University of Ghana http://ugspace.ug.edu.gh

SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

EMERGENCY CONTRACEPTION USE AMONG UNDERGRADUATE STUDENTS OF THE UNIVERSITY OF PROFESSIONAL STUDIES, ACCRA.

BY

MUSAH MUNIRATU BRINYL

(10262578)

THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTER OF PUBLIC HEALTH DEGREE

JULY, 2016.

University of Ghana http://ugspace.ug.edu.gh

DECLARATION

I, MUSAH MUNIRATU BRINYL hereby declare that aside references to other people's works which I have duly acknowledged, this dissertation is as a result of my independent work under supervision. I further declare that this dissertation has not been submitted anywhere in this institution or in any other university elsewhere.

---	---
MUSAH MUNIRATU BRINYL	**PROF. AUGUSTINE ANKOMAH**
(STUDENT)	**(ACADEMIC SUPERVISOR)**
DATE:	**DATE:**
---	---

University of Ghana http://ugspace.ug.edu.gh

DEDICATION

This project work is dedicated to my late father, Musah Blinyi Mango, my mother, Meimunatu Musah Sawale, Mr Lawrence Asante Nkansah, my guardian, and Elder Benjamin Ofei Awuku, my friend and mentor, for their selfless support and encouragement in my education.

University of Ghana http://ugspace.ug.edu.gh

ACKNOWLEDGEMENT

I am internally grateful to God Almighty for His unfailing love and Devine preservation.

I wish to also express my profound gratitude to my academic supervisor and head (HOD) of the department of Population Family and Reproductive Health of the School of Public Health, College of Health Sciences, University of Ghana Prof. Augustine Ankomah for his supervision, support, love and encouragement during this one year period.

My sincere appreciation also goes to all lecturers and staff of the School of Public Health who in diverse ways contributed in creating a congenial learning environment throughout this program of study.

I am sincerely thankful to my research assistants, Mr Charles Koomson and Ms Mercy Abgenyo for their assistance in the field (data collection) work of this project.

I would like to express my profound appreciation to the management and staff of UPSA for their cooperation and support during the data collection and allowing me use their facility.

I am extremely grateful to the respondents, without whose cooperation this whole project work would have been a 'nine day wonder'. Thank you so much, students of UPSA.

Throughout the learning process, I received a lot of suggestions and encouragement from many individuals, friends and family especially Elisabeth Faalong, Abdul-Rashid Musah and my little Kissimah. I am grateful to you all.

University of Ghana http://ugspace.ug.edu.gh

LIST OF ABBREVIATIONS

EC	Emergency Contraception
FP	Family Planning
GDHS	Ghana Demographic Health Survey
GSS	Ghana Statistical Service
IUCD	Intra-uterine Contraceptive Device
PPAG	Planned Parenthood Association of Ghana
POP	Progesterone-Only Pill
RH	Reproductive Health
STI	Sexually Transmitted Infection
UN	United Nations
UNFPA	United Nation Population Fund
UP	Unintended/Unwanted/Unplanned pregnancy
UPSA	University of Professional Studies, Accra
WHO	World Health Organization

University of Ghana http://ugspace.ug.edu.gh

ABSTRACT

Background: Emergency contraception (EC), also called 'morning after pill' or post-coital contraception refers to birth controls method used to prevent pregnancy in women. It could be a drug or a device which when used timely and appropriately has the potential of preventing unplanned pregnancy. It is noted that although promoting the use of modern contraception especially in developing countries offers women the last chance to prevent unintended pregnancy, reduce maternal and child mortalities, it is however unclear whether university students understand the contextual factors surrounding EC use.

Objective: The aim of this study is to assess knowledge and the contextual factors surrounding emergency contraception use among undergraduate students of the University of Professional Studies, Accra.

Methods: The study design was a descriptive cross sectional survey using quantitative research tool. Stratified random sampling strategy was used to stratify the student population aged 17-36 years by grade-level and also by the course studied. The sample size of 387 was distributed to the various faculties/department and structured questionnaire was used for data collection.

Results: Data were analyzed using SPSS version 20. Findings show a mean age of 24 years and ranged between 17-36 years. The study found widespread knowledge (77.5%) and awareness of emergency contraception and a higher (72.1%) usage among respondents despite low contraceptive prevalence of (21%).

Conclusions: Findings from this study would provide vital information about knowledge and the contextual factors surrounding emergency contraception use. This information could potentially be used to effectively plan and deliver family planning and contraceptive services to students of the University of Professional Studies, Accra.

Key words: Emergency contraception, family planning, contextual, knowledge, use.

University of Ghana http://ugspace.ug.edu.gh

TABLE OF CONTENTS

Content Page

DECLARATION i
DEDICATION ii
ACKNOWLEDGEMENT iii
LIST OF ABBREVIATIONS iv
ABSTRACT v
TABLE OF CONTENTS vi
LIST OF TABLES x
LIST OF FIGURES xi
DEFINITION OF TERMS xii
CHAPTER ONE 1
INTRODUCTION 1
1.1 Background 1
1.2 Problem Statement 3
1.3 Study Objectives 5
1.3.1 General Objective 5
1.3.2 Specific Objectives 5
1.4 Research Questions 5
1.5 Ssignificance of the Study 6
1.6 Organization of the Study 6
CHAPTER TWO 8
LITERATURE REVIEW 8
2.1 Introduction 8
2.2 Conceptual Framework 8
2.3 Unintended Pregnancy and Unsafe Abortion 10
2.4 Reproductive Health of Adolescents and Youth 12
2.5 Knowledge and Contextual Factors Surrounding Emergency Contraception Use 14
2.6 Contraceptives 17
2.7 Overview of Emergency Contraception 17
2.8 Historical Background of Emergency Contraception 20
2.9 Other Family Planning Methods 22

