or progestin alone. These methods include:

Oral contraceptives which are pills that a woman takes by mouth to prevent pregnancy. They contain two female hormones, estrogen and progestin (combined oral contraceptives (COCs)) or progestin only (progestin-only pills (POPs). It prevents pregnancy by interfering with ovulation, fertilization, and/or implantation of the fertilized egg. It is taken daily to keep the ovaries from releasing an egg. The pill also causes changes in the lining of the uterus and the cervical mucus to keep the sperm from joining the egg. Some women prefer the "extended cycle" pills. These have 12 weeks of pills that contain hormones (active) and 1 week of pills that don't contain hormones (inactive). While taking extended cycle pills, women only have their period three to four times a year. Many types of oral contraceptives are available:

Progestin only injectables (PIC) are systemic progestin preparations administered by intramuscular injection. The most common type of injectable contraceptive is Depo-Provera/DMPA, which is a progestin-only injectable contraceptive (PICs) given every 3 months A second PIC is Noristerat, which is given every 2 months.

Contraceptive Implants - the Norplant implant system - consist of a set of 6 small, plastic capsules. Each capsule is about the size of a small matchstick. The capsules are placed under the skin of a woman's upper arm. Norplant capsules contain a progestin (called levonorgestrol), similar to a natural hormone that a woman's body makes. It is released very slowly from all 6 capsules. Thus the capsules supply a steady, very low dose of progestin. Norplant contains no estrogen and a set of Norplant capsules can prevent pregnancy for at least 5 years (The Population Council, 2012).

The patch Also called by its brand name, Ortho Evra, this skin patch is worn on the lower abdomen, buttocks, outer arm, or upper body. It releases the hormones progestin and estrogen

into the bloodstream to stop the ovaries from releasing eggs in most women. It also thickens the cervical mucus, which keeps the sperm from joining with the egg. Put on a new patch once a week for 3 weeks. Do not use a patch the fourth week in order to have a period. Women should wait three weeks after giving birth to begin using birth control that contains both estrogen and progestin. These methods increase the risk of dangerous blood clots that could form after giving birth. Women who delivered by cesarean section or have other risk factors for blood clots, such as obesity, history of blood clots, smoking, or preeclampsia, should wait six weeks.

Shot/injection The birth control shot often is called by its brand name Depo-Provera. With this method you get injections, or shots, of the hormone progestin in the buttocks or arm every 3 months. A new type is injected under the skin. The birth control shot stops the ovaries from releasing an egg in most women. It also causes changes in the cervix that keep the sperm from joining with the eggs. The shot should not be used more than 2 years in a row because it can cause a temporary loss of bone density.

Vaginal ring This is a thin, flexible ring that releases the hormones progestin and estrogen. It works by stopping the ovaries from releasing eggs. It also thickens the cervical mucus, which keeps the sperm from joining the egg. It is commonly called NuvaRing, its brand name. Wear the ring for 3 weeks, take it out for the week that you have your period, and then put in a new ring.

**Barrier methods**

Barrier methods are one of the family planning methods used for prevention of pregnancy as well as STIs. As the name implies these methods prevent the ascent of the spermatozoa into the upper female genital tract. The types of barrier methods are:

Condom: There are two types of condoms: male and female condoms: the male condom is a thin rubber (latex) that is worn over an erect penis during intercourse and it comes in an individually wrapped package lubricated or unlubricated while the female condom is a strong soft, transparent sheath with two flexible rings at both ends which lines the vagina to create a barrier against sperm and STIs

Diaphragm is a dome-shaped latex (rubber) cup with flexible rims. It is designed to cover the cervical and is inserted before sexual intercourse thus preventing the upward movement of the sperm into the upper genital tract. It is generally used in conjunction with spermicides.

Spermicdals-Foaming Tablets, Jellies, Creams Spermicdes are generally made of two ingredients: a sperm-killing chemical (nonoxynol) which causes the cell membrane to break decreasing the movement of the sperm and an inert substance which hold the spermicide against the opening of the cervix (Misgina et al., 2003).

**Intrauterine contraceptive devices (IUCD)**

An intrauterine contraceptive device is a small piece of flexible plastic with or without copper wound around it. The copper increases effectiveness. Modern IUCDs are highly effective, easily inserted and removed. The IUCD is inserted into the uterus through the vagina and cervix and is left in place with the strings hanging down through the cervix into the vagina. Effectiveness (chances of NOT getting pregnant) 98% - 99% (NDHS,2008)

The two broad types of IUCDs are:

Copper-releasing: Copper T 380A, Nova T and Multiload 375 which provides continuous protection against pregnancy for a minimum of 10 years.

Progestin-releasing: Progestasert® and LevoNova® which provides continuous protection against pregnancy for 1 year (The Population Council, 2012).

**Permanent birth control methods**

Sterilization refers to permanent contraception by surgical procedures, to avoid future Pregnancies. It is a method of birth control suited for couples who do not want to have any more children or couples who don't want to have even a single child. Vasectomy is the procedure for men and tubectomy or tubal ligation for women. It is by far the safest and most effective method of pregnancy control, though irreversible. Sterilizing is done permanently and is a full proof method.

**Sterilization implantant (essure)**

Essure is the first non-surgical method of sterilizing women. A thin tube is used to thread a tiny spring-like device through the vagina and uterus into each fallopian tube. The device works by

causing scar tissue to form around the coil. This blocks the fallopian tubes and stops the egg and sperm from joining. It can take about 3 months for the scar tissue to grow, so it's important to use another form of birth control during this time. Then you will have to return to your doctor for a test to see if scar tissue has fully blocked your tubes.

### Surgical sterilization

For women, surgical sterilization closes the fallopian tubes by being cut, tied, or sealed. This stops the eggs from going down to the uterus where they can be fertilized. The surgery can be done a number of ways. Sometimes, a woman having cesarean birth has the procedure done at the same time, so as to avoid having additional surgery later.

For men, having a vasectomy keeps sperm from going to his penis, so his ejaculate never has any sperm in it. Sperm stays in the system after surgery for about 3 months. During that time, use a backup form of birth control to prevent pregnancy. A simple test can be done to check if all the sperm is gone; it is called a semen analysis.

### 2.1.3 Obstacles to contraceptioo use

A wide range of social, health, and economic factors pose barriers to women (and men) who wish to practice contraception (Asturias de Barrios and Linda, 1998; Bongaarts and Bruce, 1995; Cleland, Bernstein, Ezeh, Faundes, Glasier et al., 2006; Casterline and Sinding, 2000; Casterline, Perez, and Biddlecom, 1997; Casterline, Sathar, and Haque, 2001; El-Zanaty, Way, Kishor, and Casterline, 1999; Mishra, Vinod, Robert, Retherford, Nair et al., 1999; Stash, 1999; Viswanathan, Godfrey and Yinger, 1998; Westoff and Bankole, 1995). Some of the identified obstacles are:

### Lack of knowledge

Ignorance about modern contraception is by definition an absolute barrier to adoption of these methods. In order to use a modern method, women must be aware of its existence and they must know how to use the method and where to obtain supplies. Knowledge of at least one modern method is widespread in Asia and Latin America, but less so in sub-Saharan Africa (Westoff and Bankole, 1995). Knowledge of multiple methods is often limited and incomplete, and erroneous

information about where to obtain methods and how to use them is common (Robey, Ross, and Bhushan, 1996).

### Availability of family planning methods

A couple must have access to a contraceptive method in order to adopt it. For traditional methods such as abstinence and withdrawal no source is required; and for permanent methods such as sterilization, one-time access suffices. But for widely used modern methods such as injectables and the pill, a dependable source within a reasonable distance is needed. Supply chains have been built in many countries that may include hospitals, health and family planning centers, work-based clinics, mobile medical and paramedical units, community based distribution, and commercial outlets (subsidized or not). The density of these access points varies widely between and within countries (Cleland, Townsend, Bertrand and Gupta, 2012).

Access is most difficult in rural communities in countries where family planning programs are absent or weak and is particularly problematic when *purdah* restricts women's mobility. The most effective programs have minimized access obstacles by training female outreach workers who visit women in their homes. While physical proximity is important, services must be of adequate quality and reasonably priced. The direct cost of commodities (e.g., pills, condoms, IUDs), transportation, and provider fees for contraceptives and health care services can be substantial. As a result, poor women are often unable to afford modern methods without the subsidies provided by family planning programs (The Population Council, 2012).

### Health concerns and side effects

Health concerns and fear of side effects are two of the most commonly expressed reasons for non-use and for discontinued use of contraception. Choosing a method often involves weighing a variety of drawbacks to find the method that is least objectionable. The most serious health effects are cardiovascular complications of the pill; pelvic inflammatory disease, uterine perforation, and anemia for the intrauterine devices; and various infections associated with sterilization and other methods. These complications are rare if users are well informed and service providers are well trained and have access to appropriate equipment and drugs. In

addition, significant physiological effects of contraceptive methods (e.g., nausea, headache, weight gain, menstrual changes) can influence women's choices (The Population Council, 2012).

Other drawbacks play potentially significant roles in the decision to adopt a method. For example, manipulation of genitals or interruption (when using coitus interruptus methods and need to change condoms if it tears and or diaphragm or cap are displaced and readjustment or replacement is required) of intercourse is required for the use of the condom, diaphragm, cap, sponge, and spermicides. Many women dislike the physical exams (often performed by male providers) required for IUD insertions and for fitting the diaphragm and caps. Others fear the surgical procedures associated with sterilization and implants. Loss of potency is a concern for some men who might otherwise consider a vasectomy. Moreover, many health concerns are based on misinformation. For example, a major fear in Africa is that the use of a hormonal method will permanently impair future fertility (The Population Council, 2012).

**Objections from husbands or other family members**

For many married women, objections to family planning from their husbands or partners are sufficient reasons not to practice contraception despite their desire to do so. Other family members (e.g., parents or parents-in-law) or neighbours may also discourage the practice of contraception. Reasons for these objections may include the desire for more children than the women herself wants, costs of contraceptive supply and associated health care, concerns about side effects, and moral or religious beliefs. In traditional societies, family limitation and negotiation over sexual matters may not be considered respectable subjects, and it is not uncommon for husbands and wives to avoid discussion of contraception or sexual matters. As a result, women's perceptions of husbands' views may be incorrect and wives may report husbands' objections that the men do not confirm when interviewed separately (Cleland et al., 2012).

**Concerns about moral and social acceptability of contraceptive**

In nearly every society the introduction of the idea of birth control and the methods used to achieve it meet resistance from political, church, and medical leaders on a number of grounds: usurping the divine will, encouragement of promiscuity leading to a breakdown of family life,

and a threat to individual health and national vitality (Cleland, 2001). Such forms of resistance were common in Europe in the late nineteenth century, and resistance is also common in many contemporary developing countries. Sometimes the opposition is embodied in formal religious doctrine (e.g., the Roman Catholic ban on artificial methods and the Islamic opposition to sterilization). More often, hostility or ambivalence is less formalized but may be no less deeply felt. Too close an identification of the family planning program with foreign donors can lead to accusations of intended genocide (The Population Council, 2012).

## 2.2 Concept of Emergency contraception (EC)

Emergency Contraception also known as "Post-Coital" or "Morning after" contraception is the provision of preventing the establishment of pregnancy following either an unprotected sexual intercourse (UPSI) or a potential contraceptive failure (Faculty of Family Planning and Reproduction Health Care Clinical Effectiveness Unit (FFPRHC), 2006). It refers to any birth control method that can be used to prevent pregnancy after intercourse has occurred (Lindberg, 1997).

EC is intended for occasional or emergency use only and not as a regular contraception. Situations of unprotected intercourse that demand the use of emergency contraception include failure of barrier methods such as slippage, breakage or misuse of condom, sexual assaults, failed coitus interruptus, two or more consecutive missed oral contraceptive pills, an IUCD has come out of place, or simply because intercourse was unexpected and therefore contraception had not been used (Kongnyuy, Ngassa, Fomulu, Wiysonge, Kouam et al., 2007). Emergency ("Post-Coital" or "Morning after") contraception is recommended within 72 hours of an unprotected intercourse (Park, 2011). COCs, POPs, Antiprogestins (mifepristone) and IUCDs (copper-releasing) can be used as emergency contraceptives (The Population Council, 2012).

### 2.2.1 Methods and side effects of EC

The two methods of EC generally available are:

1. Hormonal methods: They are mainly pills: estrogen only, combined estrogen-progesterone, progesterone only, Selective Progesterone Receptor Modulators (SPRM) such as Mifepristone (RU486) and Ulipristal Acetate (UPA) (Bastianelli and Farris, 2011). Some of the pills contain

1.5 mg of Levonorgestrel and it is given as a single dose (Sharma, 2009) or in two doses of 0.75mg tablet each, taken within an interval of 12 hours (Park, 2011) as soon as possible, preferably taken within 72 hours after unprotected sexual intercourse, although it is known to have some efficacy for up to 120 hours. Other available ECs are 2 Oral Contraceptive Pills (OCP) containing 50 mcg of ethinyl estradiol within 72 hrs after intercourse and the same dose after 12 hrs or 4 OCP containing 30 or 35 mcg of ethinyl estradiol within 72 hours and 4 tablets after 12 hours or Mifepristone 10 mg once within 72 hours (Park, 2011).

