

**KNOWLEDGE AND USE OF EMERGENCY CONTRACEPTIVE PILLS  
AMONG FEMALE NATIONAL YOUTH SERVICE CORPS MEMBERS  
SERVING IN IBADAN NORTH-WEST LOCAL  
GOVERNMENT AREA, NIGERIA**

**BY**

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## CERTIFICATION

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## DEDICATION

This work is dedicated to those who taught me knowing they were doing so and those who taught me not knowing they were doing so.

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## ABSTRACT

Emergency Contraceptive Pills (ECPs) can be used up to 72 hours after unprotected sex. They are required in a setting like Nigeria where Unintended Pregnancy (UP) is common among young females. Few studies have focused on the problem of UP among females on national service; hence the need to identify the practices encouraging UP. This study was conducted to determine the knowledge and use of ECPs among female National Youth Service Corps (NYSC) members in Ibadan North-west Local Government Area.

This descriptive cross-sectional survey employed stratified random sampling technique using the period of deployment as basis for stratification. Simple random sampling was used to proportionately select 388 female NYSC members drawn from three batches A (25.0%), B (43.0%) and C (32.0%). A self-administered, semi-structured questionnaire was used to elicit information on respondents' socio-demographic characteristics, Sexual Behaviour (SB), knowledge and use of ECPs. Knowledge was measured on a 10-point scale; scores of <4, 4-6 and >6 were rated poor, fair and good, respectively. Use of ECPs was classified as ever used and never used while SB was categorised as ever had or never had Sexual Intercourse (SI). Data were analysed using descriptive statistics, Chi-square and logistic regression tests at  $p=0.05$ .

The respondents' age was  $24.9 \pm 2.3$  years, 78.0% were Yoruba, 83.0% were single and 79.4% were University graduates. About two-third (61.9%) had heard of ECPs; friends (42.0%) and internet (28.0%) were the main sources of information. Respondents' knowledge score was  $5.2 \pm 2.1$  with 26.7%, 53.8% and 19.6% having good, fair and poor knowledge, respectively. Sixty percent had had SI; out of this proportion, 95 (41.0%) had ever used ECPs. Of the 232 respondents that have ever had SI, 54.7% did so during the Service Year (SY). Respondents (28.0%) who were sexually active used ECP during the SY. Seventy-five percent of the respondents who had UP resorted to induced abortion. Thirty-four respondents who had used ECP during SY experienced no challenges relating to procurement of the commodity. Among the respondents who had ever had SI, only 36.8% stated that they were willing to use ECP whenever the need arises. Major reasons adduced by respondents who were unwilling to use ECPs were fear of side effects (54.2%) and infertility (31.9%). Knowledge of ECP was not associated with

respondents' age and marital status. In addition, there was no significant relationship between SB during SY and knowledge of ECP. University graduates were two times more likely to have used ECPs than Polytechnic graduates (OR: 2.2; 95% CI: 1.2-4.2). Respondents with good knowledge of ECP were almost ten times more likely to use ECPs (OR: 9.5; 95% CI: 2.5-35.7).

Despite the fact that respondents were sexually active, knowledge of emergency contraceptive pills was fair and its use was low among female youth workers in Ibadan North-West Local Government Area. Contraceptive education with emphasis on emergency contraceptive pills is needed to improve their knowledge and promote its use among female youth.

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## LIST OF ABBREVIATIONS

COCs: Combined Oral Contraceptive pills

POP: Progestin Only Pills

NDHS: National Demographic Health Survey

EC: Emergency Contraceptive

ECPs: Emergency Contraceptive Pills

MMR: Maternal Mortality Ratio

NPC: National Population Commission

WHO: World Health Organisation

NYSC: National Youth Service Corps

STI/HIV: Sexually Transmitted Infection/Human Immunodeficiency Virus

LAM: Lactational Amenorrhoea Method

IUDs: Intra-Uterine Devices

IUCD: Intrauterine Contraceptive Device

STDs: Sexually Transmitted Diseases

IEC: Information, Education and Communication

UNFPA: United Nations Population Fund

UNICEF: United Nations Children's Fund

FDA: Food and Drug Administration

OTC: Over-the-Counter

CDD: Centre for Democracy and Development

IBNWLGA: Ibadan North West Local Government Area

LGA: Local Government Areas

CDS: Community Development Services

**IRC:** Institutional Review Committee

**OR:** Odd Ratio

**CI:** Confidence Interval

**CIPM:** Chartered Institute of Personnel Management of Nigeria

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## CHAPTER ONE INTRODUCTION

### 1.1 Background to the study

Emergency Contraceptive (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). EC is found to be effective if used within 72 hours of unprotected sexual intercourse (Szarewski and Guillebaud, 2002) and plays a vital role in preventing unintended pregnancy, which in turn helps to reduce unintended child birth and unsafe abortion, which are major problems of maternal health (Neinstein et al., 2008).

In the United States, where emergency contraception use is relatively low, approximately one half of the pregnancies are unintended and one half of these unintended pregnancies result in abortion (Trussell, Stewart, Guest and Hatcher, 1992). The Netherlands, in contrast, has a higher awareness and use of emergency contraception, which has been cited as one of the factors resulting in the very low rates of abortion and teenage pregnancies in this country (Haspels, 1994). Emergency contraceptive pills (ECPs) have been shown to be a safe, easy to use and highly effective form of EC. Young women are particularly vulnerable to unprotected intercourse and to risks from unintended pregnancy (Parker, 2005). ECPs therefore provide an important protection and option for such women.

The ECPs include Combined Oral Contraceptive pills (COCs), and Progesterin Only Pills (POPs) (WHO, 2004). EC is said to be safe with minor side effects like nausea and vomiting in case of pills (WHO, 2004). Effectiveness of EC was reported to be 75% in case of COCs and 85% in case of POPs (Mohammed, Hossain, Khan, Rahman and Sabastian, 2005). Despite being effective and safe, emergency contraception is still not widely used (Uzuner, Unalan, Akman, Cifçili, Tuncer et al., 2005). Regarding the mechanism of action, EC works by preventing fertilization, implantation and tubal transportation of sperm and ovum (Mohammed et al., 2005). ECPs prevent pregnancy by producing transient changes in the ovary by preventing ovulation if administered in the first half of



the cycle and altering the ovarian function if administered after ovulation. It also produces changes to endometrium by making it unsuitable for implantation of a fertilized ovum.

Emergency Contraceptive Pill was introduced into Nigeria about three decades ago but despite this long history, both knowledge and use of ECP have remained low (Omoloso and Ajuwon, 2010). Studies have described the knowledge and use of ECPs in Nigeria, for example, Aziken, Okonla and Ande (2003) reported that only 18% of female undergraduates had good knowledge of ECPs, National Demographic Health Survey (NDHS) (2013) reported good knowledge of EC among 21.1% of sexually active unmarried women while Olajide, Afolabi, Olajide and Odunlade (2012) reported that 30% of female undergraduates had good knowledge of ECP. Concerning the use of ECPs, Akani, Enyindah and Babatunde (2008) and Olajide et al. (2012) reported 35.5% and 26% use of ECPs respectively among female undergraduates while NDHS (2013) reported the use of ECP to be only 15.5% for sexually active unmarried women, 2.8% for all women and 2.1% for currently married women.

Emergency Contraceptive Pills can play an important role in preventing unintended pregnancies, among both married and unmarried women who have had unprotected intercourse. Emergency Contraceptive Pills are particularly required in a setting like Nigeria where use of contraceptives is very low; the overall prevalence of contraceptive use among all women in Nigeria is 16% (NDHS, 2013). They are especially appropriate for young persons, many of whom are involved in unplanned and erratic sexual activities which result in unintended pregnancies and eventually lead to unsafe abortion. According to World Health Organisation (WHO) and Guttmacher Institute (2007), out of about 250 million pregnancies that occur globally, one third of these are unintended and 20% of these are terminated through induced abortion. In a study to understand the pattern of ECP use among young women who had previously had clandestine abortions in Nigeria, only 16% had ever used ECPs (Arowojolu and Adekunle, 1999).

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 (Federal Ministry of Health, 2010; NPC, 2009). A number of barriers exist that prevent young women from utilizing ECPs. These barriers as documented

among adolescents include limited provider knowledge and negative attitude, as well as poor user awareness, legal and social barriers and cost (Parker, 2005).

Claim to restrict access to EC emanated from the idea that if women could easily access EC, they would abandon effective contraceptive methods including condom and may engage in high risk sexual activity which can lead to increasing sexually transmitted diseases. In opposing this claim, Walker, Torres, Gutierrez, Flemming and Bertozzi (2004) and Harper, Cheong, Rocca, Damey and Rain (2005) emphasized that availability of EC does not reduce the use of condoms or change contraceptive use and behaviour.

## 1.2 Problem Statement

Annually, an estimated 2-4.4 million adolescents resort to abortion worldwide and a WHO estimate of unsafe abortion revealed that in the African region, youth aged between 15-24 years account for more than 50% of all abortion related mortality (Cadmus and Owoaje, 2011). According to hospital based studies from Ethiopia, Kenya, Tanzania and Nigeria, women seeking care for abortion complication tend to be single women with no children, less than 20 years old and in school or unemployed (Rasch, 2000).

In countries such as Nigeria, where abortion law is highly restrictive (legal unless medically recommended to save a mother's life), termination is commonly performed by unqualified persons, or in places not meeting required sanitary and technical standards, thereby propagating unsafe abortion, this contributing to high maternal mortality and morbidity in the country (Population Council, 2009; 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 (National Population Commission (NPC), 2009). Unsafe abortion, as a result of unintended pregnancies are grave, can be life-threatening and identified as one of the leading causes of maternal deaths in Nigeria (Abiodun and Balogun 2009; Oye-Ademiran, Adewole, Umoh 2004; Onji, Jeremiah, Kasso 2009; Ebuchi et al. 2006).

In Nigeria, approximately 610, 000 abortions are performed annually, 60% of which are unsafe, resulting in an abortion mortality rate of 120 deaths per 100,000 live births (Ndifon, Ogaji and



Etuk, 2006). In addition, induced abortion currently accounts for 20,000 of the estimated 50,000 maternal deaths that occur in Nigeria each year (Otoide, Oronsaye and Okonofua, 2001). Unsafe abortion imposes a tremendous burden on Nigeria's health care system, as post-abortion care diminishes the system's capacity to provide other services (Sudhinaraset, 2008). Each day 192 women die because of complications arising from unsafe abortion; that is one woman every eight minutes, nearly all of them in developing countries. These women are likely to have had little or no money to procure safe abortion services, many of them are young, perhaps living in rural areas and having little social support to deal with their unplanned pregnancy (Iqbal and Ahman, 2009). In Nigeria, unintended sexual intercourse leads to unplanned pregnancies and consequently abortion procurement, most of which are unsafe (Otoide et al., 2001).

Youth corps members are young graduates from the various Universities and Polytechnics across the country. The objectives of the National Youth Service Corps (NYSC) scheme is to foster national unity, integration and identity among Nigerians, therefore youths are expected to live and work in the communities where they are deployed, while also interacting with the people by learning their language, lifestyles and making new friends (NYSC, 2011). As young persons, many of these corps members are sexually active, explorative and at the age at which many make marriage decisions. Due to the foregoing, there is a probability of engaging in trial marriages and a high tendency to participate in sexual relationships which are sometimes unprotected and risky. Similarly, many of these youths may engage in multiple sexual practices, casual sex and commercial sex which are risk factors for increased vulnerability to STI/HIV infection, as well as unintended pregnancies (Taiwo and Osezua, 2013).

In view of the fact that corps members are known to indulge in spontaneous and risky sexual practices which consequently expose them to the risk of unintended pregnancies and its associated practices, their knowledge and use of ECP is of utmost pertinence and importance. Several studies have documented the knowledge, attitude and practices as it relates to ECPs in Nigeria including those focusing on unmarried women in the community (Obi and Ozumba, 2008), female undergraduate students (Aziken et al., 2003; Akani, Enyindah and Babatunde 2008; Olajide et al., 2012), health care providers (Adekunle, Arowojolu, Adedimeji, Okunlola, 2000), pharmacists (Omotoso and Ajuwon, 2010), private medical practitioners (Okunofua, Omo Aghoja, Hammed

and Osazoe, 2008) and men (Lawoyin, Osinowo and Babatunde 2002; Odu, Ijadunola, Komolafe and Adebimpe, 2006). Other studies (Taiwo and Osezua, 2013) have documented sexual practices of corps members during the service year but none have focused on their knowledge and use of ECP; hence the need for this study.

### 1.3 Justification

The need to identify and understand the practices encouraging the aforementioned risky sexual behaviour among young persons and corps members in particular was the justification behind this study. Hence, it was important to explore the knowledge and use of ECPs among the female youth corps members serving in Ibadan North West Local Government Area of Oyo State, Nigeria in order to identify knowledge gaps and misconceptions. The study will provide an understanding of the pattern of sexual behaviours and ECP use among the female corps members.

In addition, this study will identify the factors impacting ECP use by examining the influence of respondents' socio-demographic characteristics, sexual behaviour and knowledge on ECP utilization. Furthermore, it will serve as need assessment for policy formulation on the current contraceptive needs and prevention of unplanned pregnancy and clandestine abortion among the female corps members. Also, the study will provide information on the type of contraceptive education that should be focused on and emphasised among the corps members.

### 1.4 Research Questions

1. What knowledge do female corps members in Ibadan North West Local Government Area (IBNWLGA) of Oyo State, Nigeria have about ECPs?
2. What is the pattern of sexual behaviour of female corps members in IBNWLGA?
3. What is the pattern of use of ECPs by female corps members in IBNWLGA?
4. What are the factors associated with the use of ECPs among the female corps members in IBNWLGA?



## 1.5 Research Objectives

### 1.5.1 Broad Objective

The broad objective of this study was to assess the knowledge and use of emergency contraceptive pills among female Youth Corps Members serving in Ibadan Northwest Local Government Area, Nigeria

### 1.5.2 Specific Objectives

The specific objectives of the study were to:

1. Assess the knowledge of female corps members serving in IBNWLGA about ECPs.
2. Describe the sexual behaviour of the female corps members serving in IBNWLGA.
3. Document the pattern of ECP use among female corps members serving in IBNWLGA.
4. Identify the factors associated with the use of ECPs among female corps members serving in IBNWLGA.

## 1.6 Research Hypotheses

1. There is no significant association between the demographic characteristics (age group, marital status, batch, school of graduation) of the respondents and their knowledge of ECPs.
2. There is no significant association between demographic characteristics (age group, religion, batch, school of graduation) of respondents and their sexual behaviour.
3. There is no significant association between the demographic characteristics (age group, marital status, batch, school of graduation) of the respondents and use of ECPs.
4. There is no significant association between respondents' knowledge of ECPs and their use of ECPs.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Conceptual Review of Contraception

Contraception, otherwise known as Family planning can be 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 pin 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). Contraceptives (birth control) prevent pregnancy by interfering with the normal process of ovulation, fertilization and implantation.

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 includes the choice of an appropriate method that will help women realize their goal for using contraceptives (Neomi 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 latter more efficient, effective, safe and acceptable.

##### 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, woods, trees, leaves; infusion of gun-powder; snot from camel's mouth, water used in washing dead bodies and deadly poisons, such as arsenic.

## CHAPTER TWO

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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 by jumping up and down; 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; pulling 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, amulets, invoking the spirit of fertility to cause temporary or permanent sterility, douching and scarification) has remained doubtful (Aninyei, Onyosom, Ukuhor, Uzuegbu, Olili 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

There are two methods of contraception namely the traditional and the modern methods (Oye-Adeniran, Adewole, Umoh, Oladokun, Gbadegehin et al., 2005). On the other hand, the 2008 and 2013 NDHS reported three methods of contraception namely: modern, traditional and folk methods (NPC and ICF Macro, 2009; NPC and ICF International, 2014).

#### *Traditional methods*

Before the introduction of modern methods, Africans had the traditional 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 has remained doubtful (Aninyer, Onyesom, Ukuhor, Uzuegbu, Olili et al., 2008).

#### *Modern methods*

The origin of modern contraception can be traced to the year 1912, which started out of concern about the health effects of high fertility on women and their children (CDC, 1999). Although fertility-control methods available around this time were limited and primarily coital dependent, by 1960 more modern methods of contraception which are both highly effective and not coital



dependent became available (Hatcher, Trussell, Nelson, Cates, Stewart et al., 2004). These were followed by other highly effective methods later in the 20th century (CDC, 1999).

### 2.1.3 Types of contraceptives

The types of contraceptives available fall broadly within the two categories of contraceptive methods. The types of traditional contraceptives that were identified by WHO (2005) include rhythm, withdrawal, abstinence and lactational amenorrhoea. The organization also identified the types of modern contraceptives as female and male sterilization, Intra-Uterine Devices (IUDs), hormonal methods (oral pills, injectables, and hormone-releasing implants, skin patches and vaginal rings), condoms and vaginal barrier methods (diaphragm, cervical cap and spermicidal foams, jellies, creams and sponges) (WHO, 2005). According to the 2013 NDHS, modern contraceptive methods include female sterilisation, male sterilisation, the pill, the IUD, injectables, implants, male condoms, female condoms, the diaphragm, foam/jelly, the Lactational Amenorrhoea Method (LAM), and emergency contraception while the traditional methods include the rhythm (periodic abstinence) and withdrawal methods. The survey also recognised folk methods such as the strings and herbs.

The most effective of these methods of birth control are sterilization by means of vasectomy in males and tubal ligation in females, IUDs and implantable contraceptive. This is followed by a number of hormonal contraceptives including oral pills, patches, vaginal rings and injections. Less effective methods include barriers such as condoms, diaphragm and contraceptive sponge, fertility awareness method, spermicides and withdrawal by the male before ejaculation. Sterilization, while highly effective, is not usually reversible, while all other methods are reversible almost immediately they are stopped (WHO, 2011).

#### *Traditional family planning*

Before the advent of modern contraceptives and up until the present time traditional methods 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 amenorrhoea 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 is 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 Funtahun, Gutema, Getachew, Lambiyu 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 sympto-thermal method (combination of BBT and Billings Method) is a combination of checking a woman's temperature everyday and checking her vagina 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 menstrual period three to four times a year. Many types of oral contraceptives are available named y:

- ✓ 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 Nonsteral, 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 levonorgestrel), 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:** This 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. The new patch is put on once a week for 3 weeks and it is not to be used in the fourth week in order to have menstrual 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, one gets 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. The ring should be worn for 3 weeks, taken out the week that one experiences the menstrual 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 sperm 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.
- ✓ **Spermicides-Foaming Tablets, Jellies, Creams** Spermicides 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 and 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, 2013)

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 pregnancy. 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 tubal

ligation is 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 is important to use another form of birth control during this time. Then, one will have to return to the doctor for a test to see if scar tissue has fully blocked the 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, backup form of birth control should be used to prevent pregnancy. A simple test can be done to check if all the sperm is gone; it is called a semen analysis.

## 2.2 Emergency contraceptives

Emergency contraceptives - which fall under the modern, hormonal methods - are birth control measures that are used after either an unplanned consensual or coercive intercourse (rape), and misuse of regular contraception or non use of contraception (missed pills, human condom, and so on) to prevent an unwanted pregnancy, and the likelihood of abortion and its associated complications (NPC and ICF Macro, 2009).