University of Ghana http://ugspace.ug.edu.gh

2.10 Emergency Contraception Methods Used Worldwide 22
2.10.1 Yuzpe method/regimen 22
2.10.2 Levonorgestrel 23
2.10.3 Mifepristone 23
2.11 Emergency Contraception Methods Used in Ghana 23
2.12 Mechanisms Of Action Of Emergency Contraception 24
2.13 Side Effects 25
2.14 Factors Surrounding Choice of Ec 25
2.15 Availability of Ec 26
2.16 Challenges Associated with Ec Use 26
2.17 Chapter Summary 27
CHAPTER THREE 28
METHODOLOGY 28
3.1 Introduction 28
3.2 Study Design 28
3.3 Study Area 28
3.4 Variables 29
3.4.1 Dependent variables 29
3.4.2 Independent variables 29
3.4.3 Intermediate variables 29
3.5 Study Population 30
3.6 Sampling 30
3.7 The Sample Size 30
3.8 Sampling Technique 31
3.9 Inclusion And Exclusion Criteria 33
3.10 Data Collection Technique 33
3.11 Quality Control 33
3.12 Data Analysis 34
3.13 Training of Research Assistants 34
3.14 Pre-Test/ Pilot Study 34
3.15 Strength of the Study 35
3.16 Ethical Issues 35
3.16.1 Ethical approval 35
3.16.2 Privacy and Confidentiality 35

University of Ghana http://ugspace.ug.edu.gh

3.16.3 Compensation 36
3.16.4 Risk and benefits 36
3.16.5 Voluntary withdrawal 36
3.16.6 Consenting process 37
3.16.7 Data storage and usage 37
3.16.8 Declaration of conflict of interest 37
3.16.9 Funding of the study 37
3.17 Chapter Summary 38
CHAPTER FOUR 39
RESULTS 39
4.1 Introduction 39
4.2 Socio-demographic characteristics 39
4.3 Socio-Economic/Family Background 40
4.4 Knowledge and Contextual Factors Surrounding Emergency Contraception Use ... 42
4.4.1 Sexual initiation 43
4.4.2 Emergency Contraception use 43
4.4.3 Actual knowledge on usage of emergency contraception 43
4.4.4 Knowledge on proper timing and duration of effectiveness of EC 44
4.4.5 Knowledge on Reason for Using Ec 45
4.4.6 Failure of Emergency Contraception 45
4.4.7 Sources of information on emergency contraception 46
4.5 Other Family Planning Methods 46
4.5.1 Knowledge on other Family Planning Methods 46
4.5.2 Knowledge on various types of Family Planning 47
4.6 Factors that Influence Choice of Emergency Contraception 47
4.6.1 Alcohol-consumption 47
4.6.2 Access to Emergency Contraception 48
4.7 Challenges Associated With Intention To Use, And Use Of Emergency Contraception In Terms Of Sources Of Supply And Availability. 49
4.7.1 Cost 49
4.7.2 Side effects of EC 49
4.7.3 Intention to use emergency contraception 49
4.7.4 Source of supply and recommendation of Emergency contraception 49
4.8 Bivariate Analyses 50

University of Ghana http://ugspace.ug.edu.gh

4.8.1 Relationship between EC use and socio-demographic characteristics and other variables 50
4.8.2 Emergency contraception use and socio-demographic characteristics 51
4.9 Emergency Contraception Use and other Variables 54
4.10 Association Between Alcohol Influence And The Use Of Ec 54
4.11 Association Between Marital Statuses, Knowledge Of Ec, Other Fp Methods, Ever Had Sex, Number Of Sex Partners And The Outcome Variable (Multivariate Analysis). 55
4.12 Results of Logistic Regression 55
4.13 Chapter Summary 56
CHAPTER FIVE 57
DISCUSSION 57
5.1 Introduction 57
5.2 Knowledge and Contextual Factors 57
5.3 Chapter Summary 60
CHAPTER SIX 61
CONCLUSION AND RECOMMENDATION 61
6.1 Introduction 61
6.2 Conclusions of the Study 61
6.3 Recommendations 62
6.3.1. Practice-service providers 62
6.3.3 Recommended for further studies 63
6.4 Weakness of the Study 63
6.5 Limitation 64
REFERENCES 65
APPENDICES 69
Appendix A: Consent Form For Respondents 69
Appendix B: Questionnaire 72

University of Ghana http://ugspace.ug.edu.gh

LIST OF TABLES

Table 4.1: Socio-demographic distribution of respondents 40

Table 4.2: Frequency distribution of socio-economic characteristics of respondents 41

Table 4.3: Distribution of Respondents who have heard of EC.....42

Table 4.4: Distribution of respondents by sexual initiation and EC use.....43

Table 4.5: Frequency distribution of respondents and sources of Information.....46

Table 4.6: Frequency distribution of Respondents on Alcohol in take.....48

Table 4.7: Distribution of respondents by source of supply and recommendation on EC..50

Table 4.8: EC use by socio-demographic characteristics of respondents 52

Table 4.9: Influence of some independent variables on emergency contraception use (Logistic regression).....55

University of Ghana http://ugspace.ug.edu.gh

LIST OF FIGURES

Figure 1: Conceptual Framework 9

Figure 3.1: Diagram of sample size distribution.....32

Figure 4.1: Distribution of hours of effectiveness of EC as mentioned by respondents.....44

Figure 4.2: Reasons for using EC 45

Figure 4.3: Distribution of respondents' knowledge on various forms family planning methods.....47

University of Ghana http://ugspace.ug.edu.gh

DEFINITION OF TERMS

Abortion	The termination of an established pregnancy
Conception	The process by which a sperm unites with and an egg
Emergency contraception (EC)	A post coital method of birth control (either high-dose of hormone pills or an intrauterine device)
Emergency Contraception Pill (ECP)	A hormonal post coital method of birth control consisting of a combination of estrogen and progestin or progestin alone
Fertilization	The process by which a sperm unites with and an egg
Implantation	When a fertilized egg embeds into the endometrial lining of the uterus
Ovulation	Release of a mature ovum through the wall of an ovary

University of Ghana http://ugspace.ug.edu.gh

CHAPTER ONE

INTRODUCTION

1.1 Background

Global access to sexual and reproductive health and rights is an important aspect of a healthy social order. Globally it is estimated that there are about 222 million women who desire to avert pregnancy but do not have the knowledge and are not using effective, modern methods of contraception. The consequences of this result in an over 86 million unplanned pregnancies, 33 million unplanned births and 20 million unsafe abortions every year (Dawson, Tran, Westley, Mangiaterra, & Festin, 2014). Additionally there are approximately 15 million births to adolescent women aged 15–24 each year; and more than 90% live in low and middle income countries like Ghana. Studies has shown that complications from pregnancy and birth are the principal causes of death for young women which in a way is usually associated with lack of access to service, information and care (Dawson et al, 2014).