Side effects are rare but reported side effects are nausea which occurs in 15% of cases and vomiting which occurs in 1-2% cases. Irregularity of cycle is another side effect with 50% of women reporting bleeding a few days earlier or later than expected and 16% had bleeding unrelated to menses within seven days of taking EC (Von Hertzen, Piaggio and Ding, 2002). Cramps, headaches, dizziness and breast tenderness could be some other side effects but because the hormonal method is progesterone, the oestrogen related cardiovascular risks are not a concern (Sharma, 2009).

2. Non hormonal methods: These include intrauterine contraceptive devices (IUCD) which contains Copper (Bastianelli and Farris, 2011). This method is more effective than the hormonal method and prevents nearly 100% of pregnancies. It can be inserted within five days (120 hours) after UPSI and if intercourse had occurred more than five days previously, an IUCD can still be inserted up to five days after the earliest calculated ovulation. Absolute contraindications to the coil insertion are few and same as to the routine use of coil. IUCD also serves as a better option for patients taking enzyme inducing drugs such as anticpileptic or St John's wort (Sharma, 2009). Mittal, (2008) stated that other research drugs like anotdrin, tamoxifen, danazol and misoprostol may offer no real advantage as emergency contraceptives.

### 2.2.2 Mechanism of action of EC

The treatment contains a hormone that acts to either prevent ovulation or, if ovulation has already occurred, may interfere with successful implantation. The first mechanism is contraceptive and does not raise sanctity of life concerns. However, the second mechanism is interceptive and, thus, problematic for those who hold to the conception view of personhood and

as such interception may destroy an early human life (Sullivan, 2003). The hormonal method of EC acts by interrupting the follicular development and ovulation and its efficacy of action reduces with increasing delay after UPSI: it acts with 95% efficacy if taken within 24 hours of unprotected sexual intercourse, 85% effective when taken between 25-48 hours of UPSI and 58% effective when taken between 49-72 hours of UPSI (Sharma, 2009).

The Copper containing IUCD has both pre and post ovulation effect. The toxicity of the copper prevents fertilization and if inserted later in the cycle, it causes an inflammatory reaction in the endometrium; preventing implantation (Ortiz, Croxatto and Bardin, 1996).

### 2.2.3 Benefits and need for EC

Every year, eight million women suffer severe complications as a consequence of pregnancy, childbirth and unsafe abortion. The WHO estimates that 84 million unwanted pregnancies occur worldwide with an average of 46 million abortions taking place every year. Worldwide, 20 million abortions are performed under unsafe conditions annually, of which 95% take place in the developing world. Globally, one in eight pregnancy-related mortality(13%) is due to unsafe abortions (Kongnyuy et al., 2007). Poor maternal health also affects the chances of survival of the newborn. Although progress in infant and child survival has been made, an estimated 9.4 million babies still die shortly before or after their birth (Rai and Dali, 2008). Studies have shown a high proportion of all pregnancies in sub-Saharan Africa are unintended (Cleland, Ndugwa and Zulu, 2011) and according to Sedgh, Henshaw, Singh, Ahman and Shah (2007), most but not all unsafe abortions also take place in low income countries. Unsafe abortion is one of the greatest health risks that young women can face and the primary reason for induced abortion is unwanted pregnancy.

In Nigeria, abortion law is highly restrictive and termination is commonly performed by unqualified persons, or in places not meeting required sanitary and technical standards, thereby propagating unsafe abortion, an important contributor to unacceptably high maternal mortality and morbidity ratios in many developing countries (Population Council and PSI, 2009). In a study conducted in the country, 50% of women aged 15-49 reported unplanned pregnancies resulting in unsafe abortion in 10% (Bankole, Oye-Adeniran, Singh, Adewole, Wulf et al., 2006). An estimated 760,000 induced abortions occur annually (Abiodun and Balogun, 2009)

accounting for 20%- 40% of maternal deaths (Monjok, Smesny, Ekabua and Essien, 2010; Abiodun and Balogun, 2009). Unsafe abortion remains a serious challenge to Nigeria's health system, a country with a maternal mortality ratio (MMR) estimated at 545 maternal deaths per 100,000 live births (NPC 2009). Unsafe abortion, as a result of unintended pregnancies, is identified as one of the leading causes of maternal deaths in Nigeria (Ebuehi, Ebuehi and Inem, 2006).

Unintended pregnancies are also associated with smoking, drinking, physical abuse (Blumenthal, Voedisch and Gemzell-Danielsson, 2011), depression (Tsui, McDonald-Mosley and Burke, 2010), school dropout or disruption (Rich-Edwards, 2002), poor antenatal attendance and obstetric outcomes, low birth weight and developmental deficits (Blumenthal et al., 2011). Resentment of the baby may lead to neglect (Henshaw and Feivelson, 2000; Koniak-Griffin and Turner-Pluta, 2001; Kosunen, Vikat, Gissler and Rimpelä, 2002; Phipps, Blume and DeMonner, 2002; Oringanje, Meremikwu, Eko, Esu, Meremikwu et al., 2009; Tsui et al., 2010).

Economic costs from disrupted schooling can worsen poverty due to unemployment from low level of skills, and government spends on welfare and skill acquisition programs (Rich-Edwards, 2002). Poverty may become a vicious cycle as offspring themselves may have unintended pregnancies, and become victims of physical abuse (Oringanje et al., 2009; Ellenbein and Felice, 2003). To a great extent, levels of unintended pregnancies may reflect a country's state of women's reproductive rights (Mazharuatul and Rashid, 2004; United Nations, 1994) and worsens global population concerns on strained resources, threatening more environmental degradation and social tensions (Blumenthal et al., 2011).

With decreasing age of menarche and early onset of sexual activity; young people are exposed early to unplanned and unprotected sexual intercourse leading to unwanted pregnancy and subsequently, abortions (Rahman, Renjhen, Kumar, Pallanshetty, Sagir et al., 2010). Hence, EC has the potential, as the last resort, to avoid unwanted pregnancy and therefore abortion (Tamire and Enquesclassie, 2007). Particularly in Nigeria with stringent legal and social restrictions to safe abortion in Nigeria, EC could play an important role in preventing unintended pregnancies, among both married and unmarried women who have had unprotected intercourse. According to

the World Health Organization (2000), emergency contraceptive methods offers women safe means of preventing unwanted pregnancies in the event of unprotected sexual intercourse or contraceptive failure. The need for EC is clearly demonstrated by the occurrence of high magnitude of unwanted pregnancy and induced abortion.

## 2.3 Knowledge of EC

Despite the safety and efficacy of EC, its use remains low, owing largely to a lack of awareness and knowledge among women. According to Ancblom, Larsson, Odlind and Tyden (2002), studies have shown that EC options are under-utilized because of lack of client awareness and limited knowledge of EC among health care providers ranging from obstetricians/gynecologist to nurses and midwives to students and potential users. In a similar study among pharmacists by Omotoso and Ajuwon (2010), knowledge of the drug (EC) is limited and there is need for pharmacists to receive continuing education on EC to enable them serve better the clients who need this service. In general, providers are somewhat more aware of EC than their clients, but their low knowledge of correct usage indicates an urgent need for improved skills and knowledge (Parker, 2005). National Demographic Health Survey (NDHS) (2008) reported good knowledge of EC among 21.1% of sexually active unmarried women while 55.7% of sexually unmarried women had good knowledge. Even where the concept of emergency contraception is known, knowledge of accurate use of the method is very low (Connrd and Gold, 2004). This slow increase in emergency contraception awareness is affirmed by the results from the 2008 and 2013 NDHS respectively: 15.4% versus 30.3% among all women; 14.1% versus 29.2% among currently married women; 37.7% versus 55.7% among sexually active unmarried women.

Due to their enormous influence as health professionals, nursing personnel should have adequate knowledge about EC because clients, who have unprotected sex, come to family planning centre first. Family planning centre is the first contact place and nurses are the first contact persons for them. If they are knowledgeable about EC then they can routinely educate women about their use which plays an important role to reduce the number of unwanted pregnancy and induced abortion also, thereby reduce the RH mortality and morbidity (Ngoc. 1997).

## 2.4 Sexual behaviour of young persons

Students engage in a variety of behaviours that put them at risk for serious health problems (Douglas, Collins, Warren, Kann, Gold et al., 1997). These behaviours include excessive alcohol and other substance use, cigarette smoking, oral sex, anal sex, multiple sexual partners and sedentary behavior which jeopardize academic achievement and performance (Trockel, Barnes and Egget, 2000) and they are associated with short and long-term health consequences including injury and violence (Hingson, Heeren, Zakocs, Kopstein and Wechsler, 2002; Turner and Shu, 2004) and Sexually transmitted diseases (Lewis, Malow and Ireland, 1997). Every year out of the 19 million newly reported sexually transmitted diseases, half are among young people ages 15-24 and an estimated 8,300 adolescents reported testing positive for HIV (Centre for Disease Control and Prevention, 2012).

Studies show that, for most of the youth, college represents a shift towards greater independence from home and school settings, an opportunity to form new friendships, and for several, an opportunity to experience romantic and/or sexual relationships. Higher Education students' unwanted pregnancies pose a major public health problem in the developed and developing countries and are associated with far reaching effects such as jeopardising the students' educational progress and future careers. These pregnancies are mostly unplanned and unintended and many are terminated either legally or illegally (Tilahun, 2010).

Konstantinidis, Skandalak, Tzagaraki and Linardakis (2012) conducted a study on the sexual behaviour and contraceptive use among 358 Greek nursing students and found that majority (76.5%) of them had ever had sexual intercourse. Mean age at sexual debut was 16.9±1.4years and 10.8% reported First Sexual Intercourse (FSI) at 13-15 years. More males than female nurses stated that their FSI was a one-night stand and also reported involvement with 3 or more sexual

partners. The percentage of female nurses that had 2 sexual partners was however higher than the males. Contraceptive use among the nurses was very high and the male condom was the preferred method of contraception.

Promiscuity was described as rare among female student nurses compared to their male counterparts (Verkuyl, 2000). The author conducted a study among male and female student nurses and midwives in Bulawayo, Zimbabwe and found that male student nurses have far more pre- and extramarital sexual contacts, 67% of married females had only ever had one sexual partner compared to 15% in married males and 33% of married females suspect or know that their husband has another sexual partner sometimes. Verkuyl concluded that female student nurses' risk factors for STI and HIV infection are mainly caused by their partners' pre- and extramarital behaviour.

The results of a study carried out among 1,000 students of Ege University, Turkey reported that 50.3% of the respondents had had sexual intercourse with varying mean age at FSI among the male (16.9 years) and female (18.4 years) respondents. The rate of condom usage for students' first sexual encounter and their most recent intercourse were 50.1% and 67.8% respectively. Many of the students also mentioned abortion as a method of preventing abortion after unprotected coitus (Yilmaz, Kavlak and Atan, 2010). Another study conducted in Angola among adolescents also observed that majority started having sexual intercourse at an early age, majority were 15 years or older when they engaged in sexual intercourse, with 12 years of age being the youngest age during which an adolescent started having sexual intercourse, Fifty six percent of the adolescents further stated that premarital sex was an acceptable act (Freitas, 2007).

In a study conducted in Jimma University, Ethiopia, 19% of female students started practicing sex at mean age of 18.8 years (Ambaw, 2008). Another study conducted in Adama University, Ethiopia, showed that 32% of students had an experience of pregnancy in which 92% of them were unintended and 77.7% of them ended with induced abortion (Tilahun, Assefa and Belachew, 2010). According to the findings of Gebreyohanis (2009) in another Ethiopian study among female undergraduate students of Mekele University, out of the total 561 respondents, 97 (17.3%) had ever had sexual experience. Among these, 61.9% of them started before joining the

university, 83.5% had only one partner and 27.8% of those who had sexual contact stated that their reason was marriage. The study revealed that the prevalence of premarital sex among those that ever had sexual experience was 72.2%, out of which 8 was due to rape.

In a study done in Haramaya University of Ethiopia to describe the sexual behaviour of female students, 49.5% of respondents had one life time partner, 45.6% had two or more partners, 2.9% could not remember, and about 2 percent (1.9%) did not know the exact number of partners they had since they started sexual intercourse. Out of the total sexually experienced, 73.8% have had sexual intercourse during the six months prior to the survey date, which can be considered as being sexually active (Desta and Regasa, 2011). In another Ethiopian study conducted in different colleges in Addis Ababa, about 19.5% respondents had ever had sex. Of those who were sexually active, about 6% started sex before the age of 15 and 16% started sex between 15 to 19 years of age. Ten percent of the respondents claimed to have used contraceptive methods other than male condoms by their partners and the most commonly used contraceptive method was pills (44%) followed by injectables (21%). A total of 53 respondents replied that they had been pregnant at least once previously; representing 6.8% of the total respondents and 35.1% of those who are sexually active. Almost half of those who were pregnant were below the age of 20 years and two of whom below the age of 15 years (Tamire and Enquesclassie, 2007).