There are two major effective hormonal EC methods namely; combined ECPs that contain oestrogen - ethinylestradiol and progestin as levonorgestrel or norgestrel referred to as Yuzpe regimen. The second method is progestin only, which contains levonorgestrel or norgestrel which



is popularly marketed in Nigeria as "postinor." The ideal time to commence EC pill use is within 12 hours of sexual intercourse but research evidence showed that it is still effective up to 72 hours. The most popular mechanism of action of the pill is that it prevents ovulation from occurring. Intrauterine Contraceptive Device (IUCD) is another EC method that has been shown to be effective up to 12 days after an unprotected sexual intercourse. Insertion of IUCD for EC is believed to stimulate inflammatory response of the endometrial lining and this inhibits implantation of the zygote (Gemzell-Danielsson, Rabe and Cheng, 2013).

Emergency contraceptive pills should not be used routinely to prevent pregnancy because they are less effective than other family planning methods, such as regular oral contraceptives, injectables, intrauterine devices, and condoms. Also, they have much higher dosages of hormones and more side effects than other methods (ICEC, 2000).

### 2.2.1 Mechanism of Action of ECPs

#### *Progestin-only Emergency Contraceptive Pills*

Early treatment with ECPs containing only the progestin levonorgestrel has been shown to impair the ovulatory process and luteal function (Croxatto, Brache, Pavez, Cochon, Forcelledo, Alvarez, Masai, Fundes and Salvatierra, 2004). No effect on the endometrium was found in two studies (Durand M, Del Carmen Cravioto, Raymond, Durán-Sánchez, De la Luz Cruz-Hinojosa, Castell-Rodríguez, Schiavon and Larrea, 2001; Marions, Hulténby, Lindell, Sun, Ståhl and Gemzell Danielsson, 2002) but in another study, levonorgestrel taken before the Luteinizing Hormone (LH) surge altered the luteal phase secretory pattern of glycodelin in serum and the endometrium (Durand, Seppälä, del Carmen Cravioto, Koistinen H, González-Macedo and Larrea, 2005).

However, this finding was not confirmed in two later studies explicitly designed to assess endometrial glycodelin expression (Do Nascimento, Seppälä, Penttilä, Espejo-Arce, Munoz, Hautala, Koistinen, Andrade and Bahamondes, 2007; Palomino, Kohen and Devoto, 2009). The second of these studies also found no effect on other endometrial receptivity biomarkers or progesterone receptors. Levonorgestrel does not impair the attachment of human embryos to in vitro endometrial constructs and has no effect on the expression of endometrial receptivity markers



(Lalitkumar, Meng, Stavreus-Evers, Hambiliki, Bentin-Ley and Gemzell-Danielsson, 2007, Meng, Andersson, Bentin-Ley, Gemzell-Danielsson and Lalitkumar, 2009).

In a study conducted more than 30 years ago, levonorgestrel was found to interfere with sperm migration and function at all levels of the genital tract (Kesselt, Garnendia, Westphal and Parada, 1974) however, another study designed to assess this issue found that 1500 mcg levonorgestrel had no effect on the quality of cervical mucus or on the penetration of spermatozoa in the uterine cavity (Do Nascimento et al., 2007) and a recent study found an effect on sperm function only with much higher levels of levonorgestrel than are used for emergency contraception (Yeung, Chiu, Wang, Yao and Ho, 2002). The reduced efficacy with a delay in treatment, even when used is adjusted for cycle day of unprotected intercourse, Pinggio, Von Hertzen, Grines and Van Look, 1999 suggested that interference with implantation is likely not an important effect of ECPs. If ECPs did prevent all implantations, then delays in use should not reduce their efficacy as long as they are used before implantation (Davidoff and Trussell, 2006).

Results of a simulation model demonstrated that the levonorgestrel regimen could not be effective on average when started after 96 hours without a post-fertilization effect, because with increasing delay, a greater proportion of women would be too near to ovulation (Mikolajczyk and Stanford, 2007). Studies in the rat and the Cebus monkey demonstrate that levonorgestrel administered in doses that inhibit ovulation has no post-fertilization effect that impairs fertility (Ortiz, Fuentes, Paraguez and Croxatto, 2004). However, the extent to which these results can be extrapolated to women is unknown. Croxatto and colleagues have argued that most, if not all, of the contraceptive effect of levonorgestrel only ECPs can be explained by inhibited or dysfunctional ovulation, based on the existing animal and human studies, including two human studies comparing observed and expected pregnancies when levonorgestrel-only ECPs were administered before and after ovulation. In the first study, no pregnancies were observed when levonorgestrel-only ECPs were taken before the day of ovulation (in contrast to the 4 pregnancies that would have been expected without use of ECPs), whereas 3 pregnancies occurred when ECPs were taken after the day of ovulation (versus 3.5 expected pregnancies) (Novikova, Weisberg, Stanczyk, Croxatto and Fraser, 2006).

In a follow-up study no pregnancies were observed when levonorgestrel-only ECPs were taken before the day of ovulation (in contrast to the 13 pregnancies that would have been expected

without use of ECPs, whereas when ECPs were taken on or after the day of ovulation, 6 pregnancies occurred (versus 7 expected pregnancies) (Noé, Croxatto, Salvatierra, Reyes, Villarreal, Muñoz, Morales and Retarnales, 2010). The best available evidence indicates that levonorgestrel ECPs prevent pregnancy by mechanisms that do not involve interference with post-fertilization events (Davidoff and Trussell, 2006)

### *Combined Emergency Contraceptive Pills*

Several clinical studies have shown that combined ECPs containing the estrogen ethinyl estradiol and the progestin levonorgestrel can inhibit or delay ovulation (Croxatto, Fuentelba, Brache, Salvatierra, Alvarez, Massai, Cochon and Laundes, 2002). This mechanism of action may explain the effectiveness of combined ECPs when used during the first half of the menstrual cycle, before ovulation has occurred. Some studies have shown histologic or biochemical alterations in the endometrium after treatment with the regimen, leading to the conclusion that combined ECPs may act by impairing endometrial receptivity to subsequent implantation of a fertilized egg (Kubba, White, Guillebaud and Elder, 1986; Ling, Wrixon, Zayid, Acorn, Popat and Wilson, 1983).

However, other more recent studies have found no such effects on the endometrium (Taskin, Brown, Young, Poindexter and Wiehle, 1994; Raymond, Lovely, Chen-Mok, Seppälä, Kurman and Lessey, 2000). Additional possible mechanisms include interference with corpus luteum function; thickening of the cervical mucus resulting in trapping of sperm; alterations in the tubal transport of sperm, egg, or embryo; and direct inhibition of fertilization (Croxatto, Devoto, Durand, Ezcurreta, Larrea, Nagle, Ortiz, Vanlman, Vega and Von Hertzen, 2001; Croxatto, Ortiz and Müller, 2003). No clinical data exist regarding the last three of these possibilities (Trussell, 2011)

Nevertheless, statistical evidence on the effectiveness of combined ECPs suggests that if the regimen is as effective as was initially claimed, it must have a mechanism of action other than delaying or preventing ovulation (Trussell and Raymond, 1999). However, as it now appears that the effectiveness of combined ECPs was initially overestimated, there is less concern that ECPs do more than delay or prevent ovulation (Trussell, Ellertson, Von Hertzen, Bigrigg, Webb, Evans, Ferden and Leadbetter, 2003). Nevertheless, the important point is that effectiveness and mechanism of action are not independent (Mikolajczyk and Stanton, 2007). For example, a



regimen without a post-fertilization effect could not be 100% effective in typical populations, which inevitably include some women who take ECPs after fertilization has already occurred.

However, all women should be informed that the best available evidence is consistent with the hypothesis that levonorgestrel and ulipristal acetate ECPs' ability to prevent pregnancy can be fully accounted for by mechanisms that do not involve interference with post-fertilization events (Trussel, 2011).

### 2.2.2 Benefits of Emergency Contraceptive Pills

Emergency Contraceptive Pills plays a vital role in preventing unintended pregnancy, which in turn helps to reduce unintended child birth and unsafe abortion, which are major problems of maternal health (Neinstein et al., 2008). This is especially significant for female youths that may find abstinence a difficult option and their sexual behaviour is rather unplanned, erratic and irregular. ECPs may also help sexually active young people realise that they need to begin using regular contraception. Because ECPs prevent unintended pregnancy, they also help avert abortion and maternal morbidity and mortality (In Focus, 1998).

The COCs and POPs are said to be safe with minor side effects like nausea and vomiting in case of pills and infection for IUDs if not used properly (WHO, 2004). The effectiveness of EC is said to be 75% in case of COCs and 85% in case of POPs (Mohammed et al., 2005). The more effective regimen which is progestin-only pill is now packaged and branded on effective dosage as a dedicated ECP product. Common brand names include Postinor-2, Plan B, and NorLevo. These dedicated products contain a total of 1.50 milligrams (mg) of levonorgestrel. Some labelling requirements say this dosage should be taken in two pills (each of 0.75 mg), 12 hours apart. But research has shown that taking both pills at the same time is equally effective (Arowojolu, Okewole and Adekunle, 2002).

There are different EC options available to choose from. If a progestin-only product is not available, a less desirable alternative known as the Yuzpe regimen employs commonly available combined oral contraceptive pills that contain both estrogen (ethinyl estradiol) and progestin (levonorgestrel). This regimen is generally taken in two doses, 12 hours apart, with each dose



aining 100 micrograms (mcg) of ethinyl estradiol and 500 mcg of levonorgestrel (Arowujolu et al., 2002).

According to Hellestedt and Wendy (2005), ECPs are most effective most especially within the first 24 hours of unprotected sexual intercourse. The sooner ECPs are started, the more effective they are. In the most thorough study to date, coordinated by the WHO and involving 2,000 women at sites throughout the world, progestin-only pills prevented 95 percent of expected pregnancies when started within 24 hours of unprotected intercourse, 85 percent when started in the 25th through 48th hour, and 58 percent when started in the 49th through 72nd hour. Combined pills were less effective, preventing 77 percent of pregnancies when started on the first day, 36 percent when started on the second day, and 31 percent when started on the third day (WHO, 1998). The study clearly pointed to the need to start ECPs as soon as possible after unprotected intercourse. It was discovered in the USA studies that women may be more inclined to use condoms if ECPs are readily available (Kelly, 2005).

### 2.2.3 Advantages of ECPs

1. Well-documented safety.
2. Drug exposure and side effects are of short duration.
3. Readily available in patent medicine and pharmacy store since it is available as over the counter drug without doctors' prescription.
4. Convenient and easy to use.
5. Multiple contraceptive mechanism: prevents ovulation and implantation.
6. Reduce the risk of unwanted pregnancy.
7. Reduce the need for abortions.
8. Appropriate for young adults who may have unplanned sex.
9. Can provide a bridge to the practice of regular contraception.
10. It does not require prescription.

### 2.2.4 Limitations of Emergency Contraceptive Pills

Emergency contraceptive pills have some side effects, many of which are similar to what women face in the first weeks of starting oral contraceptive pills. However, these side effects generally

not last more than one to two days (or a maximum of 3 days for combined emergency contraceptive pills) after the second dose of pills. Generally, progestin-only pills have fewer side effects as compared to combined emergency contraceptive pills. While about 50 percent of women experience nausea and 20 percent vomiting in the case of combined emergency contraceptive pills, among women who use progestin-only pills, in contrast, 20 percent experience nausea and 6 percent vomiting (WHO, 1998).

Some side effects that women could experience are: nausea, vomiting, headache, dizziness, fatigue, breast tenderness and menstrual problems (Planned Parenthood Federation of America, 2013), however nausea and vomiting are the most commonly experienced side effects. These symptoms are generally limited to three days and generally resolved within 24 hours after treatment. If emergency contraceptive pills are frequently used, a woman's menstrual periods may become irregular and unpredictable (Knowles, Jon and Marcia, 1998).

#### 2.2.5 Emergency Contraception misconception

History of emergency contraceptive dates back to the 1960's when physicians in the Netherlands administered oestrogen extracts to 13 years old girl who had been raped in mid cycle (Charlotte, 1996). EC was introduced into clinical practice more than twenty five years ago and has proven to be effective in preventing unwanted pregnancy, however its awareness and use among Nigerian youth is disappointingly low (Abasiattai, Umoiyoho, Basse, Etuk and Udoma, 2007).

Ezebiatu and Eke (2013) reported in their findings that unconventional techniques (some common drugs used for other health problems as well as some traditional or herbal preparations) of emergency contraception were practised among female undergraduates in south eastern Nigerian. Up to 75% of sexually active (13-19) teenage girls have been reported to use some form of perceived contraceptive devices such as laxatives, local potash, "white quinine", and mestrogen pills in the south-west geopolitical zone of the country (Maspeis, 1994).

Findings from Abasiattai et al. (2007) revealed that the substances being used by students in tertiary institution in Akwa Ibom as emergency contraception were of doubtful efficacy. They



found out in their study that gynaecoid (a combination of methylphenolone and ethylestradiol) used for treatment of amenorrhoea not related to pregnancy (Aziken, Okonta and Ode, 2003), menstrogen (used in treatment of conditions related to low hormonal levels such as dysfunctional uterine bleeding) and quinine (an anti-malaria) were the most common medication used for EC by their study respondents. The uses of this type of medications as EC are not only dangerous as they could result in adverse effects but even most likely to be not as effective in preventing unwanted pregnancy (Ologe and Segun-Busari, 2003).

To further support Abasiattai et al's findings, Ebuchi, Ekonem and Ebuchi (2006) also reported in their study that Menstrogen – an oestrogen only pill used in the treatment of conditions related to low hormonal levels was the most often cited as an emergency contraceptive by their respondents. Its effectiveness when used as an emergency contraceptive requires its use in high doses (WHO, 1998). Gynaecoid was also cited in Ebuchi et al's study as an emergency contraception.

Okonofua et al. (1999) posited that the use of these medications as EC cannot be excluded from the role of patent medicine vendors. It is common in Nigeria by most customers' of patent medicine vendors to view them as doctors in their community, hence they are well accepted and integrated in the community. Furthermore they are more accepted by the youths because they are perceived to be discrete and confidential, however they have virtually no medical training, have diverse educational background, with a significant number of them being illiterates. Ebuchi et al. (2006) also reported that majority of their respondents obtained information on use of the various misconceived ECs from friends, most of whom lack correct information on emergency contraception.

## 2.3 EMPIRICAL REVIEW OF PREVIOUS STUDIES ON REPRODUCTIVE HEALTH OF NIGERIAN YOUTHS

### 2.3.1 Sexual Behaviour of Nigerian Youths

In Nigeria, sexual behaviour is considerably influenced by culture and religion like in many other countries of the world (Olatun, 2009). This gives a good explanation why few decades ago the virginity of a girl until she got married was highly rewarded and various taboos were created to prevent pre-marital sex from occurring. The trend is gradually changing and the incidence of



adolescents and youths engaging in sexual intercourse is high - thus indicating early sexual debut - and may constitute a problem (Isiugo-Abanihe, 1993). In fact, Conwell and Jacobson (2007) indicated positively that sexual behaviour starts as early as a child begins to grow up to the level of asking questions about sexuality. Researchers, Sorensen (1973), WHO (1993), Ovwumiam (1995), Odewole (2000) and Sanders and Reinisch (2001) have found that the sexual attitudes of youths are more liberal than those of adults. The WHO (1993) specifically reported that 43% of girls and 67% boys aged between 14 and 19 years were sexually active.

The youths in Nigeria account for 32.0% of Nigerian's population and nearly half (48.6%) of adolescents aged 15-19 are sexually active (NPC and ORC Macro, 2009). About 1 in 5 of sexually active females and 1 in 12 sexually active males had already engaged in sexual intercourse by the age of 15 (Imaledo, Peter-Kio and Asuquo, 2012). Findings from National AIDS and Reproductive Health Survey show that the median age of sexual debut among youths is 17 years in females and 21 years in males. A common feature of young people in Nigeria is their potential vulnerability to Sexually Transmitted Infections (STI) including HIV (NPC and ORC Macro, 2009) but Amu (2014) stated that these youths are more likely to practise risky sexual behaviour but view their risk poorly.

Indulgence in risky sexual behaviour results into some negative effects which include sexually transmitted infections (STI's), HIV, gynaecological problems, unwanted pregnancy and increase in the number of abandoned babies. This behaviour of Isiugo-Abanihe (1993) is prevalent among young persons - students in secondary schools and higher institutions of learning in Nigeria - and may be due to erosion of various custom and observances as well as factors associated with rapid urbanization and other factors such as family background, peer pressure, media influence, economic situations and educational background of parents (Akinleye and Onifade, 1996).

Omoteso (2006) revealed the patterns of sexual behaviour among undergraduate students of three south-western universities. Fifty-four percent of the students had regular boy/girlfriend. Omoteso's result may not be very strange since most of these students are young persons and these periods are characterised by sexual interests and experimentation. Forty six percent of Omoteso's respondents indicated that they did not have regular boy/girlfriends, hence the author postulated that they might

have multiple partners or that they were constrained by their religious beliefs. Also, 59% preferred to stay with one partner, 46% felt it was better to have two partners at a time while 13% would rather have many partners.

Furthermore, Omoteso (2006) reported that 63% of the students had had sexual intercourse, 43% indicated that they had their first sexual intercourse with their lovers while 20% had their sexual debut with "just somebody". On how many times they had had sexual intercourse, 63% had had sexual intercourse once, 15% had had sexual intercourse two to five times, 11% had had sexual intercourse about ten times, 8% reported more than ten times and 3% could not remember how many times they had had sex. These findings are in line with several studies on sexual behaviour (Ravi, 1999; Bogart, 2002; Carpenter, 2000; Koenig, 2000; Odewole, 2000). The findings of these researchers showed that their subjects had their sexual debut as adolescents. Other sexual activities that the students engaged in were hand holding (90%), kissing (39.5%), hugging (58%), caressing (52.5%) and fondling (12%). Similar findings to Omoteso's study were reported by Owuamanam (1995) and Odewole (2000).

A Nigerian study conducted among 600 female students aged 15 to 21 years attending tertiary institutions in Ilorin revealed that most (98.6%) of the students were unmarried, 77.6% had had sexual intercourse, 67.8% had had unwanted pregnancy while 63.5% had had induced abortion (Ahiodun and Balogun, 2008). Another Nigerian study carried out to describe the sexual behaviour of 500 corps members aged 20-29 years found that the prevalence of risky sexual behaviour was high: 77.2% of the corps members had ever had sex, 86.6% of which were sexually active. Median age at sexual debut among the corps members was 20 years, forty two percent had multiple sexual partners, 19.2% practised transactional sex while 58.1% used condom at last sex (Amu, 2014).