Emergency contraception (EC) is exceptional of all the modern contraceptive methods in its ability to avert pregnancy after sexual intercourse. Probably for this reason, from its introduction, EC has triggered an unusual anxiety and opposition in multiple settings around the world (Westley & Schwarz, 2012). This was confirmed for instance by the US Secretary for Health and Human Services Kathleen Sibelius' unprecedented interference with US drug regulatory processes when she overruled the US Food and Drug Administration's approval of full over-the-counter status for all ages of a brand of levonorgestrel EC. Subsequently, President Obama added that he agreed with the decision, commenting that eleven year-olds should not be allowed to access EC as easily as “bubblegum and batteries” (Westley & Schwarz, 2012).

University of Ghana http://ugspace.ug.edu.gh

According to a UN report, contraceptive prevalence among women of reproductive age 15 – 49 years who are married or who are in a relationship differs between three per cent (3%) in Chad and eighty-eight per cent (80%) in Norway. Sub-Saharan Africa as a region has the lowest level of contraceptive use, with only twenty-two per cent of women of reproductive age who are married or who are in a relationship using some method of contraception (United Nations, 2009).

The consequences of unwanted/unintended pregnancies demands for efficient and effective use of Emergency Contraception. There is rising concern in the probable impact that EC could have on unplanned pregnancies and unsafe abortions in Ghana and Sub-Saharan Africa as a whole. In their work, Baiden, Awini, & Clerk, (2002) found that ninety-nine percent of maternal mortality globally happens in this part of the world, and nearly 20 million unsafe abortions occur each year. Pregnancy in itself poses considerable risk to the life of many women in sub-Saharan Africa. Maddening and unbearable burden of unintended pregnancy and its complication can be reduced if not stopped by the use of EC.

The incidence of unsafe abortion stands at 14/1000 women age 15-44 globally, in Sub-Saharan Africa, it stands at 31/1000women age 15-44. Whilst unsafe abortion-related mortality is 13% worldwide. Sub-Saharan Africa has a rate of 14% with Ghana having 11% (WHO, 2014). University undergraduate students, most of whom are on the upper end of their teenage period (17 to 19) and young adult years (19 to 35) and have just entered University. For the majority of them it is a state of excitement and many exposures which includes transforming from being high school students. For some, moving from a

University of Ghana http://ugspace.ug.edu.gh

restricted rural to a liberal urban environment without parental supervision (Yapici, Oner, Sasmaz, Bugdayci, & Oner Kurt, 2010).

Electronic media, western culture, peer pressure and curiosity are on daily bases increasing the sexual activity of these undergraduate students and exposing them to unplanned and unintended pregnancies with its resultants complications from induced or unsafe abortions (Yapici et al 2010).

1.2 Problem Statement

Globally, maternal and infant mortality and other related health issues resulting from unsafe abortions is increasingly becoming a public heath burden. According to global estimates about 44 million pregnancies end in unsafe abortion per year (Darteh & Doku, 2015). In 2008, estimates indicate that one in five of abortions were unsafe. These estimates differ by region. All though Africa has low abortion rate compared to Latin America, the percentage of unsafe abortion of about 97% is staggering; especially in western Africa (Darteh &Doku, 2015).

According to Adewunmi et al, (2012), in Nigeria and some other parts of Africa, results of studies done indicate that every year, unplanned and unintended pregnancies lead to at least 50 million abortions globally, several of which are unsafe and subsequently end in about 80,000 maternal deaths.

Unintended pregnancy, is a growing problem worldwide, and this issue affects college age students more than any other group. The situation can have negative effect on both the woman and the child. Unfortunately, abortion which is carried out by either an unskilled

University of Ghana http://ugspace.ug.edu.gh

person or under unhygienic condition or in a sub-standard medical environment is mostly the outcome of this unplanned and unintended pregnancies (Meyer, 2007).

This may be especially true for university students because they feel they are not ready to mother or father children yet or not ready to take up parental responsibility. And also because unwanted pregnancy is highly stigmatized in most African societies and Ghana especially among college and undergraduate students who are not married. For these reasons therefore, many who wish to avoid this societal stigmatization will either resort to EC use or will seek to have an abortion under unsafe conditions/sub-standard medical environment or by an unskilled person or both.

Many young women have resorted to a regular use of emergency contraceptives as a family planning method each time they have unprotected sex. The question however is whether these young women are aware that emergency contraception is not a regular family planning method, or whether they really know the side effects of EC, how EC works, from which sources they get the EC supply, its availability and what advice is given them and by who? All though there are some who also do not use EC. Again the question is why? Could it be as a result of exaggerated side effects from previous use or misinformation from peers or some service providers? It is against this background that the researcher saw the necessity for a study assess university students' level of knowledge and the contextual factors surrounding emergency contraception use.

University of Ghana http://ugspace.ug.edu.gh

1.3 Study Objectives

1.3.1 General Objective

- To assess the level of knowledge and the contextual factors surrounding Emergency Contraception use among undergraduate students of the University of Professional Studies, Accra.

1.3.2 Specific Objectives

- To assess students' knowledge of other family planning.
- To find out what factors inform a student's choice of Emergency Contraception use among students of UPSA.
- To investigate challenges associated with intention to use, and use of Emergency Contraception in terms of sources of supply and availability.

1.4 Research Questions

In order to address the objectives of this study the following questions are posed:

(1) What is the level of knowledge and the contextual factor surrounding the use of Emergency Contraception among undergraduate female students of the University of Professional Studies, Accra?

(2) Are there other family planning methods available?

(3) What informs their choice of EC use?

(4) Are there any challenges associated with Emergency Contraception, for those who intend to use and those already using in terms of sources of supply, availability perceived side effects?

