

**NURSES' KNOWLEDGE, ATTITUDE AND PRACTICES OF
EMERGENCY CONTRACEPTIVE PROVISION TO
CLIENTS IN OGUN STATE, NIGERIA**

BY

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DEDICATION

This work is dedicated to God who is my strength and my ever present help in time of need. I also dedicate this work to my ever understanding husband, Biodun, my lovely parents, Mr.& Mrs. R.A. Kayode and my siblings whose constant prompting and encouragement have helped me to achieve this milestone and my children, Tobi, Toyin and Tosin.

God bless you all.

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ABSTRACT

Emergency Contraceptives (ECs) are highly effective for the prevention of unwanted pregnancy for up to 72hrs after unprotected sexual intercourse. Timely provision of emergency contraceptives services to clients by nurses can play a vital role in reducing the rate of unplanned pregnancies, abortion and maternal mortality. In Nigeria, there is limited information on competence of nurses on provision of EC services. This study was designed to determine nurses' knowledge, attitudes and practices of E.C. provision to clients in Ogun State, Nigeria.

Using multi-stage sampling technique, from a total of 3,073 nurses in Ogun State, 369 nurses were selected, out of which 99 nurses were working in 58 Primary Health Care (PHC) centres, 154 in 8 Secondary Health Care (SHC) institutions and 116 in one Tertiary Health Care (THC) facility in the State. A semi-structured questionnaire which included a 17-point knowledge, 4-point attitudinal and 3-point practice scales was used for data collection. Respondents who scored ≥ 8.5 points in the knowledge scale were considered to have good knowledge, respondents who scored ≥ 2.5 points in the attitudinal scale showed positive attitude while respondents who scored ≥ 1.5 points in the practice scale showed good practice. Data analysis was conducted using descriptive statistics, ANOVA and Chi- square.

Most respondents (95.4%) were females, 72.9% were married while 21.7% were single. Majority (79.6%) had heard of ECs, out of which 17.7% were working in THCs, 37.8% in SHCs and 24.0% in PHCs. Most respondents (94.7%) were aware that EC could prevent pregnancy (20.9% in THCs, 49.3% in SHCs and 24.4% in PHCs). About 19% of respondents stated correctly the dosage and time of administration of an emergency contraceptive. Respondents' mean knowledge score of ECs was 10.7 ± 5.2 . Mean knowledge scores by type of facility were 11.8 ± 4.0 (PHCs), 10.3 ± 5.6 (SHCs) and 10.2 ± 5.4 (THCs). Few respondents, 13.9% from THCs, 33.3% from SHCs and 19.8% from PHCs were of the opinion that health facilities owned by religious organisations should also provide ECs. Some respondents, 6.5% from THCs, 16.2% from SHCs and 12.9% from PHCs, had ever administered ECs and their mean practice score was 13.6 ± 2.9 while the score for those who

had never done so was 11.5 ± 3.9 . About 7.0% of respondents from THCs, 16.8% from SHCs and 10.6% from PHCs had good knowledge with no significant difference ($P < 0.05$). About 10% of respondents from THCs, 27.0% from SHCs and 12.1% from PHCs had positive attitude with no significant difference ($P < 0.05$). About 6.3% of respondents from THCs, 13.2% from SHCs and 11.9% from PHCs had good practice of provision of EC with no significant difference ($P < 0.05$).

Respondents' knowledge of the mechanism of action of emergency contraceptives was high but their awareness of the dosage and time of administration was poor. In-service training on emergency contraceptives is needed to increase the knowledge of nurses and also to correct their attitudes.

Keyword: Emergency contraceptives, Provision Practices, Unwanted pregnancies, Training

Word count: 500

CERTIFICATION

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

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ABBREVIATIONS

EC	Emergency Contraceptives
ECP	Emergency Contraceptive Pills
IUD	Intrauterine Device
LVG	Levonorgestrel
MDG	Millenium Development Goal
THCc	Tertiary Health Care Centre
SHCc	Secondary Health Care centre
PHCc	Primary Health Care centre
RN	Registered Nurse
RM	Registered Midwife
PHN	Primary Health Nurse
SNO	Senior Nursing Officer
ACNO	Assistant Chief Nursing Officer
CNO	Chief Nursing Officer
ACN	Assistant Chief Nursing Sister
Pills	Oral Contraceptive pills
GIT	Gastrointestinal Tract
STI	Sexually Transmitted Infection
OCP	Oral Contraceptive pill
SMI	Safe Motherhood Initiative

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Safe motherhood constitutes a major health challenge in Nigeria with the country having one of the highest maternal and neonatal morbidity and mortality rates in the world (National HIV/AIDS and Reproductive Health Survey, 2007). An estimated 500,000 women die each year throughout the world from complications of pregnancy and child birth. About 55,000 of these deaths occur in Nigeria. Nigeria with only 2% of the world's population accounts for 10% of the world's maternal deaths (Nwosu, Odubanjo and Osinusi, 2009).

Each year, an estimated 75 million unwanted pregnancies occur around the world.

Many women resort to termination of pregnancies. Many of these pregnancies are often terminated with women without access to safe methods of abortion often resorting to unsafe methods which can lead to disability. Unsafe abortion however is an easily preventable cause of maternal death.

Studies, however, have revealed that if family planning services were more widely available, up to 40% of maternal deaths could be averted in developing countries, while further noting that approximately 300 million couples in the reproductive age range did not want more children, but were not using any method of contraception (Ujah and Aisen, 2001). Among women of reproductive age, one-third of illness and early death is due to problems associated with pregnancy, STIs and HIV.

In Nigeria, only 8-12% of married women actually use modern contraceptive methods. Low contraceptive prevalence is a major cause of unwanted pregnancies which could then lead to abortion. Unsafe abortion is currently responsible for 12-26% of maternal deaths in Nigeria (Ujah and Aisen, 2001; Ezechi and Fasuba, 1999). Unintended pregnancy poses a major challenge to the reproductive health of women in Nigeria, particularly young adults. Some young women with unintended pregnancies obtain abortions, many of which are performed under unsafe conditions, while others carry their pregnancies to term with the

risk of morbidity and mortality associated with pregnancy and delivery (Ebuehi, Ebuehi, and Inem, 2006).

More than 42 percent of teenage females and 22 percent of teenage males reported first sexual intercourse by the age 15-19 years, with median age at first sex being 15 years for rural females and 17 years for urban females (National HIV/AIDS and Reproductive Health Survey, 2007).

The rising incidence of sexual activity coupled with poor condom use makes emergency contraception a second chance approach, if unwanted pregnancies and clandestine abortions are to be kept at the barest minimum (Oladapo, Adefuye, Odusoga and Okewole, 2003), the first chance approach being abstinence or the use of contraceptives.

Emergency contraception is defined as the use of drugs or devices to prevent pregnancy within 5 days of unprotected intercourse (Haggai, 2003). Sometimes referred to as “morning after” or post-coital contraception and though it has been around for over 30 years, it has, until recently, been a very well kept secret. It took a while before ECs became available in developing countries probably due to misconceptions about them and probably because of the absence of policies to improve access to them. In developing countries, oral contraceptives were prescribed off-label as emergency contraceptives, until recently when branded ECs became available. A number of reasons have been offered for needing emergency contraception. First, many women have difficulties using their regular methods of contraception. Condom users may experience breakage or slippage. Similarly the diaphragm or cervical cap may move out of place. Pill users may not remember to take their tablets regularly leading to contraceptive failure.

Other candidates for emergency contraception are women who have engaged in an unexpected sexual activity either by being forced (as in cases of rape), or coerced into having unplanned, unprotected intercourse. Women abused by their husbands or boyfriends often are unable to negotiate the timing or the terms of sexual intercourse. Another reason is that it is useful for women using withdrawal method in instances where withdrawal occurred too late, or, for women practicing the rhythm or calendar method with any miscalculation of the “safe” days for periodic abstinence. Aside from the above,

there are some women who are using no regular method of contraception due to either fear of, or discomfort with side effects, or lack of knowledge of availability (Haggai, 2003). Emergency contraceptives could play an important role in averting pregnancies attributable to non-use or incorrect use of contraceptives, contraceptive failure and lack of knowledge about or access to methods, or coerced sex (Ebuehi, Ebuehi and Inem 2006).

1.2 Statement of the problem

In Ogun State, Nigeria, though 88.4% of currently married women aged 15-49 years had heard of any modern method of contraception, only 1.6% habitually used pills and 0.9% habitually used IUCDS as emergency contraceptive methods thus suggesting low contraceptive prevalence.

There seems to be the problem of early childbearing, as 12% of women aged 15-19 years had begun childbearing and the median age at first birth in women aged 25-49 years is 21.8 years (Nigeria Demographic and Health Survey, 2008).

The median age at first sexual intercourse for women 20-24 years in the south west is 19.3 years while that for men is 19.5 years.

A study conducted among female undergraduates of a university in Ogun State, Nigeria, indicated that knowledge does not guarantee practice. Though 72.2% of the subjects were aware of E.C. pills, only 15.8% had actually used them (Oladapo, Adefuye, Odusoga and Okewole, 2001).

In the South West, 9.6% of women have an unmet need for birth spacing while 4.6% have an unmet need for birth limiting.

Emergency contraception is still rarely mentioned in the clinical setting. Only 14% of women aged 18-44 reported ever having discussed E.C with a doctor or nurse (Kaiser Family Foundation, 2004). Though emergency contraceptives have been introduced to the national family planning programmes in Nigeria over 20 years ago (Ibrahim, 2008), results from a study indicate that 92% of non-users of contraceptives did not discuss family planning with a fieldworker or at a health facility during the 12 months preceding the survey (NDHS, 2008). Moreover, staff at family planning facilities are more likely to discuss family planning with women age 20-39 than with younger women age 15-19 or older women age 44-49 (NDHS, 2008).

Several studies have also revealed that most hospitals do not routinely offer counseling, referral, or dispensation of EC to women who have been sexually assaulted (Polis et al, 2005).

1.3 Justification of the study

In most parts of the developing world, more women delay marriage. Their reasons for delaying marriage could be among others, to complete their education, to develop remunerable skills, and to choose their husbands or to choose not to marry at all. Avoiding unintended pregnancies is crucial because it allows women to make these choices, especially in cultures where unplanned pregnancy leads to marriage or where premarital births have particularly disastrous social or economic consequence. Avoiding unintended pregnancies also enables women to take charge of their sexual and reproductive health. Emergency contraceptives can be very effective in preventing unwanted pregnancies and thereby reduce the rate of unsafe abortion. According to several studies, fewer than half of Nigerian women who were aware of or had used emergency contraceptives had received information on the method from trained health care providers (Aziken and Akubuo 2003; Ebuehi, et al 2006). Several studies on emergency contraception have been carried out outside Nigeria on 'health care providers' such as physicians, pharmacists and nurses both collectively and as a group. There have been fewer studies conducted in developing countries to assess knowledge, attitudes and practices of family planning providers towards provision of emergency contraception. Nurses play an essential role in the distribution of emergency contraceptives as care givers, client educators, advocates, and support persons, hence the need to study their knowledge, attitudes and practices towards provision of emergency contraception to their clients.

Conducting this study in Ogun State would help to determine the level of awareness of Ogun State nurses on Emergency Contraceptives and the findings would enable the Ogun State government to take adequate steps to increase the awareness of nurses on EC if need be, and hence improve the reproductive health of women in Ogun State. The study is of benefit to nurses as it will be an eye-opener in determining their level of knowledge and practice of EC and to the health system as it will not only provide information on nurses' EC awareness, but also help the health system to redress the current situation if need be, to ensure improved reproductive health of women. If nurses are re-trained on emergency

contraception, they will provide adequate EC services, which will be evidenced by a decrease in the number of unplanned pregnancies and abortion.

1.4 Research Questions

1. What is the knowledge of respondents regarding emergency contraceptives?
2. What are respondents' attitudes to emergency contraception?
3. What are the emergency contraceptive provision practices of respondents to their clients?
4. Is there any relationship between the demographic characteristics of respondents and their knowledge, attitude and EC provision practices to their clients?
5. What are the respondents' future intentions?

1.5 Objectives of the study

The broad objective of this study was to assess the knowledge, attitudes and EC provision practices of nurses to their clients.

The specific objectives were to:

1. Assess respondents' awareness and knowledge of emergency contraceptives (types, indications for use, dosage regimen, contraindication, and brands);
2. Assess respondents' attitude towards provision of emergency contraception to clients;
3. Assess practices on E.C. provision to clients;
4. Determine the relationship between respondents' demographic characteristics and their knowledge, attitudes and EC provision practices.
5. Determine respondents' future intention to provide routine information on E.C. to clients.

1.6 Hypotheses

The following hypotheses are to be tested in the study:

There is no association between respondents' demographic characteristics (age, sex, religion, marital status and professional qualifications) and their knowledge of emergency contraception.

There is no association between respondents' demographic characteristics and their attitude towards prescription and provision of E.C to clients.

There is no association between respondents' demographic characteristics and provision of E.C to clients.

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CHAPTER TWO

2.0

LITERATURE REVIEW

This chapter presents the review of literature on national policies and programmes on ECs. Literature on the need for emergency contraception, history of emergency contraceptives, the overview of emergency contraceptives, the moral, cultural and religious beliefs about ECs, the cost effectiveness of using ECs and the effect of advance provision of EC on pregnancy rates were reviewed. The knowledge, attitudes and emergency contraceptive provision practices of nurses which have been documented in literature were also reviewed.

In Nigeria, 21.6% of women aged 25-49 had first sexual experience by age 15 while only 4.4% of men aged 25-49 had their first sexual experience by age 15. However, by age twenty, 67.2% of women aged 25-49 and 42% of men aged 25-49 had their first sexual experience (NDHS, 2008). A study of out-of-school adolescents done in Kajola, Oyo State in Nigeria, shows that the median age at first sex is 16.5 years. Median age at first sexual intercourse for urban women aged 20-49 is 19.3 while that for their rural counterparts aged 20-49 is 16.7 (NDHS, 2008).

However, 29.7% of women aged 15-19, 53.3% of women aged 20-24 and 64.2% of women aged 25-29 had last sexual intercourse within the last 4 weeks preceding the survey (NDHS, 2008). In general, 56% of women aged 15-49 were sexually active during the 4 weeks preceding the survey, while about half (48%) of men aged 15-49 were sexually active in the 4 weeks preceding the survey (NDHS, 2008). Moreover, among teenagers aged 15-19 years, 42.9% of females and 22.2% of males had ever had sex. Surprisingly 84.4% of females and 60.1% of males aged 20-24 had ever had sex while 95.6% of females and 80.0% of males aged 25-29 years had ever had sex, (National HIV/AIDS and Reproductive Health Survey, 2007).

Sexual activity among adolescents tends to be more sporadic and less likely to be planned than among adults, and adolescents may be more likely to take risks. Thus, because of

their patterns of sexual behaviour and contraceptive use, they often do not plan their first intercourse, or may have infrequent intercourse with no contraceptive protection (Haggai, 2003). Unplanned sexual activity among adolescents ultimately results in adolescent pregnancy.

Adolescent pregnancy is an issue that occurs worldwide and studies have demonstrated that sexuality occurs at an early stage with increased fertility among adolescents (Tadesse and Nigussie, 2000). Adolescent pregnancy is a major health concern because of its association with higher morbidity and mortality for both the mother and child (NDHS, 2008). Factors responsible for adolescent pregnancy include emphasis on sexual activity in contemporary society, early sexual maturation with decreasing age at menarche, breakdown in cultural bonds, peer pressure and lack of parental guidance. Several studies have demonstrated an increase in pregnancy complications associated with adolescent pregnancy. Such complications include, anaemia, preterm labour, hypertensive disorders of pregnancy, low birth weight babies and cephalopelvic disproportion (Ojengbede, Otolorin and Fabanwo 1987) resulting in high incidence of operative deliveries (Tadesse and Nigussie, 2000). These complications have been attributed to the relative physical immaturity of the adolescent mothers. It has been suggested that the adverse social and economic factors which accompany pregnancy at an early stage may have a greater role to play in these complications. Since most adolescent pregnancies are unplanned, antenatal care and social support which contribute to good pregnancy outcomes are often lacking. Adolescents generally have no access to reliable information on sexuality, relationship-friendly health services; hence they rely on their peers (Ibrahim, 2006).

Early child bearing is a direct result of adolescent pregnancy. In Nigeria, 23% of women aged 15-19 have begun childbearing, 18% have had a child and 5% are pregnant with their first child. Moreover, 9% of women aged 25-49 have given birth by age 15, and 47% have become mothers by age 20. The median age at first birth for women aged 25-49 is 20.4years (NDHS, 2008).

Early childbearing can result from non-use or poor use of ECs and can have a negative influence on the socioeconomic status of a youth, particularly regarding educational attainment, because women who become mothers in their teens are more likely to curtail

their education (NDHS, 2008). Early marriage accounts for about 23% of maternal mortality due to severe hemorrhage resulting from obstructed and prolonged labor. The narrow pelvis of these women may also result in fistula and often time still births.