A study conducted in 2012 by Imaledo et al. examined the pattern of risky sexual behaviour and associated factors among 300 undergraduate students of the University of Port Harcourt, Rivers State, Nigeria. The authors noted the following at risk behaviour among the respondents: 61% of them had taken alcohol with 36.1% being current users and only 8.7% are current users of cigarette. More than a quarter (31.1%) and 22.0% of the respondents had fathers who drank alcohol and both parents that drink alcohol respectively. On the sexual behaviour of the students,



more than half of the respondents (52%) had either boyfriend or girlfriend and 52.0% of the respondents have ever had sex with someone. Age at first sexual intercourse revealed that 33.6% of the respondents had their first sexual intercourse within the age range of 5-19 years. Results also showed that about one-third (30.3%) of them had sexual intercourse in 2011; 23.5% had had sex with someone in the month preceding the study and 13.4% reportedly had one sexual partner. Girl or boy friend topped the list of persons respondents had sex with and only 31.8% of them used a form of protection. Few of the respondents (13.4%) had had sex in exchange for gifts and 5.1% said that the person they exchanged sex for gifts with was a friend. A significant relationship was established between current user of alcohol and having sex (fmaledo et al., 2012).

Studies also described that the pattern of sexual behaviour of young men differed from that of young women. In the studies of Ravi (1991), Carpenter (2000), Horan, Phillips and Hagan (2000), Koenig (2000), Remez (2000) and Sanders and Reinisch (2001), young men surveyed were more likely than women to report sexual experience and many women were not sexually active. Aderibigbe, Araoye, Akande, Musa, Monchin et al. (2011) in a study of 521 public secondary school adolescents found that about one-third (28.2%) of the students were sexually active and similarly reported that more male respondents (63.9%) were sexually active compared to the females (36.1%).

Sexual behaviour of 313 students of tertiary institutions in Enugu, Nigeria was also described by Iyoke, Ezugwu, Lawani, Ugwu, Ajah et al. (2014). These authors also noted differences in sexual behaviour between sexes of respondents. Approximately 266 (85%) of the students reported having sexual exposure since admission to school, including 172 males and 94 females; 15% reported no sexual activity. About 70% (182/266) of these sexually active students (125/172 males and 57/94 females) had had more than one sexual partner; approximately 7.1% had had up to five sexual partners. Twenty-five percent of the sexually active students had coitus within 1 week preceding the interview. The sexual partners of the male students were fellow students in the same school in 12% of cases, and friends outside the school in 72% of cases. For female students, sexual partners were fellow students in the same school (4%), and males outside the school (94%).



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Iyoke et al. (2014) also found that about 14.2% (17/119) of the female students reported being pregnant since they became undergraduates, all of whom either practised traditional methods of contraception or used non-pharmacological agents and off-label drugs for contraception. Approximately 50% of those who reported pregnancy termination reported complications, including excessive bleeding, infection, and incomplete evacuation. About 14.7% (14/91) of all sexually active female students reported having sexually transmitted infections since admission to a tertiary educational institution.

### 2.3.2 Consequences of risky sexual activities among young persons

The consequences of pre-marital pregnancy are serious among young people. In addition to medical complications that are more common among women who have not reached reproductive maturity, there are important social, educational and economic consequences. As morbidity and mortality among adolescents increasingly become a focus of research and policy initiatives in developing countries, teenagers' problem of unprotected sexual activity, rising pregnancy rates and use of clandestine abortion methods becomes readily apparent (Uche, Nancy, Joan and Daniel, 1997).

In Nigeria just like similar occurrences in other developing countries the prevalence of unwanted pregnancy, unsafe induced abortion and high maternal mortality rate are all consequences of risky sexual behaviour and constitute issues of reproductive health concerns that needs to be tackled with a matter of urgency (Oye-Adeniran, Umoh and Nnani 2002; WHO, 2007; Okusanya, Okogbo, Momoh, Okogbenin and Abebe, 2007; Omo-aghoja, Omo-aghoja, Aghoja, Okonofua, Aghedo and Umueri 2009; United Nations Children's Fund (UNICEF), 2010). 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 (Omo-aghoja, Omo-aghoja et al., 2009; UNICEF 2010; WHO, 2007; Okusanya et al., 2007).

Teenage pregnancy has been described as one of the most unfavourable and usually unplanned outcomes of adolescent sexual activity. On average, younger women are more fertile than older women; about 10% of pregnancies each year occur among teenagers (Senanayake and Faulkner, 2003; UNICEF, 2002). The United Nations Population Fund (UNFPA) reported that 10-14% of



young unmarried women around the world have unwanted pregnancies (UNFPA, 2003). Results from a study conducted by Aderibigbe et al. (2011) revealed that 5.7% of all sexually active female adolescents have ever been pregnant out of which 66.3% have been pregnant once while 33.3% have been pregnant more than once. On the other hand, 17% of all sexually active males had impregnated a girl in the time past out of which 75% have gotten a girl pregnant once while the remaining 25% have gotten a girl pregnant more than once. All the females that have ever been pregnant claimed that they aborted the pregnancies giving an abortion prevalence of 100% among the females while 87.5% of all the males that have ever gotten a girl pregnant said that they told the girls to abort the pregnancies, only 12.5% of the males had their partners delivering the baby. Overall, 89.5% of all the pregnancies (Male Partners + Females) reported in Aderibigbe et al's study were eventually aborted. These findings established that pregnancy among teenagers is unwanted as evidenced by the high prevalence of induced abortion. It also connotes that experience of at least one unwanted pregnancy did not deter the respondents from continuously indulging in risky sexual practices. The problem of unplanned pregnancy is however not limited to teenagers but cuts across young women. According to a publication by In Focus (1998), young women under the age of 24 years are more likely than older women to have an unplanned pregnancy, even where contraceptives are readily available. Some of the factors that were identified as responsible for these are that sex among young adults may be unplanned and sporadic, both married and unmarried youths are commonly ineffective users of contraceptives as they begin to establish their sexual and birth control practices.

It is estimated that annually, nearly 50 million abortions are performed in the world; 30 million of these abortions occur in developing countries and over 4 million occurs in Africa. Every year, an estimated 2 - 4.4 million adolescents engage in abortions globally. Twenty million of these abortions are unsafe and close to 90% of all unsafe abortions take place in developing countries. In 94% of these developing countries, abortion is restricted by law and the risk of dying from an unsafe abortion in a developing country is 1 in 250 procedures. Adolescents aged 15-19 years account for 25% of all unsafe abortions in Africa (Grimes, Benson, Singh, Romero, Ganatra et al., 2006) while almost 60% are among women aged less than 25 years. In comparison with adults, adolescents are more likely to delay the abortion, resort to unskilled persons to perform it, use



dangerous methods, more likely to experience complications and present late when complications arise (Olukoya, Kaya, Ferguson and AbouZahr, 2001).

Over the last decades, several researchers have identified unsafe abortion as an important challenge associated with women's reproductive health in Nigeria (Otoide et al., 2001). Reliable data on the incidence of unsafe abortion are generally lacking in Nigeria where access to abortion is legally restricted (Ordinioha and Owhonda, 2008) but estimates reveal that about 760,000 abortions take place annually in the country and more than half (55%) of these abortions occur in women who were younger than 25 years; 29% among adolescents aged less than 20 years and 26% among those between 20-24 years. Overall, majority (77%) of all abortions in the country take place among women who are below 30 years (Bankolé, Oye-Adeniran, Singh, Adewole, Wulf et al., 2006).

As high as 36,000 maternal death associated with unsafe abortion occurs annually in Nigeria; representing over 60% of maternal death (Bankole et al., 2006; Okusanya, Okogbo, Monstch, Okogbenin and Abebe, 2007; Oye-Adeniran, Adewole, Umob, Fapobunda and Iwere, 2004; Centre for Reproductive Rights, 2005) and about half of Nigerian women who die from complications of unsafe abortion are adolescents (Raufu, 2002). The performance of an abortion is illegal under the Nigerian criminal law, unless the woman's life is threatened by the pregnancy. As a result, induced abortions are usually obtained clandestinely, and are frequently unsafe (Otoide et al., 2001).

Many Nigerian women who have an unwanted pregnancy were not practising family planning when they conceived (Bankole et al., 2006). As advanced by Sudhiraraset (2008), a high rate of abortion is reflective of the rate of unintended pregnancy. Unsafe abortion is often the end result of an unwanted pregnancy, which in turn is often the result of lack of contraceptive use (Otoide et al., 2001). This trend is most profoundly demonstrated among adolescents. According to Olukoya (2004) unsafe abortion is a major cause of maternal mortality among adolescents in Africa. The risks of pregnancies and childbirth among adolescents are also numerous. It includes damage to the reproductive health organ, maternal mortality, infertility, complication during pregnancies and childbirth and obstetric fistula (Rufus, 2008).

Because adolescents are less likely to have information about abortion or resources to access safe services, they more often use unsafe methods when they try to self-induce an abortion, for example, by inserting objects into the vagina or uterus, using drugs or other toxic substances, or self-inflicting bodily harm to induce miscarriage. They also seek out unqualified providers and have abortions in unhygienic circumstances. Other methods that adolescents employ to terminate pregnancies include the consumption of large doses of drugs of various kinds, insertion of sharp objects into the cervix, drinking or flushing the vagina with caustic liquids, massage of abdomen and womb and unusually harsh sex (UNFPA, 2003).

The WHO estimate of unsafe abortion revealed that in the African region, youths aged between 15-24 years account for more than 50% of all abortion related mortality (WHO, 2004) and women under 20 years account for 38-68% of cases of hospital admissions for treatment of unsafe abortion complications in many developing countries (Olukoya et al., 2001).

It is obvious from literatures (Bankole et al., 2006; Okusanya et al., 2007; Oye-Adeniran et al., 2004; Centre for Reproductive Rights, 2005) that abortions are carried out by most women of reproductive age as a response to unwanted pregnancy that could have been prevented with the use of contraception. As of 2002 the prevalence rate was 55% worldwide, with Nigeria's prevalence rate reported to range between 5%-15% (Omo-oghoja et al., 2009; NPC and ICF Macro, 2009).

Some of the reasons reported by Omo-oghoja et al. (2009) for the poor use of contraceptive among Nigeria women include the high value still attached to child bearing, religious teachings that do not support the use of contraception, poor availability and distribution of contraceptive, and women's fear of the possible side effects of contraceptives, such as leading into infertility. Poor contraceptive practice has been implicated in the increasing prevalence and incidence of unwanted pregnancy and unsafe abortion. According to the Demographic Health Survey, 2005 of Ethiopia, 16% of young women had sex by age 15 and 35% had sex by age 18 years. Amongst women aged 15-19 years, 17% are mothers or are currently pregnant with their first child. Maternal mortality in this age group when expressed in proportion to female deaths accounts for 12.1% (Central Statistical Agency, 2006).



The study by Tesfaye, Tlahun and Girma (2012) disclosed that there are a high number of females under the age of 18 years who practised sexual intercourse which may result in unintended pregnancy. Moreover, this unwanted pregnancy urges women to practise unsafe abortion which in turn leads to maternal death. The study also revealed that there is a low trend of use of modern contraceptives. About 32% of married women and 54% of unmarried sexually active women in Nigeria have an unmet need for contraception (Hussain, Bankole, Singh and Wulf, 2005). The contraceptive prevalence rate according to the National Demographic Health Survey of 2013 is 16% with the male condom being the most used method. Tesfaye et al. suggested that much more effort should be done on information, education and communication of awareness and practice of modern contraceptives. Particularly focus should be given on emergency contraception to females so that they are able to decrease unintended pregnancy and abortion cases.

### 2.3.3 Use of ECPs among Nigerian Youths

Despite the availability and proven effectiveness of EC, it remains underutilized by the population at greatest risk of unintended pregnancy, which are young female adults. Young adults by nature exhibit risk-taking behaviour and engage in sexual activity without much concern for the outcome of such decisions. Females unfortunately bear the brunt of the consequences of early sexual activity in terms of unwanted pregnancy, teenage births and Sexually Transmitted Diseases (STDs) and often resort to induced abortion, which sometimes result in life threatening complications, maternal deaths and prolonged morbidity in survivors (Okpani and Okpani, 2000). Given increasing adolescent sexual activity and decreasing age at first sex in developing countries, the use of contraceptives to prevent unwanted pregnancy and unsafe abortion is especially important (Aziken et al., 2003).

Studies from Western and Southern Nigeria have found rates of contraceptive use among sexually active adolescents of 30% (Arowojolu and Adekunle, 2000), considerably lower than the rates reported for developed countries. For example, contraceptive prevalence among sexually active Danish adolescents is 95% (Wielandt, Boldsen and Knudsen, 2002).

Synonymous terms for EC include "the morning-after pill, postcoital contraception, interception, post ovulatory contraception, "visiting pill, and "vacation pill" (Mendez, 2002). Attention has



recently been focused on the potential for emergency or postcoital contraception to reduce the number of unwanted pregnancies and thus the abortion rate (George, Turner, Cooke, Hennessy and Savage, 1994). It is primarily a female method, so its use and success rests mainly on how women perceive and practise it (Ezebiolu and Eke, 2013).

Ebuchi et al. (2006) had an inverse relationship observed between medical education and use of emergency contraceptives in their study conducted among undergraduates in the University of Lagos. Seventeen percent of medical and paramedical students had used emergency contraceptives while 82.7% of nonmedical students had used emergency contraceptives. They opined that the low use of emergency contraceptives among medical and paramedical students in spite of better knowledge than non-medical students was probably due to the role of Information, Education and Communication (IEC) as effective tools for behavioural change.

Despite the utility of emergency contraceptives in preventing pregnancy, studies indicated poor perception and usage among the Nigerian undergraduates (Obichina, Mbatiana, Ugboaja, Orell, and Akabuike, 2010). Worldwide, one of the biggest obstacles to the widespread use of emergency contraceptive is that many women do not know about it, 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. This was confirmed in a study conducted in Malaysia, the usage rate of EC was 11.2% (Fatemeh, Zaiton, Muhamad and Hejar, 2011).

Reports from studies in other parts of Nigeria have shown a high level of sexual activity and low contraceptive use prevalence among young female adults (Oye-Adeniran et al., 2005; Okpani and Okpani, 2000). Similar findings were reported by Abiolaun and Balogun (2009) where only 25.4% of the respondents had ever used EC, of which 77.6% have had sexual intercourse and 57.8% had intercourse within 1 month of their interview. According to the 2013 NDHS, only 9.3% of young people aged 15-29 years have ever used emergency contraception and there was a direct relationship between use of EC and these age groups: 1.6%, 3.8% and 3.9% of those aged 15-19 years, 20-24 years and 25-29 years had ever used EC respectively.

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Many studies (Okpani and Okpani, 2000; Bassey, Abasiattari, Asuquo, Udoma and Gyo-ita, 2005) have reported the disparity between awareness and usage of emergency contraception, which can be attributed to the poor organization of contraceptive services.

#### 2.3.4 Barriers to the use of ECPs among young persons

ECPs prevent unintended pregnancy when used correctly but studies have reported low use in developing countries especially Nigeria. According to NDHS (2013), only 15.5% of sexually active unmarried women, 2.8% of all women and 2.1% of currently married women ever used ECPs. Arowojolu and Adekunle (1999) reported that among young women that had previously had clandestine abortion in Nigeria, 16% had used ECPs. In a study conducted by Akani et al. (2008) and Olojede et al. (2012) among female undergraduates, they both reported 35.5% and 26% use of ECPs respectively. Several factors have been identified as barriers to using ECPs which are limited youth awareness and knowledge, limited access, limited provider awareness and knowledge, providers' reluctance and policies and laws amongst many others factors.

##### *Lack of Knowledge*

A recent review of emergency contraception literature from developed and developing countries indicated that awareness is generally low but slowly increasing. Even where the concept of emergency contraception is known, knowledge of accurate use of the method is very low (Conard 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. Data for the men on emergency contraception awareness in the 2008 and 2013 NDHS also revealed 25.5% versus 31.9% for all men; 26.9% versus 36.1% for currently married men and 39.1% versus 47.3% for sexually active unmarried men (NPC and ICF International, 2014).

Surveys among university and postsecondary students in several African countries found that while a quarter to three-quarters of youth had heard of emergency contraception, accurate knowledge about its use was minimal. Arowojolu et al. (2000) reported that 75% of students surveyed were aware of emergency contraception, but only 12% knew that the first dose of ECPs should be taken within 72 hours of unprotected intercourse. In a study of female undergraduate



students in Nigeria, 73% were aware of emergency contraception, but only 30% of those women knew the correct timeframe in which ECPs are most effective (Olajide et al., 2012).

Previous researches (Free, Lee and Ogden, 2002; Aneblom, 2002) have revealed that participants across diverse sample, including some who had used emergency contraception, mistakenly believe that it causes abortion; this invariably makes women who hold religious doctrines which do not support abortion refuse to use ECPs. It is saddening that despite considerable research indicating that there are no contraindications to taking emergency contraception for the majority of women, (Abuabara, 2002; Grimes and Raymond 2002; Malleon 2002; Trussell, 2004), EC is still often misperceived as an abortifacient and is mistakenly thought to have negative long-term effects on health and fertility.

Lack of knowledge about EC has also been noted among health workers indicating that there are two dimensions of this problem - lack of knowledge among adolescents and lack of knowledge among health workers. According to Parker (2005), many health care providers have not received proper training on ECP provision and may be an implication of the documented lack of knowledge among other categories of society's population. In a study among health professionals, the results revealed that healthcare professionals' knowledge of various methods that can be used as emergency contraception is very low. Only one-third (35.1%) of the respondents were aware that combined oestrogen/progestin or progestin-only pills can be used as emergency contraception (Adekunle et al., 2000). In a similar study among pharmacists by Omotoso and Ajuwon (2010), knowledge of the drug (ECP) is limited and there is need for pharmacists to receive continuing education on ECP to enable them serve better the clients who need this service. In general, providers are somewhat more aware of ECPs than their clients, but their low knowledge of correct usage indicates an urgent need for improved skills and knowledge (Parker, 2005).

With regards to religious and legal influence on abortion knowledge, Parker (2005) stated that in countries where abortion is illegal or religious opposition to contraception and abortion is strong, providers and youth may be more likely to think incorrectly that ECPs act as an abortifacient. In Brazil, where general awareness that ECPs existed was nearly universal among 600 obstetricians and gynecologists surveyed, 30% erroneously believed ECPs to be an abortifacient, and 14%

incorrectly identified ECPs as illegal (Galvao, Diaz and Diaz, 1999). Similarly, Population Report (2000) stated that some providers may confuse ECPs with abortifacient drugs, which in contrast to ECPs, act after implantation to disrupt an established pregnancy.

### *Limited Access*

Even if awareness of ECPs is increased, access can still be problematic for adolescents. Research suggests that youth are reluctant to go to family planning clinics (private, community, or college-based) to get ECPs (Parker, 2005). Given the need to take ECPs as soon as possible after unprotected intercourse, limited clinic operating hours, long waits to see a provider, and physical distance from clinics may discourage youth from seeking ECPs in a clinic setting (Parker, 2005). Pharmacies have the potential to address many of the problems related to youth's reluctance to go to clinics for ECPs, particularly where prescriptions are not required (Parker, 2005). However, pharmacists generally do not consider counselling as part of their responsibility, and many lack the time or facilities to counsel in private, so youth are less likely to receive ECP counselling from pharmacies than from clinic staff (Parker, 2005). In a study of pharmacists in Nigeria, only 27% that had ever dispensed ECP had a private place suitable for counselling even though majority (64.7%) reported that they counselled the last client to whom they sold an ECP (Omotoso and Ajuwon, 2010).