.

University of Ghana http://ugspace.ug.edu.gh

1.5 Ssignificance of the Study

As already noted, the use of Emergency Contraception is not new a practiced for Ghanaians. Literature show that EC, is widely used in our geographical context. However, the popular usage of EC does not commensurate with the knowledge base of users of on the effects of the birth control method; this is probably due to the fact that, information provided by health service providers is limited. It is therefore key, to make information about the usage of EC readily available to users and service providers. For this goal to be realized, awareness and training of service providers (Nurses, Doctors, Pharmacist ect) is as essential as client awareness. Subsequently, because there is a time-frame within which a person must use EC, the service users must not only have awareness and knowledge of the method in advance, but a good knowledge on the contextual factors surrounding use and practice of EC. The findings of this study will help in the interventions to improve and upon which policies will be formulated and reviewed. The study will also serve to guide advocates to create the needed framework in collaboration with all stakeholders for the provision of accurate and relevant health information and skills among students of UPSA. The study will serve as a tool for the UPSA clinic for better health delivery through system thinking. Finally the study will also add up to existing literature.

1.6 Organization of the Study

The research is divided into six main chapters. Chapter one concerns itself with the general introduction grouped under the following headings; Introductory background to the study, Statement of the problem, Objectives of the study, Research questions, Significance/Justification of the study and the organization of the study. Chapter two involves Conceptual framework and review of various related literature on the relevant subject under the study. Chapter three presents detailed and elaborated methodology used

University of Ghana http://ugspace.ug.edu.gh

in the research work such as administration of questionnaires. Chapters four and five presents analysis, results and discussions. Finally, the sixth chapter provides conclusions, recommendation and limitation to the study.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter is arranged thematically under different headings. It begins with a conceptual framework, a discussion of unintended pregnancy and unsafe abortion, the reproductive health of young people. It is followed by a review of students' knowledge on contraceptive methods and use, before presenting overview and history of emergency contraception and university students. Factors surrounding choice of emergency contraception would also be reviewed. Finally a discussion on the challenges associated with EC use, a factor of interest in my study will also be looked at and then preceded by chapter summary.

2.2 Conceptual Framework

This study used the under mentioned independent variables to determine EC use among UPSA students. The conceptual framework in Figure 2.1 depicts the relationship between the outcome and the independent variables. Emergency contraception use is based on the knowledge users have of it. According to Aryeetey, Kotoh, & Hindin, (2010), programs aimed at increasing contraception prevalence in Ghana should be targeted at addressing poor knowledge of how various methods are used.

Dependent Variables: Emergency Contraception Use

University of Ghana http://ugspace.ug.edu.gh

Independent Variables: The Independent Variables Include; Socio-Demographic, Socio-Economic And Family Background Characteristics. These Include; Sex, Marital Status, Age, Grade-Level, Department And Current Address. The Others Are; Parents Educational, Parent's Employment Status Employment Status Of Student, Sexual Exposure, Alcoholism, Peer Communication On Issues, Partner Communication, The Knowledge Of Other Methods To Prevent Unintended Pregnancy. Literature Has Shown That All The Variables Influence Emergency Contraception Use Among College/University Students.

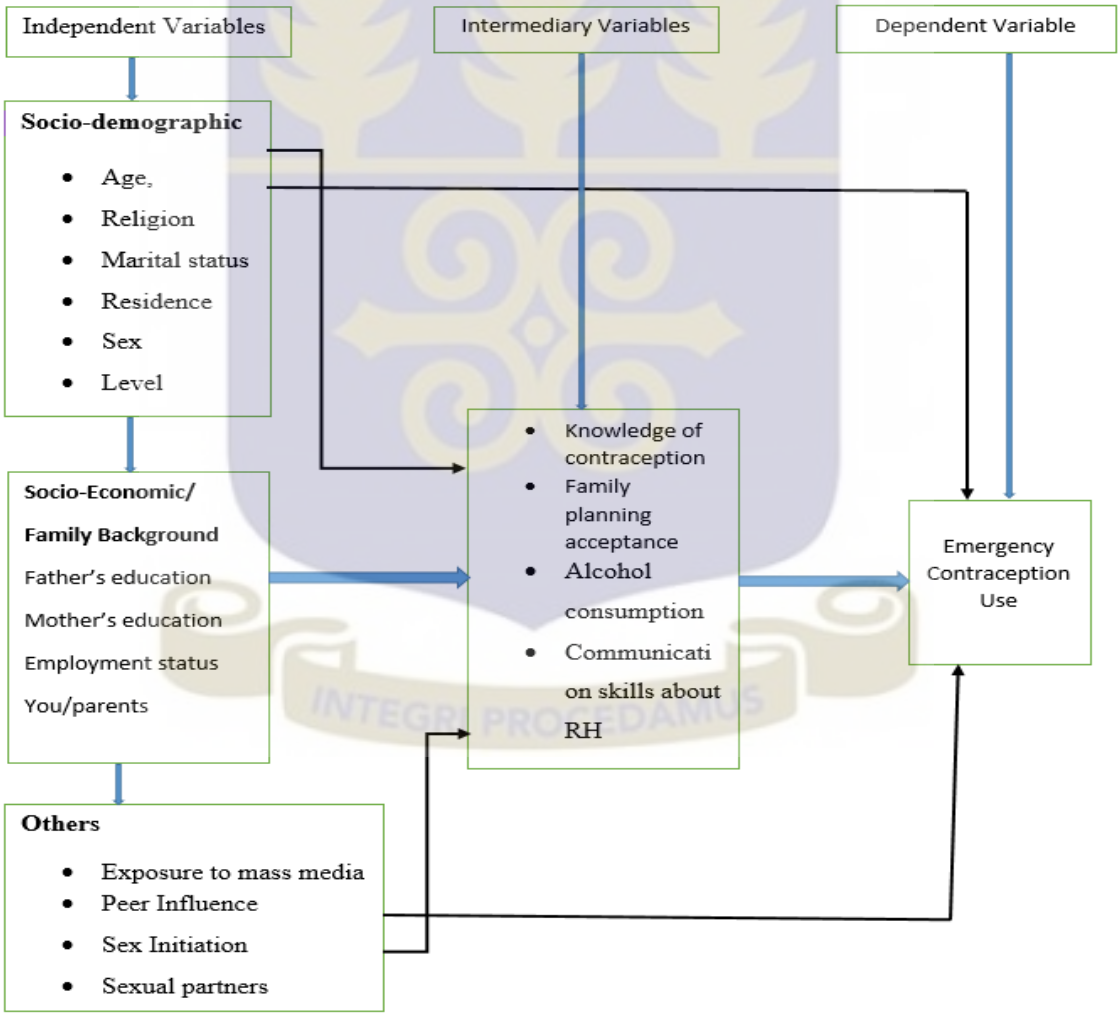


Figure 1: Conceptual Framework
Source: Adopted From (Desta & Regassa, 2011)