In the study conducted by Nibabe and Mgutshini (2014), 129 (36.6%) of 352 female college students had had sexual intercourse. Of those who had ever had sexual intercourse, 60 (46.5%) respondents had history of pregnancy and majority (76.7%) of them was pregnant between 15 and 19 years of age. Majority (78.3%) of the pregnancies were not planned while 51.7% and 43.3% of respondents with history of pregnancy resorted to safe and unsafe induced abortion respectively. The authors further reported that most respondents had undergone abortion only once while 7.7% had it twice. Inferential statistics revealed that no independent variables had statistically significant association with respondents' sexual behaviour except the marital status of the respondents in which unmarried students were less likely to practice sex (AOR: 0.37, 95% CI: 0.12-0.54).

In a study conducted by Aliyu and Mhurza (2007) in Nigeria among 122 student nurses in the school of nursing, University of Maiduguri, Borno State, 29.5% of the respondents were

involved in premarital sexual intercourse. Majority (63.9%) of the sexually active respondents used contraceptives and the commonly used contraceptive was the condom. Another Nigerian study revealed that about sixty percent (59.9%) of female tertiary students had ever had sex, majorities (84.9%) do not use regular contraception and 12.4% previously had an unintended pregnancy. Commonest reasons for unintended pregnancies were non use of contraception (34.9%) and contraceptive failure (34.9%). Similarly, 12.3% previously induced an abortion, with 35.7% of these experiencing various complications, most commonly pain and bleeding (Amina and Regnim, 2014). Another study, also carried out in Nigeria revealed that more than one-third (34.5%) of University undergraduates had had sexual intercourse (Olajide et al., 2012). According to NDHS 2013, 24% of women report that they had sexual intercourse by age 15 and 54% by age 18. Approximately 7 in 10 Nigerian women reported having had sexual intercourse by age 20. This was further corroborated by recent sexual activity of women. 60% of women age 15-49 were sexually active in four weeks prior to the interview.

## 2.5 Use and factors influencing use of EC

A United States study of contraceptive use pattern between 2000 and 2001 found that, in a single year, EC could prevent approximately 51,000 abortions and also estimated that the availability of EC was responsible for a 43% decline in total U.S. abortions between 1994 and 2000 (Jones, 2002). Although Nigeria's Federal Ministry of Health National Family Planning Guidelines lists EC among other modern contraceptive methods as a non-prescription drug sold over the counter, EC use remains very low in Nigeria (FMoH 2010, NPC, 2009). Kongnyuy et al. (2007) postulated that the major factor limiting the use of EC may be inadequate information about their effectiveness and availability or unfavourable opinions about their safety due to misinformation.

In the study conducted by Relwani et al. (2010), only 8 (5.7%) respondents reported that they had previously used EC and all had used I-Pill as EC. Use of emergency contraception was also low in the study conducted by Amina and Regnim (2014). Only 27 (15.2%) of the respondents previously used ECP and 2 (8.2%) used it "within 72 hours". Several factors were significantly associated with the use of ECP;ever had sex, current number of children, desired number of children, regular use of contraception and ever had an abortion (P value<0.05). Other factors such as age, class level, religion, and ever had an unintended pregnancy were not significantly

involved in premarital sexual intercourse Majority (63.9%) of the sexually active respondents used contraceptives and the commonly used contraceptive was the condom. Another Nigerian study revealed that about sixty percent (59.9%) of female tertiary students had ever had sex, majorities (84.9%) do not use regular contraception and 12.4% previously had an unintended pregnancy. Commonest reasons for unintended pregnancies were non use of contraception (34.9%) and contraceptive failure (34.9%). Similarly, 12.3% previously induced an abortion, with 35.7% of these experiencing various complications, most commonly pain and bleeding (Amina and Regnim, 2014). Another study, also carried out in Nigeria revealed that more than one-third (34.5%) of University undergraduates had had sexual intercourse (Olajide et al., 2012). According to NDHS 2013, 24% of women report that they had sexual intercourse by age 15 and 54% by age 18. Approximately 7 in 10 Nigerian women reported having had sexual intercourse by age 20. This was further corroborated by recent sexual activity of women. 60% of women age 15-49 were sexually active in four weeks prior to the interview.

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associated with the use of ECP (Amina and Regnim, 2014). Obionu (1998) also revealed that 29% of study participants who knew of an EC product expressed belief that its use was associated with infertility.

Only 15.4% of the 246 students who had heard about EC in the study conducted in Ethiopia had ever used it. Majority (71.1%) of the students had used it only once while 28.9% utilized it twice and students who had ever used EC obtained it from nurses (68.4%) and directly from pharmacists (31.6%). Reasons for utilizing EC include miscalculation of their safe sexual time (63.2%), missed pills (15.8%), failure of withdrawal method (13.2%) and condom breakage (7.9%). Majority (65.8%) of the students had EC recommended to them by health professionals, followed by male partner (23.7%) and a friend (10.5%). Challenges to procurement of EC among sexually active respondents were unavailability in pharmacies (56.6%), fear of stigma (23.3%) and lack of knowledge (15.5%). Few (4.7%) respondents also reported that exhorbitant price of EC was a challenge to procurement (Nibabe and Mgutshini, 2014). Age of respondents and marital status had statistically significant association with utilization of EC; students within the age group of 22-23 were more likely to utilize EC than students below the age group (OR: 2.9, 95% CI: 1.01-8.37) and married students were less likely to utilise EC than unmarried students (OR: 0.36, 95% CI: 0.17-0.76).

Another Ethiopian study conducted among 830 female college students to assess their level of awareness and utilization of EC revealed that 524 (62.9%) have an intention to use EC in the future when need arises and 634 (76.1%) of the study respondents were willing to advice their peers to use EC whenever they faced a problem that require its use (Mengistu, 2007). Similarly, majority (88.3%) of the respondents in the study conducted by Thapa (2013) among nursing personnel reported that they would also recommend emergency contraception pills to a friend, 56.7% stated that providing ECP would not discourage the use of other contraceptive methods, 50% mentioned that easy availability of EC does not increase risky sexual behaviour and 80% mentioned the ECP is safe for its uses

A Nigerian study (Olojide et al., 2012) reported that 26% of their sexually active respondents had ever used EC and postinor (87.3%) was the most frequently used followed by the IUCD (36%)

Other materials used as EC by the respondents were purgatives (1.8%) and alcohol mixed with lime (5.4%).

Some health care providers, parents and policy-makers fear that knowledge or use of ECPs may lead to more unprotected intercourse and a decrease in the use of a regular method of contraception. This assertion was buttressed by a study in Kenya which found that providers and others believe that ECPs will discourage regular contraceptive method use among youth (Muia, Ellertson, Lukhando, Flul, Clark et al., 1999). However, recent overview of the literature on emergency contraception found that these assumptions and concerns are generally not true (Conard and Gold, 2004). Studies in India, Ghana, Mexico, the United Kingdom, and the United States suggest that advance provision of ECPs is not associated with abandonment of regular contraception (Ellertson, Ambardekar, Hedley, Coyaji, Trussell et al., 2001) but might in fact provide an entry point to using contraception, because youth seeking ECPs sometimes receive counselling about previously unfamiliar contraceptive methods (Parker, 2005). Among 205 university students in Jamaica who had used ECPs, 55% reported that they started using a regular method of contraception after using ECPs for the first time (Sorhundo, Becker, Fletcher and Garcia, 2002). A 2004 study of adolescents in Mexico also found that EC use had no adverse effects on condom use, but rather was associated with an increased probability of condom use and an increased perceived capacity to negotiate condom use (Walker, Torres, Gutierrez, Flemming and Bertozzi, 2004).

Some providers also fear that repeat use of ECP's presents health risks or will encourage women to use EC routinely. However, repeat use of ECPs poses no health risks, according to WHO, which has placed repeat ECP use in Category 1 of its medical eligibility guidelines, indicating that there is no restriction for the repeat use of this contraceptive method (WHO, 2000). WHO guidelines on ECP service delivery state, "Although frequent use of ECPs is not recommended, repeat use poses no health risks and (health risks) should never be cited as a reason for denying women access to treatment" (WHO, 1998).

## 2.6 Legal and Social Restrictions of EC Provision to young persons

Young persons' awareness of and access to ECPs are determined by a number of legal and societal factors. ECPs are not included in many national family planning programs and are available by prescription only in many countries. The high cost and limited availability of dedicated ECPs can deter adolescents from using them. The legal status of ECPs varies by country. In many countries, especially Nigeria, lack of government policy about the method leaves providers unclear about its legal status and insufficiently informed to recommend it to women when needed (International Consortium for Emergency Contraception (ICEC), 2003). Clear policies to promote provision of ECPs would help ensure availability when needed (Parker, 2005).

Efforts to make ECPs widely available often depend on public and private sector recognition that ECPs are a contraceptive method and not a form of abortion (Centre for Reproductive Rights, 2000). Widely accepted views of the medical community are reflected in the WHO definition of emergency contraception as "contraceptive methods that can be used by women in the first few days following unprotected intercourse to prevent an unwanted pregnancy (WHO, 2000). Once implantation has taken place. ECPs are ineffective and do not interfere with an established pregnancy (ICEC, 2003). Many countries have explicitly approved ECPs as a contraceptive method by licensing existing drugs or approving new drugs for use as EC; by incorporating ECPs into government-regulated family planning services and protocols for treating sexual assault survivors; or by endorsing ECPs through publicity and information campaigns (ICEC, 2003).

A global review found that many countries with highly restrictive abortion laws do permit EC, including Argentina, Brazil, Colombia, El Salvador, Kenya, Pakistan, Thailand, and Venezuela (Rahman, Katzive and Henshaw, 1998). And in Nigeria, the same is applicable. The acceptance of ECPs in these countries reveals an understanding that EC is a means of preventing pregnancy, not abortion (Parker, 2005).

## 2.7.0 Conceptual Framework : The PRECEDE model

PRECEDE model was selected to guide this study. The PRECEDE framework is used as a model which is useful in the diagnosis of behavioural antecedents of the female student nurses. According to the model, behavioural antecedents could be categorized into three which are predisposing factors, enabling factors and reinforcing factors.

The acronym PRECEDE stands for Predisposing, Reinforcing and Enabling Causes in Educational Diagnosis and Evaluation. The model was developed by Green, Kreuter and others. It has served as a conceptual framework in health education planning aimed at diagnosing the health problems of a community, understanding the factors that influence the people's behaviour and developing intervention to promote healthy behaviour (Green and Kreuter, 1999). The model consists of three groups of factors namely predisposing, enabling and reinforcing factors which can influence behaviour. These factors are often called behavioural antecedent factors.

### Predisposing Factors

The predisposing factors are behavioural antecedent factors that make any given health-related behaviour more (or less) likely to occur. They are factors which must be present before a behavioural decision takes place (antecedent). Predisposing factors include knowledge, attitudes, values and inherent qualities which are useful for throwing light on the issue of emergency contraception among nurse's students. Predisposing factors that were considered in the study included awareness and knowledge of emergency contraception.

### Enabling Factors

These are factors that make any given health-related behaviour more (or less) likely to occur. These are factors which are present before the behavioural decision takes place (antecedent). These factors include time, skills, place, health service, laws, policies and procedures. With respect to time as an enabling factor, the timing of use of emergency contraception might be delayed beyond when it will be most effective which may lead to unintended pregnancy. Some variables related to enabling factors measured in the study were availability of emergency contraceptives pills, use of other contraceptive methods, skills related to communication of refusal to have unprotected sex and insisting on use of contraceptives methods.

**Reinforcing Factors**

These are factors that are related to the influence of significant others such as peers, parents, other relations and religious bodies. For instance peers may encourage sex without contraception and believe that contraception reduces sexual pleasure not minding consequences of unprotected sex. Also, friends and family members may discourage or influence the use of emergency contraception. Issues on reinforcing factors considered in this study included societal attitude, and response to emergency contraception, accepting emergency contraception as a method of preventing unintended pregnancy and a way of reducing unsafe abortion by both the media and religious organization and not regarding emergency contraception as an abortifacient.

Using this model, the framework was operationalised by formulating a number of questions on the level of student nurses knowledge and they were requested to select an option that was provided. Among this question were- ever heard of EC, source of information, ability to differentiate EC from abortion drug, it effectiveness, maximum time use the drug and whether EC could disrupt already established pregnancy. Student nurses attitude was also tested with some attitudinal questions that are directed on their moral and religious beliefs toward the use of EC. They were asked whether they have moral or religious objection to dispensing ECP as over-the-counter drug, and that it should only be given in case of rape or incest. Respondents were to agree, disagree or be undecided to these statements.