A history of efforts to improve access to EC revealed that in 1999, France became the first country in the world to distribute a brand of EC - Nori-evo - in pharmacies without prescription or parental consent. Nori-evo is also distributed free-of-charge along with other methods of contraception at family planning centres (Ollivier, 1999). Unprecedentedly by the year 2000, school nurses were granted the right to dispense EC in both junior and high schools (Planned Parenthood Federation of America (PPFA), 2013). This decision was however overruled by France's highest administrative court in July, 2000 citing a 1967 law that says hormonal contraception may only be distributed under prescription by pharmacies. However by October of the same year, the French Parliament amended the law to once again allow school nurses to dispense emergency contraception (PPFA, 2013). Restrictions on the dispensing of EC began to ease in other countries, as well. By 2006, women in 42 other countries, including Albania, Belgium, Canada, Denmark, Finland, India, Israel, Morocco, Norway, Portugal, South Africa,



Sweden, and the United Kingdom, could obtain EC without a prescription (Trussell and Wynn, 2006).

The United States Food and Drug Administration (FDA) in 2006 announced its approval of the sale of EC Over-the-Counter (OTC) to women and men 18 and older. This action however imposed access restriction to teenagers despite the fact that research shows that OTC access to EC does not increase or encourage sexual activity among teens. After series of legal battles over age restriction access to EC, the FDA in 2013 approved a brand of EC - Plan B-One Step -- to be made available OTC in the family planning aisle of drug stores with no age requirement. Other brands of levonorgestrel EC remain behind the counter with pharmacists for purchase by anyone 17 or older without a prescription, or anyone younger than 17 with a prescription. Access to ella which came on the US market at the end of 2010 however requires a prescription at any age (PPFA, 2013). In Nigeria, Levonorgestrel-only pills and combined oral contraceptives which are the most common EC methods available in Nigeria can be obtained over the counter from patent medicine and pharmacy shops (Azikun et al., 2003).

#### *Provider Reluctance to Provide ECPs*

While a lack of knowledge among providers is a problem, negative attitudes toward provision of ECPs poses an equal challenge. In a study among pharmacists in Ibadan and Lagos metropolis, a total of 46.9% respondents said they did not have moral objection to dispensing ECPs, 39.0% said they did while 14.2% did not respond. When asked about their religious beliefs, 41.2% said they had religious objections, while 58.8% did not. The overall mean attitude of the respondents was  $8.7 \pm 2.7$  out of 16 (Omoloso and Ajuwon, 2010), indicating negative attitude towards ECP among many of the pharmacists.

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 (Parker, 2005). For example, a study in Kenya found that providers and others believe that ECPs will discourage regular contraceptive method use among youth (Mina, Ellerton and Lukhano, 1999). A recent overview of literature on emergency contraception found that these assumptions and concerns are generally not true (Conard and Gold, 2004). Several studies have shown that

availability of EC does not reduce the use of condoms or change contraceptive use and behaviour (Walker et al., 2004; Harper et al., 2005), rather negative experiences with EC further contributed to limited use. For example, women in a study perceived that providers were judgmental making them feel embarrassed or ashamed when requesting EC, especially for a second time. The women stated that their anxiety and fear of being stigmatized outweighed their perceived risk of pregnancy (Corbett, Mitchell, Taylor, and Kemppainen, 2006).

### *Policies and Laws*

Awareness of and access to ECPs are determined by a number of policies and laws. ECPs are not included in many national family planning programs and are available by prescription only in some countries e.g. Germany, Greece, Hungary, Italy, Poland. The high cost and limited availability of dedicated ECPs can deter youths from using them (Parker, 2005) thereby hindering access to the commodity.

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 (ICEC, 2003). Clear policies to promote provision of ECPs would help ensure availability when needed (Parker, 2005).

Policies that make emergency contraceptive pills easily available, accessible, and affordable often are the result of efforts to educate policy-makers about the way the pills work and how they can help reduce unintended pregnancies and abortion. Because many policy-makers perceived ECPs as abortion inducing drug, proactive and consistent efforts are needed to educate policymakers with evidence and policy examples from countries where ECPs are available and more accessible (Parker, 2005).

### **2.3.5 Knowledge of ECPs**

It has been known since the mid 1970's that high doses of oral contraceptives given postcoital are effective in preventing pregnancy (Tabetha, 2007). Youths, both married and unmarried are however poorly informed about sexuality and reproductive health. They may believe myths, for example, that a woman cannot get pregnant the first time she has sex. It is important that young men and women know about ECPs, so that if they have unprotected sex and find themselves facing



the possibility of an unplanned pregnancy and its health and social consequences, they will know that they can still act to prevent this occurrence (In Focus, 1998).

In a study (Nworah, Mbomara, Ugboaja, Ogelle and Akabuike, 2010) that focused on awareness and knowledge of EC among students in tertiary institutions in Anambra State, South East, Nigeria, only about one-third (38.1%) were aware of EC. The commonest source of information about EC among the students was from friends (32.9%) followed by mass media (20.6%) and schools (14.1%). Fifty two (30.1%) of the respondents that know about EC, had correct knowledge of the timing for their use; 4.6% had incorrect knowledge while 65.3% had no knowledge of time as relates to the use of EC. Postinor alone was the commonest emergency contraceptive known (45.0%) followed by the oral contraceptive pills (33.3%) and the IUCD (12.8%). Six (3.5%) of the respondents knew that postinor, IUCD or pills can be used for emergency contraception. One (0.6%) of the respondents identified white Quinine and mestrogen as emergency contraceptive agents (Nwomh et al., 2010).

Eight hundred and eighty Nigerian college age women participated in a study to evaluate knowledge of EC by Aziken et al. (2003) of which majority (79%) of the women in the study were between the ages of 15 and 24. Among the 880 women surveyed, only 58% (510) had knowledge regarding a product that could be used after intercourse to prevent pregnancy, and only 18% of that group could correctly identify the time frame for effective use. The researchers concluded that this lack of information could potentially prevent women from seeking EC within the appropriate window of effectiveness.

Corbett et al's (2006) study among university students in the United State disclosed that most of the respondents (75.3%) believed that there was something a woman could do in the days following unprotected sex to prevent pregnancy. While 96% of participants had previously heard of EC or "morning after" pills and 71% could correctly identify that EC prevented pregnancy, 87.6% of the respondents did not differentiate between EC and RU-486 (which is an abortion pill). This apparent confusion as to mechanism of action of EC is consistent with findings from prior studies (Bell and Millward, 1999; Kaiser Family Foundation, 2004).

Subedi (2012) also reported that only 17.0% of respondents could define EC appropriately, 9.58% could mention the correct timing for consumption, 39.4% knew pregnant women should not use ECPs, while only 13.8% had knowledge that ECPs cannot be used regularly like other oral contraceptive pills. Obi and Ozumba (2008) in their study in Nigeria also reported that only 17% of respondents knew the correct meaning of ECPs.

In the study by Fasanu, Adekanle Adeniji and Akindele (2014) among tertiary students in Osun State of Nigeria, 196 of the respondents (65.3%) had heard about emergency contraception. The study showed that majority of the respondents had poor knowledge of emergency contraception. This was not different from previous studies (George et al., 1994; Ellertson, Shochet, Blanchard, Trussell, 2000). They also concluded that good knowledge of EC was a significant predictor of their use, which was in agreement with reports of studies conducted in Nigeria (Aziken et al., 2003).

Many (37.1%) reported first hearing about EC 2-3 years prior to the researchers' study. The primary source of information regarding EC was reported to be friends and relatives by almost 35% of participants, with only 4% listing their physician as their primary source of information (Corbett et al., 2006)

Despite the utility of emergency contraceptives in preventing pregnancy, studies indicated poor perception and usage among the Nigerian undergraduates (Obiechina, Mbanama, Ugboaja, Ogelle and Akabuike, 2010). Worldwide, one of the biggest obstacles to the widespread use of emergency contraceptive is that many women do not know about it. A 1997 survey showed that only 11% of all women in the United States knew the basic facts about emergency contraceptive (Metcalf, 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.

#### 2.3.4 Attitude of youths towards ECPs

Egbleston, Jackson and Hardee (1999) investigated sexual attitude and behaviour among adolescents. The study revealed that sexual attitude and behaviour of adolescents have been significantly sharpened by socio-cultural norms. According to them young adolescents need better



sex education and greater access to family planning services. Eggleston et al. (1999) surveyed a total of 490 girls, 455 boys measuring firm specific variable relating to reproductive health. These were knowledge of reproduction, attitude about sexual behaviour, attitude about family planning and attitude towards pregnancy. Some findings arising from the study showed that male students are more favourably disposed in their attitude towards knowledge of reproduction with 77.7% as against 52.5% of their female counterparts.

In a study of sexual behaviour and attitude of unmarried urban youths in Geneva, Gorgen, Yansore, Marx and Millimounour (1998) reported that young people are exposed to health hazards through sexual behaviour and attitude. The study recommends that timely gender specific sexuality education must be made available. This recommendation results from the finding that majority of young men and women are sexually very active and have limited knowledge with respect to the use of contraceptives. Several studies on reproductive health knowledge and attitude have been carried out in the Nigerian setting such as those of (Orubuloye, Caldwell and Caldwell, 1991; Otoide et al., 2001; Okonofun, Odimegwu, Ajabor, Daru and Johnson, 1999). The studies identified above investigated at various times in different parts of Nigeria, the attitude of Nigerian young adults and adolescents towards reproductive health knowledge.

Adolescents have negative attitudes about contraception, have heard false rumour and have received misleading information about contraception. For example, students in Kenya and Nigeria had heard about contraceptives but incorrectly cited dangerous side effects (Barker, 1999). In the focus group discussion conducted by Wondimu (2008) among post-secondary school girls, most participants voiced about the side effect of ECPs not only on the baby but also on the mother's health when it failed to work. Significant number of discussants feared potential long-term side effects that it might cause infertility if used over a long period of time.

Considering the side effects of ECPs highlighted in the review of related literature, the responses of some of the participants indicated the impact of rumours on their positive attitude towards ECPs. Majority of the respondents (64.2%) approved that ECPs is necessary to overcome the need for induced abortion and its complications. In contrary, 60.4% of the respondents worry about that if men knew the existence of the method, they might impose or encourage women to use it regularly and hence women might be exposed to STIs including HIV/AIDS (Wondimu, 2008).

Researchers in Poland found that university students did not seek EC due to lack of awareness, misconceptions regarding timing of effectiveness, confusion with the "abortion pill," and feelings of embarrassment, guilt, or shame (Bell and Millward, 1999). The extent of communication between partners attitudes about social and sexual roles and the taboo nature of their sexual activity all influence young adults sexual decision making (Ugoji, 2013). In a qualitative study of 16- to 25-year old women in England, Free, Lee, and Ogden (2002) found that women who had a lower sense of vulnerability to pregnancy were less likely to use EC when they either used birth control incorrectly or failed to use a reliable birth-control method.

Corbett et al. (2006) reported that more than half of their respondents (67%) considered unintended pregnancy to be a major problem. However, 78% of respondents reported active religious affiliation, of which 68% stated that they did not have religious or moral objections to ECPs. When asked about their perceived personal risk of pregnancy, 66% felt that they were at moderate to high risk of pregnancy if engaged in sexual intercourse without contraception. Seventy-three percent of participants who reported a moderate to high risk of pregnancy believed it is worthy to obtain ECPs to prevent pregnancy. Of those respondents who reported that they would be willing to use ECPs, 44% reported that they would not be embarrassed to obtain EC, 29.9% stated that they would feel embarrassed, and 13.4% did not know. However, all of those women who reported that they would "not likely" choose ECPs indicated that they would feel embarrassed or judged when asking for it (Corbett et al., 2006)

With regard to ECPs, the power dynamics in relationship and pressure to have sex may be associated with a woman's decision to use emergency contraception. Women with partners who had a strong desire to avoid pregnancy and those in a relationship in which the male partner dominated decision-making were more likely to use ECPs than their counterparts (Tomkins, 2004).

#### 2.4 National Youth Service Corps (NYSC) Scheme

Faced with a total breakdown of social harmony following the 30-month Civil War (1967-1970) which followed the unsuccessful attempt by the then Eastern Region to secede from the country, the then Federal Military Government (FMG) realized that having won the war, it was imperative



that the peace – of solid and voluntary national unity – be won. It was a clear realization that, even though the constituent parts of this multi-ethnic and multi-religious country have been forced to stay together – as they were forced in 1914 by the British to come together – true feelings of loyalty and solidarity that produce national cohesion and unity upon which national progress and growth are predicated, could only be an outcome of a deliberate social process (Obadare and Centre for Democracy and Development (CDD), 2005).

The challenge that Nigeria, with an estimated 374 ethnic groups, faced in the immediate post-Civil War period therefore was how 'to engage in deliberate social engineering, designing programs and pursuing policies meant to promote national unity, de-emphasize points of discord amongst the constituent groups, and foster greater inter-ethnic understanding and harmony' (Encgwea and Umoden, 1993). The citizenship and youth training scheme in Nigeria dubbed the National Youth Service Corps (NYSC) was started against this backdrop. The fact that the programme was specifically targeted at youths points to the fact that the emergent nation-state was investing in its future, particularly in the context of the unsavoury past. As was recognized at the start of the programme by Obadare and CDD (2005), 'youths constitute a dominant force for national mobilization and growth and as such, have a crucial role to play in the all-important task of nation-building'.

Obadare and CDD (2005) stated that at the close of the war, the first head of the NYSC averred that it became "abundantly clear to discerning observers of the Nigerian political scene that to build enduring national unity, Nigerian youths from all ethnic groups ought to be mobilized and put in the forefront of the task of nation-building and integration and display patriotism, dedication to the Nigerian nationhood and mutual respect for and understanding of the different ethnic groups and people of Nigeria". The military head of state, General Yakubu Gowon, following the cessation of hostilities, announced in a spirit of magnanimity that there was "no victor, no vanquished" in the war, and consequently embarked on a programme captured as the "Three Rs": Rehabilitation, Reconstruction and Reconciliation (Obadare and CDD:2005).

Thus, Iyizoba (1982) stated that in the interest of fostering national unity, the Nigerian government sought to ease the tensions and animosities among the tribal groups by creating a national unity that would supersede ethnic and tribal loyalties and weaving a spirit of nationalism among groups

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whose relations were traditionally antagonistic.' In the context of this, Gowon proposed that two national youth schemes, one voluntary and the other compulsory, be established.

#### 2.4.1 History and Rationale of NYSC Scheme

The government eventually decided on only the compulsory one year NYSC scheme (Enegwen and Umoden, 1993). The scheme was created in a bid to reconstruct, reconcile and rebuild the country after the Nigerian Civil war. The above unfortunate antecedents in the national history gave impetus to the establishment of the NYSC by decree No. 24 of 22<sup>nd</sup> May, 1973 which stated that the NYSC is being established "with a view to the proper encouragement and development of common ties among the youths of Nigeria and the promotion of national unity" (NYSC, 2014).

Eligibility for the one year service under this scheme according to the NYSC Decree 1973 included any Nigerian citizen who (from the inception of the programme in the 1972-73 academic session) shall have graduated from a university in Nigeria or (from the 1974-1974 academic session) outside Nigeria, or (from the 1975-76 academic year) shall have obtained the Higher National Diploma (HND) or the National Certificate of Education (NCE) or any other professional qualification as may be prescribed. The 30 years age limit removed in 1977 was restored by Decree No. 21 of 1985 which amended this instrument. At inception, the service was compulsory for those who were 30 years old and below, but voluntary for those above 30. The 1985 amendment also removed holders of NCE from the list of eligible corps members (Obadare and CDD, 2005).

#### 2.4.2 Goals and Objectives of the NYSC scheme

The objectives of the NYSC scheme, clearly spelt out in Decree No. 51 of 16<sup>th</sup> June 1993 are as follows (NYSC, 2014):

1. To inculcate discipline in Nigerian youths by instilling in them a tradition of industry at work, and of patriotic and loyal service to Nigeria in any situations they find themselves;
2. To raise the moral tone of the Nigerian youths by giving them the opportunity to learn about higher ideals of national achievement, social and cultural improvement.

3. To develop in the Nigerian youths the attitudes of mind, acquired through shared experience and suitable training which will make them more amenable to mobilisation in the national interest;
4. To enable Nigerian youths acquire the spirit of self-reliance by encouraging them to develop skills for self-employment;
5. To contribute to the accelerated growth of the national economy;
6. To develop common ties among the Nigerian youths and promote national unity and integration;
7. To remove prejudices, eliminate ignorance and confirm at first hand the many similarities among Nigerians of all ethnic groups;
8. To develop a sense of corporate existence and common destiny of the people of Nigeria;
9. The equitable distribution of members of the service corps and the effective utilisation of their skills in areas of national needs;
10. That as far as possible, youth are assigned to jobs in states other than states of origin;
11. That such group of youths assigned to work together is as representative of Nigeria as far as possible;
12. That the Nigerian youths are exposed to the modes of living of the people in different parts of the country;
13. That the Nigerian youths are encouraged to eschew religious intolerance by accommodating religious differences;
14. That members of the service corps are encouraged to seek at the end of their one year national service, career employment all over Nigeria, thus promoting the free movement of labour; and
15. That employers are included partly through their experience with members of the service corps to employ more readily and on a permanent basis, qualified Nigerians, irrespective of their States of origin.

In pursuance of these objectives, corps members are posted to states other than their own and outside their cultural boundaries to ensure that the corps members 'learn the ways of life of other



Nigerians, and imbibe a more liberal outlook in preparation for their role as future leaders of this country' (Enegwera and Unoden, 1993).

#### 2.4.3 Achievements of the NYSC scheme

Moskos (1988), Obadare and CDD (2005) stated that the NYSC directorate listed wide-ranging achievements – as would be expected. In its first decade the directorate sponsored some surveys that pointed to high success of the scheme in terms of the impact on the participants and general assessment. First is what the directorate regards as the 'less tangible', but ostensibly more crucial contribution of the scheme, which is 'fostering national consciousness and integration'. One such indication of that is taken to be the interest that parents and relations of corps members develop about the areas where their wards are serving thus forcing them to 'think national'.

Also, interaction among the corps members with fellow Nigerians of different ethno-cultural groups for one year is regarded as enabling them to 'appreciate the basic similarities that exist between their culture at home and that of the host community'. This is expected to lead to 'reduction in ethnic chauvinism and enable most corps members to develop a healthier and more accommodating attitude towards other groups of Nigerians'. Inter-ethnic marriages resulting from the service year, among others, have helped to build bridges and in 'harmonizing the diverse peoples of Nigeria' with the scheme acknowledged as 'perhaps the most realistic of all programs initiated since independence, towards the systematic 'Nigerianization' of the nation's citizens (Obadare and CDD, 2005).