University of Ghana http://ugspace.ug.edu.gh

2.3 Unintended Pregnancy and Unsafe Abortion

Unintended pregnancies (UP) poses a major challenge to the reproductive health of young adults in all developing countries. Some young women with unintended pregnancies seek to have abortions; many of which are performed under unsafe conditions or in an environment that is not medically prescribed or by an unprofessional personnel while those who may want to carry their pregnancies to term are more likely to suffer risks of morbidity and mortality higher than those for adult women (Aziken, Okonta, & Ande, 2003). The negative impact of unintended pregnancy on the young persons have in one way or another been linked with compromising the students' educational advancement and future career prospects. These unwanted pregnancies are mostly unplanned and unintended. For a student to avoid the shame and ridicule from family and colleagues, many of these unplanned pregnancies are terminated, either legally or illegally (Nibabe et al., 2014).

According to WHO (2008), estimates show that 21.6 million unsafe abortions took place worldwide in 2008, and almost all in developing countries. The number of unsafe abortions have increased from 19.7 million in 2003 although the overall unsafe abortion rate remains unchanged at about 14 unsafe abortions per 1000 women aged 15 to 44 years. Globally, many pregnancies are still unintended and mistimed. In 2008, more than 90% of unintended pregnancies occurred among women using traditional, ineffective methods of contraception or no method at all. In Latin America/Caribbean, out of the 17.1 million pregnancies, 58% were unintended and unplanned. Similarly in Asia out of the 118.8 million pregnancies in 2013, 38%, were unplanned and then in Europe: 44% of all pregnancies were unintended (Figo, 2013).

University of Ghana http://ugspace.ug.edu.gh

A study on EC use among females of three different tertiary institutions in Ethiopia revealed that there was a high percentage (78.3%) of unintended/unwanted pregnancies amongst the students who engage in active sexual activity (Nibabe et al., 2014). Significantly, almost half (43.3%) of all the pregnancies ends in abortion. Only 10% of the respondents confirmed to ever use EC. Although a little above half (69.9%) of the students knew about emergency contraception, with only 27% confirming the appropriate time when it was most effective (Nibabe et al., 2014) According to Hussain & Finer, (2013), the argument about abortion is intense and obsessive passionate, thus an interplay between emotional on one side and moral issues on another. With reference to mortality and morbidity related to abortion complications, there is an unambiguous division between advanced and less-advanced countries. Countries in which abortion is legal, safe and available, abortion-related mortality rates are reduced to the barest minimum or very low, at less than 1 death per 100,000 abortions (Figo, 2013).

In a related study in the United States, it was found that the risk of dying from childbirth is 15 times higher than that of dying due to an abortion (9.1 per 100,000 versus 0.6 per 100,000 respectively) (Thonneau, 2000). It could virtually be said that abortion is no longer a public health problem in most advanced and industrialized countries. Contrary to that study however, in most developing countries, it is clear that it will be difficult if not impossible to achieve low maternal mortality rates without access to safe abortion. In developing countries, several major reasons account for why abortion is being such a huge maternal mortality risk factor (Thonneau, 2000).

In addition, the World Health Organization reports that two in five unsafe abortions occur among women under age 25, and about one in seven women who have unsafe abortions is

University of Ghana http://ugspace.ug.edu.gh

under 20. The proportion of women aged 15–19 in Africa who have had an unsafe abortion is higher than in any other region. Almost 60 percent of unsafe abortions in Africa are among women aged less than 25 years and almost 80 percent are among women below 30 (WHO, 2008). Figo, (2013) found out that about 47,000 Women around the world die each year as a result of unsafe abortions and also from multiple potential complications which may include; acute trauma, shock, organ failure, infections, and future reproductive problems.

In Ghana unwanted pregnancy and its unfriendly consequences on the physical and psychosocial wellbeing of adolescent girls and young adult women is a public health burden. According to the GSS, (2013) twenty-seven percent of males and females ages between 12 to 24 years in Ghana who have ever had sexual intercourse have been involved in terminating a pregnancy. Unwanted pregnancy is principal contributor to unsafe abortion in Ghana and accounts for approximately 60% of all gynecological admissions and nearly 30.0% of all obstetric and gynecologic admission (Hoff, 2003). Youths practically rely on unsafe abortion perhaps owing to uneasy accessibility and the tall cost of good medical abortion and probably also due to the fact that they get pregnant more often than older women (UNFPA, 2003).

2.4 Reproductive Health of Adolescents and Youth

Behavioral stimuluses that almost always put young people at greater risk of unintended pregnancy include sexual exploitation and risk taking, as well as limited know-how on how to plan in advance (Magesa, 2014). The kind of relationships and the regularity of sexual intercourse often differ during young adult age compared with later in life. Sometimes if a relationship is short, and there is long intervals in-between, (in terms of

University of Ghana http://ugspace.ug.edu.gh

distance), relationships are unpopular, and sex may be infrequent and periodic. This may lead to reluctance to adopt a regular family planning method or make it harder to plan to use one (Magesa, 2014). Sexual debut in Ghana for instance has been quite early. Median age at first sex was reported to be 18.4 years in Ghana and varies between the rural (17.9) and the urban (18.8) areas (Ghana statistical service, 2008). This means that first sex tends to take place among the Ghanaian population when they are in their teens, even though the percentage contribution by the youth to fertility is generally higher than that by adolescents, it has over the years taken the same trend as the adolescent fertility (Gss, 2014).