Question on sexual behaviour of students nurses were also asked- if they ever had sex, how frequent and if they have a regular sexual partner and if they use any methods of contraception with option, yes or no, and open ended question provided. The final part, focused on respondents use of EC. In this section, yes or no question were ask and also respondent were ask to comment freely to the open ended questions. Some of these questions include: how often do you use EC, how long and if you find EC easier and effective to other methods of contraception. All these were used as determining factors in use of emergency contraception among female student's nurses. (see appendix 1 for details)

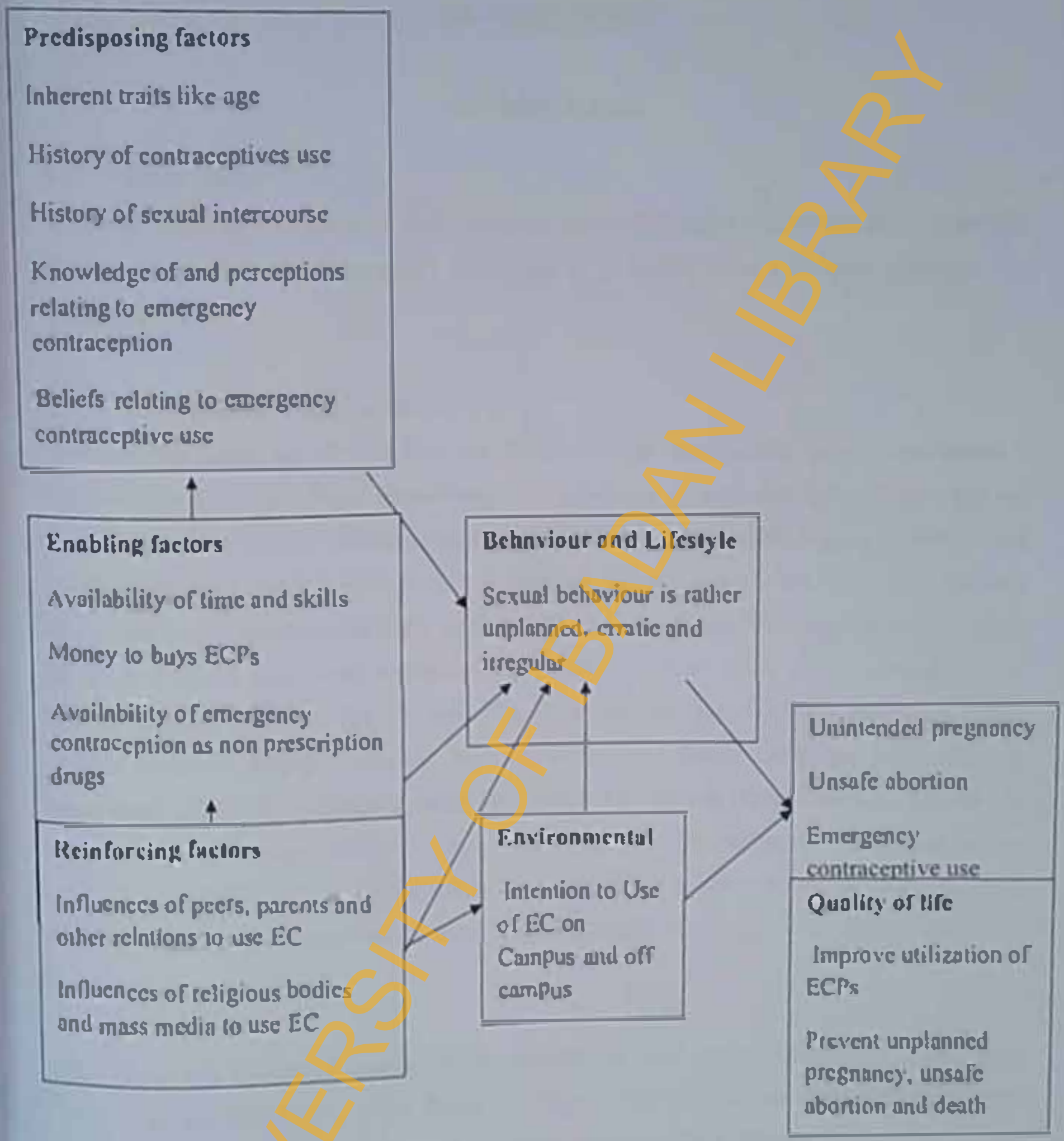


**Figure 2.2: Schematic application of PRECEDE model to the study.**

# CHAPTER THREE

# METHODOLOGY

## 3.1 Study Design

The study employed a descriptive cross-sectional design. The study was conducted to investigate the knowledge and use of emergency contraception by female nurse's students in Ibadan, Oyo State, Nigeria.

## 3.2 Description of Study Area

Ibadan is the capital city of Oyo state and the third largest metropolitan area by population in Nigeria after Lagos and Kano respectively. Its' population is estimated to be about 3,800,000 according to NPC (2006) estimates. Ibadan is located in south-western Nigeria, 128km inland northeast of Lagos and 530km southwest of Abuja the federal capital. It is a transit point between the coastal region and the areas to the north. Ibadan has eleven Local Governments (LGs), which is the third tier of government in Nigeria. Five of the 11 LGs are urban while the remaining six are semi- urban in nature. The five urban Local Government Areas (LGAs) are Ibadan North, Ibadan Northeast, Ibadan Northwest, Ibadan Southeast and Ibadan Southwest LGAs. The six semi-urban LGAs are; Akinyele, Egbeda, Ido, Lagelu, Ona-ara and Oluyole (Federal Republic of Nigeria Official Gazette 2007). University of Ibadan, the first university established as the college of the University of London and later Converted into an autonomous university in 1962. They are several government and private owned hospitals in Ibadan, some having their own school of nursing.

The study was conducted among nursing students in four nursing institutions which was categorized into four main group in Ibadan namely, school of nursing university college hospital both basic and post basics (peri-operative nursing school, nursing tutors school, public health nursing school, and school of occupational health nursing), Oluyoro catholic hospital school of midwifery, Oyo state school of nursing and midwifery, eleyele and among university of Ibadan nursing students.

The University College Hospital (UCH) which was established by an act of parliament in November 1952, in response to the need for training of medical personnel and other health care

professionals. The School of Nursing when founded in 1952 had a temporary site at Elcycle io Ibadan before it was then moved to its current location at Queen Elizabeth road, Ibadan north LGA in 1957. Diploma and professional courses such as Nurse, Midwife, Public health nurse and nurse tutor courses are offered; as well as post registration courses in nursing e.g Peri Operative and Occupational Health Nursing (www.uch.gov).

The Department of Nursing, University of Ibadan was established in 1965 as a joint effort of the Federal Government of Nigeria, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), upon recognition of the vital and leadership roles needed by nurses in health care. The 3 year B.Sc programme focused on training nurse leaders in education and administration in the sub-Saharn Africa, before it was later converted into a 5 year generic programme (BNSc) that started in 1995 while the 3 years BSc was phased out. The department of nursing in university of Ibadan is situated in Ibadan north LGA. (www.ui.edu.ng)

School of Nursing. Elcycle was founded in the year 1949; it is the first school of nursing in Nigeria during the colonial era. It was known as a preliminary training school, where the student nurses were opportune to acquire theoretical knowledge in the school for only six months, after which they were posted out to hospitals in the then western region of Nigeria to acquire practical skills. The school of midwifery Elcycle was established in 1954 in Adeoyo Maternity Hospital but as been relocated to Elcycle. The school currently only trains post basic midwives, obstetrics and gynaecology students (www.oyostate.ng.gov).

Oluyoro School of midwifery is a catholic owned private school for training post basic midwifery. The school was founded in 1972 while the hospital itself was established in 1956. It is situated in Ibadan Northeast LGA (source matron of the hospital).

Table 3.1Distribution of number of respondents in each institution/schools

| Nursing Schools/Institution | No | % |
|---|---|---|
| School of Nursing, UCH | 118 | 23.7 |
| Oyo State School of Nursing, Eleyele. | 105 | 21.1 |
| Department of Nursing, UI | 96 | 19.3 |
| **Post-basic Nursing Schools | 179 | 35.9 |
| Total | 498 | 100 |

**indicates peri-operative nursing, occupational health, midwifery {uch, eleyele and oluyoro}, nurse tutor school and public health nursing school respectively.

## 3.3 Study Population

The study population consisted of all registered female students nurses in the selected nursing schools in Ibadan as at 2013 when the study was conducted.

### 3.3.1 Inclusion Criteria

All female students nurses who are undergoing basic and post basic nursing studies in the various nursing institution in Ibadan.

### 3.3.2 Exclusion Criteria

All female students nurses who do not consent and are undergoing basic and post basic nursing studies in the various nursing institution in Ibadan.

## 3.4 Sample Size

Total sampling of all consenting female student's nurses was used in the study.

## 3.5 Instrument for data collection

A 63- item questionnaire was used for data collection (see Appendix I). The questionnaire was divided into the following five sections:

Section 1: focused on the socio-demographic information of the respondents.

Section 2: Contained sixteen questions that were used to assess the knowledge of respondent's on EC. Each correct response given by the respondents earned one point, where as wrong responses were scored as zero; thereby making a total of 16-point knowledge scale. Scores of <6, 6-11 and >11 were categorized as poor, fair and good knowledge respectively.

Section 3: was used to obtain information on the sexual behaviour of the respondents.

Section 4: was used to obtain information on use of EC among the respondents.

## 3.6 Validity of the Instrument

In other to ensured validity and reliability of the instrument for data collection, several steps were considered. Firstly, relevant literatures were consulted in developing the instrument. Secondly, the instrument was reviewed by peers, lecturers, experienced researchers and supervisor and necessary corrections were made. Thirdly, the research assistant were trained

adequately well for main data collection. Fourthly, pre-testing the instrument was done using students nurses of Bowen Teaching Hospital, Ogbomoso on the 23rd of May, 2013. The pre-test exercise served as pilot study for the data collection procedures. It helps in validity of the instrument and in determining problems which need overcome during the main data collection process. The pre-test enable researcher to determine trend in the responses of the participants, their level of understanding of the items in the research instruments and the duration of time, it will take to administer the instruments.

### 3.7 Reliability of the Instrument

The instrument was pretested at Bowen University Teaching Hospital Ogbomosho among student's nurses undergoing training in the institution. The internal consistency (reliability) of the instrument was obtained using Cronbach's Alpha statistics after coefficient reliability was calculated using SPSS software. This was done by administering the questionnaire to 10% of the study population. A reliability co-efficient of 0.78 was obtained, indicating that the instrument was reliable.

### 3.8 Method of Data Collection

Four (4) female's research assistants were recruited to assist the principal investigator in the administration of the questionnaire among the respondents. The research assistants were first of all trained on the purpose of the study, interpersonal communication and data collection Procedures. The mode of administration of questionnaires as well as ethical issues such as confidentiality and informed consent were also discussed during the training.

The study population was informed that participation in the study was voluntary. The questionnaire were self administered, however research assistants and the principal investigator were on ground to clarify any issue in the questionnaire respondents raised. Questionnaire were administered simultaneously to the participants, filled and collected immediately from respondents, this was to prevent consultation with relevant materials that could be used to answer the question on knowledge of EC section (section 2); and also to ensure all questionnaires were returned.

## 3.9 Data Management and Statistical Analysis

Data collected were carefully checked for completeness and accuracy, serial number was assigned to each questionnaire for easy identification and for correct data entry.

Section 1 of the instrument which contained socio-demographic variables such as age, religious beliefs, marital status, ethnicity, years of studies, nursing schools were analyzed using descriptive statistics such as mean, proportion, percentages, and frequencies.

Section 2 was used to assess the knowledge of EC among respondent using a sixteen point knowledge scale. Knowledge was analyzed using descriptive statistics and was further subjected to inferential statistics using Chi-square. Chi-square was used to analyze the relationship between knowledge of EC and socio-demographic variables. A 16-point knowledge scale was used. Scores of <6, 6-11 and >11 were categorized as poor, fair and good knowledge respectively. Questions 14-29 on the questionnaire were used to compute the knowledge scale (See appendix 1 for detailed information).

Section 3 was used to obtained information on the respondents' sexual behaviour and was analyzed using descriptive statistics.

Section 4 focused on the use of EC among the respondents and was analyzed using descriptive and inferential statistics. Chi-square was used to find the association between knowledge, experience of unplanned pregnancy and the use of EC. The use of EC an unplanned pregnancy was further subjected to multiple regression analysis.

## 3.10 Ethical Considerations

Ethical approval was obtained from the UI/UCH Institutional Review Committee (IRC) (see Appendix 2). The respondents' consent was obtained after provision of adequate, clear and complete information about what the study entailed. Permission to carry out the study was also obtained from the school authorities.