According to Adebisi (2001), the scheme in the last 30 years has made major contributions in the areas of manpower supply, education (the sector where about 70 percent of the corps members perform their primary assignment), health care delivery and rural infrastructure, technology, sports and self-development of the participants (Adebisi, 2001). These major contributions to the Nigerian state and society are acknowledged by media reports which praised the scheme in its second decade as, among others, playing 'a unifying role among the nation's various ethnic groups thereby promoting the objective of 'One Nigeria' with 'the cultural interaction, while it has also helped in crucial ways in 'tackling skilled manpower problems' and preparing the graduates for 'self-reliance, employment and self-employment' (Obadare and CDD, 2005).

### 2.4.1 Challenges of the NYSC scheme

Some challenges of the scheme that has been identified include inadequate monitoring of the corps members, the perennial under- or non-utilization of their skills, the discriminatory employment practices in some states where 'non-indigene' corps members are not absorbed into the work force upon completion of their service and the almost certain prospect of unemployment that participants have to face after the completion of the service year (Obadare, 2003).

In the third decade of the scheme, new challenges emerged, provoking a new thinking that the scheme, 'the bond of unity', has outlived its usefulness (Omo-Abu, 1997) and that it should therefore be scrapped (Omojokun, 2000). This necessitated a panel that was raised by the government to look into the continued relevance of the scheme. Basic to these calls for scrapping are two stands of argument; there are those who make the clamour based on their assessment of the socio-political terrain while there are also those who make the call based on administrative problems and financial crises in which the scheme has been embroiled (Obadare and CDD, 2005).

## 2.5 Theoretical Framework

The theoretical framework used in the development of this study was the health belief model which was developed in the 1950s by social psychologists Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegeles, and Howard Leventhal at the United States Public Health service to better understand the widespread failure of screening programs for tuberculosis (Carpenter, 2010; Glanz, Barbara and Rimer, 2008). The health belief model has been applied to predict a wide variety of health-related behaviours such as being screened for the early detection of asymptomatic diseases and receiving immunizations (Janz and Marshall, 1984). More recently, the model has been applied to understand patients' responses to symptoms of disease, compliance with medical regimens, lifestyle behaviours e.g sexual risk behaviours (Glanz et al., 2008; Janz and Marshall, 1984).

The health belief model is a psychological health behaviour change model developed to explain and predict health-related behaviours, particularly in regard to the uptake of health services (Janz & Marshall, 1984). The health belief model suggests that people's beliefs about health problems,



perceived benefits of action and barriers to action and self-efficacy explain engagement (or lack of engagement) in health-promoting behaviour. A stimulus, or cue to action, must also be present in order to trigger the health-promoting behaviour (Janz and Marshall, 1984; Rosenstock, 1974).

The following constructs of the health belief model are proposed to vary between individuals and predict engagement in health-related behaviours

#### *Perceived Severity*

Perceived severity refers to subjective evaluation of the severity of a health problem and its potential effect. The health belief model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviours to prevent the health problem from occurring (or reduce its severity). Perceived seriousness encompasses beliefs about the health situation itself (e.g., whether it is life-threatening or may cause disability or pain) as well as broader impacts of the health situation on functioning in work and social roles (Glanz et al., 2008; Janz and Marshall, 1984; Rosenstock, 1974).

For instance, a young single female adult may perceive that unintended pregnancy is not medically serious, but if she perceives that there would be serious social and financial consequences as a result of having a child out of wedlock, and the financial burden of taking care of an unplanned child, then she may perceive unintended pregnancy to be a particularly serious situation.

#### *Perceived susceptibility*

Perceived susceptibility refers to subjective assessment of risk of developing a health problem. The health belief model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviours to reduce their risk of developing the health problem. Individuals with low perceived susceptibility may deny that they are at risk of certain health situations. Others may acknowledge the possibility but believe it is unlikely. Individuals who believe they are at low risk are more likely to engage in unhealthy, or risky, behaviours. Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in behaviours to decrease their risk of developing the condition (Glanz et al., 2008; Janz and Marshall, 1984; Rosenstock, 1974).

The combination of perceived seriousness and perceived susceptibility is referred to as perceived threat (Glanz et al., 2008). Perceived seriousness and perceived susceptibility to a given health condition depend on knowledge about the condition (Rosenstock, 1974). The health belief model predicts that higher perceived threat leads to higher likelihood of engagement in healthpromoting behaviours.

### *Perceived Benefits*

Health-related behaviours are also influenced by the perceived benefits of taking action. Perceived benefits refer to an individual's consideration of the value or efficacy of engaging in a health-promoting behaviour to decrease risk of certain health-outcomes (Janz and Marshall, 1984). If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behaviour regardless of objective facts regarding the effectiveness of the action.

For example, individuals who believe that use of contraceptives will help reduce the chances of unwanted pregnancy (which invariably will prevent the need for induced abortion and its' possible complications) will use contraception compared to individuals who do not believe contraceptives can prevent the need for induced abortion.

### *Perceived Barriers*

Health-related behaviours are also a function of perceived barriers to taking action. Perceived barriers refer to an individual's assessment of the obstacles to behaviour change. Even if an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat, barriers may prevent engagement in the health-promoting behaviour. In other words, the perceived benefits must outweigh the perceived barriers in order for behaviour change to occur (Glanz et al., 2008; Rosenstock, 1974)

Perceived barriers to taking action include the perceived inconvenience, expense, (e.g., side effects of a contraceptive) and discomfort (e.g., pain, emotional upset, embarrassment) involved in engaging in the behaviour. For instance, health service providers' attitude to young single ladies who want to obtain ECPS.



## *Modifying Variables*

Individual characteristics, including demographic, psychosocial and structural variables, can affect perceptions (i.e. perceived seriousness, susceptibility, benefits, and barriers) of health-related behaviours. Demographic variables include age, sex, race, ethnicity, and education, among others. Psychosocial variables include personality, social class, and peer and reference group pressure, among others. Structural variables include knowledge about a given health outcome and prior contact with the health outcome, among other factors. The health belief model suggests that modifying variables affect health-related behaviours indirectly by affecting perceived seriousness, susceptibility, benefits, and barriers (Glanz et al., 2008; Janz and Marshall, 1984).

## *Cues to Action*

The health belief model posits that a cue, or trigger, is necessary for prompting engagement in health-promoting behaviours. Cues to action can be internal or external. Physiological cues (e.g., pain, symptoms) are an example of internal cues to action. External cues include events or information from close others, the media, or health care providers promoting engagement in health-related behaviours (Glanz et al., 2008; Janz and Marshall, 1984; Rosenstock, 1974). An example of cues to action is the death of an unmarried female friend due to an unwanted pregnancy that led to induced abortion.

## *Self-Efficacy*

Self-efficacy was added to the health belief model in an attempt to better explain individual differences in health behaviours. The model was originally developed in order to explain engagement in one-time health-related behaviours such as being screened for cancer or receiving an immunization. Eventually, the health belief model was applied to more substantial, long-term behaviour change such as diet modification, exercise, smoking, correct use of contraceptives. Developers of the model recognized that confidence in one's ability to effect change in outcomes (i.e., self-efficacy) was a key component of health behaviour change (Rosenstock, Strecher and Becker, 1988; Glanz et al., 2008; Janz and Marshall, 1984; Rosenstock, 1974).

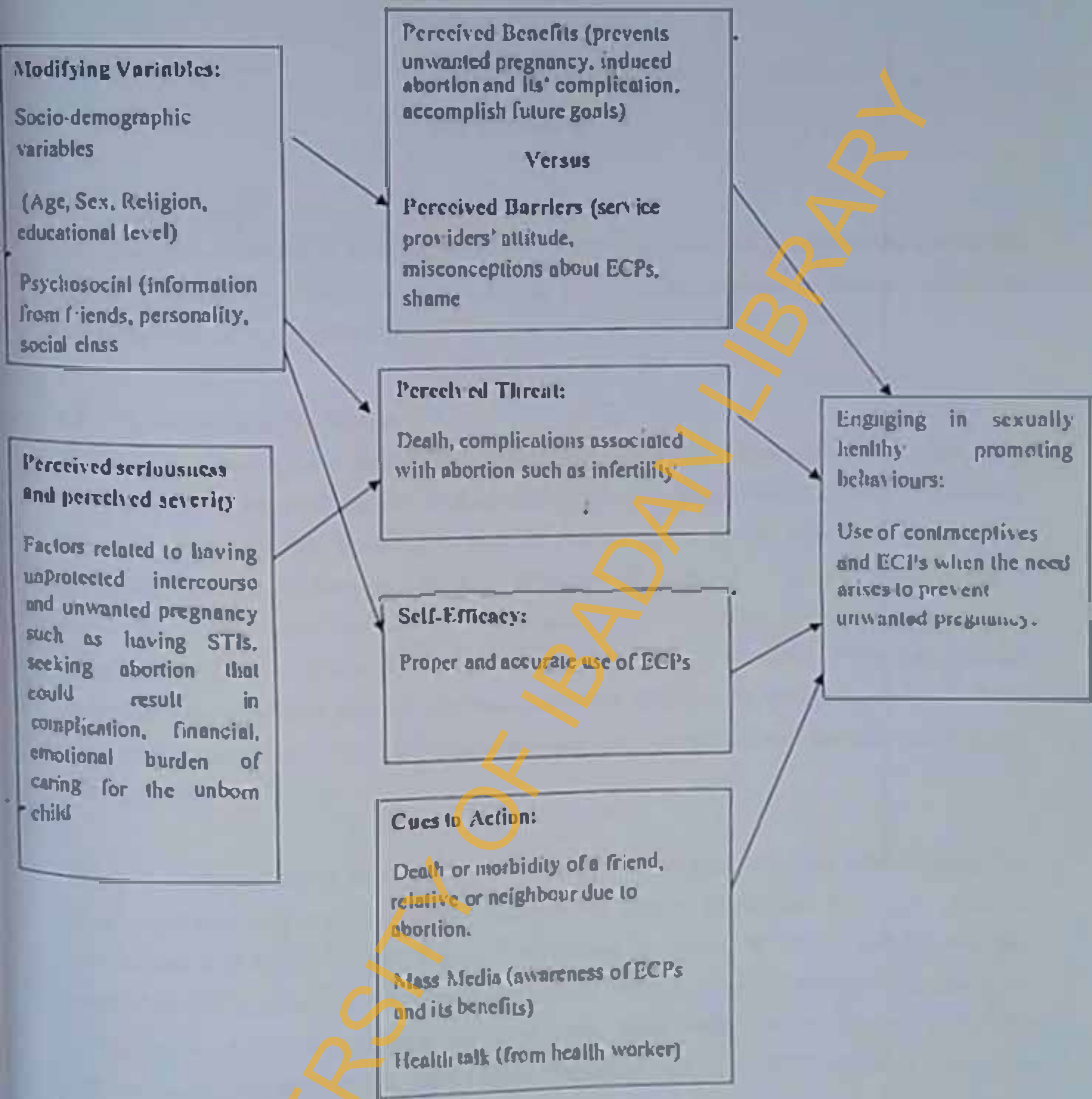


Fig 2.1: Diagrammatic Illustration of the Health Belief Model as applied to the study



## CHAPTER THREE METHODOLOGY

### 3.1 Study Design

This study was a descriptive cross-sectional survey that was conducted to explore the knowledge and use of emergency contraceptive pills among female corps members in Ibadan North West Local Government Area (IBNWLGA).

### 3.2 Description of Study Area

This study was carried out in Ibadan North West Local Government Area of Oyo State. Oyo State was created in 1976 out of the old Western region and has a population of 5,580,894 (National Population Census, 2006). Ibadan is located between longitude 70° 20' and 70° 40' East of the Greenwich meridian and between latitude 30° 55' and 40° 10' North of the equator. The city lies in the equatorial rain forest belt and has a land area of 445 – 455km<sup>2</sup> while also serving as a prominent transit point between the coastal region and the areas to the north. The largest land use in Ibadan is for residential purpose which occupies about 61.4% of the total land. 16.6% accounts for industrial use while 0.3% is for commercial land use (Arcoja, Ahmed, Irughe, Adelcke and Leong, 1992).

Ibadan is the largest city in West Africa and the third in Africa after Cairo and Johannesburg. The 2014 population projection for Ibadan is 3,866,716 people. Ibadan had been the centre of administration of the old Western Region Nigeria since the days of the British colonial rule, and parts of the city's ancient protective walls still stand to this day. The major sources of employment, in descending order of importance, are retail trade, public administration, service and repair industries, and education. Ibadan has 11 Local Government Areas (LGA) made up of five within the metropolis and six at the periphery of the metropolis.

Ibadan North West Local Government, from which the study population was drawn, was carved out alongside others from the old Municipal Government on 27<sup>th</sup> August, 1991. It is one of the five local governments in Ibadan metropolis with headquarters in Onireke. The Local Government has 11 political wards and its projected population as at 2014 to be 192,118 from 154,029 at the 2006

census. Ibadan North West Local Government is bounded on the North by Ido local government, on the south by Ibadan South East Local Government, on the west by Ibadan South West Local Government and on the east by Ibadan North East Local Government. The inhabitants of the Local Government are mostly Yorubas while their main occupations are trading and civil service.

As it is with ancient cities in Nigeria, communities in the Local Government area can be categorized into three namely, the inner core, the transitory and the peripheral areas. The inner core areas form the old and the largest part of the city, inhabited majorly by the indigenes. These areas are characterised by congestion, overcrowding, poorly planned housing, absence of good drainage systems, limited amenities, and many public health problems. The transitional and peripheral areas are mostly populated by the non-indigenes. The transitional communities which interface between the inner core and peripheral areas have little or no space for further expansion. The periphery communities are mostly the areas occupied by the elites, characterised by well-planned housing, modern amenities and more space for further development (Brieger and Adeniyi, 1981; Oluseyi, 2006; Ogunleye, 2014).

### 3.3 Study Population

The study population consisted of female corps members who were deployed to Ibadan North West Local Government Area of Oyo State for participation in the compulsory NYSC scheme in the year 2011/2012. The corps members were drawn from the three batches (A, B and C).

### 3.4 Inclusion and Exclusion Criteria

#### 3.4.1 Inclusion Criteria

Consented female corps members who served in Ibadan North West Local Government Area were included in the study.

#### 3.4.2 Exclusion Criteria

Female corps members who refused to give their consent for participation were excluded from the study.

### 3.5 Sample Size Determination

Using Leslie Kish Formula, the sample size was calculated as shown below:



$$n = \frac{Z^2 pq}{d^2}$$

$d^2$

Where  $z$  = (level of significance = 1.96

$p$  = reasonable estimate of key proportion = 30% or 0.30 (Prevalence of adequate knowledge of ECP; obtained from the study conducted by Olajide et al. (2012).

$q = 1 - p = 1 - 30\% = 70\%$  or 0.70

$d$  = degree of precision = 5% or 0.05

$n$  = minimum sample size

$$n = \frac{1.96^2 \times 0.30 (1 - 0.30)}{0.05^2}$$

$$n = 323$$

Estimate for non response; assume 20% of the minimum sample size:

$$323 \times 20 / 100 = 65$$

Therefore, the sample size for this study =  $323 + 65 = 388$ .

### 3.6 Sampling Technique

The study employed the stratified random sampling technique using the following procedures.

Procedure 1: The eligible respondents (female corps members) were stratified into three strata using their records obtained from the NYSC register in the Local Inspector's office register and batches (A, B and C) as basis for stratification.

Procedure 2: Proportionate sampling was used to determine the required number of participants to be recruited into the study from each stratum (Table 3.1).

Procedure 3: The female corps members arranged in alphabetical order in each stratum were assigned numbers and the table of random numbers was used to select the corps members that were interviewed from each stratum until the desired sample size per stratum was obtained.

The eligible respondents that were assigned the selected numbers in the register were interviewed.

Table 3.1: ~~Table 3.1: 'rain'~~ The NYSC batches for 2011/2012 in IBNWLGA

BATCH/STRATA	MALE	FEMALE	STRATUM SAMPLE SIZE (FEMALE)
A	119	135	$\frac{135 \times 388}{530} = 99$
B	193	227	$\frac{227 \times 388}{530} = 166$
C	141	168	$\frac{168 \times 388}{530} = 123$
TOTAL	453	530	388

(Field Report)

### 3.7 Instrument for Data Collection

A self-administered, 43-item, semi-structured questionnaire was used for data collection (see Appendix II). The instrument was divided into four sections. Section 1 focused on respondents' socio-demographic information such as age, marital status, ethnic group, school of graduation, batch e.t.c. Section 2 was used to assess their knowledge on ECPs, the items were scored on a true, false and don't know basis. Section 3 explored their sexual behaviour and this was on ever had sex or never had sex basis while section 4 focused on the respondents' use of ECPs which was based on ever used or never used ECP.

### 3.8 Validity and Reliability

Validity and reliability described expected measure and the accuracy of the research measuring instruments. The validity of the questionnaire was ensured through consultation of relevant literatures, input of the project supervisor and the conceptual framework used in the study. In order to ensure the reliability of the instrument, the questionnaire was pre-tested among 40 female corps members deployed to serve in Ibadan North LGA, an LGA that has similar characteristics with the study area. The pre-tested questionnaires were then subjected to the Cronbach Alpha statistical test to measure the internal consistency of the instrument, that is, how closely related a set of items are as a group. A reliability coefficient of 0.97 was obtained, a result that showed that the instrument



was reliable. The findings from the pre-test were used to make necessary corrections to the instrument such as:

- A check question "How long have you been in service" was added in order to validate respondents' batch;
- Reasons for un/willingness to use/recommend ECP was made open-ended to prevent information bias; and
- Religious objection to the use of ECP was expunged since the respondents already stated it as one of the reasons for unwillingness to using ECP.

### 3.9 Data collection process

Eight female research assistants who are literate, mature and have had previous experiences with data collection were recruited and trained. The contents of the training curriculum included the purpose of the study, interpersonal communication and interview techniques. The research assistants first participated in the pre-test and later in the actual study. Data were collected at the IBNWLGA headquarter where corps members converge weekly and monthly for Community Development Services (CDS) and general CDS respectively. With the assistance of the Zonal Inspector and Local Inspector Officers, information on the objectives of the study, duration of interview and ethical considerations were collectively disclosed to the corps members at the general CDS. Thereafter, the questionnaire was self-administered to each and every eligible corps member in the various CDS groups, monitored by the researcher and each of the research assistants.

### 3.10 Data Management and Analysis

Completed questionnaire was checked on the spot to ascertain completeness. Serial numbers were assigned to each questionnaire for easy identification and for correct data entry and analysis. The data was entered and analysed using SPSS statistical tool Version 16.0. The dependent variables were knowledge, attitude and use of ECPs while the categorical variables were age, sex, religious beliefs, marital status, school of graduation, months spent in service year, history of induced abortion and contraceptive use.

The data were subjected to the following descriptive and inferential statistical analysis:

1. Respondents' demographics characteristics, knowledge of ECPs, sexual behaviour and use of ECPs were analysed using frequency distribution tables and percentages. Knowledge was measured on a 10-point scale; scores of  $\leq 3$ , 4-6 and  $\geq 7$  were rated poor, fair and good respectively. This knowledge scale was adopted after carrying out the pre-test of the study. Each correct answer was assigned a score of one while each wrong answer was assigned zero. Use of ECPs was classified as ever used and never used while sexual behaviour was categorised as ever had or never had sexual intercourse.