Unintended pregnancy poses a major challenge to the reproductive health of women, particularly young adults. Unintended pregnancy can occur when a woman's regular method of contraception fails or she uses it incorrectly. It can also occur as a result of missed pills, delay in receiving contraceptive injections, slipped diaphragm, condom breakage, from unprotected sex or from non-use or poor use of contraceptives including emergency contraceptives and uncontrolled sexual activity among adolescents. Moreover, unintended pregnancy can occur as a result of rape or sexual assault. Experts estimated that at least 25,000 pregnancies occurred each year in the United States as a result of forced sex (Stewart and Trussell, 2000).

Unintended pregnancy continues to be a major global tragedy for millions of women, but one, which could be significantly reduced by emergency contraception.

Of the 50 million abortions which occur annually, 19 million are unsafe. Of this figure, 4.2 million unsafe ones occur in Africa alone. In Nigeria, 9% of pregnancies result in unplanned birth and 12% end in induced abortion amounting to over 610,000 induced abortions annually (Ibrahim, 2006).

Apart from abortion, there can be complications of pregnancy with the end result being maternal morbidity or mortality.

EC is a contraceptive method that works after unprotected sexual intercourse to prevent pregnancy (Stewart and Trussel, 2000; Harper, Cheong, Rocca, Damey and Raine 2005; Petitti, Harvey, Preskill, Beckman and Postlethwaite 1998). It is also known as the 'morning after pill' or plan B (American College Of Obstetricians and Gynaecologists, 2005). It is a method under female control used post-coitally, which exerts an effect prior to implantation and will be required when a woman has had unprotected sexual intercourse without contraception or when she knows or suspects that her usual method may have failed. It is a safe and effective method and can be accessed up to 5 days (120hrs) after unprotected sexual intercourse. ECs are not abortifacients because they exert their effect before implantation, and because of this they are considered medically and legally to be

forms of contraception and are generally recommended for backup or "emergency" use, rather than as the primary means of contraception. They are intended for use when other means of contraception have failed, for example, if a woman has forgotten to take a birth control pill or when a condom is torn during sex.

Though EC supporters believe this contraceptive has enormous potential to reduce the rate of unintended pregnancies, use of EC has however been opposed by some groups that believe it is an abortifacient and by other groups that argue EC may encourage riskier sexual behaviour and poorer use of regular contraception, especially among teens (Kaiser Family Foundation, 2004). Policy debates around EC have also touched on issues such as sexual assault and the impact of religious or moral beliefs on provision of health services and these would also be highlighted in this chapter.

2.1 Government Policies and Programs on Emergency Contraceptives

In August 1987, the federal government launched its Primary Health Care (PHC) plan, which is the cornerstone of the National Health Policy. The main objectives of the PHC included accelerated health care personnel development; improved collection and monitoring of health data; ensured availability of essential drugs in all areas of the country; implementation of an Expanded Programme on Immunization (EPI); improved nutrition throughout the country; promotion of health awareness; development of a national family health program; and widespread promotion of oral rehydration therapy for treatment of diarrheal disease in infants and children. Implementation of these programs was intended to take place mainly through collaboration between the Ministry of Health and participating local government councils, which received direct grants from the federal government.

The government's population control program also came partially under the PHC. By the late 1980s, the official policy was strongly to encourage women to have no more than four children, which would represent a substantial reduction from the estimated fertility rate of almost seven children per woman in 1987. No official sanctions were attached to the government's population policy, but birth control information and contraceptive supplies were available in many health facilities.

In response to the pattern of the population growth rate and its effect on national development, the Federal Government of Nigeria approved the National Policy on Population for Development on February 4, 1988. Over the years, emerging issues such as HIV/AIDS, poverty, gender inequality among others, gained wider recognition. This necessitated a review of the 1988 National Population Policy, giving way to the National Policy on Population for Sustainable Development in February 2005. The policy recognizes that population factors, social and economic development, and environmental issues are interconnected and are critical to the achievement of sustainable development in Nigeria.

The overall goal of the National Policy on Population for Sustainable Development is to improve the quality of life and standard of living for the Nigerian population through the attainment of specific goals such as:

- (i) Achievement of a balance between the rate of population growth, available resources, and social and economic development of the country and
- (ii) Improvement in the reproductive health of all Nigerians at every stage of the life circle.

To guide policy, programme planning, and implementation, certain targets were set, some of which were to:

- (a) Reduce the national population growth rate to 2 percent or lower by 2015;
- (b) Reduce the total fertility rate by at least 0.6 children every five years by encouraging child spacing through the use of family planning;
- (c) Increase the contraceptive prevalence rate for modern methods by at least two percentage points per year through the use of family planning;
- (d) Reduce the maternal mortality ratio to 125 per 100,000 live births by 2010 and to 75 by 2015 (NDHS, 2008).

The need to make health available to all Nigerians led to the promulgation of the National Health policy in 1988. In view of emerging issues and the need to focus on realities and trends, a review of the National Health Policy became necessary leading to the Promulgation of a new policy, the Revised National Health Policy, which was launched in September 2004 (NDHS, 2008).

The revised National Health Policy has been formulated within the context of:

- The Health Strategy of the New Partnership for Africa's Development (NEPAD), a pledge by African leaders based on a common vision and a firm conviction that they have a pressing duty to eradicate poverty and place their countries individually and collectively on a path of sustainable growth and development;
- The Millennium Development Goals (MDGs) to which Nigeria, like other countries, has committed to achieve. The United Nations Millennium Development Goals are eight goals to which all the 191 UN member states have agreed to achieve by year 2015. The MDGs are derived from the UN Millennium Declaration signed in September 2002 which commits world leaders to combat poverty, hunger, diseases, illiteracy, environmental degradation and discrimination against women.
- The National Economic Empowerment and Development Strategy (NEEDS) which is aimed at re-orienting the values of Nigerians, reforming government and institutions, growing the role of the private sector, and enshrining a social charter on human development with the people of Nigeria; and the development of a comprehensive health sector reform programme as an integral part of the NEEDS.

The policy's long-term goal is to provide adequate access to primary, secondary, and tertiary health care services for the entire Nigerian population through a functional referral system. The overall objective of the Revised National Health Policy is to strengthen the national health system such that it will be able to provide effective, efficient, quality, accessible and affordable health services that will improve the health status of Nigerians through the achievement of the health-related Millennium Development Goals (MDGs). The health policy set several targets to be achieved by 2015 one of which is- to reduce the maternal mortality rate by three-quarters between 1990 and 2015.

The major thrusts of the National Health Policy relate to:

- National Health System and Management
- National Health Care Resources
- National Health Interventions
- National Health Information System
- Partnerships for Health Development
- Health Research
- National Health Care Laws

(Revised National Health Policy, 2004).

The overall objective of the policy is to strengthen the national health system such that it will be able to provide effective, efficient quality, accessible and affordable health services that will improve the health status of Nigerians through the achievement of the health-related Millennium Development Goals (MDGs).

The MDGs originated from the Millennium Declaration produced by the United Nations in September 2000. In order to achieve the MDGs, some targets and indicators for poverty reduction were set up. This was to enable the achievement of the goals within the stipulated fifteen-year period (Kabeer, 2010; Severine and Shahani, 2009).

The 5th goal of the MDGs is to improve maternal health and to achieve this, two targets were set which are to:

- (a) Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio and
- (b) Achieve by 2015, universal access to reproductive health,

These targets are also part of the health policy targets.

The maternal mortality rate (MMRate) is the annual number of female deaths per 100,000 live births from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes).

Apart from maternal mortality, there could be pregnancy-related complications such as bleeding after childbirth, infections, high blood pressure during pregnancy (eclampsia), unsafe abortions, hypertension, obstructed birth and malaria infection during pregnancy (Nwosu, Odubanjo and Osinusi, 2009).

India and Nigeria account for one third of all maternal deaths. In 2010, about 20% of deaths (56,000) were in India and 14% (40,000) were in Nigeria.

Reduction of maternal and childhood mortality is the fifth goal of the Millennium Development Goals and the Nigerian government is committed to meeting this and other MDG goals through the integrated Maternal, Newborn and Child Health Strategy (IMNCH) (NARHS, 2007).

Though some progress has been made in reducing maternal mortality in Nigeria, since the launching of the Safe Motherhood Programmes in the late 1980s, facts have however shown that Nigeria may not meet this fifth goal. This is because though the fifth goal

anticipates a reduction in the maternal mortality ratio by 75% between 1990 and 2015, a near-term evaluation has shown that Nigeria is unlikely to achieve this goal by 2015 due to inadequate demographic, economic, socio-cultural and political conditions. This is because Nigeria is projected to achieve a maternal mortality rate of 540 per 100,000 by 2015 which is more than twice the MDG target of 250 per 100,000 for Nigeria (Nwosu, Odubanjo and Osinusi, 2009).

Maternal deaths can be reduced by reducing unplanned pregnancies through the education of women on use of emergency contraceptives.

2.2 History of Emergency Contraceptives

Since the 1960s, prescribers have prescribed oral contraceptives “off label” but still legally to prevent pregnancy after unprotected intercourse. Dr John Morris discovered the use of synthetic estrogens as post coital contraceptives in 1966 (Time 1966 and IPPF Medical Bulletin, 1967). Other drugs were also studied especially high-dose estrogens which were hoped to be used as an “ongoing contraceptive method if used postcoitally (Demers, 1971). Five-day treatments with high-dose estrogens such as diethylstilbestrol (DES) in the US and ethynyl estradiol in the Netherlands were the first widely used methods (The Journal of the American Medical Association, JAMA, 1973; Johnson, 1984).

The Yuzpe regimen was later developed by Albert Yuzpe in 1974 (Yuzpe \ et al, 1974), the progestin-only postcoital contraception investigated in 1975 (Valle, 1975) and the copper IUD investigated for use as emergency contraception in 1975. The Yuzpe regimen became the standard dosage regimen for postcoital contraception in many countries in the 1980s. After the WHO trial comparing Yuzpe and levonorgestrel in 1998 (Guillebaud, 1998 and Telegraph, 2012), combined estrogen-progestin products were gradually withdrawn from some markets in favor of progestin-only EC.

Oral contraceptive pills can be used as EC if they contain progestin, levonorgestrel, or norgestrel. The first modern IUDs –the Lippes loop and the Margulies Spiral–were used in the 1960s. They were made of polyethylene, a biologically inert plastic. Hormone releasing IUDs were developed in the 1970s (Lukkainen and Toivonen, 1995).

2.3 Need for emergency contraception

The need for ECs to be available when needed is pertinent in other to reduce the prevalence of unintended pregnancies and maternal mortalities and morbidities. Other reasons include:

(1) Unprotected sex

The age at which adolescents achieve sexual maturity is now decreasing (Tadesse and Nigussie, 2000). Studies have also shown that many adolescents have had some premarital sexual experience. In Nigeria, median age at first sexual intercourse for urban women aged 20-49 is 19.3 while that for their rural counterparts aged 20-49 is 16.7. Moreover, among teenagers aged 15-19 years, 42.9% of females and 22,2% of males have ever had sex (NDHS, 2008). Thus, because of their pattern of sexual behavior and contraceptive use, adolescents often do not plan their first intercourse, or may have intercourse without using contraceptives (Haggai, 2003).

Women are at the risk of unintended pregnancy when they engage in sexual intercourse without the use of condoms or contraceptives, or when the condom breaks during sexual intercourse. However, as the name implies, emergency contraceptives are not meant to be used as an ongoing or regular contraception but in emergency situations like in condom breakage and unprotected sex only.

(2) Low Contraceptive Prevalence

Facts have shown that few women initiate and use contraceptives after child birth, before return of fertility. In a Nigeria-based study of post- partum women in Calabar (Ekabua, Ekabua, Odusola, Agan and Iklaki 2008), less than 25% of respondents initiated and used contraception after child birth, but before return of fertility (Ekabua et al, 2008), a factor which is responsible for many women having their children closer together than they wish. It has also been documented that up to 70% of unwanted pregnancies were predictable because of non-use of contraception.

Nigeria has a very low contraceptive prevalence despite high fertility rate. About 73.4 % of females and 81.9% of males had general knowledge of any contraceptive method. Among those that had general knowledge of any contraceptive method, 67.9 % of females

and 78.6% of males had general knowledge of any modern contraceptive method. Though high knowledge of contraceptives was reported, about 13.4% of sexually active unmarried females and 18.4% of sexually active unmarried males actually used any method of contraception. Moreover only 10% of married women aged 15-49 years used any modern method of family planning. The factors responsible for this are thought to be mainly illiteracy and poverty which are common in the rural community. In a study conducted on married women in a rural community, Odolu, in Kogi state Nigeria, the prevalence of use was quite low (5.8%) (Onuh, Otoide, Umeora, Okogbenin, Igbafe and Igberase, 2004). Alarmingly, only 2.8% of women aged 15-49 years, 2.1% of married women aged 15-49 years and 15.5% of sexually active unmarried women aged 15-49 had ever used emergency contraception (NDHS, 2008).

A study of tertiary school students in Akwa Ibom state in Nigeria shows that though 68.5% had heard of E.C, only 5.7% of respondents had practised some forms of emergency contraception indicating that awareness and use of E.C. by Nigerian youths is low (Umoiyoho, Abasiattal, Bassey, Etuk and Udoma, 2005).

Factors responsible for the low contraceptive utilization by adolescents include low education on contraception as well as lack of access to effective contraception services, education on adolescent sexuality as well as access to contraceptives are greatly limited by religious and cultural constraints as well as policy factors.

(3) Rape

Rape is defined as physically forced or otherwise coerced penetration even if slight- of the vulva or anus, using a penis, or other body parts or an object (Ujah, Ikwuta and Mutihir, 2005). Sexual assault is unlawful carnal knowledge of a woman or a girl without her consent, or by force or with her consent by means of threat or intimidation of any kind, through the use of fear or false and fraudulent representation.

Rape is a form of sexual assault and women who have been sexually assaulted, apart from being treated for STIs and HIV need to be given emergency contraceptives because they are at risk of unwanted pregnancies.

Worldwide, young adults and children suffer the physical and emotional traumas of sexual assault and rape (Heise, 1994). It is reported that in the US, more than 300,000 women are sexually assaulted each year, out of which an estimated 25,000 will become pregnant

(Stewart and Trussel, 2000). If all women who were raped used ECs, about 22,000 of the pregnancies could be prevented. It is however difficult to approximately estimate the prevalence of sexual violence in developing countries including Nigeria, because limited research has been done on the subject and because much of it are unreported (Ujah, 2005).

Sexual abuse in childhood has been linked to high-risk behavior later in life, including early onset of consensual sexual activity (Boyer and Fine, 1992; Stewart and Sebastiani, 1995). Rape puts women at risk of contracting HIV/AIDS, STIs and unwanted pregnancy. Women who have been sexually assaulted have a particularly compelling need for quick and easy access to E.C. (Stewart and Trussels, 2000).

Some efforts have focused on making EC more readily available to survivors of sexual assault. However, some local studies have documented that a sizeable share of hospitals do not routinely offer counseling, referral, or dispensation of EC to women who have been sexually assaulted (Polis et al, 2005).

(4) Adolescents' sexual behaviour

The age at which adolescents achieve sexual maturity is now decreasing (Tadesse and Nigussie, 2000). Studies have also shown that many adolescents have had some premarital sexual experience. In Nigeria, median age at first sexual intercourse for urban women aged 20-49 is 19.3 while that for their rural counterparts aged 20-49 is 16.7. Moreover, among teenagers aged 15-19 years, 42.9% of females and 22,2% of males have ever had sex (NDHS, 2008). Thus, because of their pattern of sexual behavior and contraceptive use, adolescents often do not plan their first intercourse, or may have intercourse without using contraceptives (Haggai, 2003).

(5) Lack of information on contraception

The fact that adolescents have an increasing sexual drive indicates that they need EC information and services. However, in many developing countries, lack of information on sexuality and contraception targeted at adolescents has often resulted to high prevalence of unwanted pregnancies which may in turn lead to abortion either safe or unsafe. Factors responsible for the low contraceptive utilization by adolescents include low education on contraception as well as lack of access to effective contraception services, education on

adolescent sexuality as well as access to contraceptives are greatly limited by religious and cultural constraints as well as policy factors. Moreover it has been reported that staff at family planning facilities are more likely to discuss family planning with women aged 20-39 than with younger women aged 15-19 (Nigeria Demographic and Health Survey, 2008).

(6) The economic and social consequences of unplanned pregnancies

When unmarried, adolescent females become pregnant, they are less likely to complete their education, have higher marital instability, fewer assets and lower incomes later in life than other women (Morris, 1990). This has a resultant negative effect on their socio-economic conditions. However, offering contraceptive services to adolescents still remains a controversial issue because of the general assumption that access to contraception will encourage adolescents to have sexual relations before marriage which could be the reason why many family planning programs do not attend to adolescents (United Nations Economic And Social Commission For Asia And The Pacific (ESCAP), 1992). Though adolescents could not access family planning services about two decades ago, because of unnecessary medical barriers and government policies such as rules requiring young people to have parental consent to obtain contraceptives and regulations restricting provision of family planning services to young people, however in most countries presently, some of the policies have been reviewed and adolescents are now being granted more access to contraceptive services.

Adolescents need to be given unrestricted access to emergency contraceptive services and government programs and policies need to include, adolescent reproductive health, if the burden of poor socio-economic outcomes due to unplanned pregnancies is to be reduced.