Respondents were also informed that participation is voluntary and that data collected would be used mainly for research purposes. Anonymity and confidentiality of responses was also assured.

# CHAPTER FOUR

# RESULTS

## 4.1 Demographic Characteristics of Respondents

Table 4.1 shows the socio-demographic characteristics of the respondents. The ages of the respondents ranged from 17 – 40 years with a mean age of 22.4±4.2 years. Majorities (82.1%) of the respondents were single, 16.5% were married and 1.4% was cohabiting. On the religion practiced by the respondents, 59.0% were Pentecostals, 14.3% were Muslims, 12.9% were Catholics and 10.8% were Protestants. Majority (81.5%) were from the Yoruba ethnic group while others were Igbo (12.9%) and Hausa (2.8%). Few (2.8%) were also from the minority ethnic groups of Ijaw, Nupe and Itsekiri. More than one-third (35.9%) of the respondents were in the Post-basic Nursing Schools while others were from School of Nursing, UCH (23.7%), Oyo State School of Nursing, Eleyele (21.1%) and Department of Nursing, UI (19.3%).

Table 4.1: Respondents' Socio-demographic Characteristics (N=498)

| Variables | No | Percentages |
|---|---|---|
| **Age** | | |
| <=19 | 120 | 24.1 |
| 20-29 | 340 | 68.3 |
| >=30 | 38 | 7.6 |
| **Marital status** | | |
| Single | 409 | 82.1 |
| Married | 82 | 16.5 |
| Co-habitation | 7 | 1.4 |
| **Religious affiliation** | | |
| Catholics | 64 | 12.9 |
| Protestant | 54 | 10.8 |
| Pentecostals | 294 | 59.0 |
| Islam | 71 | 14.3 |
| Traditional | 3 | 0.6 |
| Jehovah witness | 12 | 2.4 |
| **Ethnicity** | | |
| Yoruba | 406 | 81.5 |
| Igbo | 64 | 12.9 |
| Hausa | 14 | 2.8 |
| Others* | 14 | 2.8 |
| **Nursing Schools/Institution** | | |
| School of Nursing, UCH | 118 | 23.7 |
| Oyo State School of Nursing, Elcycle. | 105 | 21.1 |
| Department of Nursing, UI | 96 | 19.3 |
| Post-basic Nursing Schools | 179 | 35.9 |

*Other ethnic groups were: Ijaw, Nupe and Ilaekiri

## 4.2 Respondents' Knowledge of Emergency Contraception

Table 4.2. and Figure 4.1 shows result on respondents' awareness and knowledge of Emergency Contraception. Respondents' knowledge of EC was generally poor, accounting for 72.1% of the total respondents. Only 3.4% of the respondents had good knowledge of EC. Majority (84.5%) of the students' nurses were aware of EC and their major source of information was through formal education/training (93.0%), media (32.8%), internet (31.1%) and magazine (28.0%). Only 5.9% of the students heard about EC from friends. Most (98.6%) of the respondents reported that they knew where EC can be obtained. Majority (78.5%) stated that EC can be obtained from hospitals, 67.1% mentioned pharmacy followed by private clinic (55.6%) and from social worker (28.0%).

Table 4.2: Students Nurses' Knowledge about Emergency Contraception (N= 498)

| Variables | Frequency | Percentages |
|---|---|---|
| **Ever heard of emergency contraception** | | |
| Yes | 421 | 84.5 |
| No | 77 | 15.5 |
| **Source of information about EC* N= 421**** | | |
| Formal education/training | 390 | 93.0 |
| Media | 138 | 32.8 |
| Magazine | 118 | 28.0 |
| Internet | 131 | 31.1 |
| Friends | 25 | 5.9 |
| **Knowledge of where to obtain EC** | | |
| Yes | 415 | 98.6 |
| No | 6 | 1.4 |
| **Places EC can be obtained* N= 415++** | | |
| Hospital | 325 | 78.5 |
| Social worker | 116 | 28.0 |
| Private clinic | 230 | 55.6 |
| Pharmacy | 278 | 67.1 |
| Supermarket | 83 | 20.0 |
| PMV | 4 | 1.0 |

*Multiple responses were present

N= 421**

N= 415++


Fig 4.1 Knowledge of emergency contraception among respondents

## 4.3 Respondents' Sexual Behaviour

Majority (61.4%) of the respondents had a boyfriend and almost half (45.7%) of them had ever had sex. When asked to state the last time they had sex, one-third (33.2%) reported that they had sex one month prior to the interview while more than 40% had sex few days to a week prior to the interview. Half (52.8%) of the students reportedly had sex with their boyfriends, 38.3% with their husband and 2.3% with their fiancé. Few (6.2%) of the respondents' last sexual partners were their ex boyfriend (0.5%) or an acquaintance (6.1%). Majority (84.4%) of the sexually active respondents had regular sexual partner. Of those who had regular sexual partner, majority (85.8%) had only one partner while 7.9% and 6.3% had two and three or more partners respectively (Table 4.3.0 ).

Majority (65.5%) of the respondents used contraception at their last intercourse while one-third (34.5%) of them did not use any. Of those who used contraception at last intercourse, the condom (70.3%) was the commonest contraceptive used followed by the pills (12.2%). Some of the student nurses also used either the withdrawal (2.7%) or the calendar method (2.7%). Twenty four percent of the respondents had experienced unplanned pregnancy. Of these pregnancies, 60.4% resulted into induced abortion, one-third (34.0%) resulted into the child being born alive, 1.9% resulted in the child being born dead and 3.7% were still pregnant (Table 4.3.1 and Figure 4.2 ).

Most respondents within this age range of 20-29 years had (64.2%) one sexual partners. More so, this age group also accounts for more respondents with more than one sexual partners, two (4.6%) and three or more (5.1%) while age range 19 below and 30 above accounted for more (0.5%) and (1.0%) respectively (See Tab 4.4.0).

Single respondents had more than one sexual partners two (5.1%) three or more (4.6%) compared to married respondents with two (3.6%) and three or more (1.0%) respectively (see Tab 4.4.0)

Table 4.3.0: Respondents' Sexual Behaviour

| Variables | Frequency | Percentage |
|---|---|---|
| **Time of last sex prior to interview (N= 226)** | | |
| Few days | 63 | 27.9 |
| One week | 34 | 15.0 |
| One month | 75 | 33.2 |
| 6 months | 14 | 6.2 |
| A year | 40 | 17.7 |
| **Last sexual partner N = 214** | | |
| Husband | 82 | 38.3 |
| Boyfriend | 113 | 52.8 |
| Acquaintance | 13 | 6.1 |
| Fiancée | 5 | 2.3 |
| Ex boyfriend | 1 | 0.5 |
| **Have a regular sexual partner N= 225** | | |
| Yes | 190 | 84.4 |
| No | 35 | 15.6 |
| **Number of regular sexual partners N= 190** | | |
| One | 163 | 85.8 |
| Two | 15 | 7.9 |
| Three or more | 12 | 6.3 |

Non responses were excluded

Table 4.3.1: Respondents' Sexual Behaviour (N= 226)

| Varinbles | Frequency | Percentage |
|---|---|---|
| **Use of contraception at last intercourse** | | |
| Yes | 148 | 65.5 |
| No | 78 | 34.5 |
| **Had experienced unplanned pregnancy** | | |
| Yes | 53 | 24.0 |
| No | 168 | 76.0 |
| **Outcome of the pregnancy** | | |
| Child born alive | 18 | 34.0 |
| Child born dead | 1 | 1.9 |
| Induce Abortion | 32 | 60.4 |
| Still pregnant | 2 | 3.7 |
| No responses were excluded | | |

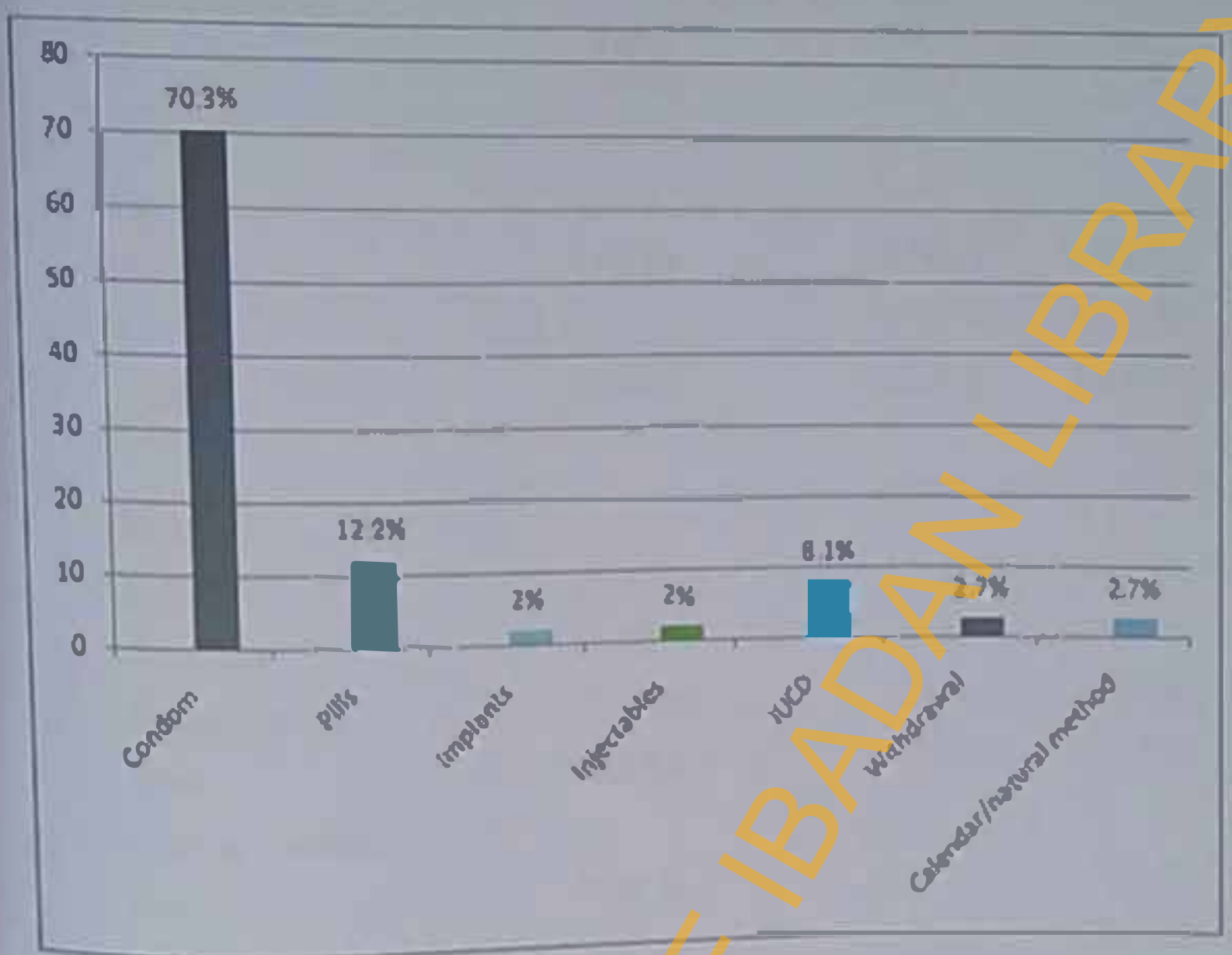


Figure 4.2 Types of contraception used

Table 4.3.2: Respondents' ever had sex and demographic characteristics

| Characteristics | Ever had Sex | | |
|---|---|---|---|
| | Yes N (%) | No N (%) | Total |
| **Age** | | | |
| <=19 | 7 (43.8) | 9 (56.2) | 16(100) |
| 20-29 | 87 (52.4) | 79 (47.6) | 166(100 |
| >=30 | 16 (43.2) | 21 (56.8) | 37(100) |
| **Religion** | | | |
| Catholics | 19 (52.8) | 17 (47.2) | 36(100) |
| Protestant | 10 (43.5) | 13 (56.5) | 23(100) |
| Pentecostals | 57 (47.9) | 62 (52.1) | 119(100 |
| Islam | 18 (54.5) | 15 (45.5) | 33(100) |
| **Years in training** | | | |
| First year | 42(49.4) | 43(50.6) | 85(100) |
| Second year | 25(67.6) | 12(32.4) | 37(100) |
| Third year | 25(48.1) | 27(51.9) | 52(100) |
| Fourth year | 13(48.1) | 14(51.9) | 27(100) |
| Fifth year | 5(27.8) | 13(72.2) | 18(100) |
| **Institution** | | | |
| U.C.H SON | 18(47.4) | 20(52.6) | 38(100) |
| Eleyele SON | 21(44.7) | 26(55.3) | 47(100) |
| University of Ibadan | 25(55.6) | 20(44.4) | 45(100) |
| Post Basic SON | 46(51.7) | 43(48.3) | 89(100) |

## 4.4 Respondents' use of Emergency Contraception

This study reveals that half (50.2%) of the sexually active respondents had ever used EC and the commonest brand used was the postinor 2 (72.2%) followed by postinor only (21.3%) and IUCD (4.6%). Forty five percent of the student nurses had been using EC for less than a year while 36.3% of them had been using it for a year or more. A total of 41.8% had used EC within the three months prior the interview. Many (40.6%) of the respondents used EC less than 12 hours after unprotected sex while about one-third (32.7%) used it within 12-24 hours. Few (6.9%) of them used it after 72 hours of having unprotected sex (Table 4.4.0).