2. Independent t-test was used to compare mean knowledge scores.

3. Cross tabulations of categorical variables (demographics) against the outcome variables (knowledge, sexual behaviour and use of ECPs).

4. Chi-square was used to compare proportions (qualitative data) and evaluate association in contingency tables.

5. Variables that were significant at 5% (0.05) with a 95% confidence interval were subjected to logistic regression analysis.

### 3.11 Ethical Considerations

Ethical approval was obtained from the UNUCH Institutional Review Committee (IRC). (Appendix III) The respondents' consent (Appendix I) was obtained after provision of adequate, clear and complete information about what the study entailed. Official permission to carry out the study was also obtained from the NYSC authority in Oyo State.

A written consent (Appendix II) that did not require the names of the participants but only their signatures and date was obtained from the respondents. They 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

The results of this research are divided into sections as stated below, starting systematically with the socio-demographic characteristics of respondents, their sexual behaviour, knowledge, use and factors associated with the use of ECPs. This section also shows the univariate results (frequency, percentages, mean and standard deviation) as well as the bivariate data (T test, Chi-square and logistic regression).

#### 4.1 Socio-demographic characteristics of respondents

Table 4.1 shows the socio-demographic characteristics of the respondents. There were a total of 388 respondents, all of whom were females and participating in the national youth service in Ibadan North-west Local Government. Their ages ranged from 20-30 years with a mean of  $24.9 \pm 2.3$  years. Forty-three percent, 32% and 25% of the respondents were batches B, C and A corps members respectively. Respondents in batch A had been participating in the national youth service for 7 months while those in batches B and C had been participating respectively for 3 and 11 months. Majority of the respondents were Yoruba (77.8%) followed by Ibo (13.4%). Eighty-three percent of the corps members were single while only 17% were married. Majority of the respondents practised Christianity (85.6%) while 14.4% were Muslims. Majority (79.4%) of the respondents had their degree from a University while only 20.6% had a Polytechnic degree.

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Table 4.1: Socio-Demographic characteristics of respondents (N=388)

Characteristics	No	%
<b>Age group (in years):</b>		
≤24	179	46.1
>24	209	53.9
<b>Ethnic group:</b>		
Yoruba	302	77.8
Igbo	52	13.4
Hausa	8	2.1
Others*	26	6.7
<b>Marital Status:</b>		
Single	322	83.5
Married	64	16.5
<b>Religion:</b>		
Christianity	332	85.6
Islam	56	14.4
<b>Batch:</b>		
A	99	25.5
B	166	42.8
C	123	31.7
<b>Duration into the service year:</b>		
3 months	166	42.8
7 months	99	25.5
11 months	123	31.7
<b>Type of Institution attended:</b>		
University	308	79.4
Polytechnic	80	20.6

\*Other ethnic groups were Ishan, Isekiri, Idoma, Tiv and Konuri

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\*Other ethnic groups were Iahau, Itsekiri, Idoma, Tiv and Kanuri



## 4.2 Respondents' Knowledge about Emergency Contraceptive Pills

The details relating to respondents' awareness and their main source of information about Emergency Contraceptive Pills (ECPs) are presented on table 4.2. Sixty two percent of the surveyed respondents had heard of ECPs, 38.1% had not. Friends (42.1%) constituted the main source of information among respondents who had heard of ECPs followed by the internet (27.9%), TV/Radio (9.2%) and health workers (7.5%).

The details on respondents' knowledge of ECPs could be found on table 4.3. Majority (86.7%) of the respondents knew that ECPs prevents unintended pregnancy when used correctly. About 4% of the respondents reported that it could not prevent unintended pregnancy while 9.6% of them were not sure of the right answer. Only 25.8% of the respondents correctly knew that ECPs does not interrupt an established pregnancy while many (41.7%) incorrectly reported that it interrupts an established pregnancy. One-third (32.5%) of the respondents did not know the right answer.

Majority (61.3%) of the respondents inaccurately reported that ECPs may result in complications to get pregnant in the future while 26.7% did not know the right answer. On whether ECPs would cause abortion, 30.8% knew it would not cause abortion while 40% inaccurately reported that it would. Some (29.2%) of the respondents however reported that they did not know the correct answer. Majority (70.8%) of the respondents knew that ECPs can be used when one experiences condom tear. Ten percent of the respondents however incorrectly reported that it cannot be used when one experiences condom tear while 19.2% were not sure.

Majority (85.0%) of the respondents knew that ECPs can be used when one engages in unprotected sexual intercourse. Only 7.1% of the respondents answered this question incorrectly while 7.9% were not sure of the right answer. On whether ECPs prevent sexually transmitted infection, majority (70.0%) got the question correctly. Fifteen percent of the respondents however thought that ECPs prevent sexually transmitted infection and 15% also reported that they did not know the correct answer. Sixty percent of the respondents knew that ECPs are most effective when used within 12 to 72 hours of unprotected sexual intercourse while 10.8% reported otherwise. On the other hand, a high percentage (29.2%) of them did not know the right answer. Many (44.2%) of the respondents did not know that ECPs can be used with more than one act of unprotected sex. However, some (13.8%) inaccurately believed that ECPs cannot be used with more than one act of unprotected sex. Only 36.7% of the respondents knew that ECPs cannot be taken before sexual

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intercourse. Some (27.5%) however incorrectly reported that it can be taken before sexual intercourse while 36.7% did not know the correct answer.

Overall, only 26.7% of the respondents had a good knowledge of ECPs. With a mean knowledge score of  $5.2 \pm 2.1$ , over half (53.8%) of the respondents had a fair knowledge of ECPs (see details on figure 4.1).

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Table 4.2: Awareness and sources of information about ECPs (N=388)

Variables	No	%
<b>Awareness of ECPs:</b>		
Yes	240	61.9
No	148	38.1
<b>Sources of Information about ECPs (N= 240):</b>		
Friends	101	42.1
Internet	67	27.9
TV/Radio	22	9.2
Health workers	18	7.5
Training	12	5.0
Pharmacy	9	3.7
Books	7	2.9
Family members	3	1.3
No response	1	0.4

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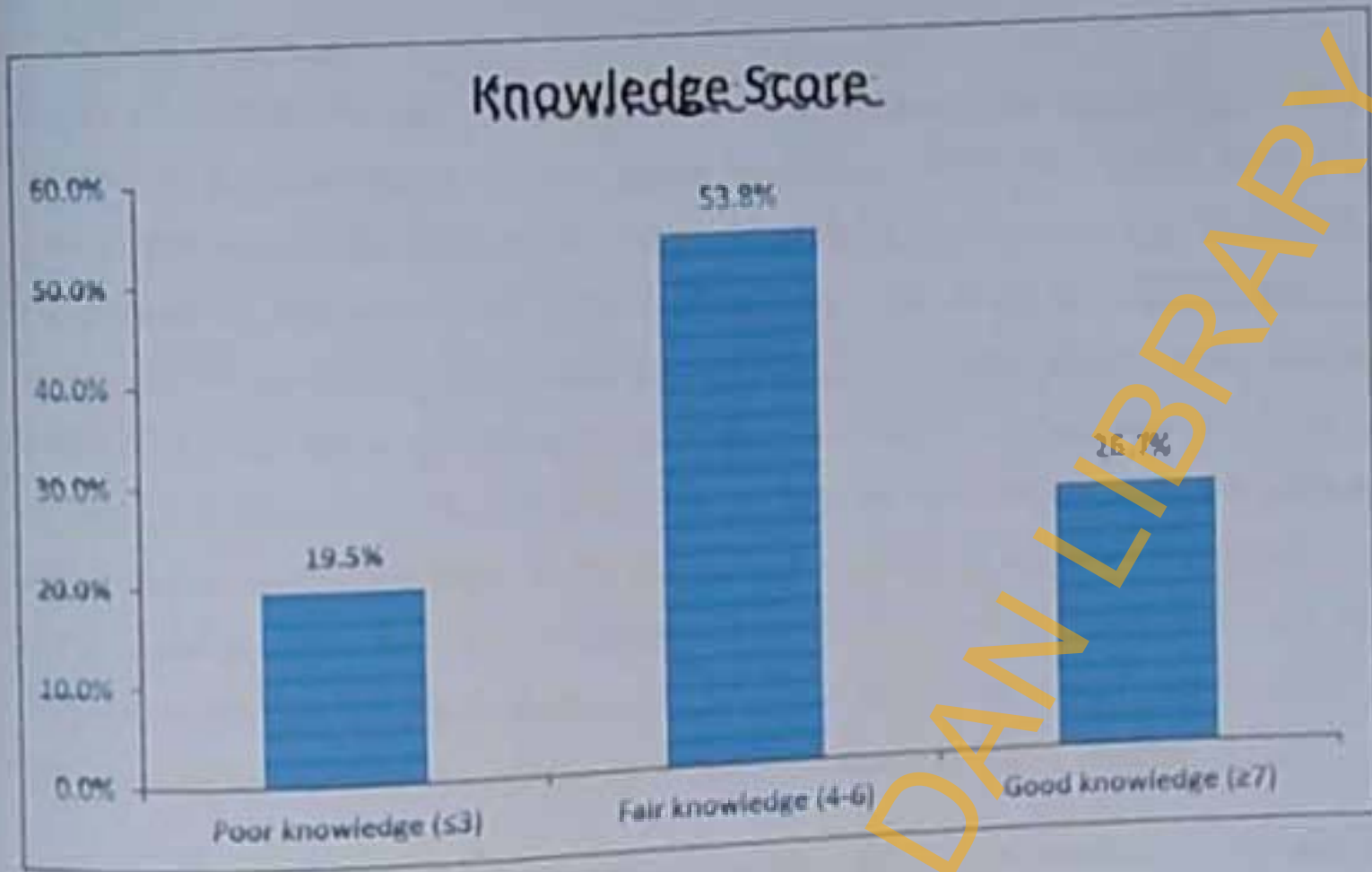


Table 4.3: Respondents with correct knowledge of ECPs (N= 240)

Statements	No	%
Emergency Contraceptive Pills (ECP's) prevents unintended pregnancy when used correctly*	208	86.7
ECP's interrupt an established pregnancy**	62	25.8
ECPs may result in complications to get pregnant in the future**	29	12.1
ECPs will cause an abortion**	74	30.8
ECPs can be used when one experiences condom tear*	170	70.8
ECPs can be used when one engages in unprotected sexual intercourse*	204	85.0
ECPs prevent sexually transmitted infection**	168	70.0
Emergency contraception effectiveness is optimal when used within 12 to 72 hours of unprotected sexual intercourse*	144	60.0
Emergency contraceptives can be used with more than one act of unprotected sex*	101	42.1
Emergency contraceptives cannot be taken before intercourse*	88	36.7

\*Correct statement

\*\*Incorrect statement



Mean knowledge score:  $5.2 \pm 2.1$

Figure 9.1: Respondents' level of knowledge about ICTs.

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### 4.3 Sexual behaviour

Figure 4.2, Tables 4.4a and 4.4b present results of sexual behaviour of respondents. More than half (59.8%) of the respondents had had sexual intercourse, 40.2% had not. Of those who had had sexual intercourse, majority (71.6%) were single while 28.4% were married. About half (51.6%) of the respondents who were single had had sexual intercourse. When asked to state the last time they had sex, 22.4% of the respondents said they did so few days before administering the questionnaire while 20.7% said that their last sexual intercourse was over six months prior to this study (see details on table 4.4). Majority (70%) of those who had had sex reported that their last sexual encounter was with their boyfriends while 26.7% stated that their husband was their last sexual partner. Only 3.4% reported their last sexual partner to be their acquaintance. Majority (81.0%) of the respondents had regular sexual partners. Of those who had regular sexual partners, most (92%) had only one regular sexual partner while 8.0% had more than one sexual partner.

Majority (66.4%) of the respondents did not use any form of contraception during their last sexual intercourse. About 64% (63.8%) of those who did not use any contraception the last time they had sex were single. Majority (84.4%) of married respondents did not also use any form of contraception at last sexual intercourse. Sixteen percent of respondents who had had sexual intercourse had experienced unwanted pregnancy before the service year. Respondents who had experienced unwanted pregnancy before the service year (16%) were asked to state the outcome of the pregnancy. Majority (64.9%) reported that they had an abortion, 29.7% gave birth to the child alive, 2.7% gave birth to a dead child and 2.7% was still pregnant.

More than half (54.7%) of those sexually experienced continued to have sexual intercourse during the service year. Of this proportion, 6.3% had experienced unplanned pregnancy. Majority (75.0%) of this category of respondents resorted to induced abortion. On the other hand, 12.5% gave birth to the child alive and another 12.5% was still pregnant.

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Figure 4.2: Sexual Behaviour of Respondents

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**Table 4.4a: Sexual Behaviour of Respondents N=232**

Variable	No	%
<b>Time of last sexual intercourse prior to interview:</b>		
Few days	52	22.4
Two weeks	13	5.6
One month	27	11.6
Three months	34	14.7
Six months	18	7.8
Over six months	48	20.7
Can't remember	26	11.2
No response	14	6.0
<b>Respondents' last sexual partner:</b>		
Husband	62	26.7
Boyfriend	162	69.8
Acquaintance	8	3.4
<b>Do you have regular sexual partner:</b>		
Yes	188	81.0
No	44	19.0
*N=188		
<b>The number of regular sexual partners:</b>		
One	173	92.0
Two	8	4.3
Three or more	7	3.7
**N=229		
<b>Respondents' use of contraception at last sexual intercourse:</b>		
Yes	152	66.4
No	77	33.6

\*N=188

\*\*N=229



Table 4.4b: Sexual Behaviour of Respondents N=232

Experience of unwanted pregnancy	No	%
before service year:		
Yes	37	15.9
No	195	84.1
Outcome of the pregnancy: <sup>•N=37</sup>		
Child born alive	11	29.7
Child born dead	1	2.7
Abortion	24	64.9
Still pregnant	1	2.7
Ever had sex during service year:		
Yes	127	54.7
No	105	45.3
Experience of unwanted pregnancy <sup>••N=127</sup>		
during service year:		
Yes	8	6.3
No	119	93.7
Outcome of the pregnancy: <sup>+N=8</sup>		
Child born alive	1	12.5
Child born dead	0	0.0
Abortion	6	75.0
Still pregnant	1	12.5
No responses were excluded		

•N=37

••N=127

+N=8

#### 4.4 Respondents' use of ECPs

Many (41.0%) of the sexually active respondents had used ECP before their commencement of the National Youth Service Scheme (NYSC). When asked to state the number of times they had used ECP prior the service year, one-third (32.6%) of them had used ECP three times or more, 25.3% had used it twice and 11.6% had used it only once (see details on figure 4.3).

Table 4.5a shows the pattern of ECP use among the respondents during the service year. Among respondents who had used ECP prior to the service year (41.0%), 36.8% had also used it during the service year. One-third (34.3%) of them had used it once and twice or more respectively while 28.6% had used it twice during the service year. Only 1 (2.8%) respondents could not remember the number of times she had used it. Majority (88.6%) of those who had used ECP during the service year procured it from the pharmacy while only 11.4% got it from a friend (see details on table 4.5b). Only 1 (2.9%) respondent faced challenge in procuring the ECP and it was unavailability of the contraceptive.

The respondents were asked to state the brand of ECP that was used after the last sexual intercourse, details of which are also presented in table 4.5b. Postinor-2 was the brand of ECP commonly used among the respondents (42.9%) followed by postinor-1 (37.1%) and mestrogen (2.9%). Six (17.1%) of the respondents could not remember the brand of ECP they used at last sexual intercourse (see details on table 4.5b).



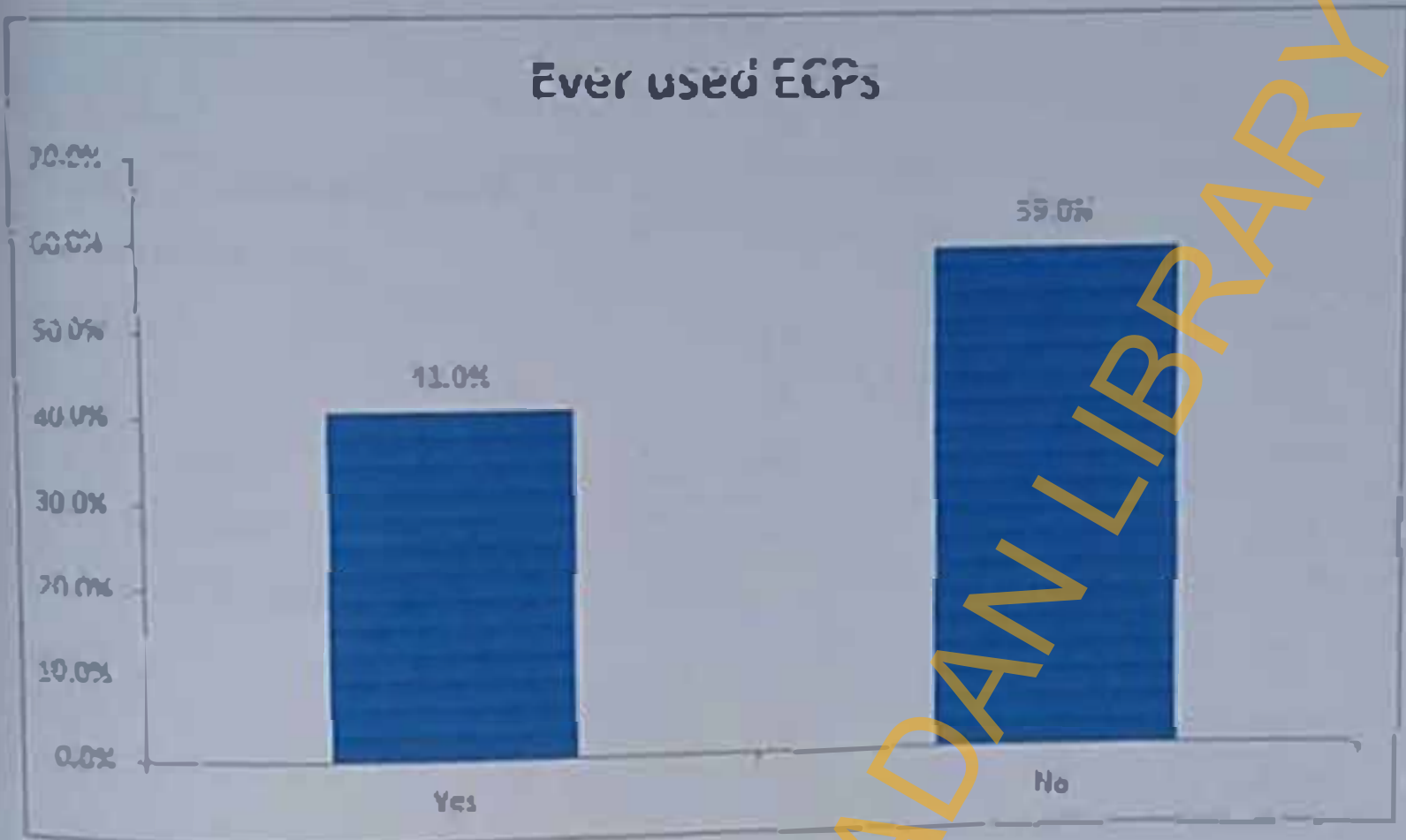


Figure 3. Respondents' use of ECPs

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Table 4.5a: Respondents' use of ECPs (N=95)

Variables	No	%
<b>Number of times of ECP use before service year:</b>		
Once	11	11.6
Twice	24	25.3
Twice or more	31	32.6
Can't remember	29	30.5
<b>Use of ECP during service year:</b>		
Yes	35	36.8
No	60	63.2

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Table 4.5b: Pattern of use of ECPs during service year (N=35)

Variables	No	%
<b>Number of times of ECP use during service year:</b>		
Once	12	34.3
Twice	10	28.6
Thrice or more	12	34.3
Can't remember	1	2.8
<b>Source of procurement of the ECP used:</b>		
From Pharmacy	31	88.6
From Friend	4	11.4
<b>Brand of ECP used at last sexual intercourse:</b>		
Postinor-1	13	37.1
Postinor-2	15	42.9
Mestrogen	1	2.9
Can't remember	6	17.1

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#### 4.5 Factors associated with respondents' use of ECP

Respondents' disposition to the use of ECP is shown in table 4.6. A total of 84 (36.8%) respondents were willing to use ECP if the need arise while majority (63.2%) were unwilling to use ECP. Respondents who were unwilling to use ECP were asked to state reasons for their refusal, the results of which are presented in table 4.7. Fear of side effects (54.2%) and infertility (31.9%) were the major reasons adduced for unwillingness to use ECP.