2.4 Overview of Emergency Contraceptives

2.4.1 Types of Emergency Contraceptives:

There are presently three types of emergency contraceptives:

(i) The Intrauterine devices (IUDs), (ii) The hormonal ECs e.g the emergency contraceptive pills and (iii) the progesterone receptor modulators e.g Ulipristal acetate and mifepristone.

1). The Intrauterine devices (IUDs).

- (a) Medicated IUDs are copper-bearing, examples of which are first generation copper IUDs like TCU-200, Cu-7 and MLCu-250 and second generation IUDs like TCU-380A, Nova T and MLCu-375 or hormone releasing IUDs e.g Progestasert.
- (b) Unmedicated IUDs or Inert IUDs e.g the Lippes loop.
IUDs are usually used as primary contraception but sometimes used as EC for up to 5 days after unprotected intercourse to prevent pregnancy.
- (c) The Intrauterine System (IUS). The IUS is a new type of IUD that gradually releases a progestin, which makes menstruation lighter and less painful.
- (d) Frameless IUD (GyneFix®), also a new type of IUD is anchored into the uterine wall (Anderson, Odund and Rybo 1994).

2). The hormonal ECs.

These are the second type of ECs and examples are the emergency contraceptive pills. They are the same type of hormonal contraception that make up the regular contraceptive pills and there are two types namely:

- (a) The Progestin only ECs consisting of the progestin levonorgestrel and (b) The Oestrogen and Progestin ECs, also called the combined or Yuzpe regimen, a regimen now believed to be less effective and less well tolerated than the progestin-only method.

3.) Progesterone Receptor Modulators

A more recent type of ECs are the Progesterone Receptor Modulators like Ulipristal acetate which has been approved for emergency contraception in Europe and mifepristone, which is commonly used in 200mg or 600mg as an abortifacient (International Planned Parenthood Federation, 2006)

2.4.2 Dosage Regimen of ECs:

The Levonorgestrel-only regimen consists of either two doses of 0.75mg each, taken 12 hours apart or 1.50mg of levonorgestrel in a single dose. The latter regimen has however been shown to be more effective and to have fewer side effects (American College of Obstetricians and Gynaecologists (ACOG), 2005). The combined estrogen-progestin regimen on the other hand consists of two doses of 100mcg ethinyl estradiol plus 0.50mcg levonorgestrel taken 12 hours apart (ACOG, 2005).

Table 2.1 shows contraceptive brands that can be used as emergency contraceptives and the number of pills to prescribe.

Table: 2.1 Oral Contraceptive Brands Approved for Use as Emergency Contraceptives

Brand	1st dose	2nd dose	Ethinyl estradiol per dose (µg)	Levonorgestrel per dose (mg)^C
Progestin-only Pills				
Plan B	2 white Pills	None	0	1.50
Plan B	1 white Pill	1 white Pill	0	0.75
Combined Estrogen and Progestin Pills				
Lo/Ovral	4 white Pills	4 white pills	120	0.60
Ovral	2 white Pills	2 white pills	100	0.50

Princeton N.J, 2009, www.advocatesforyouth.org

2.4.3 Effectiveness of ECs

Several studies have been conducted on the efficacy of ECs in preventing pregnancy after unprotected sex, and results indicate that ECs are especially effective when begun within 12 to 24 hours after sex and still remain effective when begun up to 72 hours after sex. Some studies demonstrate that ECs can still be effective, although with reduced efficacy, when begun up to 120 hours after sex (ACOG, 2000; International Consortium For Emergency Contraceptives, 2004). Results from studies on ECs also indicate that efficacy declines substantially over time. (ACOG, 2000; ICEC, 2004). The effectiveness of emergency contraception is expressed as a percentage reduction in pregnancy rate for a single use of EC.

Insertion of an IUD as an alternative to emergency contraceptive pills is more effective than use of emergency contraceptive pills, and pregnancy rates when used as emergency contraception are the same as with normal IUD use. IUDs may be left in place following the subsequent menstruation to provide ongoing contraception (3-10 years depending upon type) (Gottardi, Spreafico and de Orchi, 1986).

The Progestin (levonorgestrel) only regimen, also called Plan B®, is more effective than the combined estrogen-progestin regimen. This regimen works best the sooner after sex it is used. If taken within 72 hours after sex, it will significantly reduce one's chance of

getting pregnant. Seven out of every eight women who would have gotten pregnant will not become pregnant. Furthermore, Plan B works even better, if taken within the first 24 hours after sex (Food and Drug Administration (FDA), 2006).

A review article in American Family Physician explains the 75% effectiveness rate of the Yuzpe regimen thus: these numbers do not translate into a pregnancy rate of 25 percent. Rather, they mean that if 1,000 women have unprotected intercourse in the middle two weeks of their menstrual cycles, approximately 80 will become pregnant. Use of emergency contraceptive pills would reduce this number by 75 percent, to 20 women. (Weismiller, 2004).

A randomized trial compared the two regimens and found that the chance of pregnancy among women who received the levonorgestrel-only regimen was about one-third (0.36) the chance among those who received the combined regimen (International Consortium for Emergency Contraception (ICEC), 2004).

Combined data from two randomized trials that directly compared the two regimens, found the levonorgestrel regimen was twice as effective as the Yuzpe regimen (Cheng, Gulmezoglu, Oel, Piaggio, Ezcurra and Look, 2004; Trussell and Raymond, 2007; Ho and Kwan 1993; Raymond, Taylor, Trussell and Steiner 2004).

Randomized trials demonstrated that ulipristal acetate is slightly more effective than the single 1.5 mg dose of levonorgestrel when used within 72 hours after sexual intercourse and even between 72 hours and 120 hours (Time, 1966 and International Planned Parenthood Federation (IPPF) Medical Bulletin, 1967).

Moreover in randomized trials, 10 mg mifepristone was as effective as 25, 50, or 600 mg. preventing about 80-85% of expected pregnancies (the same efficacy and side effects as with the levonorgestrel method), with a slight decrease in efficacy when treatment was delayed to 5 days after intercourse (Ho et al, 2002); Bakhtiar and Mehboob, 2000.

2.4.4 Mechanism of Action of ECs

The primary mechanism of action of Copper releasing intrauterine devices (IUDs) as emergency contraceptives is to prevent fertilization because of copper toxicity to sperm

and ova (Trussell and Schwarz,2011; Royal College of Obstetricians and Gynaecologists (RCOG), 2012). The very high effectiveness of copper-releasing IUDs as emergency contraceptives means they must also prevent some pregnancies by post-fertilization effects such as prevention of implantation (Trussell and Schwarz, 2011; RCOG, 2012; Speroff and Darney , 2011).

Emergency contraceptive pills (ECPs) which contain levonorgestrel (LNG) prevent or delay ovulation. If taken before ovulation, LNG ECPs inhibit the pre-ovulatory luteinizing hormone (LH) surge, impeding follicular development and maturation and/or the release of the egg itself. (Marions et al, 2004; Durand et al, 2001;) Evidence suggests that LNG ECPs cannot prevent implantation of a fertilized egg. (Belluch, 2012; International Federation of Gynecology and Obstetrics (FIGO) and ICEC, 2011).

Combined estrogen-progestogen emergency contraceptive pills prevent fertilization by inhibition of ovulation (Trussell and Schwarz, 2011).

Progesterone receptor modulators like low-dose (10 mg) and mid-dose (25 mg) mifepristone and ulipristal acetate (micronized 30mg) action in preventing fertilization is by inhibition or delay of ovulation (Trussell and Schwarz, 2011; RCOG 2012; Speroff and Darney, 2011; Jensen and Mishell, 2012; Flatow, 2012; Cheng, 2012).). They prevent pregnancy by delaying or inhibiting ovulation and inhibiting follicle rupture (Gemzell-Danielsson and Sharon, 2011).

There is evidence suggesting that the contraceptive effects of the 10 mg dose are due to its effects on ovulation (Gemzell-Danielsson and Marions, 2004), but understanding of its mechanism of action remains incomplete. Higher doses of mifepristone can disrupt implantation and, unlike levonorgestrel, mifepristone can be effective in terminating established pregnancies. Progesterone receptor modulators like ulipristal acetate and mifepristone suppress ovarian follicular growth and also delay endometrial maturation, manifested in a delay in menstruation after treatment.

2.4.5 Safety of ECs

Emergency contraceptive pills are contraindicated for pregnant women only because the medication will not end a pregnancy (ACOG, 2005; American Academy of Pediatrics

(AAP), 2005; ICEC, 2004) and there is no harm to the woman, the course of her pregnancy, or the foetus (Trussell and Raymond, 2007; Grimes and Raymond, 2002; Davidoff and Trussell, 2006).

The herbal preparation of 'St John's wort' and some enzyme inducing drugs (e.g anticonvulsants or rifampicin) may reduce the effectiveness of ECP, and a larger dose may be required (Royal College of Obstetricians and Gynecologists (RCOG), 2012).

2.4.6 Side Effects of ECs:

Short-term side effects can include nausea, vomiting, abdominal pain, fatigue, headache, dizziness, breast tenderness, and irregular vaginal spotting or bleeding. The levonorgestrel-only regimen carries significantly lower chance than the combined regimen of causing nausea and vomiting.(ACOG, 2005; ICEC, 2004). In order to minimize nausea and vomiting, the levonorgestrel-only regimen has been recommended in preference to the combined estrogen-progestin regimen.(ACOG, 2005; ICEC, 2004). In addition, women using the combined regimen should receive pretreatment with antiemetic drugs (meclizine or metoclopramide) and if vomiting occurs within two hours after either dose, the dose should be repeated and in cases of severe vomiting, vaginal administration of the dose should be considered.(ACOG, 2005; ICEC, 2004).

It is important that clients be advised that their menses will probably occur within a week before or after the time they would have expected it. If menses is delayed more than two weeks beyond the time expected, the woman should seek a pregnancy test and, if she is pregnant, appropriate care should be given.(ACOG, 2005; ICEC, 2004).

2.4.7 Medical Eligibility Criteria for E.Cs

It has been observed that progestin-only ECPs may be preferable to combined ECPs containing estrogen in women with a history of blood clots, stroke, or migraine (Trussell and Raymond, 2007) (Grimes and Raymond, 2002).

Current venous thromboembolism, current or past history of breast cancer, inflammatory bowel disease, and acute intermittent porphyria have been noted as conditions where the advantages of using emergency contraceptive pills generally outweigh the theoretical or proven risks.

ECPs, like all other contraceptives reduce the absolute risk of ectopic pregnancy by preventing pregnancies, and evidence obtained from over 7,800 women in randomized controlled trials, indicates there is no increase in the relative risk of ectopic pregnancy in women who become pregnant after using progestin-only ECPs.(Trussell and Raymond, 2007; Grimes and Raymond, 2002; Trussell, Hedley and Raymond, 2003).

2.4.8 International Consortium for Emergency Contraception:-

Historical Development

Despite the fact that emergency contraception has been available for more than 30 years, women across the globe have remained largely unaware of this important option and lacked access to the information and products to use it effectively. This has been particularly true in developing countries. In response to this situation, the Rockefeller Foundation convened a meeting in 1995 to discuss emergency contraception. Soon after this meeting, a group of seven international organizations working in the field of family planning formed the Consortium for Emergency Contraception and set out to demonstrate that this "second chance" contraceptive could become a part of mainstream reproductive health care worldwide. The seven founding member organizations were the Concept Foundation, the International Planned Parenthood Federation (IPPF), the Pacific Institute for Women's Health, the World Health Organization (WHO), the Population Council, Population Services International, and the Program for Appropriate Technology in Health (PATH).

The seven members of the consortium collaborated by bringing together their expertise in product registration, contraceptive introduction and service delivery, training communication and research.

2.5 Moral, Religious and Cultural beliefs influencing Provision of EC.

2.5.1 Moral beliefs about EC

Like the Catholic Church, many anti-abortion advocates believe that ECs can act as abortifacients. These two groups believe that pregnancy begins with the onset of fertilization which is the union of an egg and sperm. Major medical organizations, on the other hand, consider a pregnancy to have begun only when the entire process of

conception is complete, which is to say after the fertilized egg has implanted in the lining of the uterus (Sneha, 2010).

Studies on the mechanism of action of emergency contraception showed that it works primarily by interfering with ovulation. In cases when ovulation has already occurred, EC may inhibit fertilization or, in cases when fertilization has already occurred, it could, prevent implantation. In theory, all hormonal contraceptive methods could work through all of these modes, although prevention of ovulation is the primary demonstrated mode for all of them (Sneha, 2010).

In describing ECs' mechanisms of action, the FDA has stated that ECs work like other birth control pills to prevent pregnancy. The World Health Organization states unambiguously in its guidelines that emergency contraceptive pills are not effective once the process of implantation has begun, and will not cause abortion. Similarly, the American Medical Association, the American College of Obstetricians and Gynecologists, the International Federation of Gynecology and Obstetrics, and a host of other medical institutions have unequivocally stated that emergency contraception does not terminate an established pregnancy (Sneha B.,2010).

2.5.2 Religious and cultural beliefs about EC

a) Christianity

There are three major denominations within Christianity namely: Roman Catholicism, Eastern Orthodoxy, and Protestantism and these have different beliefs about EC (Lo Presti, 2005).

Roman Catholicism

The Catholicism believe that the primary purpose of marriage and sexual intercourse is procreation (Schenker, 2000) and that contraception destroys any potential to produce new life and violates the principal purpose of marriage. There is a ban on contraception and the ban is against unnatural means of contraception, which include chemical and barrier methods. Abstinence and the rhythm method are the only officially approved methods of birth spacing (Schenker and Rabenou, 1993). In Catholicism, new life is treated as a person from the moment of conception and emergency contraception is prohibited (Lo Presti, 2005).

Catholic hospitals have their own policies. Some will provide EC, but only to women who have convinced them that they have been raped (Lo Presti, 2005).

Eastern Orthodox church

There is no official prohibition to contraceptive use by the Eastern Orthodox Church. Any method that does not destroy the product of conception may be used with the contraceptive method decision being left to the discretion of the couple. However, within the Orthodox faith, emergency contraception is prohibited (Zion, 1992).

Protestantism

Although mainstream conservative Protestants believe that marriages should be procreative, there are no prohibitions against using contraception within a marriage that already has children (Lo Presti, 2005). The permissibility of emergency contraception however, varies between denominations.

b) Judaism

Birth control is generally not encouraged in Orthodox Judaism (Abraham, 1996). However, emergency contraception is permissible in cases of incest, adultery and rape.

Cultural beliefs

A study published in 2000 found that in Israel, prevalence of contraceptive use decreased with increased religiosity among married Jewish women (Okun, 2000). Contraceptive method choices, however, were largely influenced by factors unrelated to religious doctrine. Once the decision to use contraception had been made, choices of contraceptive methods were largely influenced by factors such as suitability of the method to the intended fertility control needs, peer influences, number of current children, age of the woman, and education of the husband and wife (Okun, 2000).

c) Islam

The majority of Islamic jurists indicate that family planning is not forbidden (Omran, 1992). Some fundamentalist Muslims insist that any form of contraception violates God's intentions (Omran, 1992; Poston, 2005).

However, the prevailing view in Islam is that EC is permissible in certain situations (Maguire, 2001). Valid reasons may include rape, and economic indications (Omran, 1992; Shaikh, 2003 and Pennachio, 2005).

Cultural beliefs

Opinion of Muslim adherents regarding contraception varies from permitted to permitted but discouraged to not permitted (Dhami and Sheikh, 2000) When used as synonymous to birth spacing as opposed to limiting the final family size, family planning support increased among traditional couples (Kridli, 2002; Kridli and Libbus, 2001).

d) Hinduism

Hinduism, more a confederation of religions than a single dogmatically unified one, holds faith in multiple deities (Jain, 2003 and Sherma, 2005).

Generally, there is much flexibility within Hindu doctrine, and most decisions are based on intention and motivation. Conception is considered the result of a divine act whereby life enters the embryo; thus, abortion and emergency contraception are condemned (Jain S, 2003).

Cultural beliefs

Studies have demonstrated that traditional Indian men do not desire fertility regulation (Fisher, Bowman and Thomas, 2003; Sinha, 1995). An attempt made by the woman to influence these decisions could potentially result in physical abuse, allegations of infidelity, or divorce (Fisher, Bowman and Thomas, 2003).

Despite the religious permissibility of contraception, not all Hindu women utilize contraceptive methods (Iver, 2002). Lack of family planning success in India among Hindu women has been attributed to cultural resistance, sexism, and lack of female empowerment (Jain, 2003).

e) Buddhism

Although emergency contraception is considered murder, it is permissible in certain situations (Gnanawimala, 1993), such as rape, economic hardship, provided that the intentions of the mother are ethically sound.

Cultural beliefs

In Thailand, the majority of Buddhist women of reproductive age utilize contraception (Nepomuleno, 1991). Despite this increased usage, uncomfortable feelings toward contraception remain.

f) Chinese Religious Traditions

There is no religious opposition to any contraceptive method in Confucianism or Taoism. All modern approaches to family planning are acceptable (Shang, 2003).

Emergency contraception is neither endorsed nor prohibited (Maguire, 2001 and Shang, 2003). Chinese attitudes are mostly tolerant and compassionate.