Majority (81.1%) of the student nurses who had ever used EC obtained the EC from the pharmacy shop/chemist while only 17.9% obtained it from the hospital. On the decision to use EC, more than half (52.8%) of the respondents made the decision with their sexual partner, 46.3% made the decision alone and 0.9% reported that the decision was made by their partner alone. Majority (87.0%) of the respondents reported that the EC prevent pregnancy while only 13.0% reported that it failed to work. When compared to other contraceptive methods, 77.1% stated that EC was easier and effective. When asked to state why EC was not as effective as other contraceptive methods, many (47.8%) reported that it does not work at all times. Only 28.8% were currently using a contraceptive method and condom (53.8%) was the commonly used method (Table 4.4.1).

Table 4.4.0: Use of Emergency Contraception by Female Students Nurses (N= 110)**

| Variables | No | Percentage |
|---|---|---|
| **Brand of EC used** | | |
| Postinor 2 | 78 | 72.2 |
| Postinor only | 23 | 21.3 |
| IUCD | 7 | 6.5 |
| **Duration of use of EC** | | |
| Less than a year | 51 | 45.1 |
| One or more years | 41 | 36.3 |
| Many years back | 1 | 0.9 |
| Don't know | 20 | 17.7 |
| **Used EC in the last 3 months** | | |
| Yes | 46 | 41.8 |
| No | 64 | 58.2 |
| **Interval between sex and use of EC** | | |
| Less than 12hrs | 41 | 40.6 |
| 12-24 hours | 33 | 32.7 |
| 25-48 hours | 10 | 9.9 |
| 49-72 hours | 10 | 9.9 |
| Above 72 hrs | 7 | 6.9 |

No responses were excluded

Table 4 .4 .1 : Use of Emergency Contraception by Female Students Nurses (N= 110)

| Variables | No | Percentage |
|---|---|---|
| **Where did you obtain EC** | | |
| Pharmacist/chemist | 86 | 81.1 |
| Hospital | 19 | 17.9 |
| Supermarket | 1 | 0.9 |
| **Whose decision is it to use EC** | | |
| Self alone | 50 | 46.3 |
| Both partner | 57 | 52.8 |
| Partner alone | 1 | 0.9 |
| **Outcome of the EC use** | | |
| Worked as expected | 94 | 87.0 |
| Failed to prevent pregnancy | 14 | 13.0 |
| **EC easier and effective to use compare to other methods** | | |
| Yes | 84 | 77.1 |
| No | 25 | 22.9 |
| **Why was EC not as effective as other methods** | | |
| It does not work at all times | 11 | 47.8 |
| Negative effect | 4 | 17.4 |
| Fear of side effects | 8 | 34.8 |

*No responses were excluded

### 4.5 Factors Influencing Emergency Contraception Usage among Female Students' Nurses

Almost half (46.3%) of the student nurses were willing to use or recommend EC to a friend, 23.9% reported unwillingness to use or recommend EC while 29.8% were not sure if they would use or recommend it (Table 4.5).

Table 4.5 also presents reasons adduced for willingness to use or recommend the use of EC and they included that it prevents unwanted pregnancy (49.4%), it's effective and does not delay the occurrence of pregnancy when needed (14.6%) and it prevent diseases (9.2%). Respondents who were unwilling to use or recommend EC stated that the reasons for their disposition were fear of side effects (29.6%), lack of adequate knowledge of EC (27.6%), preference for abstinence based on its effectiveness (17.3%) and infertility due to prolonged use (7.1%).

Table 4.5: Factors influencing use of EC by Female Student Nurses

| Variables | Frequency | Percentage |
|---|---|---|
| **Will you be willing to use or recommend EC to a friend N= 419** | | |
| Yes | 194 | 46.3 |
| No | 100 | 23.9 |
| Not sure | 125 | 29.8 |
| **Why are you willing to use or recommend EC N= 164** | | |
| To prevent diseases and pregnancy | 15 | 9.2 |
| To prevent unwanted pregnancy | 81 | 49.4 |
| To prevent abortion | 14 | 8.5 |
| It is indicated as EC | 8 | 4.9 |
| Effective and ensure quick return to fertility | 24 | 14.6 |
| In case of rape | 14 | 8.5 |
| Prolong use has side effects | 8 | 4.9 |
| **Reasons for unwillingness to use or recommend EC N= 98*** | | |
| It is for those that practice unprotected sex | 8 | 8.2 |
| Don't really have adequate knowledge about it | 27 | 27.6 |
| It causes infertility if use for a long period | 7 | 7.1 |
| Not advisable to use because the risk outweigh the benefit | 5 | 5.1 |
| Because of side effect and adverse drug reaction | 29 | 29.6 |
| I will preach abstinence because it not effective | 17 | 17.3 |
| Because it can introduce infection | 5 | 5.1 |

*No responses were excluded **Multiple responses were allowed

## 4.6 Test of Hypotheses

Based on the research questions stated in this study, four hypotheses were formulated and tested. This is therefore presented as follows:

### 4.6.1 Hypothesis one

There is no significant relationship between demographic factors (age, marital status and religion) and knowledge of EC by female student nurses.

Table 4.6 shows the respondents' knowledge of EC by selected demographic characteristics. The age categories ≤19, 20-29 and ≥30 had mean EC knowledge score of 6.3±2.59, 6.6±2.3 and 7.6±2.3 respectively (P>0.05). Overall, there was no significant relationship between knowledge of EC and age of respondents.

Respondents mean knowledge scores of EC according to their marital status were, single 6.6±2.4; married : 6.5±2.3 and cohabiting : 7.0±4.2 respectively (P>0.05). There was no significant relationship between knowledge of EC and marital status of respondents

According to religion, the mean knowledge score of EC among Catholics were higher (7.5±2.4) compare to those of protestant (6.3±2.2); Pentecostals (6.6±2.4) and Islam (6.3±2.3). There were no significant differences in the group. (P>0.05).

**The comparison of mean knowledge score of EC by socio- demographic characteristics.**

The age categories ≤19, 20-29 and ≥30 had mean EC knowledge score of 6.3±2.59, 6.6±2.3 and 7.6±2.3 respectively with no significant difference (P>0.05). Respondents mean knowledge of EC according to their marital status were, single 6.6±2.4; married: 6.5±2.3 and cohabiting: 7.0±4.2. There were no statistically significant differences between the groups. (P>0.05).

According to religion, the mean knowledge score of EC among Catholics were higher (7.5±2.4) compare to those of protestant (6.3±2.2); Pentecostals (6.6±2.4) and Islam (6.3±2.3). There were no significant differences in the group. (P>0.05). Respondents mean knowledge score of EC with regards to their institutions showed that UI students' nurses had the highest mean knowledge score (7.4±2.6) followed by students of Eleyele school of Nursing (6.6±2.3). students of Post basic schools of nursing (6.37±2.12) and students of University College Hospital school of nursing (5.90±2.29). The relationship between respondents' institution of learning and knowledge of EC was statistically significant (P=0.012). This implies that there was variation on knowledge of EC based on respondents' institution of learning. The result revealed that U.I students were more knowledgeable followed by students of eleyele school of nursing and others.

Table 4.6: Respondents' mean knowledge score on emergency contraceptives by demographic characteristics

| Characteristics | No | Mean | SD | F-test | P-Value |
|---|---|---|---|---|---|
| **Age** | | | | | |
| <=19 | 40 | 6.33 | 2.59 | 1.633 | 0.198 |
| 20-29 | 158 | 6.58 | 2.27 | | |
| >=30 | 16 | 7.56 | 2.34 | | |
| **Marital Status** | | | | | |
| Single | 169 | 6.65 | 2.35 | 0.231 | 0.875 |
| Married | 42 | 6.48 | 2.33 | | |
| Cohabitation | 3 | 7.0 | 4.24 | | |
| **Religion** | | | | | |
| Catholics | 28 | 7.54 | 2.38 | 1.479 | 0.210 |
| Protestant | 16 | 6.31 | 2.15 | | |
| Pentecostals | 129 | 6.57 | 2.40 | | |
| Islam | 34 | 6.27 | 2.30 | | |
| **Institution** | | | | | |
| U.C.H SON | 43 | 5.90 | 2.29 | 3.717 | 0.012 |
| Eleyele SON | 50 | 6.64 | 2.33 | | |
| UI | 55 | 7.40 | 2.59 | | |
| Post-Basic SON | 66 | 6.37 | 2.12 | | |

### 4.6.2 Hypothesis Two

There is no significant relationship between demographic factors (age, marital status and religion) and the use of emergency contraception by female student nurses in selected study locations in Ibadan.

Table 4.7 shows the relationship between selected demographic variables and use of EC. The proportion of respondents who had used EC among those aged ≤19, 20-29 and ≥30 were 43.8%, 52.4% and 43.2% respectively. Overall, there was no significant association between age of respondents and their use of EC.

The proportion of student nurses who were cohabiting and had used EC (75.0%) was higher than those who had used it among the single (49.3%) and married (50.6%) respondents. There was however no significant relationship between respondents' marital status and use of EC

More Muslims (54.5%) had used EC followed by Catholics (52.8%), Pentecostals (47.9%) and Protestants (43.5%). There was also no significant relationship between religion and use of EC.

Since there was no significant relationship between demographic characteristics and use of EC, the null hypothesis failed to be rejected.

Table 4.7: Respondents' use of EC by demographic characteristics

| Characteristics | Ever used EC | | Total | p-value |
|---|---|---|---|---|
| | Yes N (%) | No N (%) | | |
| **Age** | | | | |
| <=19 | 7 (43.8) | 9 (56.2) | 16(100) | $\chi2$= 1.307 |
| 20-29 | 87 (52.4) | 79 (47.6) | 166(100 | P=0.52 |
| >=30 | 16 (43.2) | 21 (56.8) | 37(100) | |
| **Marital status** | | | | |
| Single | 68 (49.3) | 70 (50.7) | 138(100 | $\chi2$= 1.371 |
| Married | 39 (50.6) | 38 (49.4) | 77(100) | P=0.71 |
| Co-habitation | 3 (75.0) | 1 (25.0) | 4(100) | |
| **Religion** | | | | |
| Catholics | 19 (52.8) | 17 (47.2) | 36(100) | $\chi2$= 2.981 |
| Protestant | 10 (43.5) | 13 (56.5) | 23(100) | P=0.56 |
| Pentecostals | 57 (47.9) | 62 (52.1) | 119(100 | |
| Islam | 18 (54.5) | 15 (45.5) | 33(100) | |
| **Years in training** | | | | |
| First year | 42(49.4) | 43(50.6) | 85(100) | $x^2$ =8.244 |
| Second year | 25(67.6) | 12(32.4) | 37(100) | p=0.08 |
| Third year | 25(48.1) | 27(51.9) | 52(100) | |
| Fourth year | 13(48.1) | 14(51.9) | 27(100) | |
| Fifth year | 5(27.8) | 13(72.2) | 18(100) | |
| **Institution** | | | | |
| U.C.H SON | 18(47.4) | 20(52.6) | 38(100) | $x^2$=1.289 |
| Eleyele SON | 21(44.7) | 26(55.3) | 47(100) | p=0.73 |
| University of Ibadan | 25(55.6) | 20(44.4) | 45(100) | |
| Post Basic SON | 46(51.7) | 43(48.3) | 89(100) | |

### 4.6.3 Hypothesis three

There is no significant association between knowledge and use of EC among female student nurses.

More respondents who had fair knowledge of EC had used it (54.1%) compared to those who had used it among respondents who had poor (48.5%) and good (45.5%) knowledge. Overall, there was no significant relationship between knowledge and use of EC (Table 4.8).

Table 4.8.: Relationship between Respondents' knowledge and use of EC

| Variable | Ever used of EC | | | p-value |
|---|---|---|---|---|
| | Yes N (%) | No N (%) | Total | |
| **Knowledge of EC:** | | | | |
| Good | 5 (45.5) | 6 (54.5) | 11(100) | $\chi2$= 0.692 |
| Fair | 40 (54.1) | 34 (45.9) | 74(100) | p=0.70 |
| Poor | 65 (48.5) | 69 (51.5) | 134(100) | |
| Total | 110(50.2) | 109(49.8) | 219(100) | |

### 4.6.4 Hypothesis four

There is no significant association between use of EC and experience of unplanned pregnancy.