Ajah et al (2015), in a study done among schoolgirls in Southeast Nigeria found that early age at menarche increases the risk of early sexual activity, supported by a previous report from the USA. The contribution of the youth aged 20 to 24 increased from 20.2% in 1988 to 21% in both 1993 and 2003 and declined slightly to 19.8% and further increased to 21.8% in 2008. Among those aged 25 to 29 years, however, their contribution increased steadily from 21.7% to reach a high of 25.6% in 2008 and the pattern of contribution of the youth group aged 30 to 34 years is similar to their counterparts of age 20 to 24 years according to Ghana Statistical Service report. The contribution of the youth to fertility in Ghana has, therefore, been quite substantial in the past two decades (Gss, 2013).

Adolescent and young adult women are typically less regular users of contraception, they recognized to be higher barriers to accessing reproductive care, and they are more likely to report having either periodic sex or sex that is initiated under the influence of alcohol, especially when first becoming sexually active. EC is an effective compensatory method to prevent pregnancy following unprotected intercourse and is increasingly available to

University of Ghana http://ugspace.ug.edu.gh

this group of women (Asekun-Olarinmoye et al, 2013). In circumstances where unplanned pregnancies happen, some of these young people (under grates) in an attempt to ensure that they continue their schooling/education will try everything possible in their capacity to terminate the pregnancies using all kinds of methods including some which put their lives even at risks (Gss, 2013). Such practices could also have devastating consequences on their reproductive health even in situations where they survive induced abortion.

2.5 Knowledge and Contextual Factors Surrounding Emergency Contraception Use

Several studies have been researched on the knowledge of university students on ECs in Sub-Sahara Africa. These studies according to Dartey & Doku, (2015) have reported diverse levels of knowledge of EC; for Nigeria (50.7%), Uganda (45%), Cameroon (47%), Ethiopia (43.5%), and South Africa (56.5%). In Ghana very few studies have been conducted on EC among university students. For example, Addo & Tagoe-Darko, (2009) found that 51% of the students in the survey had heard of EC.

In an earlier study by Baiden et al., (2002) among students at the university of Ghana also observed that only 43% of the 194 respondents had heard of modern EC methods with only about 11.3% indicating correctly the recommended time within which EC is to be taken after unprotected sex. What is missing in both studies is the students' knowledge of the contextual factors surrounding EC use. Whether respondents know and understand when to take EC, why they cannot use EC as a regular family planning method, what side effect EC has on future reproductive life. Meyer, (2007), in her study on EC use and knowledge among those who could utilize it previously has been shown to be fairly low. Sometime in 2003 the Kaiser Family Foundation in a study found out that of more than 800 women between the ages of 18-49 in a sample, only 67% knew that there was

University of Ghana http://ugspace.ug.edu.gh

something that you could use or do to avoid pregnancy in the event of contraceptive failure or unprotected sex and only 6% of the women surveyed had actually used EC (Hoff, 2003).

Findings from another study among university students in Port Harcourt, Nigeria, have shown that, university students (57.7%) somehow have some ideas and awareness of emergency contraception while a little above half (69.2%) of them knew the correct timing and use of EC. It was also found that only (48.8%) of the respondents knew that emergency contraceptive pills could also be called "morning after or post coital pill" (Ojule, Oriji, Georgewill, & Harcourt, 2008).

In a similar study among university students, some respondents 52.5% knew that EC is also known as the 'morning-after pill' which should be taken on the morning after having unprotected sexual intercourse. From the various studies and literature, most respondents only know and refer to EC as either the Pill or Postnor2 without considering IUD which is a device and type of EC, only 48 respondents 24.0% knew that emergency contraception could also be a device or drug to prevent pregnancy after engaging in unprotected sex (Kitshoff, 2010).

In Stellen Bosch University a survey was done and finding from the study shows that only a few 47.5% of their respondents know EC as oral contraceptives which either prevent implantation of the fertilized ovum, or prevent ovulation 38.0%. Taking into consideration that all the respondents were studying at a tertiary institution, it is a matter of concern that students either did not know the side effect of the oral contraceptive pill. Furthermore, the

University of Ghana http://ugspace.ug.edu.gh

Stellen Bosch study also found that only 9.0%, of the respondents knew that EC does not prevent prevents STIs (Kitshoff, 2010).

Hoque et al, (2013), on knowledge of EC in Botswana found that respondents in that study generally had good knowledge or awareness on contraceptives. According to their finding, all the female respondents (students) knew that contraception was not 100% effective, this is true as EC like any other medication has a tendency to fail. In a similar study in South Africa by (Muhammad Ehsanul Hoque & Ghuman, 2012), their findings however were contrary to the findings of the study in Botswana. The study was conducted among young women aged 15 to 24 years attending 'public sector health facilities' and their findings indicate that only 17% of the women (as opposed 100% in Botswana) had ever heard of emergency contraception while 50.2% never heard of EC. According to them such findings highlight the need for wider education on reproductive health in general and especially of EC.

A Study done among female undergraduate university students in Nigeria revealed that about half (50.7%) of the respondents knew about emergency contraceptives. However, most of them lacked detailed knowledge about the regimen, such as when it should be taken, how often and if any side effect. This finding is similar to a study in Princeton University, which showed that while the basic awareness of the emergency contraceptive pill was widespread, students lacked detailed knowledge about the regimen for example how the one tablet is taken and the hours interval between the first and the second dose in case of a double pack (Akani et al., 2008). A study done among university students in Cameroon indicate that general awareness of EC was 63%, however the knowledge for the

University of Ghana http://ugspace.ug.edu.gh

first dose of Emergency contraceptive pills was very limited, only 5.7% knew that the first dose of EC pills could be taken up to 72 hours after sexual intercourse (Miruts, 2014).