Cultural beliefs

Despite the permissibility of all contraceptive methods, barriers to effective, accurate use exist. According to recent studies, ethnic Chinese and Korean women in Vancouver held many negative attitudes against oral contraceptives which became barriers to proper usage (Wiebe, 2002; Wiebe, Janssen, Henderson and Fung, 2004 and Wiebe, Henderson, Choi and Trouton, 2006).

The main concerns were fears of weight gain and infertility and cultural perceptions that women using oral contraceptives were bad or promiscuous (Wiebe, 2002 and Wiebe, Henderson, Choi and Trouton, 2006). Of Chinese women presenting for pregnancy termination, the most frequently used forms of contraception were condoms, coitus interruptus, and the rhythm method (Wiebe, 2002). The efficacy of these contraceptive methods was hindered, as all methods required cooperation of the male partner (Wiebe, Janssen, Henderson and Fung, 2004).

Despite the importance of religion in influencing decisions, followers of a faith do not necessarily adhere to the prescribed doctrines of their faith. A woman's ability and willingness to utilize contraception is affected by whether she identifies with orthodox, traditional, or liberal interpretations of her religion (Okun, 2000).

2.6 Knowledge, Attitudes and Practices of Nurses Regarding Emergency Contraception

2.6.1. Knowledge and awareness.

Findings from a study conducted on Jamaican and Barbadian health-care providers, revealed that nearly all respondents had heard of E.C pills and 20% knew it could be safely used as often as needed (Yam, Gordon-Strachan, McIntyre, Fletcher, Garcia, Becker and Ezcurra, 2007). Similar findings of high awareness and low knowledge were discovered in an Istanbul, Turkey-based study of health providers, in which though 84% of

respondents had heard of EC, only 50% knew the correct timing and dose interval (Uzuner et al, 2005); and in the study of health care providers in Lagos, Nigeria (Ebuehi et al, 2006), in which 90% of the respondents had heard of emergency contraception, but many lacked specific knowledge about the method. Only 50% of the respondents knew the correct dosing interval for EC use, and 75% knew that the pills prevented pregnancy. More than a third incorrectly believed that they might act as an abortifacient and fewer than 30% knew they were legal in Nigeria. Overall, among respondents who had heard about EC, only 24% had good knowledge, 59% had fair knowledge while 17% had poor knowledge (Ebuehi et al, 2006).

Similarly, in a study conducted on health providers in Borno State, Nigeria, the overall awareness among nurses was 69.8%, awareness of various methods of EC was poor, and only 49.5% were aware of estrogen being a method of EC (Geidam, Kullima and Sadique, 2009). However, findings from a study conducted on nurses and nursing students in Nairobi, Kenya, revealed even very low awareness and low knowledge of ECs, as only 48% of the respondents had heard of EC. More nursing students than qualified nurses were familiar with EC Knowledge and 49% of the respondents considered EC as an abortifacient. Also, the view that EC was an abortifacient negatively influenced their decision to use or provide EC in the future (International Centre For Reproductive Health (ICRH), 2009).

This low level of nurses awareness and knowledge was also noted in a survey of knowledge, perception and prescribing attitudes of emergency contraception among health professionals in Enugu, as only 39.3% of the respondents were aware of emergency contraceptive pills and even fewer respondents (26.8%) were aware of the potential use of intrauterine devices as emergency contraception. Lack of knowledge of proper use was noted as a major reason for two-thirds of the respondents not prescribing emergency contraceptive pills (Obionu, 1998).

2.6.2 Attitudes of Nurses towards Prescription and Provision of Emergency Contraception

The poor attitude of respondents in various studies reviewed, to EC provision is probably due to their misconceptions about EC. For example, in a study of policy makers and

providers' knowledge and attitudes regarding the provision of E.C pills within Lao PDR, some health providers felt a need to limit the use of E.C among young people because of the frequency of unsafe and unplanned sex within this group. Similar views were expressed in a Jamaican and Barbados-based study, in which 50% of all the respondents believed its use encouraged sexual risk-taking and led to increased Sexually Transmitted Infection (STI) transmission. However, most respondents believed it reduced unintended pregnancy and were willing to dispense it. About 25% of Barbadian and 50% of Jamaican providers thought EC should be available without a prescription (Yam et al, 2007).

In the Turkey-based study, 39.4% believed EC caused abortion, while 31.1% thought that it was harmful to the foetus. Majority (75%), however expressed similar opinion as respondents in other studies previously mentioned, as they stated that, there was tendency for men to give up condom use and 78.9% feared possibility of increased unprotected sex (Uzuner et al, 2005). However, most respondents (77%) in the Kenyan-based study on Nurses, approved its use for rape victims, 21% for adolescents and schoolgirls and 53% intended to provide or promote it (International Center for Reproductive Health (ICRH), 2009).

Poor attitude of respondents to EC provision was also noted in the Lagos-based study by Ebuehi et al 2006, in which, of those who were legally permitted to insert Copper T IUDs (152), only 26% indicated that they would do so while fifteen percent of those who knew about EC would give their client a serious reprimand and tell her to come back for contraceptives if she did not get pregnant, and 6% said they would do nothing because they were opposed to abortion.

2.6.3 Emergency Contraception Prescription and Provision Practices among Health Care Providers.

Some local studies in the U.S have documented that a sizable share of hospitals do not routinely offer counseling, referral, or dispensation of EC to women who have been sexually assaulted (Polis et al 2005). This claim is supported by findings from a study of Barbadian health care providers by Yam et al in 2007, in which majority had provided EC and about 50% had ever refused to dispense it. Similar findings were obtained from a Borno-based study of physicians, pharmacists and nurses by Geidam et al in 2009, in

which only 36.2% had ever provided EC before, and in the Lagos-based study by Ebuehi et al, (2006) in which, 58% of those who had heard of EC had provided clients with emergency contraceptive pills and fewer than one in 10 said they always provided information to clients.

These findings suggest a need for family planning programmes to retrain nurses, thereby equipping them to meet the needs of their clients. Technical training in clinical procedures and knowledge of contraceptive technology is fundamental to safe and accessible delivery of family planning services. Training in interpersonal communication also is essential to the quality of services. Training many nurses in technical skills helps family planning programmes offer services widely. Depending upon the services that they will provide, some nurses can be trained in a few days but retraining and continuing supervision are essential to maintaining skills. Proper technical training enables nurses and others without formal medical education to deliver clinical family planning services safely. Many studies, some conducted as early as the 1960s, have shown that specially trained nurses, midwives and paramedics can insert IUDs and perform voluntary sterilization as safely as physicians.

Furthermore, programmes that offer high-quality services can use training to motivate nurses and build their counselling and interpersonal communication skills. A conference on family planning counselling held in Istanbul in 1992, sponsored by AVSC International and attended by representatives of 25 countries, recommended the following to improve the quality of care through better training:

- (a) Family planning counseling should become part of medical and nursing school curricula;
- (b) Interpersonal communication skills should be incorporated into on-the-job training for all health workers and volunteers; and
- (c) Staff members with formal training in counselling should be given responsibility for providing on-the-job orientation to other staff members (Association for Voluntary Surgical Contraception (AVSC), 1992).

2.7 Cost effectiveness of contraceptive provision

The provision of contraception is important because it reduces the rate of unplanned pregnancy and allows spacing of families which in turn improves women's health. It is also considered that there is gain in health care economics.

In Nigeria, the median cost of obtaining contraception at a family planning clinic is about ₦70 (NDHS, 2008) while the cost of obtaining an abortion though in a private clinic is about N10,000 and the cost of obtaining an abortifacient in a pharmacy is about N500. Abortion is still illegal in Nigeria and cannot be conducted in government hospitals. The few safe ones done in private hospitals by experienced doctors are not documented because of its illegal status.

2.8 Effect of Advance provision of EC on pregnancy rate

In a research conducted to determine the effect of advance provision of emergency contraception on rates of pregnancy and sexually transmitted infections (STIs), as well as on sexual behaviour and contraceptive use, it was found that women with advance access to emergency contraception had similar rates of pregnancy as women who did not receive the medication in advance. (Polis et al, 2006). Women given emergency contraception in advance were no more likely to have unprotected sex, to contract STIs, or to change their use of other contraceptive methods. However, women with advance provision did take the medication an average of 13 hours sooner after sex, and were more likely to use emergency contraception at all (Polis et al 2009). It is therefore imperative that health care providers be aware of this, because some providers are of the belief that advance provision of EC can encourage promiscuity and the practice of unprotected sex and so do not provide EC services for this reason.

2.9 CONCEPTUAL FRAMEWORK

The conceptual framework for this study is the PRECEDE framework.

PRECEDE is an acronym for the Predisposing, Reinforcing and Enabling Causes in Educational, Diagnosis and Evaluation.

There are several steps in this framework which are as follows;

Step 1: The quality of life diagnosis

- Step 2: The Health Status diagnosis
- Step 3: The behavioral diagnosis
- Step 4: The Educational diagnosis
- Step 5: Strategy Planning (Administrative Diagnosis)
- Step 6: Implementation and
- Steps7: Evaluation

The PRECEDE model is based on the premise that an educational diagnosis should precede an intervention just as a medical diagnosis precedes a treatment plan (Green et al, 1980). This model is multidimensional, founded in the socio/behavioral sciences, epidemiology, administration and education. As such, it recognizes that health and health behaviours have multiple causations, which must be evaluated in order to assure appropriate intervention.

2.9.1 Phases in the PRECEDE framework

Phase 1: Social/Quality of life Diagnosis: This phase identifies and evaluates the social problems which impact the quality of life of a target population.

Adolescent are likely to have unprotected sex because their sex is unplanned almost always and this can increase the incidence of unplanned pregnancy, thereby impacting negatively on the quality of life of those affected. Poverty can predispose youths to having sex for financial rewards or to having unprotected sex on demand with attendant negative effects on their quality of life.

Phase 2: Epidemiological/Health Diagnosis: This phase helps determine health issues associated with the quality of life. It helps identify behavioural and environmental factors related to the quality of life issues. Increase in maternal morbidity and mortality due to unplanned pregnancy and increase in rates of abortion with attendant increase in maternal mortality. Engaging in unprotected sex and poor access to health care facilities can result in poor use or lack of use of EC resulting in unplanned pregnancies.

Most times these unplanned pregnancies lead to abortion which may not be successful and which can cause death or damage to the womb. Moreover, adolescents who have unplanned births may have their education hindered and often become financially handicapped.

Phase 3: Behavioral Diagnosis: This phase focuses on the systematic identification of health practices and other factors which seem to be linked to health problems defined in phase 2. This includes non-behavioural causes (personal and environmental factors) that can contribute to health problems, but are not controlled by behavior. Poor access to health care facilities due to poverty and poor knowledge of EC can result in poor use or lack of use of EC resulting in unplanned pregnancies, abortion, maternal morbidity and mortality with consequent reduction in the quality of life of the individual. The belief that adolescents should not be given ECs and the belief that ECs can cause an abortion can hinder nurses from providing EC service to clients.

Phase 4: Educational Diagnosis: This phase assesses the causes of health behaviours which were identified in phase 3. Three kinds of causes are identified - predisposing factors, enabling factors and reinforcing factors.

(i) Predisposing factors: These are factors that motivate or provide a reason for behaviors. They include knowledge, attitudes and cultural beliefs of nurses about emergency contraceptives.

The belief by nurses that ECs provision can cause promiscuity and can cause an abortion can hinder nurses from providing this service to clients.

(ii) Enabling factors: These are factors that enable a person to act on their own predisposition. These factors include available resources, supportive policies, assistance and services. Increased access to health care facilities and previous knowledge of EC can encourage clients to seek EC services. Moreover, previous training of nurses on family planning procedures especially on EC, family planning skills, attendance of refresher courses on family planning/E.C, inclusion of family planning courses in Nursing/Medical school curriculum will enable nurse to provide EC services without reservations.; availability of E.C.s over-the-counter and in family planning clinics will encourage use of EC by clients.; previous training on patient counseling and communication skills will also encourage provision of EC to clients.

(iii) Reinforcing Factors: These are factors that come into play after a behavior has been initiated. They encourage repetition or persistence of behavior by providing continuing rewards or incentives. Social support, praise, reassurance and symptom relief might all be considered reinforcing factors. Presence or absence of policies, attitudes of health authorities towards E.C., attitudes of colleagues and other health providers towards E.C.,

attitudes of clients to emergency contraception, attendance of refresher courses on family planning/Emergency Contraception, practices of friends, colleagues and other health providers regarding Emergency Contraception also are reinforcing factors. Health education on radio and TV can reinforce use of ECs.

Phase 5: Administrative and Policy Diagnosis: This phase focuses on the administrative and organizational concerns which must be addressed prior to programme implementation. This includes the assessment of resources; budget development and allocation; implementation timetable; organization of personnel within programmes and coordination of the programme with all other departments and institutional organizations and the community.

It deals with the analysis of policies, resources, circumstances prevailing and organizational situations that could hinder or facilitate the development of the health programme.

The decision by a health institution to give ECs only to rape victims can hinder provision of ECs to clients who come to that institution.

Phase 6: Implementation of the Programme: This is the stage at which all the plans are put into action.

Phase 7: Evaluation: measures change in terms of overall objectives and changes in health and social benefits or the quality of life. It can take a very long time to get results and may take years before an actual change is seen in the quality of life.

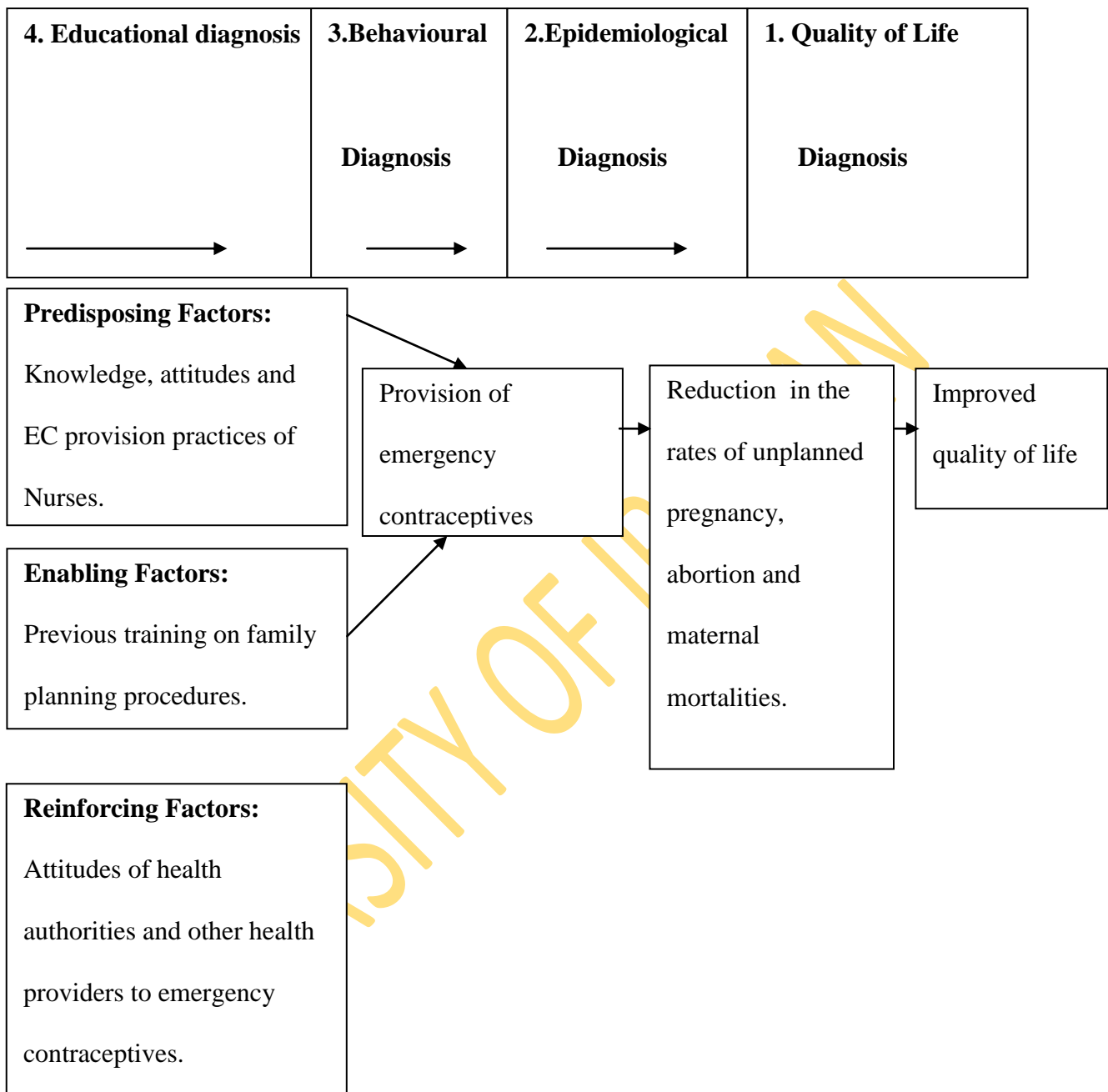


Figure 2.1: The PRECEDE Framework for Understanding Provision of Emergency Contraceptive Services to Clients by Nurses.