A higher proportion (59.5%) of respondents who had never had unplanned pregnancy had ever used emergency contraception compared with 21.2% who had ever had unplanned pregnancy.

Overall, history of unplanned pregnancy was significantly related to use of emergency contraception.

Respondents who had never used EC were 5 times more likely to have unplanned pregnancy.

# CHAPTER FIVE

# DISCUSSION, CONCLUSION AND RECOMMENDATION

## 5.1 Demographic Characteristics of Respondents

Respondents' age was ranging from 17 – 40 years old, with a mean age of 22.4±4.2 years. This is closely similar to mean age and range of respondents in Olajide et al's study (2012) among female undergraduate students in Obafemi Awolowo University, which was 21.0±2.59 and age range of 16-30 years. Majority (82.1%) of the respondents were single, from the Yoruba ethnic group (81.5%). These findings are not unusual, with regards to respondents' marital status. Ndifon, Ogaji & Etuk (2006), already revealed that female students nurses in diploma awarding institution are restricted by policy from getting pregnant whether they are married or not, hence it will be expected that most of the student would want to finish their education before marriage most likely to avoid getting pregnant.

## 5.2 Respondents' Knowledge of Emergency Contraception

Findings from this study also showed that 72.1% of the respondents had poor knowledge of EC even though 84.5% reported having heard of EC. Similar to this study's finding Ebuchi et. al (2006) reported that 81% of nurses in their study had heard about EC. According to Rahaman et al (2010), worldwide there is variation of knowledge, attitude and Practice of EC amongst health care providers. In the study carried out by Gichangi, Karanja, Kigondu, Fonck, and Temmerman (2010) among qualified nurses and nursing students in Nairobi Kenya only 48% of the respondents had heard of EC and only 2.6% had actual knowledge of EC. Rahaman et al (2010) conducted a survey among health care providers including nursing staff and also reported knowledge deficit nmong health care providers.

The most common source of information on EC cited by respondents were through their education (69.1%) followed by health facility (47.7%), media (32.8%), internet (31.1%) and magazine (28.0%) and few from their friends (5.9%). A study among medical doctors on internship in a health facility in Nigeria revealed that majority knew about ECs from medical school (95.5%) and other sources of information mentioned include journals (15.8%), media

(14.1%), seminars (11.6%), and the internet (10.6%). Rahaman et al's study also reports that the most common source (80%) of knowledge regarding EC among nurses was from doctors and health personal followed (who could most likely have been their lecturers) by electronic media (42%) and print media (19%). In Ebuchi et al's study similarly the report the most common sources of information cited were lectures and family planning workshops and seminars.

The most common source of information being reported from the above mentioned studies are from lectures/medical school is an indicator that the knowledge of EC among nurses ought to be of a high level compared to the contrarily low knowledge that is being reported in various studies alongside the findings of this study. Hence there is either a problem with what is being taught or little attention is paid to EC knowledge in the nursing schools.

Morhason-Bello et al (2014) share this view by expressing in their discussion that, there was poor knowledge of EC on regimen, optimal time to use any of the methods after unprotected sexual intercourse among medical doctors on internship. They opined that the generally low proportion of respondents who gave correct responses to these items (knowledge of EC) might be due to the quality of teaching methods or lack of adequate attention for the subject in the undergraduate medical education curriculum.

According to Ebuchi et al (2006), physicians demonstrated better knowledge and reported more frequent provision of EC method than nurses, pharmacists and community health workers. Hence, training programs on emergency contraception should target these other groups, especially because they constitute the majority of family planning service providers.

## 5.3 Respondents' Sexual Behaviour

Olajide et al., (2012) in their study among university undergraduates in Nigeria reports that more than one-third (34.5%) of University undergraduates had had sexual intercourse. Another Nigerian study revealed that about sixty percent (59.9%) of female tertiary students had ever had sex, (Amina and Regaim, 2014).

Being admitted into higher institution carries along with it some challenges that exposes youths to unhealthy lifestyles that they need to tackle with appropriate life building skills, since these

stage of their life is one in which they are partially independent to make decision that could be detrimental to their life and educational goals; one of this challenge is the choice to engage in risky sexual lifestyle.

In this study 61.4% of the respondents had a boyfriend and almost half (45.7%) of them had ever had sex. In a study conducted by Aliyu and Mburza (2007) in Nigeria among 122 student nurses in the school of nursing, University of Maiduguri, Borno State, 29.5% of the respondents were involved in premarital sexual intercourse. Though Aliyu and Mburza reported a lower figure of nurses who had ever had sex than that of this study; it is of importance to consider the social and religious norm of their study area where women marry at very young age, thereby reducing their exposure to premarital sex. Unlike the findings of Konstantinidis, Skandalak, Tzagaraki and Linardakis (2012) conducted on the sexual behaviour and contraceptive use among 358 Greek nursing students. All the students were in the first year of their study and majority (76.5%) of them had ever had sexual intercourse.

Findings of this study showed that majority (65.5%) of the respondents used contraception at their last intercourse while one-third (34.5%) of them did not use any. Of those who used contraception at last intercourse, condom (69.7%) was the commonest contraceptive used followed by the pills (11.8%). Some of the student nurses also used either the withdrawal (3.3%) or the calendar method (2.6%). Aliyu and Mburza (2007), Konstantinidis, Skandalak, Tzagaraki and Linardakis (2012) also reported that the use of condom accounted for the highest form of contraceptive used by nursing student in their study.

Though the percentages reported with regards to sexual behaviour of the respondents in these study are different from that of Desta and Regasa, (2011) study; they follow a trend in which those who had sex with one regular partner were more in number, while those who had sex with more than two partners were the least.

Out of the total sexually experienced, respondents in Desta and Regasa's study (2011) 73.8% have had sexual intercourse during the six months prior to the survey date, they opine that this can be considered as being sexually active. Going by their view, findings of this study therefore

reveals that most of the respondents who reported to have had sex can be considered as being sexually active as one-third (33.2%) reported that they had sex one month prior the interview while more than 40% of them had sex few days to a week prior the interview.

## 5.4 Respondents' use of Emergency Contraception

The most common EC used among respondent was Postinor 2, postinor only and IUCD, this was different from the findings of Rahaman et al (2010) and other studies like Gichangi et al (2010), Zeteroglu et al (2004) where the Yuzpe regimen was the most commonly used method. Morhason-Bello et al (2014), reported that in their study about one in five respondents used postinor while others used no EC method. In Ezebialu and Eke (2013) study the most commonly known correct method of emergency contraception was Postinor-2.

Morhason-Bello et al (2014), further reported the most common EC that respondents are aware of were postinor followed by IUCD. which was in tandem with other similar studies Adekunle, Arowojolu, Adedimeji and Okunlola (2000), Oriji and Omietimi (2011). They proposed that the popularity of postinor and IUCD may be due to the availability of these two methods in Nigeria. There is low awareness about mifepristone and Yuzpe (combined oral contraceptive pill). Hence this could explain the difference observed in Rahaman et al (2010) and the other studies.

Generally the use of EC has been reported to be low from various studies carried out among students. Among the tertiary students in Osun state surveyed by Fasanu (2014) only 15.7% had used emergency contraceptive before. Their prevalence rate was slightly higher in similar studies conducted in Ibadan, Nigeria (Arowojolu and Adekunle, 2000) and Durban (Roberts, Moodley and Esterhuizen, 2004) where the prevalence rate was found to be 11.8%. The prevalence rate (16.7%) in Fasanu's study was however similar to that obtained by Seamark and Pereira, (1997).

However in this study the use of EC was moderately high (50.2%) compared to the rates reviewed. This could be due to the fact that the respondents in question are nurses and will have more information about where to obtain EC. The fact that the nurses student are more aware of where to obtain EC was revealed from the major source in which they reported they obtained EC from, which was from a pharmacist/chemist (82.9%). Nworah, Sunday, Ukwaja, Ogelle and

Akabuike (2010) reports that in their study the major source of obtaining EC among their respondents was the Patent medicine vendor (chemist owners)

## 5.5 Factors Influencing Emergency Contraception Usage by Female Students' Nurses

The major reasons given by respondents as to why they are not using EC was that majority (83.3%) of them said they were abstaining from sex. 61.7% stated that they were not using any contraceptive because of the fear of side effects and 40.1% stated that they lacked awareness and knowledge about EC. Similar findings to the one in this study have been reported by other researchers. Menlo (1997) states that worldwide, one of the biggest obstacles to the widespread use of emergency contraceptive is that many women do not know about EC.

A 1997 survey showed that only 11% of all women in the United States knew the basic facts about emergency contraceptive (Menlo, 1997). Even where women have heard about emergency contraception, myths and misperceptions still exist about what it is, how it works and how or where to get it (Fasanu 2014). In a study conducted by Fatemeh et al. in Malaysia, the usage rate of EC was 11.2% (Fatemeh , Zaiton, Muhamad and Hejar 2011). Overall the usage rate of EC was low. Lack of knowledge of EC and fear of side effects were the most frequently reason for not using of EC (Roberts, Moodley and Esterhuizen, 2004). Kongnyuy et al. (2007) postulated that the major factor limiting the use of EC may be inadequate information about their effectiveness and availability or unfavourable opinions about their safety due to misinformation.

Among women who had used emergency contraceptive before, majority of them intended using it again. This shows that emergency contraceptive use influences its re-use and previous usage influences its recommendation to friends (Fasanu 2014). Reasons adduced for willingness to use or recommend the use of EC by respondents includes that it prevents unwanted pregnancy (41.8%), it's effective and does not delay the occurrence of pregnancy when needed (12.4%). There was however a few who had the wrong conception of thinking that EC prevents diseases, hence the reason for using ECs.

Respondents who were unwilling to use or recommend EC stated that the reasons for their disposition were fear of side effects (29.0%), lack of adequate knowledge of EC (27.0%),

preference for abstinence based on its effectiveness (17.0%) and infertility due to prolonged use (7.0%). Though there are mild side effects associated with the use of ECs such as nausea, vomiting etc; the WHO (2000) states that repeat use of ECPs poses no health risks. According to WHO, it has placed repeat ECP use in Category 1 of its medical eligibility guidelines, indicating that there is no restriction for the repeat use of this contraceptive method

Several factors were significantly associated with the use of ECP in Amina and Regnim study (2014); marital status, ever had sex, current number of children, desired number of children, regular use of contraception and ever had an abortion. Inferential statistics in this study also revealed that there was an association between use of EC and unintended pregnancy; and as previously reported some respondents who had unintended pregnancy result to aborting the pregnancy. This can be used to suggest that those who had an abortion before as a result of unintended pregnancy would prefer to use ECs to prevent a re-occurrence; as well as those who want to avoid unintended pregnancy would also result in the use of EC.

## 5.6 Implications for Health Promotion and Education

Various studies have shown that in Nigeria the prevalence of unwanted pregnancy, unsafe induced abortion and high maternal mortality rate are all issues of reproductive health concerns that needs to be tackled with a matter of urgency (Bobzom et al 1998, Omo-aghoja, Omo-aghoja, Aghoja , Okonofua, Aghedo & Umuen 2009, UNICEF 2010, WHO, 2007, Okusanya, Okogbo, Momoh, Okogbenin & Abebe 2007, Oye-Adeniran , Umoh & Nnatu 2002).

Due to low utilization of EC most unintended pregnancy eventually results in induced abortion. Abortion in Nigeria however is not legalized unless when it has to do with health implications of the mother. Various researchers have reported that in Nigeria 760,000 abortion takes place annually, of which as high as 36,000 maternal death associated to unsafe abortion occurs annually; representing over 60% of maternal death (Bankole, Oye-Adeniran, Singh, Adewole, Wulf & Sedgh 2006, Okusanya, Okogbo, Momoh, Okogbenin & Abebe 2007, Oye-Adeniran, Adewole, Umoh, Fapohunda & Iwere 2004, Centre for Reproductive Rights 2005,). According to (Sudhinaraset 2008), a high rate of abortion is reflective of the rate of unintended pregnancy.

In order to prevent the rate of unintended pregnancies, which can subsequently lead to induced abortion; health promotion and education strategies are required. The use of mass media both print and electronic ought to be utilized to create more awareness, knowledge and where EC can be obtained, this will enhance more uptakes of ECs and also change women's attitude toward use of ECs

Refering back to Ndifon, Ogaji & Etuk's (2006), report that nurses students in awarding schools of nursing are, by policy, not permitted to get pregnant, regardless of their marital status. Hence, those who become pregnant face sanctions ranging from demotion to expulsion. These students are thus faced with a dilemma: to get pregnant and lose a training opportunity or terminate the pregnancy and continue schooling with the risk of suffering the sequelae of unsafe abortion which include infertility among others. With reference to the policy in schools awarding nursing diplomas, there is need to employ the use of advocacy to review this policy to be more suitable most especially for the married nurses.