2.6 Contraceptives

According to WHO, (2011) contraception is the procedure or the use of various devices, drugs, agents, sexual practices or surgical procedures to prevent any unplanned pregnancy. Contraception practice is basically for pregnancy planning, limiting the number of children and controlling population. There are many contraceptive drugs and devices that can be used for contraception. For better understanding of these contraceptives, they are grouped into two broad forms; natural and artificial. However for the purpose of this study, concentration is on Emergency Contraception.

2.7 Overview of Emergency Contraception

Emergency contraception is defined as a medicine or device which is used to prevent pregnancy after unprotected intercourse (including sexual assault) or after a recognized contraceptive failure. It has alternatively been called post-coital contraception or 'the morning after pill'. These terms are baffling and imply that EC pills can only be taken immediately, which is incorrect. They can be used, with decreasing efficacy, for up to five days post intercourse (Magesa, 2014).

Emergency contraception (EC) could also be referred to as a group of birth control method that, when used within demarcated time limits after unprotected intercourse, can prevent an unwanted pregnancy. (Magesa, 2014). Emergency contraception is intended for occasional, rare or emergency use only, but not as a regular form of contraception. Situations that can cause this include failure of barrier methods such as spillage, breakage,

University of Ghana http://ugspace.ug.edu.gh

or misuse of condom, sexual assaults, failed coitus interruptus, or two or more consecutive missed oral contraceptive pills (Adewunmi et al., 2012)

Emergency contraception is effective only in the first few (up to five days) days following intercourse before the ovum is released from the ovary and before the sperm fertilizes the ovum (WHO, 2012). Emergency contraception principally obstructs ovulation, interrupts follicular development, and/or obstructs the development of the corpus luteum (Ojule et al, 2008). EC could also be known to be a method of contraception that can be used to prevent pregnancy in the first few days after having unprotected sexual intercourse.

It is intended for emergency use following unprotected sexual intercourse, contraceptive failure or misuse (such as forgotten pills or torn condoms), rape or coerced sex (Magesa, 2014). There are various methods of emergency contraception including hormonal contraceptive pills (also called morning-after pills), intrauterine contraceptive devices and mifepristone (Desta & Regassa, 2011). The EC pill, is further divided into two types, one type contains a combination of Estrogen and Progestin and the other form of pill contains Progestin only (Westley & Schwarz, 2012)

While the orthodox contraceptive methods are active before or during penile-vaginal intercourse, emergency contraception (EC) is a post coital method of birth control with the intended for use in the event of contraceptive method failure, unprotected intercourse or sexual assault. Although awareness of emergency contraception has been growing over the past decade post coital methods of birth control have been in use for several years before now (Muhammad et al., 2012).

University of Ghana http://ugspace.ug.edu.gh

Emergency contraception varies in its usage with the woman's age. Contraception use among currently married women for any modern methods has seen some improvement both for adolescents (15-19 years) and youth (20-24 years). Literature indicates that EC is lowest among the youngest women age 15-19 (19 percent), most probably because they are in the early stages of their reproductive life or striving to have a health family building (GSS, 2013). Considerably, much research suggests that EC reduces the risk of pregnancy of women who have had unprotected sexual intercourse by approximately 75 % to 89% if taken within 72 hours after engaging in unprotected sexual intercourse even though it can go beyond 72 hours but in decreasing potency (Magesa, 2014).

The adolescent contraceptive use even though decreased slightly from 5 percent in 1993 to 4.8 percent in 1998; it had increased to 14.8 percent by 2008. On the other hand, modern contraceptive method usage among the youth group 20-24 years increased from 8 percent in 1993 to 10.4 percent and 13.6 percent respectively in 1998 and 2008 according to the (GDHS, 2008).

Emergency contraception is meant to be used as a backup means or as a standby of post coital contraception when the primary method fails or intercourse is unplanned or unintentional such as in assault and rape. Therefore, to understand the effectiveness of EC, the probability of pregnancy following unprotected intercourse must first be determined (Griggs, 2011). Emergency contraception prevents pregnancy in the same way as other hormonal contraceptives such as pills, injectable, Depo Provera or even during breast feeding by delaying ovulation, obstructing fertilization or inhibiting implantation of the fertilized egg by varying endometrial receptiveness, or possibly causing reversion of the corpus luteum (Magesa, 2014)

University of Ghana http://ugspace.ug.edu.gh

According to United Nations, (2009), contraceptive frequency among women of reproductive age who are married or in a relation differs from three per cent in Chad to eighty-eight per cent in Norway. Global estimates indicate that contraceptive prevalence is sixty-three per cent and to some extent higher (72%) in the more advanced regions than in the under less developed regions (61%).

2.8 Historical Background of Emergency Contraception

The roots of modern emergency contraception dates back to the early 1920s, when researchers initially proved that the introduction of estrogen into the body interfere with pregnancy in mammals. Veterinarians were the earliest people to apply this finding, administering estrogens to dogs and to horses that had mated when their owner had not wanted them to (Charlotte, 1996). Regardless of scattered reports of clinical use of post coital estrogens in humans in the early 1940s, some recordings and documentation were still kept. The initial documented cases were not available till the mid-1960s, when doctors in the Netherlands used the veterinary practice of post coital estrogen administration to a teenager (13-year-old) who was raped at mid-cycle (Harper & Ellertson, 1995).

Then in the early 1970's a Canadian physician named Albert Yuzpe and his colleagues began studies (in 1972) on this combined regimen, guided by their observation that a single dose of 100 mcg of estrogen combined with 1.0 mg of the progestin dl-norgestrel brings about endometrial changes that are incompatible with implantation (Cheng, Che, & Am, 2012). The "Yuzpe method," as it came to be known, then replaced the high-dose estrogen formulations, basically because it had less incidence of side effects, it was also realized that the frequently used DES caused vaginal cancer in the daughters of women who had taken it to prevent miscarriages.

University of Ghana http://ugspace.ug.edu.gh

The Yuzpe regimen since then became extensively used. It was a combination of hormone formula and was used to replace the high-dose estrogen emergency contraception methods of the 1960's. Later in the 1997, Doctors began to offer the copper IUD as the only non-hormonal method of emergency contraception. With the intent to encourage manufacturers to make emergency contraceptives available, the FDA concluded that certain combined oral contraceptives containing ethinyl estradiol and norgestrel or levonorgestrel are safe and effective for use as post coital emergency contraception (Charlotte, 1996).