CHAPTER THREE

3.0

METHODOLOGY

3.1 Study Design

The survey, a descriptive, cross-sectional research design, is aimed at assessing the knowledge of emergency contraception, attitudes and emergency contraceptive provision practices of nurses in Ogun State. The goal of this research is to document the knowledge, attitudes and extent to which nurses in Ogun State provide EC services to their clients. The study was carried out in selected Primary, Secondary and Tertiary Health Care facilities in Ogun state. A pre-field presentation was made at the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan, and was approved by the department.

3.2 Variables

In order to assess the knowledge, attitude and practices of nurses towards prescription and provision of emergency contraception to clients, a number of variables were identified. These variables were segregated to dependent and independent variables. The independent variables were the respondents' social and demographic characteristics: sex, age, health institution, professional qualification, present position, religion, marital status and number of times respondent received training on ECs.

The dependent variables identified included knowledge of situations in which emergency contraceptives should be given, brands of ECs, dosage of ECs, contraindications to EC use, mechanism of action of ECs and effectiveness of ECs. Other dependent variables identified were respondents' belief in EC provision to clients, number of times respondent administered EC in the last one year and information offered during counseling.

3.3 Study Area

The study was conducted in Ogun State, Nigeria. Ogun State, otherwise known as the Gateway State, was created on the 3rd February, 1976 as part of the nationwide state creation exercise undertaken by the Military Regime of Late General Murtala Mohammed.

Its emergence followed the merger, by special decree, of both the Abeokuta and Ijebu provinces into a full fledged State within the nineteen-state structure of the Federal Republic of Nigeria. Ogun State is located in the South Western Zone of Nigeria. With a total land area of 16, 409.26 square kilometers. It is bounded in the West by the Republic of Benin; in the South by Lagos State and the Atlantic Ocean; in the East by Ondo State, and in the North by Oyo and Osun States. It is situated between Latitude 6.2° N and 7.8 ° N and Longitude 3.0E and 5.0° E.

For thousands of people coming into Nigeria by land from Sierra Leone, Liberia, Ghana, Togo, Benin Republic, among others, a historic point of contact with Nigeria is Idiroko, the famous Nigeria-Benin Republic border town in Ogun State. The state capital is Abeokuta, which is about 100km North of Lagos, Nigeria's business capital. The state is made up of 20 LGAs which include Abeokuta North, Abeokuta South, Ado-Odo/Ota, Ewekoro, Ifo, Ijebu-North, Ijebu-East, Ijebu North-East, Ijebu-Ode, Ikenne, Imeko-Afon, Ipokia, Obafemi/Owode, Odeda, Odogbolu, Ogun Water Side, Remo North, Sagamu, Yewa North and Yewa South.

The population of the state has grown from 2,338,570 in 1991 (National Population Commission, 1991 census figures) to a total population of 3,751,140 comprising of 1,864,907 males and 1,886,233 females (National Population Commission, 2006 census figures). The people of the State belong to the Yoruba ethnic group of south-west Nigeria and also live in parts of Benin Republic and Togo, with substantial diaspora elements in Brazil, Cuba and Sierra-Leone. The sub-groups are mainly the Egba, Yewa, Egun, Awori, Ijebu, Remo, Ikale and Ilaje.

In Ogun State, the level of literacy is comparatively high. The early contact with the Europeans led to the spread of western education in the state. The Free Education Programme in the defunct Western Region, introduced by Late Chief Obafemi Awolowo, and later in Ogun State under the Administration of Late Chief Olabisi Onabanjo further strengthened the high level of formal education in the state.

Many educational institutions exist in Ogun State. There are 1,390 public schools and 1,276 private schools which include 193 Junior Secondary Schools, 171 Senior Secondary Schools, 106 combined Junior and Senior Secondary Schools, 312 private secondary

schools and 7 Government Science and Technical Colleges. The State also has 9 Universities, 8 Polytechnics, 3 Colleges of education and 1 School of Health Technology. These include the Olabisi Onabanjo University; University of Agriculture, Abeokuta; Federal College of Education, Osiele; and Moshood Abiola Polytechnic Abeokuta. There are also irregular study centres which teach remedial courses for secondary schools' certificate examinations, tertiary schools' entrance examinations and schools which teach computer literacy certificate courses.

The industrial estates of the state are located at Abeokuta, Ota, Agbara, Sagamu, Ewekoro and Ijebu.

The health institutions in the state are government-owned, privately-owned or owned by Non-Governmental Organizations. Existing health facilities in the state include 904 private health facilities, 3 Tertiary Healthcare Centres namely; Ogun State University Teaching Hospital, (OSUTH) Sagamu, The Neuro-Psychiatric Hospital, Aro and The Federal Medical Centre, Abeokuta; 28 Secondary Healthcare Centers (SHCs) (State Hospitals) and 424 Primary Healthcare Centres (PHCs). Eight of the Local government centres are semi-urban, while 12 are urban. The population of Nurses in the state is estimated to be 3,073.

The health training institutions in Ogun State include Olabisi Onabanjo University Teaching Hospital, Sagamu; Schools of Nursing, Abeokuta, Ijebu-Ode and Ilaro; Schools of Midwifery, Abeokuta and Ijebu-Ode; College of Health Technology, Ilese Ijebu; Federal Medical Centre, Abeokuta; Neuro-Psychiatric Hospital, Aro, Abeokuta and Reproductive Health Training Centre, Abeokuta. Sporting and recreation facilities in the state include the June 12 cultural centre and the Moshood Abiola Stadium.

Table 3.1: Distribution of Nurses in Selected Institutions in Ogun State

Types of Institution	Name of Institution	No of Nurses	
		Frequency	Percentage
Tertiary H/Centre	(Ogun state university teaching hospital) Sagamu	116	31.4
Secondary H/Centre	Gen. Hospital Ijebu-Ode	51	13.8
	Gen. Hospital Ota	40	10.8
	Gen. Hospital Ilaro	16	4.3
	Gen. Hospital Odeda	14	3.8
	Gen. Hospital Remo	12	3.3
	Gen. Hospital Sagamu	8	2.2
	Gen. Hospital Ipokia	7	1.9
	Gen. Hospital Idiroko	6	1.6
	Total	154	41.7
Primary Health Centre	Odeda L.G. H/ Centre	14	3.8
	Yewa South L.G. H/ Centre	14	3.8
	Ijebu North-East L.G. H/ Centre	13	3.5
	Ado-Odo Ota L.G. H/Centre	13	3.5
	Remo North L.G. H/Centre	12	3.3
	Sagamu L.G. H/ Centre	12	3.3
	Ijebu-Ode L.G. H/ Centre	11	2.9
	Ipokia L.G. H/Centre	10	2.7
	Total	99	26.8

3.4 Study Population

The study was carried out in selected Primary, Secondary and Tertiary Health Care facilities in Ogun state. A pre-field presentation was made at the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan, and was approved by the department.

The population for the study was made up of male and female nurses from various government-owned health institutions in Ogun state. Nurses are care-givers and counselors and their role in the health care system is pivotal and vital and since they are trained to offer sound health care services to clients. They are expected to be versed in all health issues including reproductive health of which provision of “emergency contraceptives” is an aspect. The uniqueness of this sample population lies in the fact that Ogun State is the seat of civilization and has a ‘teaching hospital’ and 2 ‘schools of nursing’ and results obtained from nurses in Ogun State could be a reflection of what obtains in other states of Nigeria. The target population for this study covered male and female nurses drawn from eight Primary Health Care Centers, seven Secondary Health Care Facilities and a Tertiary Health Institution in Ogun State.

3.5 Sample Size Determination

The sample size was calculated using the Leslie Kish formula;

$$n = z^2 (pq) / d^2$$

Where n= minimum sample size,

z = a constant at 95% level of confidence (1.96)

d= desired level of precision (0.05)

p= prevalence rate of provision of ECs

$$q = 1 - p$$

Therefore at 49% prevalence rate

$$N = (1.96)^2 \times 0.49 \times 0.49 / (0.05)^2$$

$$= 368.9$$

$$\sim 369$$

3.5.1 Sampling Technique

A multi-stage sampling technique was used. First all health institutions in Ogun State, providing reproductive health services, were grouped into primary, secondary and tertiary healthcare facilities. The list of health facilities was accessed from a 2006 record of certified health facilities in Ogun State which was obtained from the Ogun State Ministry of Health.

The procedure for selection is highlighted below:

Step 1: Using the balloting technique, 10 local governments areas were randomly picked out of 20 LGAs in the state, but 2 LGAs were dropped because of the problem of accessibility to the site of data collection, and so 8 local government areas were enrolled for the survey.

Step 2: Out of the 424 PHCs in the state, 164 belonged to the 8 selected LGAs. Of these number, 113 easily accessible PHCs were selected from which about 50% (58) were randomly selected using a table of random numbers, in order to have enough respondents per facility. Of 28 secondary healthcare centres (SHCs) in the state, 8 were randomly selected from the already selected LGAs. The only Tertiary Health Care centre (THC) selected (Ogun State University Teaching Hospital, Sagamu) belonged to the already selected Sagamu Local Government Area .

Step 3: All departments/units offering family planning services were identified, and all nurses currently working in the facilities, and who were not on leave, were listed and stratified into male and female nurses.

Step 4: The nurses were randomly selected using systematic sampling technique based on weighted ratio (the 1st , 3rd , 5th respondents, etc. Thus, 369 nurses out of a total of 3,073 nurses in the state were randomly selected.

Table 3.2: Distribution of Nurses Selected From the Three Levels of Care

LGAs	No of PHCs	No of Nurses selected	No of SHCs	No of Nurses selected	No of THC's	No of Nurses selected	Type of Local Government
Yewa South	10	14	1	16	-	-	Urban
Odeda	11	14	1	14	-	-	Urban
Ado-Odo Ota	12	13	1	40	-	-	Urban
Ijebu North-East	5	13	-	-	-	-	Semi-urban
Ijebu Ode	3	11	1	51	-	-	Urban
Ipokia	9	10	2	13	-	-	Semi-urban
Sagamu	3	12	1	8	1	116	Urban
Remo North	5	12	1	12	-	-	Semi-urban
Total	58	99	8	154	1	116	

3.6 Development of Instrument

A questionnaire from a similar study conducted on Obstetrician-Gynaecologists in Brazil to assess their knowledge, attitude and EC provision practices was employed in the generation of questions for this study. Aspects of the Brazilian questionnaire not relevant to the study were removed and questions relevant to the study were included with the assistance of the project supervisor. The instrument developed for data collection was a semi-structured questionnaire which included 42 closed and open ended items. The questionnaire was divided into four sections. The first section was on respondents' socio-demographic characteristics and questions on respondents' age, sex, religion, marital status and present position were asked. The second section addressed the knowledge of respondents on emergency contraception. Questions asked include, the definition of EC, the candidates who require EC, types of ECs known by respondents and how soon after sex EC should be administered. The third section was on respondents' attitudes to EC provision. The fourth section was on the practices of respondents on EC.

Knowledge of best candidates for EC, situations in which EC should be used, and circumstances for provision of EC services to clients were assessed by providing several options with the responses "Yes" or "No". A 'Yes' response was given a value of 1 while a 'No' response was given a value of 2. There were 17 knowledge-based questions with each question having a score of 1 point. A 17-point knowledge scale was used to score respondents knowledge. The knowledge scale was obtained from the 17 pre-coded knowledge-based questions in the questionnaire. The average score was 8.5 points. A score of ≤ 8.4 points on the knowledge scale meant low knowledge while a score of ≥ 8.5 points meant high knowledge.

Respondents' attitudes were scored on a 5-point attitude scale using, 5 attitudinal-based questions in the questionnaire which had '4-point Likert scale' responses. For each 4-point Likert scale question, a value of 1 was assigned to 'strongly agree', a value of 2 to agree, 3 to undecided and 4 to disagree, with the highest value being 1. Each of the 5 attitudinal questions had a score of 1 point with the average score being 2.5 points. A score of ≤ 2.4 points on the attitude scale meant negative attitude while a score of ≥ 2.5 points meant positive attitude. The respondents' practice was scored on a practice scale of 3, using 3 important practice-based questions. For each practice-based question, a value of 1 was

assigned to a 'Yes' response and 2 to a 'No' response with the highest value being 1. Each question was given a score of 1 point with the average score being 1.5 points. A score of ≤ 1.4 points meant poor practice while a score of ≥ 1.5 points meant good practice.

3.6.1 Validity of Instrument

The researcher ensured that the study instrument was valid for the study and applicable to the respondents by studying similar researches in literature in order to find relevant items. An introduction indicating the purpose of the questionnaire and the identity of the researcher was made at the beginning of the questionnaire. After the project supervisor had made necessary inputs into the questionnaire, ensured its suitability for the study and permitted them to be administered, 31 copies were made and used for pretest.

3.6.2 Reliability of Instrument

To ensure the reliability of the instrument used in data collection a pilot study was conducted in October 2005 in Ibadan, Oyo state. 18 questionnaire copies were pretested among male and female nurses in University College Hospital, (UCH) Ibadan (Tertiary Health Care centre), State Hospital Adeoyo, Ibadan (Secondary Health Care centre) and Primary Health Centre, Foko (Ibadan South west Local Government Area), Ibadan, Oyo State, Nigeria, a population which is identical to the target population.

At the University College Hospital (UCH) Ibadan, the questionnaire copies were given to nurses at the "Dental", "Family Planning" and "General Outpatients" departments. At the "State Hospital Adeoyo" Ibadan, questionnaire copies were distributed to nurses in the "General Outpatient department", the "Eye Clinic", the "Obstetrics and Gynaecology department" and the "Family Planning Unit". In all these Health institutions questionnaire copies were administered and collected immediately. The pilot study assessed the reliability of the questionnaire, the respondents' ability to understand the items in the questionnaire, and the ability of the questionnaire to measure the aims and objectives of the survey.

In the pre-test, it took the respondents an average of 45 minutes each to complete their questionnaire copies. They complained about some items they did not understand. They mentioned that some questions were repetitive such as the ones on indications for use of

EC. Their responses were used as a guide in restructuring and deleting some items from the questionnaire.

3.7 Recruitment of Research Assistant

A student of Moshood Abiola Polytechnic was recruited as a research assistant and trained by the researcher for 2 weeks on the objectives of the research, the basic knowledge about the research topic, the importance of ensuring accurate data, and all the questions in the questionnaire were reviewed with him to ensure thorough understanding of the research topic. He was taught on how to be courteous and friendly with the respondents in order to get their maximum cooperation. The research assistant also demonstrated how to administer questionnaires and ask respondents questions regarding their challenges in completing the questionnaires. basic knowledge about emergency contraceptives and their use, and the importance of enlisting respondents from different healthcare centres in the study.

3.8 Method of Data Collection

A programme indicating all the selected health facilities and period for collection of data in each health facility was drawn. Advocacy visits were made to the heads of the respective health facilities before the questionnaires were administered.

In each local government area, data was first collected at the Primary Health care centres. The next phase of data collection was carried out at the Secondary Health care facilities, while the last phase of data collection was carried out at the Tertiary Health Institution. Three visits were made to the Tertiary Health Institution for data collection. At each health facility visited, the researcher and the research assistant introduced themselves to the respondents and explained their mission to the health facilities and their purpose for conducting the research after which the self-administered questionnaires were distributed to the respondents who indicated their willingness to participate in the research. A culturally-appropriate token of appreciation (souvenir pen) was distributed after the administration of the questionnaires. Completed questionnaires were collected immediately. The data collection was conducted between September to December 2006.

3.8.1 Data Management

The completed questionnaire copies were checked for completeness and accuracy, serial numbers were assigned to them for easy identification and recall, and they were then sorted out and arranged according to PHCs, SHCs, and THC in order to make data entry easy. The completed questionnaire copies were edited appropriately as soon as they were returned and coded. The questionnaires were stored in a safe place free from damage by fire and water.

The following format was used for data entry: Male respondents were assigned a value of 1 while their female counterparts were assigned a value of 2. Tertiary health Care institutions were assigned a value of 1, SHCs were assigned 2, and PHCs, 3. Registered Nurses were assigned a value of 1, Registered Midwives were assigned 2, Registered Nurses and 7 Midwives were assigned 3, and others, 4. Respondents who were currently 'Nursing Officers' were assigned a value of 1, Senior Nursing Officers were assigned 2, Matrons, 3 and others, 4. Respondents who belonged to the Christian faith were assigned 1, while those of the Islamic faith were assigned 2. Single respondents were assigned a value of 1, married ones, 2 and divorced/widowed/separated, 3. A 'Yes' response was assigned a value of 1 and a 'No' response, 2. For the 4 attitudinal-based questions with Likert-scale responses, a value of 1 was assigned to 'strongly agree', 2 to 'agree', 3 to 'undecided' and 4, to 'disagree'. For responses on the effectiveness of EC, a value of 1 was assigned to 100% effectiveness, 2 to 90% effectiveness, 3 to 80% effectiveness, 4 to 70% effectiveness and 5 to others. Also, on the extent of effectiveness of ECs, 1 was assigned to 'very effective', 2 to 'moderately effective', 3 to 'effective' and 4 to 'not effective'. On the promptness of EC services provided to clients by respondents' institution, 1 was assigned to 'immediately', 2 to 'within 24 hours', 3 to 'within 36 hours' and 4 to 'within 48 hours'.