When asked to state if they would be willing to recommend ECP, more than half (56.2%) of the respondents reported that they would not while 43.8% reported in the affirmative (see details in table 4.8). The ability of ECP to prevent unplanned pregnancy (74.0%) and its effectiveness as a method of contraception (18.8%) were the principal reasons adduced by respondents who were willing to recommend it (see details in table 4.9). The major reasons provided by respondents for unwillingness to recommend ECP were fear of side effects (49.6%) and infertility (21.1%), details of which are presented in table 4.10.



**Table 4.6: Willingness to use ECP (N=228)**

Variable	No	%
<b>Willingness to use ECP:</b>		
Yes	84	36.8
No	144	63.2
No response were excluded		

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**Table 4.7: Respondents' reasons for unwillingness to use ECP (N=144)**

Variable	No	%
<b>Reasons for unwillingness to use ECP:</b>		
Side effects	78	54.2
Don't like contraceptives	13	9.0
Can lead to infertility	46	31.9
Prefer other contraceptive methods	14	9.7
Damage to organs	2	1.4
Not afraid of getting pregnant	14	9.7
ECPs not 100% effective	10	6.9
Use of ECP is committing murder	7	4.9
Lack adequate knowledge about ECP	9	6.3



**Table 4.8: Respondents' willingness to recommend ECP to a friend or relative (N=219)**

Variable	No	%
<b>Willingness to recommend ECP to a friend or relative:</b>		
Yes	96	43.8
No	123	56.2

No response were excluded

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**Table 4.9: Respondents' reasons for willingness to recommend ECP (N=96)**

Variable	No	%
<b>Reasons for willingness to recommend ECP:</b>		
Prevents unwanted pregnancy	71	74.0
Protects against STIs	9	9.4
ECP is a very effective contraceptive	18	18.8
To control population	4	4.2

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**Table 4.10: Respondents' reasons for unwillingness to recommend ECP (N=123)**

Variable	No	%
<b>Reasons for unwillingness to recommend ECP:</b>		
Fear of side effects	61	49.6
Lack of adequate knowledge about ECP	11	8.9
Against pre-marital sex	6	4.9
There are better contraceptive options	2	1.6
ECP is not good	12	9.8
Use of ECP can lead to infertility	26	21.1
It is not 100% effective	11	8.9
Self-prescription of drugs is dangerous to health	5	4.1
ECP use can lead to promiscuity	1	0.8

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## 4.6 Testing of Hypotheses

### Hypothesis 1

There is no significant association between demographic characteristics (age group, marital status, batch, school of graduation) of respondents and their knowledge of ECPs

Table 4.11 shows respondents' knowledge about ECPs by selected socio-demographic characteristics. The distribution of respondents with good knowledge scores among the female corps members in batches A, B and C were 24.3%, 30.0% and 24.3%. Overall, there was no significant association between knowledge of ECPs and batches of respondents. There was also no significant difference ( $p=0.73$ ) in the mean knowledge score of respondents in batches A ( $5.2\pm 2.1$ ), B ( $5.1\pm 2.2$ ) and C ( $5.4\pm 1.9$ ).

Good knowledge of ECP increased by age. The proportion of female corps members health professionals with good knowledge of ECPs among those aged 20-24 and 25-30 years were 24.5% and 28.4% respectively. Overall, there was no significant association between knowledge of ECPs and age of respondents.

The proportion of single respondents with good knowledge of ECPs was 26.3% and this is lower than the proportion of married respondents with good knowledge (28.6%). There was however no significant association between marital status of respondents and their level of knowledge of ECPs.

The distribution of respondents with good knowledge among those who attended a University or Polytechnic was 26.6% and 26.9% respectively. There was no significant association between respondents' knowledge and the type of institution attended.

In view of the fact that there was no significant individual relationship between respondents' age group, marital status, batch, school of graduation and knowledge of ECPs, the null hypothesis failed to be rejected.

**Table 4.11: Respondents' level of Knowledge of ECPs by Demographic Characteristics (N=240)**

Characteristics	Mean	S.D	p-value
<b>Batch</b>			
A	3.67	2.9	p= 0.22
B	3.07	3.0	p>0.05
C	3.05	3.0	
<b>Age group (in years)</b>			
≤4	2.94	2.9	p= 0.09
>24	3.45	3.0	p>0.05
<b>Marital Status</b>			
Single	3.17	3.0	p= 0.52
Married	3.14	3.1	p>0.05
<b>Institution attended</b>			
University	3.16	3.0	p= 0.46
Polytechnic	3.44	3.0	p>0.05

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## Hypothesis 2

There is no significant association between demographic characteristics (age group, marital status, batch, school of graduation) of respondents and use of ECPs.

Table 4.12 shows respondents' use of ECPs by selected socio-demographic characteristics. The selected characteristics were age group, marital status, batch and school of graduation. More single respondents (44.6%) had used ECPs compared to the married respondents (31.2%). There was however no significant association between marital status and respondents' use of ECPs.

Use of ECPs increased by the duration respondents had been serving. Respondents in batch A had been in the service year for 7 months prior the study while those in batches B and C had been serving for 3 and 11 months respectively. The distribution of respondents who had ever used ECPs among batches A, B and C respectively was 41.7%, 38.6% and 43.7%. Overall, there was no significant association between respondents' batches and use of ECPs.

More respondents who were University graduates (46.1%) had used ECPs compared with those who graduated from a Polytechnic (27.7%). There was a significant association between use of ECPs and respondents' school of graduation.

There was a negative relationship between age group and use of ECPs i.e. Use of ECPs decreased with increasing age. For instance, 43.5% of respondents within the age group 20-24 had used ECPs while 39.3% of those within the age group 25-30 had used ECPs. There was however no significant association between respondents' age group and use of ECPs.

In order to determine the factors that influenced respondents' use of ECPs, the variable (school of graduation) that was significant at 5% was further entered into the logistic regression model and analysed to adjust for possible confounding factors. The result of this analysis as showed on table 4.13 revealed that compared to respondents who attended a Polytechnic, those who attended a University were two times more likely to have used ECPs (OR: 2.23, 95% CI: 1.20 - 4.17).



Table 4.12: Respondents' use of ECPs by Demographic Characteristics (N=232)

Characteristics	Ever used ECPs			p-value
	Yes N (%)	No N (%)	Total N (%)	
<b>Batch:</b>				
A	25 (41.7)	35 (58.3)	60 (100.0)	$\chi^2 = 0.80$ $P > 0.05$
B	39 (38.6)	62 (61.4)	101 (100.0)	
C	31 (43.7)	40 (56.3)	71 (100.0)	
<b>Age (in years):</b>				
20-24	40 (43.5)	52 (56.5)	92 (100.0)	$\chi^2 = 0.53$ $P > 0.05$
25-30	55 (39.3)	85 (60.7)	140 (100.0)	
<b>Marital status:</b>				
Single	75 (44.6)	93 (55.4)	168 (100.0)	$\chi^2 = 0.06$ $P > 0.05$
Married	20 (31.3)	44 (68.7)	64 (100.0)	
<b>School of graduation:</b>				
University	77 (46.1)	90 (53.9)	167 (100.0)	$\chi^2 = 0.01$ $P < 0.05$
Polytechnic	18 (27.7)	47 (72.3)	65 (100.0)	

**Table 4.13: Demographic Factors that Influenced Respondents' use of ECPs**

Variables	p-value	Odds ratio (95% CI)
Use of ECPs		
School of graduation:		
University	0.01	2.23 (1.20 – 4.17)
Polytechnic**		1.00

\*\*Reference category

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### Hypothesis 3

There is no significant association between respondents' knowledge of ECPs and their use of ECPs.

Use of ECPs was higher among respondents who had good and fair knowledge of ECPs compared to those who had a poor knowledge of the contraception. That is, while more than half of respondents with good knowledge (58.8%) and fair knowledge (60.4%) had used ECPs, only 13.0% of those who had a poor knowledge of ECPs had used it. Overall, there was a significant association between respondents' knowledge and use of ECPs.

The null hypothesis was rejected since there was a significant association between respondents' knowledge and use of ECPs. This result was subjected to further analysis to determine if knowledge was a factor that influenced respondents' use of ECPs. This analysis of logistic regression revealed that use of ECPs was significantly higher among female corps members with good and fair knowledge of ECPs. This results concludes that compared to respondents with poor knowledge of ECPs, respondents with good knowledge were nine times more likely to have used ECPs (OR: 9.52, 95% CI: 2.51 – 35.71) while those with fair knowledge were ten times more likely to have used ECPs (OR: 10.20, 95% CI: 2.82 – 37.04).



**Table 4.14: Relationship between respondents' knowledge and use of ECPs**

Characteristics	Ever used ECPs			p-value
	Yes N (%)	No N (%)	Total N (%)	
<b>Knowledge of ECPs:</b>				
Good	30 (58.8)	21 (41.2)	51 (100.0)	p= 0.00
Fair	58 (60.4)	38 (39.6)	96 (100.0)	p<0.05
Poor	3 (13.0)	20 (87.0)	23 (100.0)	

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**Table 4.15: Factors that Influenced Respondents' use of ECPs**

Variables	p-value	Odds ratio (95% CI)
Use of ECPs		
Knowledge of ECPs:		
Good	0.001	9.52 (2.51 – 35.71)
Fair	<0.001	10.20 (2.82 – 37.04)
Poor**		1.00

\*\*Reference category

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#### Hypothesis 4

There is no significant association between demographic characteristics (age group, religion, batch, school of graduation) of respondents and their sexual behaviour.

Many of the corps members in the three batches had had sex. While 60.6% of those in batch A had had sex, 60.8% and 57.7% in batches B and C respectively had had sex. There was no significant association between respondents' batch and their sexual behaviour.

There was a positive relationship between age of respondents and sexual behaviour. More respondents within the age group 25-30 had had sexual intercourse (67.0%) compared to those within the 20-24 age brackets (51.4%). There was a significant association between respondents' age and their sexual behaviour.

More Muslim respondents had had sex (73.2%) compared to the adherents of the Christian religion (57.2%). There was a significant association between religion of respondents and their sexual behaviour.

Majority (81.3%) of respondents who attended a Polytechnic had had sex while about half (54.2%) of those who attended a University had had sex. There was a significant association between respondents' school of graduation and sexual behaviour.

The null hypothesis failed to be rejected for the association between respondents' batches and sexual behaviour. In view of the fact that there was a significant association between sexual behaviour and respondents' religion, age and school of graduation, the null hypothesis was rejected.

In order to find out the factors that influenced respondents' sexual behaviour, the demographic characteristics (religion, age group and school of graduation) that were significant at 5% were entered into the logistic regression model and analysed to adjust for confounding factors.

Religion did not remain significant predictor of respondents' sexual behaviour ( $p=0.07$ ).

Respondents who attended a Polytechnic were three times more likely to have had sex compared to

those who attended a University (OR: 3.31, 95% CI: 1.80 - 6.11). Respondents who were within

the 25-30 age bracket were two times more likely to have had sex compared to those in the 20-24

age bracket (OR: 1.77, 95% CI: 1.16 - 2.71)



Table 4.16: Relationship between respondents' demographic characteristics and sexual behaviour

Characteristics	Ever had sex			p-value
	Yes N (%)	No N (%)	Total N (%)	
<b>Batch:</b>				
A	60 (60.6)	39 (39.4)	99 (100.0)	p= 0.85
B	101 (60.8)	65 (39.2)	166 (100.0)	p>0.05
C	71 (57.7)	52 (42.3)	123 (100.0)	
<b>Age (in years):</b>				
20-24	92 (51.4)	87 (48.6)	179 (100.0)	p= 0.00
25-30	140 (67.0)	69 (33.0)	209 (100.0)	p<0.05
<b>Religion:</b>				
Christianity	191 (57.5)	141 (42.5)	332 (100.0)	p= 0.03
Islam	41 (73.2)	15 (26.8)	56 (100.0)	p<0.05
<b>School of graduation:</b>				
University	167 (54.2)	141 (45.8)	308 (100.0)	p= 0.00
Polytechnic	65 (81.3)	15 (18.7)	80 (100.0)	p<0.05

Table 4.17: Factors that influenced respondents' sexual behaviour

Variables	p-value Sexual Behaviour	Odds ratio (95% CI)
Age (in years):		
20-24	0.008	1.77 (1.16-2.71)
25-30**		1.00
Religion:		
Christianity	0.07	1.82 (0.95-3.48)
Islam**		1.00
School of graduation:		
University	<0.001	3.31 (1.80-6.11)
Polytechnic**		1.00

\*\*Reference category

## CHAPTER FIVE

### DISCUSSION, CONCLUSION AND RECOMMENDATION

#### 5.1 Discussion

##### 5.1.1 Socio-demographic characteristics of respondents

The upper limit of respondents' age range (20-30 years) is in accordance with the National Youth Service Corps (NYSC) decree 1993 section 2 subsection (1) which stipulated that "a person shall not be called upon to serve in the service corps if, at the date of graduation or obtaining diploma or other professional qualification, he/she is over the age of thirty (30) years" (NYSC, 1993). The finding that majority were from the Yoruba ethnic group suggests that there is a great affinity for the corps members to participate in the NYSC within the same geo-political zone as their ethnicity. This finding may be explained partly to be due to the current insecurity in many states of the federation particularly in the northern geo-political zones.

Among the respondents, there was an evidence of preference for a University degree over a polytechnic degree. In Nigeria, there is a continued misconception that the University degree is somewhat better, more prestigious and generally more acceptable than the polytechnic diploma, hence the bias for a University certificate. The Chartered Institute of Personnel Management of Nigeria (CIPM) conducted a research on this perceived difference among people working in both the public and private sectors and found that majority of the respondents believed that there is a difference and that if given a chance, they would prefer to invest in holders of University certificate (CIPM, 2013). CIPM further explained that the University degree and the Polytechnic diploma serve two different purposes and it is important to note that despite the similarities between the two programs, the aims of both programs are different and passing through either program is expected to produce different results. As such, the Polytechnic diploma should not be perceived as being subpar.

##### 5.1.2 Respondents' Knowledge about ECPs

Majority of the respondents were aware of ECPs. This finding is consistent with that of Nibabe and Ngutshini (2014) and Olajide, Oxlunlade, Afolabi and Olajide (2012) that 69.9% of female college students and 73% of female undergraduates respectively were aware of ECPs. Also consistent with the result of this study but with a higher proportion is the finding of the study conducted by



Agrawal and Agrawal (2013) which revealed that 90.3% of college female students had heard of ECPs. Consistent with the finding of this study, friends also served as the main source of information among female undergraduates in the study conducted by Olajide et al. (2012) and Amina and Regmi (2014). This finding therefore indicates a great reliance on obtaining information from friends. The internet served as a source of information to 27.9% of the respondents in this study, a proportion that is similar to 28.2% reported by Agrawal and Agrawal (2013).

This study revealed that only 26.7% of the respondents had good knowledge of ECPs. This result is consistent with the finding of a similar study conducted among 833 college students in Ethiopia which reported that only 27.4% of the students had good knowledge of ECPs (Mengistu, 2007). Other empirical studies have also demonstrated a low level of adequate knowledge of ECPs, 18% and 30% respectively among female undergraduates (Aziken, Okonta and Ande, 2003; Olajide et al., 2012). Contrary to the findings of this study that majority of the respondents in this study knew that ECPs prevents unintended pregnancy but does not prevent STIs, half (52.8%) and one third (34.7%) of the respondents in the study conducted by Agrawal and Agrawal (2013) respectively reported these. Similar finding with this study that was however reported by these authors was that majority of their respondents also knew that for ECPs to be effective, they should be used within 72 hours of unprotected sexual intercourse.

Contrary to the finding of this study, only few of the respondents in the study carried out by Olajide et al. (2012) reported that ECPs can be used when one experiences condom tear (26.8%) and engages in unprotected sexual intercourse (32.1%). While only 36.7% of the respondents in this study knew that ECPs cannot be taken before but after intercourse, majority (72.2%) of the respondents in the study conducted by Agrawal and Agrawal (2013) knew it should be taken after sex.

The result of the bivariate analysis revealed that age and marital status were not significantly associated with knowledge of ECPs. The lack of significant association between age, marital status and knowledge of ECPs is consistent with the study finding of Amina and Regmi (2014) but contrary to the finding of Nibatse and Mgutshini (2014) on age which showed a positive

relationship with knowledge of EC and the findings of 2008 NDHS (NPC and ICF Macro, 2009) and Nibabe and Mngutshini (2014) on marital status which respectively showed higher knowledge of EC among unmarried sexually active people than married sexually active people and among married students than unmarried students.

### 5.1.3 Sexual behaviour

This study revealed a higher proportion of respondents who had ever had sex compared to the study by Mengistu (2007), Olajide et al. (2012) and Nibabe and Mngutshini (2014) which respectively reported that 29.2%, 34.5% and 36.6% of female college students and female undergraduates had ever had sexual intercourse. The disparity between this study and the compared studies could be because of difference in the study population since a study conducted by Iyanwura and Maulin (2008) which used a similar study population as this study also reported that a high proportion (73.9%) of corps members had ever had sex. This finding coupled with the finding that majority of this study's respondents were single reiterates the finding that sexual activity outside of marriage has increased (Hussain, 2005).

Majority of the respondents had had sexual intercourse during the six months prior to the interview, which can be considered as being sexually active as described by Desto and Regasa (2011). These authors also reported a similar finding of 73.8% sexually active respondents. Contrary to this finding however, Allimet et al (2012) stated that only 23.4% of undergraduate University students were sexually active. Majority of the respondents had a regular partner and it is quite noteworthy that most of those who had regular sexual partners had only one partner. There is no gainsaying the importance of this practice because of the myriads of health problems associated with having more than one sexual partner.