Nigeria is the most populous country in Africa with an estimated population of 174,507,539, with approximately 50% living in urban areas (CIA World Fact book 2013) with a total fertility rate of 5.7 children per woman (Demographic and Health Surveys, Nigeria 2008). With most countries of the whole world trying to reduce their population growth the use of Contraceptives cannot be undermine in achieving this goal especially in Nigeria. With the uptake of EC when sexual intercourse take place without any form of contraception, unintended pregnancies that are left to give birth to new life can be prevented.

Ebuchi et. al's (2006) study showed that nurses, were among health workers who had low knowledge of EC, nurses are among health workers who are suppose to educate and encourage women to use ECs in order to prevent unintended pregnancy. It is important to bear in mind that most nurses are usually women; therefore other women would feel more open to talk with another woman when they fear they might get pregnant as a result of not using any contraceptive method. But nurses will not be able to play their role efficiently in encouraging the use of EC if they themselves are not knowledgeable of EC.

Knowledge of EC will also change nurses' attitude towards using and encouraging the use of it to other women in the community. As some health workers perceive that if there is access to EC, other forms of modern contraceptives might not be utilized but Walker, Torres, Gutierrez, Flemming and Bertozzi, finding proves otherwise from their 2004 study of adolescents in Mexico where they found that EC use had no adverse effects on condom use, but rather was associated with an increased probability of condom use and an increased perceived capacity to negotiate condom use (2004). However if knowledge of EC is not improved on their will still be nurses that would not favour the use of EC.

From reviewed literatures generally, most nurses and other health workers have low knowledge of EC, as some researcher Morhason-Bello et al (2014) put it that this exhibited low knowledge could be due to the quality of training on EC or lack of adequate attention for the subject in the undergraduate medical school. There is need to therefore use the following health education and promotion approach: first carryout Training of the nursing school lecturers on EC, who would then step down this knowledge to the nursing student. Secondly Training should be carried out for nurses that are already graduates. The use of training will improve knowledge and also change the attitudes of nurses (who are health care providers of contraceptives) towards use of EC for themselves and their clients.

## 5.11 Conclusion

This study explored the use of emergency contraception among female students nurses in Ibadan. Information on knowledge, sexual behaviour of student nurses, use of emergency contraceptive and factors influencing the use of emergency contraceptives.

Respondents' knowledge of EC was generally poor, even though their major source of information was through their education. Age and marital status had a significant relationship with knowledge of EC, those of younger age group <19 were less likely to have good knowledge of EC while those co habiting had better knowledge than married women and singles. Most of the respondents are still sexually active, 50% of them have sex with their boyfriends, but majority of them had one regular sexual partner. Most of the respondents used contraceptives in their last sexual intercourse and the most reported contraceptive was condom. The few case of sexual intercourse that resulted into unplanned pregnancy (24% of respondents), resulted in a

little more than half (59.3%) of this cases going for induced abortion. The most common brand of EC used by respondents was Postinor 2. which was of them obtained their EC from phannacy/chemist shops. Experience of unplanned pregnancy was a factor that influenced use of EC.

## 5.7 Recommendations

Based on the findings from this study, the following recommendations are offered:

1) More focused should be given on EC training modules of nursing students (just like those of other contraceptive methods like implants, condom use etc).
2) Since nursing staff are an important part of health care system, it is essential to give adequate knowledge and training to them about emergency contraception during their schooling years and also regularly update their knowledge with recent advances in the field.
3) Training and re-training of nursing schools Tutors on emergency contraception, who would then step down this knowledge to their students.
4) With reference to the policy in schools awarding nursing diplomas, there is need to employ the use of advocacy to review this policy to be more suitable most especially for the married nurses.
5) Without adequate education about emergency contraception, women are unable to make informed contraceptive choices. Where there is more awareness, knowledge and better recommendation of EC availability and its advantages women would be empowered to make better choices.

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# APPENDIX I

## QUESTIONNAIRE

Department of Health Promotion and Education, College of Medicine,
University of Ibadan, Ibadan

## USE OF EMERGENCY CONTRACEPTION BY FEMALE STUDENT NURSES IN IBADAN, IBADAN, NIGERIA

### INTRODUCTION

My name is BELLO Mohammed O. a Masters of Public Health Student from the Department of Health Promotion and Education (Population and Reproductive Health Education). University of Ibadan. I am carrying out a study titled, USE OF EMERGENCY CONTRACEPTION BY FEMALE STUDENT NURSES IN IBADAN.

It is expected that the outcome of this study may provide the basis for policy formulation on the current contraceptive needs and prevention of unplanned pregnancy among the young female adult which student nurses fall within.

You are therefore invited to participate in this research, participation involve providing answers to the question below. Information provided will be kept confidential and used for research purposes only. This questionnaire would be self administered for proper data collation.

Also, the research is risk free and participation is entirely voluntary.

Thanks for your cooperation.

.....

## SECTION 1: DEMOGRAPHIC INFORMATION

| S/N | QUESTIONS | OPTIONS | RESPONSE |
|---|---|---|---|
| 1 | Age at last birthday | | |
| 2 | Ethnicity | (1) Hausa | ( ) |
| | | (2) Yoruba | ( ) |
| | | (3) Igbo | ( ) |
| | | (4) Others (specify) | ( ) |
| 3 | Marital status | (1) Single | ( ) |
| | | (2) Married | ( ) |
| | | (3) Co-habitation | ( ) |
| | | (4) Others (specify) | ( ) |
| 4 | Years of studies/ Levels | (1) Year -1 | ( ) |
| | | (2) Year -2 | ( ) |
| | | (3) Year -3 | ( ) |
| | | (4) Year -4 | ( ) |
| | | (5) Year -5 | ( ) |
| 5 | Religion | (1)Catholics | ( ) |
| | | (2)Protestant | ( ) |
| | | (3)Pentecostals | ( ) |
| | | (4)Islam | ( ) |
| | | (5)Traditional | ( ) |
| | | (6) Others (specify) | ( ) |
| 6 | Nursing schools/Institution | (1) UCH | ( ) |
| | | (2) Eleyele | ( ) |
| | | (3) Department of nursing,UI | ( ) |
| | | (4) Postbasic Nursing schools | ( ) |

## SECTION 2: KNOWLEDGE OF EMERGENCY CONTRACEPTION (EC)

7. Have you ever heard of emergency contraception? If No go to Q12

1. Yes
2. No

8. If the answer for the above question is 'yes', what was your source of information? Tick as many option as possible

1. Formal education
2. Media
3. Magazines
4. Internet
5. Health facilities
6. Other (specify)

9. When was the first time you heard about emergency contraception?

1.Less than 6 months ago

2.6-11 months ago

3.1-5 years ago

4.Before 5 years

10. Do you know where a woman can obtain emergency contraception? 1. Yes 2. No

11. Where can emergency contraception be obtained? Tick as many option as possible

1.Hospital (health center)
2. Social worker( community worker)
3. Private clinic
4. Pharmacy
5. Supermarket
6. Other (specify)
7. Its' impossible to obtain
8. Don't know

12. Have you heard of any other contraception methods?

1. Yes 2. No

13. If yes, please state at least one other methods you know? .....

14. What is the time interval between intake of two levotgestrel pills?

(a) ≤12hr (b) >12hr (c) at same time (d) missed the second pills?

15. How many hours after unprotected sex is use of emergency contraception most effective?

..... Please state your answer in hours

16. What is the effectiveness rate of EC in preventing a pregnancy?

1. 99% 2. 75% 3. 50% 4. 40 % 5. Don't know

Please, kindly determine which of these statements is True or False

| S/N | KNOWLEDGE OF EMERGENCY CONTRACEPTION | TRUE | FALSE | Don't know |
|---|---|---|---|---|
| 17 | Emergency contraception is also known as RU-486 | | | |
| 18 | Emergency contraceptives interrupt an established pregnancy | | | |
| 19 | Emergency contraceptive pills will cause an abortion | | | |
| 20 | The only approved oral emergency contraceptive are combination estrogen/progestin products | | | |
| 21 | The maximum time a woman can take emergency contraceptives and expect effectiveness is 5 days or | | | |

| | | | | |
|---|---|---|---|---|
| | 120 hours after unprotected sex | | | |
| 22 | If a woman is more than 2 weeks late for a contraceptive injection, she cannot use oral emergency contraceptive | | | |
| 23 | The only contraindication for use of oral emergency contraception is pregnancy | | | |
| 24 | Blood clots, migraines and liver disease are absolute contraindication for progestin-oral emergency contraception | | | |
| 25 | Meclizine 500mg cannot be used to manage nausea and vomiting associated with emergency contraception | | | |
| 26 | Emergency contraceptives can be used with more than one act of unprotected sex | | | |
| 27 | Emergency contraceptives are very effective when used as a regular contraceptive method | | | |
| 28 | Emergency contraceptives cannot be taken before intercourse | | | |
| 29 | Emergency contraceptives is a drug of choice for victims of rape | | | |

## SECTION 3: SEXUAL BEHAVIOUR

30. Do you have a boyfriend or man-friend? a - Yes b. No

31. Have you ever had sexual intercourse?
a. Yes b. No If No, skip to Q52

32. When was the last time you had sex?
a. Few days ago b. Last week c. Last month d. others (specify)

33. Who was your last sexual partner?
a. Husband b. Boyfriend c. Acquaintance d. Others (Specify)

34. Do you have a regular sexual partner? a. Yes b. No

35. If yes, how many? a. 1 b. 2 c. 3 or more

36. Did you use any means of contraception the last time you had sex a. Yes b. No

37. If yes to Q36, what means did you use? (a) Condom (b) pills (c) implant (d) injectible (e) IUCD (f) others specify

38. Have you ever experienced unplanned pregnancy before a. Yes b. No
If No, skip to Q40

39. If yes, what was the outcome of the pregnancy?
1. Child born alive
2. Child born dead
3. Abortion
4. Still Pregnant

## SECTION 4: Emergency Contraceptive Use

40. Have you ever used EC before? a. Yes b. No

41. What brands of EC did you used? (a) Postinor II (b) postinor only (c) plan B (d) IUCD

42. How long have you been using EC? a. less than a year b. 1 or more years c. Don't know

43. In the last 3months, did you use ECPs? a. Yes b. No

44. How long after unprotected sex did you use ECP?.....
(a) <12 (b) 12-24hr (c) 24-48 (d) 48-72hr (e) >72hr

45. Where did you obtain the EC from?.....

46. Whose decision was to use EC? a. Self alone b. both partner c. partner alone

47. What was the outcome of use of EC? (a) worked as expected (b) failed (c) other specify

48. Did you find EC more effective and easier to use compare to other methods of contraceptives? a. Yes b. No

49. If No to Q48, what are the challenges?.....

50. Are you currently using a contraceptives method? a. Yes b. No If No skip to Q52

51 If yes, which method?.....

52. if No to Q50, what was your reason for not using? (a) no sex(abstinence) (b) opposition to use by religion or partner (c) fear of side effect (d) lack of knowledge (e) cost of obtaining (f) others specify.....

53. Do you think EC use will help reduce incidence of abortion related mortality? a. Yes b. No

54. Is there anything you will like tell me about EC as a contraceptives method?.....
.....

55. From what you know about emergency contraception, do you think you would ever use it or recommend it to a friend, client or relative in case of need?

1. Yes 2. No 3. I am not sure

56. If no to Q54 state the reason why?.....

57. If Yes to Q54 state the reason why?.....

# APPENDIX II


# INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)
## COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN. IBADAN, NIGERIA.

*Director:* Prof. A. Ogunniyi, B.Sc(Hons), MBChB, FWACP, FMCP (Path), FRCP (Edin), FRCP (Lond)

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UI/UCH EC Registration Number: NHREC/05/01/2006a

**NOTICE OF EXPEDITED REVIEW AND APPROVAL**

Re: Use of Emergency Contraception among Female Students Nurses in Ibadan, Nigeria

UI/UCH Ethics Committee assigned number: UI/EC/12/0343

Name of Principal Investigator: **Mohammed O. Ilelo**

Address of Principal Investigator: Department of Health Promotion & Education,
College of Medicine,
University of Ibadan, Ibadan

Date of receipt of valid application: 10/10/2012

Date of meeting when final determination on ethical approval was made: *N/A*

This is to inform you that the research described in the submitted protocol and other participant information materials have been reviewed and given *expedited approval by the UI/UCH Ethics Committee.*

This approval dates from 23/01/2013 to 22/01/2014. If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the UI/UCH EC* assigned number and duration of UI/UCH EC approval of the study. It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC early in order to obtain renewal of your approval to avoid disruption of your research.

*The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. No changes are permitted in the research without prior approval by the UI/UCH EC except in circumstances outlined in the Code. The UI/UCH EC reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC
23 JAN 2013
APPROVED

**Professor A. Ogunniyi**
Director, IAMRAT
Chairman, UI/UCH Ethics Committee
E-mail: uiuchrec@yahoo.com