Statistical Package for Social Sciences (SPSS) version 17 was used for data entry and analysis. Frequency and summary statistics were calculated for all variables. Relevant variables were cross-tabulated, while Chi-square and t-tests were conducted to explore the association between the variables, with test of significance set at $p = 0.05$. Independent variables were age, gender, religion, marital status, present position and number of years in service. The dependent variables were questions on knowledge, attitudes and practices

of EC. Independent variables (respondents' demographic characters) were cross tabulated against the dependent variables.

3.8.2 Ethical Considerations

The following ethical considerations in research were observed in this research work.

A letter of introduction to the heads of nursing services in the institution was obtained at the Department of Health Promotion and Education after Ethical Approval had been given to conduct the research. This helped the researcher in obtaining the necessary co-operation from the nursing heads. After explaining the goals and objectives of the research to the head or designate of the listed institutions, approval to administer the questionnaires on the respondents was sought. Verbal consent of the respondents was obtained prior to administration of questionnaires. Respondents who showed willingness to participate in the study were also informed about the goals and objectives of the study.

In order to ensure confidentiality, respondents were informed that their names were not needed on the questionnaire copies, so they cannot be identified individually. Participants were not allowed to discuss or consult one another for answers. The completed questionnaires were also kept away from non-participants and adequate field supervision was conducted.

3.9 Limitations of the Study

Some of the respondents refused to participate in the study, giving excuses such as lack of interest, time constraints, inability to combine their work with filling of questionnaire and questionnaire being too lengthy. Moreover, some questionnaires could not be retrieved from some respondents who had initially shown their willingness to participate in the study. For such respondents, repeated visits were made to their institutions to ensure that the required number of questionnaires was filled. However, efforts were made to persuade all to participate and eventually, 369 respondents participated in the research.

CHAPTER FOUR

4.0

RESULT

Some respondents completed the demographic responses fully, but did not complete all the responses about emergency contraception, therefore denominators for responses vary.

4.1 Demographic Characteristics of Respondents

4.1.1 Respondents' Age, Sex, Marital Status and Religion

Majority 352 (95.4%) of the 369 respondents that participated in this study were females and 17 (4.6%) were males. The wide difference in the number of male and female nurses is because nursing was perceived in the past to be a profession reserved for females only. Hence more females practiced the profession than males. Most of the respondents 120 (32.5%) were between the ages 40-49, followed by the age group 30-39 years, 113 (30.6%) and 20-29 years, 98(26.6%) with the mean age of respondents being 36.8 years (SD± 9.1). Most of the respondents, 269 (72.9%) were currently married while 80 (21.7%) were single, with majority of the respondents 299 (81%) being Christians while only 70 (19.0%) were Muslims (Table 4.1).

4.1.2 Respondents' Professional Qualification and Number of Years in Service

Majority of the respondents, 276 (74.8%), had double qualification as registered nurses and registered midwives. Others are shown in figure 4.1.

Moreover a greater proportion, 159 (43.1%), of the respondents were currently nursing officers followed by matrons, 74 (20.4%), and most 267 (72.4%) had spent between 1-4years in service. The mean number of years spent in present position was 4.4 (SD± 5.2) N= 354 (Details are shown in Table 4.1).

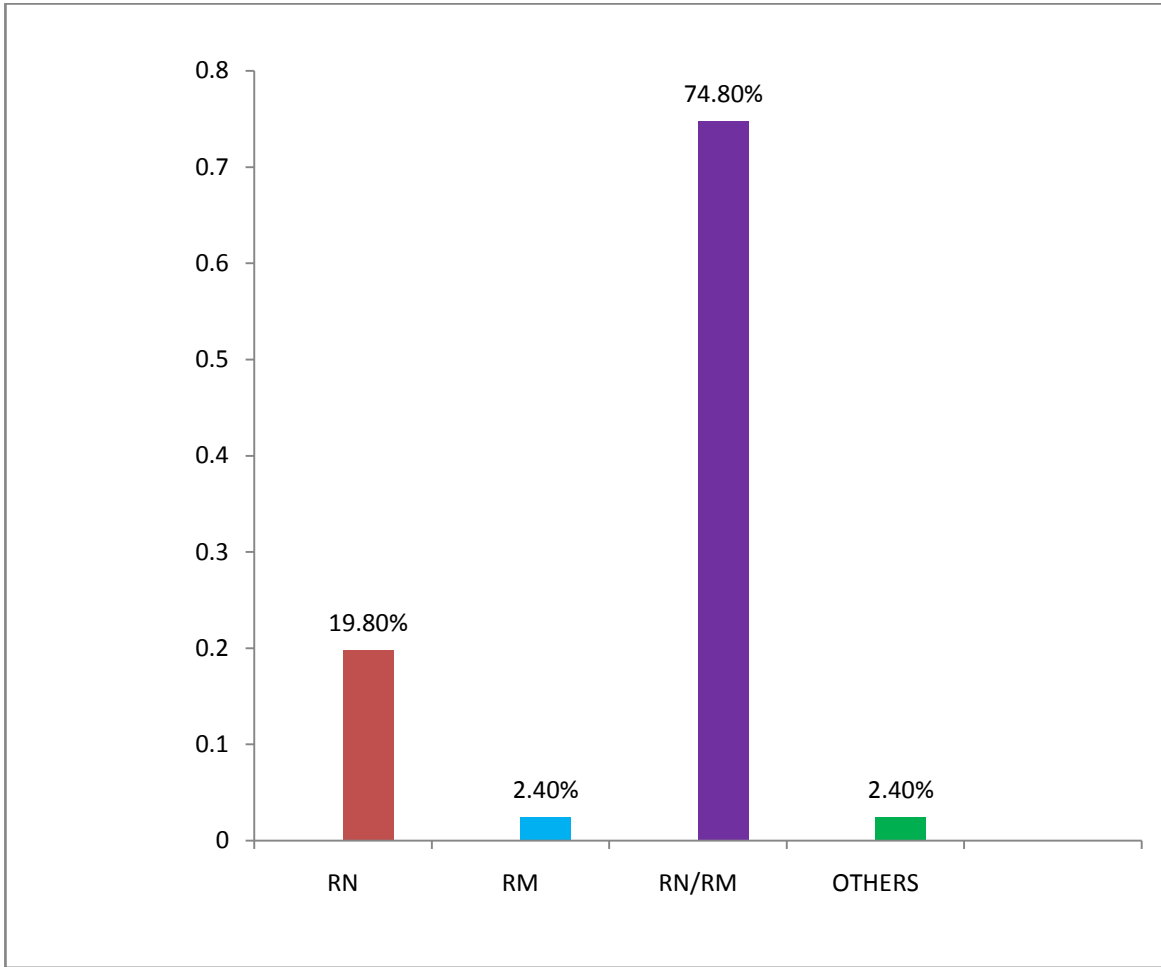


Figure 4.1: Distribution of Professional Qualifications of the Respondents

Table 4.1: Demographic Characteristics of Respondents

Demographic Characteristics		Frequency	Percentage
Age (in years)	Age group: 20-29	98	26.6
	30-39	113	30.6
	40-49	120	32.5
	50-60	38	10.3
	Total	369	100
Gender	Male	17	4.6
	Female	352	95.4
	Total	369	100
Religion	Christianity	299	81
	Islam	70	19
	Total	369	100
Marital Status	Single	80	21.7
	Married	269	72.9
	Widowed/Divorced/Separated	12	3.3
	Total	361	100
Present Position	Nursing Officer	159	43.1
	SNO	49	13.3
	Matron	74	20.4
	Others	26	7
	CNO	25	6.8
	ACNO	14	3.8
	Student Nurse	4	1.1
	Chief Matron	11	3.0
	Nursing Sister	3	0.8
	Chief Health Sister	1	0.3
	ACNS	1	0.3
	Total	367	100
Number of Years in Service	1-4 years	267	72.4
	5-9 years	55	14.9
	10-15 years	14	3.8
	>15 years	18	4.9
	Total	354	100

4.1.3 Institution in which Respondents Worked

A total of 116 (31.4%) of respondents who were randomly selected worked in a Tertiary Health Care centre (Ogun State University Teaching Hospital, Sagamu), while 154 (41.7%) of respondents, who were randomly selected, worked in Secondary Health Care facilities followed by 99 (26.8%) who worked in Primary Health Care centres.

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4.2 Types of Training Received by Respondents in the last 5years on Emergency Contraceptives.

Of the respondents who indicated that they had received training on IUCDs alone, 61 (44.5%) received training once on I.U.D; 38 (27.7%) twice and 22 (16.1%) thrice. About a third, 48 (36.4%) of respondents who had received training on pills alone, received training on pills once; 46 (34.8%) twice and 19 (14.4%), thrice. However, 46 (47.4%) of respondents who had received training on emergency contraceptives alone received training on emergency contraceptives (E.C) once, 26 (26.8%) twice and 10 (10.3%) thrice. Details are shown in Table 4.2.

Table 4.2: Types of Training Received by Respondents in the last 5yrs on ECs

Types of E.C.	No of Times Respondent Received Training	Frequency	Percent (%)
IUCD	1	61	44.5
	2	38	27.7
	3	22	16.1
	>3	16	11.7
Pills	1	48	36.4
	2	46	34.8
	3	19	14.4
	>3	19	14.5
Emergency Contraceptives (E.C)	1	46	47.4
	2	26	26.8
	3	10	10.3
	>3	15	15.5

4.3 Awareness and Source of Information on Emergency Contraceptives

Most of the respondents, 283 (76.7%), indicated that they had heard of EC before the interview while 74 (20.7%) had not. N=357. When asked to give their sources of information on emergency contraceptives, 94 (33.2%) of the respondents said they had heard of E.C from the training school; 75 (26.6%) from seminars/trainings/workshops and 47 (16.6%) from radio/television/newspaper (mass media). Some of the respondents however refused to give a response about their source of information on ECs. Others are shown in Table 4.3.

Table 4.3: Sources of Information on Emergency Contraceptives N =283

Source of Information on E.C.	Frequency	Percentage
School	94	33.2
Seminars/workshops/lectures/trainings	75	26.6
Radio/Television/Newspaper/Posters	47	16.6
Hospital/Health worker/Family Planning Unit	29	10.3
Friends	24	8.5
Textbooks/Research	11	3.9
Internet	3	1.1
Total	283	100

4.4 Respondents' Knowledge of E.C

In order to determine what the respondents knew about E.Cs, they were asked to define E.C., state the best candidates for E.C and the situations under which they would provide E.C services to their clients.

(a) Respondents' Definition of E.C.

Definition of E.C. as a type of family planning used in emergency cases or used after unprotected sex was the most frequent definition given by 98 (46.4%) of the respondents followed by the most correct definition of E.C. as a contraceptive taken within 72 hours of unprotected sex with 57 (27%) respondents. Other definitions are shown in table 4.4. The study reveals that most respondents could not properly define emergency contraceptives. Some of the respondents also did not answer all the questions.

Table 4.4: Respondents' Definition of Emergency Contraceptive N=211

Respondents Definition of E.C.	Frequency	Percentage (%)
It is given when intercourse is being done/rape	34	16.1
It is a type of family planning used in emergency case/unprotected sex	98	46.4
It is a contraceptive within 72 hours of unprotected sex	57	27
It is a contraceptive used after coitus before implantation	13	6.2
Tubal ligation	2	0.9
The process of giving pills/injection to clients to prevent unwanted pregnancy	2	0.9
Contraceptives that can prevent embedment of embryo into the wall of the uterus	3	1.4
Condom	2	0.9

(b) Respondents Knowledge of Best Candidates for E.C.

Knowledge of best candidates for E.C was high. Most, 252 (92%), of the respondents correctly identified any woman who have had unprotected sex followed by 145 (78.8%), who listed inconsistent method users (Table 4.5).

Table 4.5: Respondents Knowledge of Best Candidates for E.C N=1231

Best Candidates for E.C	Yes		No		Total Frequency	Total Percentage(%)
	Frequency	Percentage (%)	Frequency	Percentage (%)		
Any woman who have had unprotected intercourse	252	92	22	8	274	100
Adolescent	124	65.3	66	34.5	190	100
Women who have infrequent intercourse	128	67.4	62	32.6	190	100
Inconsistent method users	145	78.8	39	21.2	184	100
woman with multiple partners	123	63.4	71	36.6	194	100
Perimenopausal women	82	54.3	69	45.7	151	100
Others	21	43.8	27	56.3	48	100

(c) Knowledge of situations in which EC should be provided

Knowledge of situations requiring the use of E.C was high as most respondents, 257 (98.1) and 257 (95.2%) indicated condom breakage and unprotected intercourse respectively, followed by 252 (93%) who indicated rape (See table 4.6 for details).

**Table 4.6: Respondents' Knowledge of Situations in Which E.C Should be Provided
N=1432**

Situations in which EC should be provided	Yes		No		Total Frequency	Total %
	Frequency N= 1183	%	Frequency N= 249	%		
Condom breakage	257	98.1	5	1.9	262	100
Unprotected intercourse	257	95.2	13	4.8	270	100
Rape	252	93	19	7	271	100
Missed pills	163	80.3	40	19.7	203	100
Don't remember	51	70.8	21	29.2	72	100
Sexual coercion	74	59.2	51	40.8	125	100
Infrequent sexual activity	99	58.6	70	41.4	169	100
Others	30	50	30	50	60	100

(d) Respondents' Knowledge of the Mechanism of Action of E.Cs N=332

The respondents showed high knowledge of the mechanism of action of E.Cs as majority of them, 213 (94.7%), correctly indicated that E.C. only prevented pregnancy, followed by 68 (63%) who indicated that it prevented pregnancy and induced an abortion and 31 (39.7%), who indicated that it induced an abortion only (Table 4.7).

Table 4.7: Distribution of Knowledge of Mechanism of Action of ECs N= 332

Knowledge of Mechanism of Action of ECs	Frequency	Percentage
Prevents pregnancy	213	94.7
Prevents Pregnancy and reduces abortion	68	63
Induces abortion	31	39.7
Don't know	20	55.6

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(g) Knowledge of the Effectiveness and Extent of Effectiveness of ECs

Some respondents, 117(45.5%), indicated that E.C. was only moderately effective while majority, 192 (69.8%), indicated that the extent of effectiveness of E.C. was 70%-80% . This shows a high awareness about the effectiveness of E.Cs among the respondents as ECs have been proven be 75% effective (Details are shown in Table 4.8).

Table 4.8: Distribution of Respondents' Knowledge of the Effectiveness of E.C.
N=257

Effectiveness of E.C	Frequency	Percentage (%)
Very effective	65	25.3
Moderately effective	117	45.5
Effective	72	28
Not effective	3	1.2

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(h) Knowledge of Brands of E.C. and the Dosage Regimen

Respondents were asked to name the brands of E.Cs they knew and state how those brands were used (dosage regimen). More than one brand of E.Cs were named by respondents out of which a brand, “Postinor” (an emergency contraceptive pill) was most frequently indicated by 210 (37%) of the respondents, followed by oral contraceptive pills, 86 (15%) and IUDs, by 55 (9.7%). Details are shown in table 4.9. Only 69 (18.7%) of the respondents stated correctly the dosage regimen of a brand of EC, ‘Postinor’.

Table 4.9 : Brands of E.C. Named by Respondents N=566

Brands of E.C. Named by Respondents	Frequency	Percentage (%)
Postinor	210	37
Pills	86	15
Menstrogen	73	12.9
IUCD (Copper T)	55	9.7
Prostaglandin	53	9.2
Apiol and Steel	30	5.3
Condom	22	3.9
Gynaecosid	17	3
Foaming tablets	8	1.4
Spermicide	7	1.3
Injectables	5	0.9

4.5 Respondents' Attitude towards Emergency Contraception

To determine respondents' attitude towards E.C, they were asked some opinion-based questions which were graded on a Likert scale. About half of the respondents, 145 (48.7%), strongly agreed that women who had been sexually assaulted needed quick and easy access to emergency contraception. Also, over half, 203 (67%), of the respondents agreed that religiously affiliated hospitals should provide emergency contraception to sexual assault survivors. Moreover, 173 (56.5%) of the respondents agreed that emergency contraceptives were safe and effective at reducing the risk of pregnancy and a third, 117 (38.6%), agreed that E.Cs would not induce an abortion in a woman who was already pregnant (Table 4.10).

Table 4.10: Respondents' Opinion about EC

Respondents' Opinion	Strongly Agree	Agree	Strongly Disagree	Disagree	Total Frequency (%)
Sexually assaulted women need quick & easy access to EC	145(48.7%)	115(38.6%)	21(7%)	17(5.7%)	298 (100)
Religiously affiliated Hospitals should not provide E.C to sexual assault survivors	24(7.9%)	30(9.9%)	203(67%)	46(15.2%)	303(100)
ECs are safe and effective at reducing the risk of pregnancy	94(30.7%)	173(56.5%)	15(4.9%)	24(7.8%)	306(100)
E.C will not induce an abortion in a woman who is already pregnant	83(27.4%)	117(38.6%)	61(20.1%)	92(13.9%)	353(100)

4.6 Emergency Contraceptive Prescription and Provision Practices of Respondents

4.6.1 Emergency Contraceptive Services Provided to Clients

Respondents were told to state how often they provided E.C. services to their clients. Majority of them, 154 (41.7%), indicated that they provided E.C. services to their clients when necessary.