The use of contraception at last intercourse prior the interview was common among the respondents. With reference to respondents' marital status however, majority of the single respondents did not use contraception; a finding which reveals an engagement in risky sexual practice. In as much as it is very important for an individual to be faithful to only a sexual partner, the exercise of this practice is faithfulness between the two individuals who are involved in a sexual relationship. Being faithful in a sexual relationship - especially among unmarried individuals - to a large extent may be an individual decision with no absolute guarantee of the



other partner's sexual faithfulness; hence the necessity of using contraception. It is therefore pertinent that sexually-active unmarried individuals cultivate the habit of consistent and correct use of contraceptives.

Few of the respondents reported that they had experienced unwanted pregnancy, either before or during the service year. Majority of these respondents subsequently resorted to having induced abortion. This finding reiterates the knowledge that even though the practice of induced abortion in Nigeria is largely illegal and unsafe, the practice is very common (Makinwa-Adebusoye, Smith and Audam, 1997; Henshaw, 1998; Okonofua, 1999; Sule-Odu, Olatunji and Akindele, 2002; Mitsunaga, Larsen and Okonofua, 2005). Unwanted pregnancies reflect the broader context of Nigerian society and women's lives. There is an increase in the number of unmarried women who are sexually active as women stay in school longer and marry later, heightening the risk of out-of-wedlock pregnancies, many of which are unwanted (Hussain, 2005).

The study conducted by Nibabe and Mgutshini (2011) likewise reported risky sexual behaviour and unsafe abortion as common practices among college students in Ethiopia; of the 129 students had had sexual experience, 60 (46.5%) had a history of pregnancy which was highest among those within the age bracket 15-19 years (76.7%). Majority (78.3%) of these pregnancies was not planned and 43.3% of the total pregnancies resulted into unsafe abortion. With regards to induced abortion, another Ethiopian study revealed a consensus with the socio-demographic characteristics of respondents in this study when it reported that women who undergo induced abortions are more likely statistically to be below the age of 30 years and literate, often having studied beyond the level of secondary education (Tamire and Enqueschissie, 2007).

#### 5.1.4 Respondents' use of ECPs

In this study, few of the respondents who were sexually active during the service year had used ECP, which is still higher than 4.7%, 6.8%, 15.4% and 26% respectively reported by studies conducted in Adama University (Tilahun, Assefa and Belachew, 2010), Jimma University (Abera and Tebeje, 2009), three colleges (Nibabe and Mgutshini, 2011) of Ethiopia and Obafemi Awolowo University, Nigeria. The higher use of emergency contraception in this study could be because of the fact that a higher proportion of them (59.8%; n = 232) had a history of sexual intercourse when compared with those at Adama University (20%; n = 194), the three colleges (36.6%; n = 129) and Obafemi Awolowo University (34.5%; n = 138). Contrary to the finding of



this study however, Zeleke et al. (2008) who conducted a study among 400 female University students reported that majority of those who practised unsafe sex (31.0%; n = 124) used emergency contraception (73.4%; n = 91).

With regards to regularity of use, the proportion of those that had used it twice: both before (25.3%) and during (28.6%) the service year is similar to the 28.9% reported by Nibabe and Mngutshini (2014). These authors however further revealed that majority of their respondents used emergency contraceptives; a finding that is contrary to that of this study. In this study as well as the study conducted by Olojide et al. (2012), posunor was the most frequently used ECP, with majority of respondents in the two studies reporting its use. Unlike the finding of the study by Nibabe and Mngutshini (2014) which revealed that majority of their respondents procured the emergency contraceptives from nurses, none of the respondents in this study got it from this source but rather procured it directly from pharmacies. This finding indicates a preference for pharmacies - which in the context of Nigeria would include patent medicine stores - in purchasing ECPs as also advanced by Fayemi, Oduola, Ogbuji, Osinowo, Oyewo and Osibetu (2010); Oye-Adeniran, Adebole, Umoh, Oladokun, Gbadegesin et al. (2005) who reported that the preferred service delivery point for EC in Nigeria, especially among young women, is patent medicine vendors.

In disparity with the finding of this study in which only one respondent faced the challenge of unavailability in procuring ECPs, more than half (56.6%) of Nibabe and Mngutshini's (2014) respondents experienced this challenge. This finding suggests that ECPs are readily available for utilization in corps members' environment which may be partly attributed to the accessibility of patent medicine vendors, who were licensed to operate with a view to bridging the accessibility problem in health care (Anikeh, Toofeek, Ibrahim, Isezuo and Bello, 2009).

### 3.1.5 Factors associated with respondents' use of ECP

Contrary to the finding of this study that revealed that age and marital status of respondents were not statistically significant in terms of their association with use of ECPs, Nibabe and Mngutshini (2014) reported a significant association. In consistence with this study's finding, Amina and Ragmi (2014) similarly reported no significant association between age and use of ECPs. However, these authors and Ekhuchi et al. (2006) reported a contrary finding of significant association between marital status and use of ECPs.

Comparing the result of the association between school of graduation and use of ECPs with that of school of graduation and sexual behaviour, those who attended a polytechnic were more likely to have had sex but were less likely to have used ECPs compared to respondents who had a University education. This finding implies a greater aversion for ECP use among the polytechnic graduates despite a greater predilection for sexual activity. The reasons ECP use was significantly higher among University graduates although they were less involved in sexual activity compared to Polytechnic graduates was however not clear but may be related to under-reporting of risky sexual practices by University graduates or use of other contraceptives among Polytechnic graduates.

Majority of the respondents in this study were not willing to use or recommend the use of ECPs. Fear of side effects and infertility were the principal reasons adduced for this; reasons that are obvious misconceptions. Similar finding that EC causes infertility was reported by 29% of respondents in the study conducted by Obionu (1998). Although the use of ECP is associated with mild side effects such as headaches, dizziness, menstrual disturbances and breast tenderness, these side effects should not preclude its use because many of these are side effects that do not have serious complications or reported death (WHO, 1999, WHO, 2012). The WHO while reporting on the safety of ECPs further stated that they are safe, do not cause abortion or harm future fertility (WHO, 2012). Respondents in Olajide et al.'s (2012) study also stated misconceptions about EC which include protection against STI (16.2%), inducing abortion (20.6%), and causing harm to fetus if it fails (73.2%).

Some (4.9%) respondents were not willing to use ECPs because they believed using is tantamount to committing murder. This finding indicates that some respondents consider ECPs as abortifacient; a finding which is consistent with but lower than the 10% reported by Ahonsi, Salisu, Idowu and Oginni (2012) among emergency contraceptives providers. Comparing the respondents in Ahonsi et al.'s with this study (ECP providers versus COIP members), this finding is encouraging in favour of this study. Other studies (Dedomb 2007; Ebuehi et al. 2006) have also documented higher proportion of providers who thought that emergency contraceptives were abortifacients. Some respondents also reported that they lacked adequate knowledge of ECPs and this would prevent them from using or recommending it. This finding identifies a gap in the utilization of ECPs which ought to be addressed.



Some respondents were also not willing to use or recommend ECPs because it is not 100% effective. Studies (WHO, 1999; Rodrigues, Grou and Joly, 2001; Mohammed, Hossain, Khan, Rahman and Sabastian, 2005) have shown that ECPs are 75% to 90% effective when taken within 72 and 120 hours and most effective within 12 hours of unprotected sexual intercourse. Rodrigues et al. further elucidated that ECPs have a favourable success rate, with a pregnancy rate that is significantly lower than would be expected if no contraceptive were administered. Based on reports from nine studies including 10,500 women, the WHO-recommended regimen is 52-94% effective in preventing pregnancy (WHO, 2012)

Majority of the respondents who were willing to recommend the use of ECPs would do so because they opined that it is very effective and prevents unwanted pregnancy, an opinion that is accurate. ECP is used as an emergency procedure to prevent pregnancy following unprotected intercourse (WHO, 2000; Neinstein, Gordon, Kalzman, Rosen and Woods, 2008).

### 5.2 Implications for Health Promotion and Education

The results of this study lend its voice to other study finding to scale up health promotion and education intervention that directly target young people. This study found that the knowledge of respondents was fair and only few had good knowledge with existing misconceptions. This finding necessitates training to improve their knowledge and dispel misconceptions. The training programs could be in form of seminars and debates during the service year but particularly during the orientation program in order to effectively prepare them for the year long community service.

Many of the respondents indulged in risky sexual practices despite the dangers involved in such behaviour. Each year, there are about 250 million pregnancies globally and one third of these are unintended and 20% of these undergo induced abortion (WHO and Guttmacher Institute, 2007). Unsafe abortion has much ill effects in women's health, each year about 68,000 women die because of unsafe abortion (Grimes, Benson J, Singh S, Romero B, Ganatra, 2006). CoIP members therefore require education on the dangers of this which can be channelled through their community development programmes using brainstorming, discussion, use of posters and handbills.



The use of ECP among the respondents was poor although some of them used another form of contraception at last intercourse. Emergency Contraceptive Pills has a potential to curb the menace of unintended pregnancies and offers female young persons a chance to avert a complicated life that they are not ready to live. In other words, the orientation camp selling can be better utilized for positive health education messages regarding contraception and its benefits.

Finally, the efforts of government through the collaboration of the Federal Ministries of Health, Education, Women affairs, Labour and Productivity and Youth and Development should be geared towards contraceptive education for young persons during their tertiary education which would effectively prepare them ahead of the NYSC scheme.

### 5.3 Conclusion

This study explored the knowledge, sexual behaviour and use of emergency contraceptive pills among female corps members in Ibadan North West Local Government Area of Oyo State. Respondents had fair knowledge of ECPs and many of them were sexually active. A substantial proportion of the single respondents also indulged in risky sexual practices by not using any contraception at last intercourse. Resorting to induced abortion was also a preferred choice for corps members who had experienced unwanted pregnancy.

Corps members' use of ECP was poor either before or during the service year. Similarly, less than half were willing to use or recommend the use of ECPs to significant others. Reasons expressed for unwillingness to use or recommend the use of ECPs were related to corps members' misconceptions about ECPs and they included fear of side effects, infertility and the pills being abortifacient. Corp members would be willing to recommend ECPs because of its effectiveness in preventing unwanted pregnancies. Because of the many detrimental consequences associated with failure to use Emergency Contraceptive Pills, reproductive health education is needed to improve their knowledge and promote adoption of Emergency Contraceptive Pills use among female youth on national service.

#### 5.4 Recommendations

Contraceptive education which include ECP education should be integrated into the orientation program of the corps members. Given the large numbers at the orientation camp, the concept of peer education should be used to effectively reach every corps member. In order to also effectively communicate ECP education to all the corps members, the radio programmes on camp can be used to disseminate such information. During the service year, opportunities should be provided for Non-Governmental organizations during the days set aside for community development service to further reiterate the need to indulge in sexual behaviour that could lead to positive lifestyles.

In view of the fact that ECP may be the last chance of preventing unintended pregnancies, there is a need to adopt an aggressive promotional and educative approach to make corps members knowledgeable about ECPs through the print, social and electronic media. The various radio and television stations in communities where corps members work and live should air programmes that would educate them using the major Nigerian languages for better comprehension. These programmes should emphasize available methods, correct timing and clarifications about misconceptions.

There should be provision and availability of contraceptives especially emergency contraceptive pills at the sick bay / clinic which is situated at the orientation camp. This must be accessible at any given time and the basic qualities of service delivery should be strictly adhered to with no compromise.

Since the result shows that the use of ECP increased with the knowledge, a quasi-experimental study should be conducted to evaluate the influence of training on knowledge and use of ECP. The study can be initiated while the corps members are still at the orientation camp for their 2-week programmes.



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APPENDIX J

Statement of person obtaining informed consent:

I have fully explained this research to \_\_\_\_\_ and have given sufficient information including about risks and benefits, to make an informed decision.

DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

Statement of person giving consent:

Now that the study has been well explained to me and I fully understand the content of the study process, I hereby agree to be part of the study.

DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

Detailed contact information:

This research has been approved by the Ethics Committee of the University of Ibadan and the Chairman of this Committee can be contacted at Biode Building Room T10, 2<sup>nd</sup> Floor, Institute for Advanced Medical Research and Training, College of Medicine, University of Ibadan. Telephone: 08032397993, E-mail: [huichia@yahoo.com](mailto:huichia@yahoo.com). In addition, if you have any questions about your participation in this research, you can contact the principal investigator, Mr. Abode in Department of Health Promotion and Education, Faculty of Public Health, University College Hospital, Ibadan. Telephone: 08060073383, 08026283050, E-mail: [abode@yahoo.com](mailto:abode@yahoo.com). You can also contact the supervisor of this research at Department of Health Promotion and Education, Faculty of Public Health, University College Hospital, Ibadan. Telephone: 08034592581, E-mail: [supervisor@yahoo.com](mailto:supervisor@yahoo.com).

## Appendix II

### QUESTIONNAIRE

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

#### KNOWLEDGE AND USE OF EMERGENCY CONTRACEPTIVE PILLS AMONG FEMALE YOUTH CORPS MEMBERS IN IBADAN NORTHWEST LOCAL GOVERNMENT AREA, IBADAN, NIGERIA

##### INTRODUCTION

My name is AKIODE Oluwaseun A. 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. KNOWLEDGE AND USE OF EMERGENCY CONTRACEPTIVE PILLS AMONG FEMALE NATIONAL YOUTH SERVICE CORPS MEMBERS SERVING IN IBADAN NORTH-WEST LOCAL GOVERNMENT AREA, NIGERIA.

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 female corps members. This will also enable us to know the modalities for further educating fresh graduates on different forms of contraception, proper use of ECPs, side effects and suitability of ECPs on individual basis.

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.

IDENTIFICATION NUMBER:

DATE:

SECTION 1: Demographic Information

S/N	QUESTIONS	OPTIONS	RESPONSE
1	Age at last birthday		
2	Ethnicity	Hausa Yoruba Igbo Others (specify)	
3	Marital status	Single Co-habiting Married Others (specify)	
4	Religion	Christianity Islam Traditional Others (specify)	
5	Ethnicity	Hausa Igbo Yoruba Others (specify)	
6	Batch	A B C	
7	How long have you been in service?		
8	School of Graduation	University Polytechnic	

SECTION 2: Knowledge of Emergency Contraceptive Pills (ECPs)

9. Have you ever heard of emergency contraceptive pills?

- 1. Yes
- 2. No if No, go to Q 21

10. If yes, what was your main source of information? \_\_\_\_\_



Please tick one of the options as appropriate.

S/N	KNOWLEDGE OF EMERGENCY CONTRACEPTIVE PILLS	TRUE	FALSE	DON'T KNOW
11	Emergency Contraceptive Pills (ECPs) prevent unintended pregnancy when used correctly			
12	ECPs interrupt an established pregnancy			
13	ECPs may result in complications to get pregnant in the future			
14	ECPs will cause an abortion			
15	ECPs can be used when one experiences condom tear			
16	ECPs can be used when one engages in unprotected sexual intercourse			
17	ECPs prevent sexually transmitted infection			
18	Emergency contraception effectiveness is optimal when used within 12 to 72 hours of unprotected sexual intercourse			
19	Emergency contraceptives can be used with more than one act of unprotected sex			
20	Emergency contraceptives cannot be taken before intercourse			

### Section 3: Sexual Behaviour

21. Have you ever had sexual intercourse?

a. Yes b. No if No, end

22. When was the last time you had sex? \_\_\_\_\_

23. Who was your last sexual partner?

a. Husband b. Boyfriend c. Acquaintance d. Others (Specify) \_\_\_\_\_

24. Do you have regular sexual partner? a. Yes b. No if No, goto Q 26

25. If yes, how many regular sexual partners? a. 1 b. 2 c. 3 or more

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

27. Have you ever experienced unwanted pregnancy before the service year? a. Yes b. No If No, go to Q 29

28. If yes, what was the outcome of the pregnancy?

- a. Child born alive
- b. Child born dead
- c. Abortion
- d. Still Pregnant

29. Have you experienced unwanted pregnancy during the service year? 1. Yes 2. No if No, go to Q 31

30. If yes, what was the outcome of the pregnancy?

- a. Child born alive
- b. Child born dead
- c. Abortion
- d. Still Pregnant

#### SECTION 4: Use of Emergency Contraceptives Pills

31. Have you ever used ECP before? 1. Yes 2. No if No, go to Q 39

32. How many times have you used ECP before the service year? \_\_\_\_\_

33. Have you used ECP during the service year? 1. Yes 2. No if No, go to Q 39

34. If yes, how many times? \_\_\_\_\_

35. Where did you get it? \_\_\_\_\_

36. Did you face any challenges in getting the ECP? 1. Yes 2. No

37. If yes, what challenges?

- a. Not affordable 1. Yes 2. No
- b. Not accessible 1. Yes 2. No
- c. Not available 1. Yes 2. No
- d. Other \_\_\_\_\_

38. Which brand did you use the last time? \_\_\_\_\_

39. If given the opportunity, will you be willing to use ECP. 1. Yes 2. No

40. If No, state reasons

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41. I will recommend it to a friend or relative in case of need. 1. Yes 2. No

42. If yes, state reasons

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43. If No, state reasons

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COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN, IBADAN, NIGERIA.**



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UWUCH EC Registration Number: N11REC/05/01/2008

**NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW**

Re: Knowledge and Use of Emergency Contraceptive Pills among Female Youth Corps Members in Ibadan North West Local Government Area, Nigeria

UWUCH Ethics Committee assigned number: UVFC/12/01/15

Name of Principal Investigator: Olunmatan A. Akintola

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

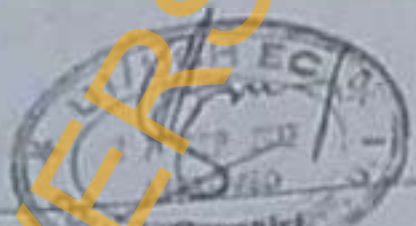
Date of receipt of valid application: 22/05/2012

Date of meeting when final determination on ethical approval was made: 27/09/2012

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and given full approval by the UWUCH Ethics Committee.

This approval dates from 27/09/2012 to 26/09/2013. If there is delay in starting the research, please inform the UWUCH Ethics Committee so that the dates of approval can be adjusted or extended. Note that no participant recruitment activities related to the research may be conducted outside of these dates. All information consent forms used in this study must carry the UWUCH EC assigned number and duration of UWUCH EC approval of the study. It is expected that you submit your annual reports as well as an annual request for the project renewal to the UWUCH EC early to enable the committee to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all international guidelines, codes and regulations and with the terms of the Code including ensuring that all adverse events are reported promptly to the UWUCH EC. No changes are permitted to the research without prior approval by the UWUCH EC except in circumstances outlined in the Code. The UWUCH EC reserves the right to conduct compliance visits to your research site without previous notification.



Prof. A. Ogunniyi  
Director, IAMART  
Chairman, UWUCH Ethics Committee  
E-mail: [vischito@yahoo.com](mailto:vischito@yahoo.com)

Research Units • Genetics & Bioethics • Malaria • Environmental Sciences • Epidemiology Research & Service  
• Behavioural & Social Sciences • Pharmaceutical Sciences • Cancer Research & Services • HIV/AIDS