Majority of the respondents, 173 (73%), stated that their institution provided E.C services to women who were sexually assaulted while only 64 (27%) said their institutions did not provide such services. Most respondents, 109 (56.5%), who answered in the affirmative said their institutions provided the E.C services immediately. Sixty-five (33.7%) stated within 24 hours, 10 (5.2%) within 36 hours and 9 (4.7%) indicated that services were provided within 48 hours of sexual assault.

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4.6.2 a. Respondents' Preferred Method of Emergency Contraception

Most of the respondents, 72 (39.6%), indicated that they preferred administering the emergency contraceptive pill, Postinor, while others, 60 (33%) and 13 (7.1%) indicated oral contraceptive pills and IUD (intrauterine device) respectively. Others are shown in Table 4.11

Table 4.11: Respondents' Preferred Method of Emergency Contraception N=182

Respondents' Preferred Method of E.C.	Frequency	Percentage (%)
Postinor	72	39.6
Pills	60	33
Condom	16	8.8
Others	16	8.8
IUD (Copper T)	13	7.1
Menstrogen	5	2.7

(b) Reasons for Preferring the Chosen Method

The most commonly mentioned reasons for preferring the chosen methods of E.C were ease of administration indicated, by 49 (25.5%); effectiveness, by 40 (20.8%); affordability, by 23 (12%) and fast method of E.C, indicated by 29 (15.1%) (Details are shown in Table 4.12).

Table 4.12: Respondents' Reasons for Preferring the Chosen Method N=192

Respondents' Reasons	Frequency	Percentage (%)
Easy to administer/use	49	25.5
Effective if used correctly	40	20.8
The fastest way for preventing pregnancy	29	15.1
Others	8	4.2
Cheap and affordable	23	12
Safe to use	14	7.3
Others	29	15.1

4.6.3 Number of Times Respondents Administered E.C.s in the Last One Year

Most of the respondents, 199 (64.4%), had never administered E.Cs before while only 110 (35.6%) had ever administered E.Cs. Of those who had ever administered ECs, only a third of the respondents, 27 (34.2%), had administered E.C. twice in the last one year while 23 (42.6%) had administered E.C. lately. Not all respondents commented on this question.

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4.6.4 Names of E.Cs which Respondents Administered Last

Postinor was administered last by 55 (67.1%) out of a total of 82 respondents followed by IUDs by 11(13.4%). Others are shown in table 4.13.

Table 4.13: Names of E.Cs which Respondents Administered Last N= 82

Names of E.Cs respondents administered last	Frequency	Percentage (%)
Postinor	55	67.1
IUD (CopperT)	11	13.4
Menstrogen	7	8.5
Pills	3	3.6
Gynaecosid	2	2.4
Apiol and Steel	2	2.4
Foaming Tablet	1	1.2
Spermicide	1	1.2

4.6.5 Period after Sex When E.C. was Last Administered

To determine whether respondents gave E.Cs at the right time, they were asked to state how soon after unprotected sex their clients came to them for E.C. services and how soon after unprotected sex they administered E.Cs to their clients. Out of 97 respondents, 34 (35.1%), indicated that they administered E.Cs to their clients less than 24 hours after unprotected sex; others, 36 (37.1%) indicated that they administered E.C. within 24 hours of unprotected sex while only 14 (14.4%) did so within 72 hours of unprotected sex. This finding reveals that majority of the respondents administered E.C at the right time (Details are shown in table 4.14).

Table 4.14: Period after Sex When E.C. was Last Administered N=97

Period after sex when E.C. was last administered	Frequency	Percentage (%)
Within 24 hrs of unprotected sex	36	37.1
Less than 24 hours after unprotected sex	34	35.1
Within 72 hours of unprotected sex	14	14.4
Weeks-months after unprotected sex	10	10.3
Others	3	3.1

4.6.6 Provision of Routine Counselling on E.C.

When asked whether they had ever offered routine counselling on use of E.Cs to their clients, only half of the respondents, 130 (50.2%), affirmed that they did so while 129 (49.8%) indicated they had never done so. On the information offered during counseling, out of 118 respondents, 46 (39%), said they advised their clients to use E.Cs immediately after unprotected sex, while 26 (22%) said they told their clients to go for other methods of family planning (Details are shown in table 4.15).

**Table 4.15: Information Offered by Respondents to Clients during Counselling
N=118**

Information Offered during Counselling	Frequency	Percentage (%)
How to use E.Cs/clients should use E.C immediately after unprotected sex	46	39
Go for other methods of family planning	26	22
Avoid unprotected sex	17	14.4
Others	9	7.6
Client should come immediately and give feedback on what had been used	6	5.1
Disadvantages of misuse	6	5.1
Child spacing	6	5.1
Use of EC is unreliable	2	1.7

4.6.7 Respondents' Reasons for not Providing Routine Counselling on E.Cs

About 91 respondents who did not offer routine counselling services on E.C. to their clients gave several reasons for not doing so. Major reasons included not working in the family planning unit and not chanced to do so 56 (61.5%); E.Cs are not 100% effective, 8 (8.8%) and religious constraints, 6 (6.6%). A few respondents, 6 (6.6%), indicated that they did not believe in the administration of ECs to their clients (Table 4.16).

Table 4.16: Respondents' Reasons for not Providing Routine Counselling on E.C. N=91

Respondents' Reasons	Frequency	Percentage (%)
I do not work in family planning unit/not chanced to do so	56	61.5
E.Cs are not 100% effective	8	8.8
Others	7	7.7
I do not believe it should be administered	6	6.6
My religion is against use of contraceptives	6	6.6
It is not available in my health facility	4	4.4
Some clients will abuse it	2	2.2
It is better for client to go for normal contraception.	2	2.2

4.6.8 Extent to Which Routine Counselling on E.C. Use was Provided to Clients

When asked to state the extent to which they offered routine counselling on use of E.C. to their clients, 39 (29.3%) of the respondents indicated they offered routine counselling “always”, 71 (53.4%) “sometimes” and 23 (17.3%) “never”.

(a). Reasons for Providing Routine Information on E.C. Sometimes

Reasons given for providing routine counselling sometimes included clients not having enough time for health information 10 (12.5%), not working in family planning unit 3 (3.8%) and only when clients needed it 42 (52.5) (Details are shown in Table 4.17).

Table 4.17: Reasons for Providing Routine Information on E.C. Sometimes N=80

Respondents' Reasons	Frequency	Percentage (%)
I give information only when clients need it	42	52.5
I preach abstinence/use of condom	2	2.5
Most clients don't have time for health information	10	12.5
E.Cs are not 100% effective	7	8.8
I do not work in family planning unit	3	3.8
Others	16	19.9

(b). Reasons for Never Providing Routine Information on E.C.

Amongst the respondents who indicated that they never offered routine information on use of E.Cs to clients, 6 (18.8%) did not do so because their clients did not request for such information, 1 (3.1%) did not work in family planning unit and 13 (40.6%) did not believe in offering routine information on E.Cs to clients.

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4.6.9: Information Provided to Clients on Routine Basis

Only 8 (14.8%) out of 54 respondents who always provided routine information on E.C. informed clients about the mode of action of E.Cs while 7 (13%) always told their clients to avoid unprotected sex (Table 4.18).

Table 4.18: Information provided to clients on routine basis. N=54

Information offered	Frequency	Percentage (%)
ECs do not prevent STIs and HIV	4	7.4
Mode of action of E.Cs	8	14.8
Effectiveness of E.Cs	7	13
Avoid unprotected sex	7	13
Family planning methods	5	9.3
Come for routine check up	5	9.3
Seek help when in need of EC	5	9.3
Others	13	24

4.7 Information Needs of Respondents

Respondents were asked to state the type of information which they needed on emergency contraception. Nearly a quarter, 61 (43.3%), of the respondents wanted all-round information on emergency contraception; 37 (26.2%) would like to know the different types and names of emergency contraceptives; 6 (4.3%) indicated a need to know the legal status of E.C; 12 (8.5%) wanted information on side effects and 7 (5%) wanted to know about the safety of E.Cs (Table 4.19).

Further training on emergency contraception would increase providers' knowledge. This is supported by a study done by Beckman et al (2001) in which providers demonstrated increased knowledge about emergency contraception after implementation of an educational programme.

Table 4.19: Information Needs of Respondents N=141

Respondent's Reasons	Frequency	Percentage (%)
All round information on EC	61	43.3
Names and types of EC	37	26.2
Side effects	12	8.5
Media	8	5.7
Safety and effectiveness	7	5.0
Legal	6	4.3
Others	10	7.0
Total	141	100

4.8 Result of Hypothesis Testing

The first hypothesis states that there is no association between demographic characteristics (age, sex, religion, marital status, professional qualification, health institution) of respondents and their knowledge of emergency contraception. In order to investigate the association between the demographic characteristics of respondents and their knowledge on emergency contraception, a statistical test was conducted. The results of the statistical test showed no significant relationship between respondents' demographic characteristics and their knowledge of emergency contraception ($p > 0.05$). (Results are shown in table 4.20). Female respondents had higher mean knowledge score (10.7 SD \pm 5.2) compared to male respondents (9.7 SD \pm 5.8), but no significant relationship existed between sex and knowledge of EC. Respondents in the age group 20-29 had highest mean knowledge score (11.0 SD \pm 5.1), with no significant relationship between age and knowledge of EC. Respondents of the Islamic religion had higher mean knowledge score (11.0 SD \pm 4.9) than Christian respondents (10.6 SD \pm 5.3) but there was no association between religion and knowledge of EC.

Similarly, respondents who were single had highest mean knowledge score (11.1 SD \pm 4.8) with no association existing between marital status and knowledge of EC. Furthermore Primary Health Nurses had the highest mean knowledge score (11.6 SD \pm 5.5), but there was no association between professional qualification and knowledge of EC. Respondents working in Primary Health care centres had the highest mean knowledge score (11.8 SD \pm 4.0), among the sub-categories of respondents working in other health care institutions, but there was no association between the health institution of respondents and their knowledge of EC.

The second hypothesis states that there is no association between the demographic characteristics of respondents and their attitudes towards prescription and provision of emergency contraception to their clients. In order to measure attitude in this study, opinion-based questions were asked. The Likert scale responses got were categorized into *strongly agree*, *agree*, *disagree* and *strongly disagree* to a set of opinion-based questions. The result of the statistical tests conducted to verify the association between the demographic characteristics of respondents and their attitudes towards prescription and provision of E.C. to their clients showed no significant difference ($p > 0.05$). (Results are

shown in table 4.21). Male respondents had higher mean attitude scores (2.3 SD±1.5) than female respondents (2.2 SD±1.3) with no significant relationship between sex and attitudes to EC. Respondents in the age range 30-39 had the highest mean attitude scores (2.2 SD±1.3), among age-group sub-categories but there was no significant relationship between age and attitude to EC. Respondents who belonged to the Islamic faith had higher attitude score (2.2 SD±1.3), than Christian respondents but there was no significant relationship between religion and attitude to EC.

Furthermore respondents who were widowed had the highest mean attitude score (2.6 SD±1.1) with no significant relationship between marital status and attitude to EC. Primary Health Nurses had the highest mean attitude score (3.5 SD±0.7), compared with respondents with other professional qualifications, but with no association between professional qualification and attitude to EC. Respondents working in Primary Health Centres had the highest mean attitude score (2.5SD±1.1) but there was no association between respondents' 'health institution' and respondents' attitude to EC provision. In essence, the result of the statistical test showed that there is no association between respondents' demographic characteristics and their attitude to provision of emergency contraceptives.

The third hypothesis states that there is no association between respondents' demographic characteristics and their emergency contraceptive provision practices. In order to verify the association between respondents' demographic characteristics and their emergency contraceptive provision practices, a statistical test was carried out. The result shows an association between respondents' "place of work and their E.C. practices" where a significant relationship was recorded ($p < 0.05$). (Result is shown in table 4.22). Female respondents had a higher mean practice score (1.9SD±1.9) than male respondents (1.7 SD±2.0) but there was no significant difference in their EC provision practices. Respondents in the age group 40-49 had a higher mean practice score (2.1SD ± 2.1) than respondents in other age groups, but there was no significant difference in their EC provision practices. Similarly, Christian respondents had a higher mean practice score (1.9SD ± 2.0) than their Muslim counterparts, (1.8 SD ± 1.8) and there was no significant relationship between religion and EC provision. Respondents who were married had the highest mean practice score (1.9SD±1.9), but there was no significant relationship

between marital status and EC provision. Primary health nurses had a higher mean practice score ($2.5SD\pm 0.7$), than respondents with other professional qualifications, but there was no significant relationship between professional qualification and EC provision practices.

Respondents working in Primary Health Centers had higher mean practice score ($2.5SD\pm 2.0$) than respondents who worked in other health institutions with a significant relationship, ($p < 0.05$) recorded between their health institution and their EC provision practices. Analysis using Chi-square shows an association between the health institution of respondents and their EC provision practices.

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Table 4.20: Relationship between Respondents' Demographic Characteristics and Knowledge of E.C.

Demographic variables		Mean knowledge score	Standard deviation	N (frequency)	P-value
Sex	Male	9.7	5.8	17	P>0.05
	Female	10.7	5.2	352	
Age	20-29	11.0	5.1	98	P>0.05
	30-39	10.9	5.2	113	
	40-49	10.6	5.1	120	
	50+	9.5	5.7	38	
Religion	Christianity	10.6	5.3	299	P>0.05
	Others (Islam)	11.0	4.9	70	
Marital Status	Single	11.1	4.8	80	P>0.05
	Married	10.6	5.4	269	
	Divorced	5.5	5.2	4	
	Widowed	10.3	4.8	8	
Professional Qualification	RN(Registered Nurse)	9.7	5.5	73	p>0.05
	RM(Registered Midwife)	10.7	6.2	9	
	RN/RM	10.9	5.2	276	
	PHN(Primary Health Nurse)	11.6	5.5	7	
	Others	13	2.8	2	
Health Institution	Tertiary Health Care Centres (THCs)	10.2	5.4	85	P>0.05
	Secondary Health Care centres (SHCs)	10.3	5.6	187	
	Primary Health Care centres (PHCs)	11.8	4.0	97	

Table 4.21: Relationship between Respondents' Demographic Characteristics and Their Attitudes to E.C.

Demographic Variables		Mean Score	Attitude	Standard Deviation	N (frequency)	P-value
Sex	Male	2.3		1.5	17	P>0.05
	Female	2.2		1.3	352	
Age	20-29	2.1		1.3	98	P>0.05
	30-39	2.2		1.3	113	
	40-49	2.2		1.4	120	
	50+	2.0		1.3	38	
Religion	Christianity	2.1		1.3	299	P>0.05
	Others(Islam)	2.3		1.2	70	
Marital Status	Single	2.2		1.2	80	P>0.05
	Married	2.2		1.3	269	
	Divorced	1.5		1.7	4	
	Widowed	2.6		1.1	8	
					361	
Professional Qualification	RN	2.0		1.3	73	P>0.05
	RM	2.1		1.3	9	
	RN/RM	2.2		1.3	276	
	PHN	3.5		0.7	2	
	Others	2.1		1.2	7	
Health Institution	THCs	2.0		1.3	85	P>0.05
	SHCs	2.1		1.3	187	
	PHCc	2.5		1.1	97	

Table 4.22: Relationship between Respondents' Demographic Characteristics and Their E.C. Practices

Demographic Variables		Mean Practice Score	Standard Deviation	N (frequency)	P-value
Sex	Male	1.7	2.0	17	P>0.05
	Female	1.9	1.9	352	
Age					P>0.05
	20-29	1.7	1.8	98	
	30-39	1.8	1.9	113	
	40-49	2.1	2.1	120	
	50+	1.9	2.0	38	
Total		1.9	1.9	369	
Religion	Christianity	1.9	2.0	299	P>0.05
	Others (Islam)	1.8	1.8	70	
Marital Status					P>0.05
	Single	1.7	1.8	80	
	Married	1.9	2.0	269	
	Divorced	2.0	2.2	12	
	Widowed				
Professional Qualification					p>0.05
	RN(Registered Nurse)	1.4	1.6	73	
	RM(Registered Midwife)	1.7	2.1	9	
	RN/RM	2.0	2.0	276	
	PHN(Primary Health Nurse)	2.5	0.7	2	
	Others	1.4	1.6	7	
Health Institution					P<0.05
	THCc	1.5	1.7	85	
	SHCc	1.7	2.0	187	
	PHCc	2.5	2.0	97	

CHAPTER FIVE

5.0

DISCUSSION

The following were the key findings from the survey:

Training of respondents on emergency contraceptive was inadequate.

Respondents' main source of information on E.C. was the training school.

Knowledge of definition and brands was low.

Knowledge of situations requiring E.C., mechanism of action, safety and effectiveness, correct timing for administration and legality of E.C. was high.

Attitude of respondents to E.C. provision was average.

Respondents' emergency contraceptive provision practice was poor.

5.1.1 Training of respondents on E.C. was inadequate

Findings reveal that most respondents received training on E.C. mainly from their training schools and only few received continuing education on E.C. in the last 5 years preceding the survey. This could be because, 'the need for clients to receive E.C. when they need it' might not have been given adequate attention in government institutions, probably because of the misconception that it might encourage promiscuity and discourage condom use. Policy makers on the other hand might not be interested in providing in-service training on E.C. to nurses, because their schools might not have requested for curricula review.

5.1.2 Respondents' Main Source of Information on E.C. was the Training School

The training school was reported by most respondents as their source of information on E.C. This is not surprising as reproductive health, of which E.C. is a part, is included in the training curriculum in the nursing school. Information received from training school could be more detailed and accurate than those received from friends. Very few respondents 29 (10.3%) received information on E.C. from the hospital, health worker or from the family planning unit. It appears that the family planning unit is rarely the source of information on emergency contraceptives, even though it is the commonest source of emergency contraception (Obionu et al, 1999). In a study on "Emergency Contraception by Nigerian Adolescent Females", the family planning clinic was cited by only 11.3% of

the respondents as the source of knowledge of emergency contraception. This is unfortunate, as the family Planning unit could represent a source of reliable information about correct knowledge and appropriate timing of emergency contraception (Obionu et al, 1999).

A Kenya-based study however showed that more nursing students than qualified nurses were familiar with ECs (ICRH 2009). It is probable that the nursing students received the information on E.C. from the nursing school. This is an indication that the nurses' training school is a major source of information on E.Cs. If information given to nurses on emergency contraceptives could be made more detailed, nurses will have more in-depth knowledge on E.C. and this will have a positive influence on their attitudes and E.C. provision practices.

5.1.3 Knowledge of Definition and Brands was low

Though awareness of E.C. was high, low knowledge of definition of E.C. was found among the respondents as only about a third, 57 (27%) of respondents defined emergency contraceptives as contraceptives used within 72 hours of unprotected sexual intercourse. The low knowledge of respondents on E.C. might be due to lack of continuing education. It is also probable that the school of nursing curriculum on E.C. is not broad enough. Respondents might also not be reading enough literature on E.Cs and the health authorities of their institutions might not be organizing adequate in-house seminars on E.Cs for the respondents.

The misconception and poor knowledge of the brands of E.C among many respondents is worrisome as contraceptives such as spermicides, foaming tablets, and condoms were listed as brands of E.C. Drugs which can cause an abortion after fertilization and implantation of the foetus, also called abortifacients, such as mifeprestone were also incorrectly listed as brands of E.Cs. This might be responsible for about a third of the respondents (37.0 %) correctly mentioning the emergency contraceptive pill 'Postinor'. Very few respondents, (9.7%) indicated that Intrauterine devices can be used as emergency contraception. This is an indication that most respondents were unaware of the fact that IUDs can be used as E.Cs if inserted within 5 days of unprotected intercourse and

oral contraceptives can be used as E.Cs if given in high doses. However, only few respondents (15%) mentioned contraceptive pills as brands of ECs.

This finding is similar to that of a survey of knowledge, perception and prescribing attitudes of emergency contraception among health workers in Enugu, Nigeria by Obionu (1998) in which, only 26.8% of respondents were aware of the use of intrauterine devices as emergency contraception.

5.1.4 Knowledge of Situations for E.C. provision, Mechanism of action, Safety and Effectiveness, Correct timing for administration and Legality of EC was high.

Most of the respondents indicated correctly the indications for providing E.C.s to their clients as situations of condom breakage by (98.1%) , unprotected intercourse by (95.2%), and missed pills by (80.3%) while few respondents, (59.2%), indicated situations such as sexual coercion and infrequent sexual activity. This is an indication that respondents' knowledge of indications for E.C. use was high. The high knowledge of indications displayed by respondents could be probably because information on indications for E.Cs is displayed in product leaflets which can be easily read by respondents. Moreover information may have been received from colleagues in the training school. A similar trend was obtained in a Kenya-based study (ICRH, 2009) in which 77% of respondents approved the use of E.C. for rape victims. These findings point to the fact that respondents were knowledgeable of the indications for E.C.

Most respondents, 213 (94.7%), stated correctly that E.Cs prevent pregnancy and this is an indication that their knowledge of the mechanism of action of E.C. was high. However, about half of the respondents indicated correctly that E.Cs are safe and effective at reducing the risk of pregnancy while a third, stated that E.Cs would not induce an abortion in a woman who was already pregnant, indicating that the knowledge of mechanism of action, safety and effectiveness of E.C. was high. However findings from the Barbadian study of health care providers reveal a contrasting difference in their knowledge of safety of E.Cs, as only 20% of the respondents knew of the safety of E.Cs (Yam et al, 2007). Findings from the Kenya-based study of nurses and nursing students (ICRH, 2009)

revealed that 49% of respondents considered E.C. as an abortifacient. This view might have a negative effect on their ability to provide EC services to clients.

Knowledge of the right timing for administering E.C.s seemed to be high as majority of the respondents (72.2%) indicated they administered E.C. between 0-24 hours after unprotected intercourse. This is probably because respondents might have received information on the timing of E.C. use from the pharmacist, the product inserts or from their training school. The finding is at variance with that of the Barbadian based study (Yam et al, 2007) in which it was inferred that few of the respondents knew the correct timing of E.C., but similar to the results obtained in the Lagos-based study (Ebuehi et al, 2006) in which 50% of respondents knew the correct dosage interval of E.Cs and the Turkey-based study (Uzuner et al, 2005), in which half (50%) of the respondents indicated correct timing knowledge and dosage interval of E.Cs.

More than half of the respondents (68.4%) indicated that provision of E.C. was legal in Nigeria. The knowledge that E.C. is legal can encourage respondents to provide this service to clients. The high knowledge of the legality of E.C. found among the respondents might not be unconnected with the training they received in their training schools on E.C. and the few 'in-service' trainings on E.C. received from their health institutions. This finding is in contrast with the Lagos-based study (Ebuehi et al, 2006) in which less than 30% of respondents knew the legal status of E.C. This is an aspect that health programmes on E.C. need to address.

5.1.5 Attitude of respondents to E.C. provision was average.

The fact that less than half (48.7%) of the respondents were of the opinion that women who had been sexually assaulted needed quick and easy access to E.C. and a little above half agreed that religiously affiliated hospitals should provide emergency contraception to sexual assault survivors is an indication of average attitudinal disposition to E.C. provision. This moderate attitudinal disposition might probably be due to the emotional consideration usually in favour of rape victims. Findings from a Kenya-based study in which 77% of respondents approved its use for rape victims suggest a better attitude (ICRH, 2009).

5.1.6 Respondents' experiences in emergency contraceptive provision practice was low.

Experiences in the provision of E.C. by respondents were low, as more than half of the respondents, had never provided EC services to clients and only about a third, 110 (35.6%) had ever administered E.Cs suggesting low familiarity with use. This finding is similar to that obtained in the Borno-based study (Geidam et al, 2009) in which 36.2% of respondents had ever provided E.C. to clients.

Moreover, only few respondents (29.3%) always provided routine health talks on E.C. to clients. This shows an improvement compared to the findings in the Lagos-based study (Ebuehi et al, 2006) in which fewer than 10% of those who knew of E.C. always provided information to clients. This has negative health implications in that when clients are not provided with necessary information on how to access and use emergency contraception when they need it, the end result is that the incidence of unplanned pregnancy and abortion might not be adequately curtailed.

5.2 Recommendations

The Health education interventions should address knowledge deficits of respondents with regards to definition, contraindications, and brands of E.C. Two workshops should be organized for the stakeholders. The first type is a one-day workshop for the policy makers and executives of regulatory bodies of the different tiers of health facilities in Ogun State. Participants at the workshop should include representatives of the Federal Medical Centre; Neuro-Psychiatric Hospital; State Teaching Hospital; State Ministry of Health; State Health Management Board; the Local Government Primary Health Care Departments; Principals of state schools of nursing and executives of regulatory bodies of private and public medical facilities in the state.

The objectives of the training will be to brief these policy makers on the findings of the study and the deficits identified in the provision of E.C. services and to formulate health policies to improve E.C. provision, develop a plan of action for the implementation of the policies in the health facilities and suggest the way forward to address the deficits identified.

Moreover, guidelines to ensure better E.C. practices will be generated from the workshop and a communiqué will be generated, which would state the need for training of nurses on E.Cs in the PHCs, SHCs and THCs.

Secondly, a 2-day workshop will be organized for nurses. The issues to be discussed include: reproductive health policies, contraceptive health policies, role of nurses in providing E.Cs, an overview of E.C. and the entire concept of E.C. Areas of deficit identified in the study shall be addressed.

The second aspect of the workshop will be on imparting communication skills which respondents will demonstrate on request of E.C. by clients. First, a pre-training assessment will be conducted to know the baseline of their communication skills and knowledge of ECs. Secondly, there will be brainstorming sessions followed by lecture/discussions on use of IEC materials, counselling and communication for E.C. delivery. Practical sessions and hands-on experience on counselling, communication skills and E.C. provision will be conducted. A post-training assessment will assess knowledge gained from the workshop. This training is to empower nurses with the communication skills needed to make their practice effective.

The third objective of the workshop is a curriculum revision on E.C. in all schools of nursing. The curriculum will have both theoretical and practical components with the principals of the schools of nursing as facilitators.

Nurses cannot provide effective emergency contraceptive services unless they have both technical knowledge and communication skills. They need current, accurate knowledge and ready access to information on emergency contraception.

Pre-service education offers the best opportunity to develop technical knowledge on EC and communication skills and promotes effective practice. Counselling on EC should become part of medical and nursing school curricula while pre-service education can lay a sound foundation. Both new and experienced nurses also require periodic in-service training and continuing education to update information on EC and refresh skills needed in counseling.

Interpersonal communication skills should be incorporated into on-the-job training for all health workers while volunteer and staff members with formal training in counselling should be given responsibility of providing on-the-job orientation to other staff members. Well-designed job aids on EC provision and counselling would help nurses integrate knowledge and skills into interactions with clients. Flipcharts on EC use, for example, may serve as memory aids for nurses during counselling and also help keep interactions focused, while simultaneously giving clients essential information. Job aids would also improve their attitudes by helping them handle complex situations.

Emergency contraceptive reference materials at the work site, such as handbooks or information sheets, will enable nurses to look up information that they cannot remember or to review key concepts learnt in training. Every service delivery site should have a copy of the national guidelines and protocols that operationalize essential technical and medical information on emergency contraceptives.

5.3 Conclusion

This study has shown that training of nurses in Ogun state, Nigeria on E.C. is inadequate. Their knowledge of E.C. definition, contraindications, brands and dosage timing is low. Moreover the nurses have inadequate E.C. provision practices. The government of Ogun State should ensure that these aspects are given prominence in the state reproductive health programmes.

There is need for the Nigerian health sector to ensure friendly and comprehensive reproductive health services and Policies for training nurses, and other health workers should be put in place by the Ministry of Health supported by regular monitoring.

If women and adolescents do not receive adequate reproductive and sexual health care services and information, the cycle of unintended pregnancy and unsafe abortion, death in child birth, VVF, ill-health, and poverty will continue. Moreover, if family planning programmes are to reach the youths, the programmes must provide confidential services to all who seek them irrespective of marital status or age.

Nurses should be encouraged to inform all potential users about emergency contraception and be willing to provide emergency contraception to all women who need it especially adolescents. Further studies on the provision of emergency contraception and widespread use of a dedicated product would significantly improve the quality of reproductive health services by offering the method in the context of free and informed choice.

This study shows that though awareness about emergency contraception is quite high amongst nurses in Ogun State Nigeria, they will need further training and re-training to be able to improve knowledge and attitudes and offer excellent emergency contraceptive services. It is hoped that if more women, especially those at risk, are properly guided by nurses, they would embrace the use of emergency contraception and so, unwanted pregnancies and illegal abortions would be reduced. Since emergency contraception is safe and effective and has the potential to benefit many women, it is advised that, on ethical grounds, it should be included routinely in the list of contraceptives that providers discuss with clients.

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APPENDIX I

QUESTIONNAIRE

NURSES' KNOWLEDGE AND ATTITUDE AND PRACTICES OF EMERGENCY CONTRACEPTIVE PROVISION TO CLIENTS IN OGUN STATE, NIGERIA

Introduction

I am from the University of Ibadan and I have come to interview you on the knowledge, attitudes and practices of Nurses in Ogun State, Nigeria regarding emergency contraception. The answers you provide to the questions in this questionnaire will be used for research only. I wish to stress that this interview is not an examination, so feel free to answer the questions without hesitation.

Furthermore, I assure you that your answers will be kept confidential and they will not under any circumstances be used against you. For the avoidance of doubt, it is not necessary for you to write your name on this questionnaire. I solicit for your cooperation, thank you.

NB: Please read all the instructions carefully and answer each question honestly

Serial No.

Sex (i) Male (ii) Female

Actual age (years)

In which health institution do you currently work?

Tertiary Health Care Centre

Secondary Health Care Centre

Primary Health Care Centre

Private Hospital

Professional Qualification

RN (Registered Nurse)

RM (Registered Midwife)

RN/RM (Registered Nurse, Registered Midwife)

Others

Present Position

Nursing Officer

Senior Nursing Officer

Matron

Others (specify) _____

How long have you been in this position? _____ years

Religion

Christian Denomination (specify) _____

Islam Denomination (specify) _____

Traditional/Indigenous _____

Others (specify) _____

Marital Status

Single

Married

Divorced

Widowed

What type of training did you receive in the past six years?

Date Attended

Title of Training

Duration

How many times have you received training on E.C in the last 5 years

METHOD	NO OF TIMES
Intra-uterine device	
Pills	
Emergency contraceptives (ECs)	

Section 2

Have you heard of Emergency Contraceptives before?

Yes

No

What is your source of information?

What is Emergency Contraception?

Which of these are best candidates for E.C? (Tick Yes or No for all the options)

Any women who have had unprotected intercourse	1. Yes	2No
Adolescents	1. Yes	2No
Women who have infrequent intercourse	1. Yes	2No
Inconsistent method users	1. Yes	2No
Women with multiple partners	1. Yes	2No
Perimenopausal women	1. Yes	2No
Others (specify)	1. Yes	2No

In which of these situations should emergency contraceptives be used
(Tick Yes or No for all options)

Rape	1. Yes	No
Condom breakage	1. Yes	2No
Unprotected intercourse	1. Yes	2No
Missed pills	1. Yes	2No
Infrequent sexual activity	1. Yes	2No
Sexual coercion	1. Yes	2No
Others (specify)	1. Yes	2No
Don't remember	1. Yes	2No

What brands/types of E.Cs do you know? Name them

Describe the dosage regimen of any one of the brands

Name of Brand _____ Dose of brand _____

Under what circumstances will you provide emergency contraceptive service to clients? _____

19a. What are the contraindications of Emergency Contraceptives?

19b. Which of these is the mechanism of action of the chosen method?

Prevents pregnancy	1. Yes	2No
Induces abortion	1. Yes	2No

Prevents pregnancy and Induces abortion 1. Yes 2.No

Don't know 1. Yes 2.No

19c. How effective is E.C? _____

Very effective

Moderately effective

Effective

Not effective

19d. Give reason(s) for your answer

19e. To what extent is it effective in preventing an unwanted pregnancy?

100%

90%

80%

70%

Others (specify)_____

Women who have been sexually assaulted have a particularly compelling need for quick and easy access to Emergency Contraception. (Tick an appropriate answer)

Strongly Agree

Agree

Undecided

Disagree

Religiously affiliated hospitals should not provide E. C. to sexual assault survivors

(Tick an appropriate answer)

Strongly Agree

Agree

Undecided

Disagree

Emergency Contraceptives are safe and effective at reducing the risk of pregnancy. (Tick an appropriate answer)

Strongly Agree

Agree

Undecided

Disagree

23. Emergency Contraceptive will not induce an abortion in a woman who is already pregnant (Tick an appropriate answer)

(1) Strongly Agree

(2) Agree

(3) Undecided

(4) Disagree

Section 3

Do you believe in providing E. Cs to clients?

Yes

No

Have you ever administered E. C. to a client before

Yes

No

If 'Yes', in the last one year, how many times have you administered E.C? _____

When last did you administer E.C?

During the last time, you administered E. C. what was the name of the E.C administered?

What is the dose and regimen prescribed?

Dosage: _____

Regimen: _____

How soon after sex did the client come to you? _____

How soon after sex did you give the E.C? _____

32a. Have you ever offered routine counselling on the use of E.Cs to your clinic before?

Yes

No

32b. If 'Yes', what information did you offer during the counselling?

32c. If 'No', why? _____

33. If 'Yes', to what extent do you provide E.C information to your client on a routine basis?

- (1) Always (Go to 34c)
- (2) Sometimes
- (3) Never (Go to 34b)

34a. If so me times, why? _____

34b. If never why? _____

34c.If always what information do you always provide?

- (1) _____
- (2) _____

35a. Which of this applicable to you (Please tick only one)

I give information about E.C to all my female clients.

I give information only when client request.

I do not usually inform my clients

35b. Give reasons for your answer _____

Reason for (1) _____

Reason for (1) _____

Reason for (1) _____

How often do you provide E.C service?

Daily

Weekly

Monthly

Quarterly

When necessary

What method do you prefer for Emergency Contraception?

(write only one) _____

Why do you prefer the method chosen? _____

Does your institution provide service to those women who are sexually assaulted?

(1) Yes (2) No

If 'Yes', how quick and easily accessible is the EGC services provided to women who are sexually assaulted.

Immediately

Within 24 hours

Within 36 hours

Within 48 hours

What is the legal status of E.C in Nigeria? i.e is it legalized?

What type of information do you need?

UNIVERSITY OF IBADAN