Women typically received either conjugated estrogens, the steroidal estrogen ethinyl estradiol or the non-steroidal estrogen diethylstilbestrol (DES). Today, in places where high-dose estrogens are still used, they are administered in the so-called 5x5 treatment: 5 mg of ethinyl estradiol per day for five days (Magesa, 2014). According to Magesa (2014), two other methods have been investigated: danazol and mifepristone. Danazol, a synthetic progestin and anti-gonadotropin, was first used as an emergency contraceptive in the early 1980s. Mifepristone, more commonly known as RU-486, is a potent anti-progesterone registered in four countries as an abortifacient.

The Ministry of Health in Ghana introduced emergency contraception into its Reproductive Health Policy and Standards in 1996 (Opoku & Kwaununu, 2011). Two tablets of Ovral, a combined oral contraceptive pill, each containing 50µg of estrogen and 250µg of levonorgestrel was adapted and used as the Yuzpe regimen. Since then several social marketing groups have helped to promote the use of EC in the country. The Planned Parenthood Association of Ghana introduced 'Postinor-2', a dedicated progestin-only EC product onto the Ghanaian market a couple of years ago (Opoku & Kwaununu, 2011).

University of Ghana http://ugspace.ug.edu.gh

2.9 Other Family Planning Methods

Contemporary contraceptives are available in different forms, such as the following; oral contraceptive pills, foaming tablets, creams, jelly, injectable (Depo Provera), implants, intrauterine devices, and barrier methods (in the form of condoms for males and females), as well as permanent surgical methods such as vasectomy (Desta & Regassa, 2011). Appropriate methods for couples and individuals vary according to age, parity, family size preference, and level of awareness, as well as the cultural and religious acceptability of the methods available (Desta & Regassa, 2011). Contraceptive are basically grouped into two: Natural (Calendar method, Cervical mucus method, Basal body temperature method and Sympto-thermal method) and Artificial (Barrier methods, Hormonal methods, Intrauterine contraceptive device and Surgical methods).

2.10 Emergency Contraception Methods Used Worldwide

2.10.1 Yuzpe method/regimen

This involves taking a high dose of a standard combined oral contraceptive within 72 hours of unprotected sex**.** When using the Yuzpe method for emergency contraception, women can take a high dose of a standard combined oral contraceptive ("the pill"), which contains both an estrogen and a progestin (Magesa, 2014). However, after it was discovered that using progestin-only pills was more effective and caused less nausea and vomiting, the Yuzpe method was largely replaced by progestin-only emergency contraceptives. Nausea and vomiting are some of the major drawbacks of the Yuzpe method, as many women actually vomit up the pills, making them less effective, but there are a few rare circumstances in which the Yuzpe regimen might be considered a good option (Charlotte, 1996).

University of Ghana http://ugspace.ug.edu.gh

2.10.2 Levonorgestrel

This emergency contraceptive regimen consists of two doses of 0.75 mg of levonorgestrel taken 12 hours apart, starting within 48 hours after unprotected intercourse. Although progestin were among the first drugs used in post coital contraception, few studies of the emergency levonorgestrel regimen have controlled for cycle day of unprotected intercourse. Levonorgestrel is available in a strip of 10 pills containing 0.75 mg each for this use and a four-pill strip, this emphasizes that the pills are intended for sporadic or emergency contraception (Trussell, Raymond, & Cleland, 2014).

2.10.3 Mifepristone

It is a potent progesterone, and has been tested since the early 1980s for its abortifacient qualities. Mifeprex tablet each contain 200mg of mifiprestone, a synthetic steroid with antiprogestational effects. The tablets are light yellow, cylindrical and biconvex in shape and it is intended for oral use only. It is rapidly absorbed with a peak plasma concentration of 1.98mg/l occurring in about 90 minutes after ingestion (Greene M. F., 2016). More recently, in two studies evaluating mifepristone as an emergency contraceptive, the regimen consisted of 600 mg of the drug taken in a single dose within 72 hours after unprotected intercourse (Greene M. F., 2016). Intrauterine contraceptive device (IUD) is a device inserted into the uterus (womb) to prevent pregnancy. The IUD can be a coil, loop, triangle, or T in shape made of plastic or metal. An IUD is inserted into the uterus by a healthcare professional (Magesa, 2014).

2.11 Emergency Contraception Methods Used in Ghana

In Ghana, the available and widely used EC are: Progesterone only emergency pill (Postinor-2),

University of Ghana http://ugspace.ug.edu.gh

Combined oral contraceptive and insertion of a Copper IUCD. The first two are tablets that is swallowed whilst the IUCDs are inserted into the uterus at any point of the menstrual cycle as long as the chance of pregnancy has been excluded. Some health practitioners prefer to insert it towards the end of menstruation or just after menstruation.

2.12 Mechanisms Of Action Of Emergency Contraception

Emergency contraception primarily obstructs ovulation, interrupts follicular development, and/or interferes with the maturation of the corpus luteum, considering that all pregnancies were attributed to intercourse occurring during a 6-day period ending on the day of ovulation. Physiologically, sperm are viable in the vagina for up to 5 days in comparison with eggs, which must be fertilized within approximately 1 day of ovulation. The day of ovulation may vary from cycle to cycle for the same person and from person to person (Westhoff, 2005).

The effectiveness of combined hormonal or progestin-only emergency contraception depends on the timing in the cycle when emergency contraception is used (White et al., 2008). Results of studies weighing the effect of emergency contraception on the endometrium have been contradictory. Some studies have suggested histologic or biochemical modifications in the endometrium after emergency-contraception treatment, adding that the pills may act by damaging endometrial receptivity to the implantation of a fertilized egg (Westhoff, 2005). While on the other hand, other studies have also demonstrated that there is little or no effect on the endometrium and raised the question of whether the endometrial changes detected would be sufficient to prevent implantation. Yet still other suggested mechanisms, such as alteration of sperm or egg transport, meddling

University of Ghana http://ugspace.ug.edu.gh

with the fertilization process, and/or cervical mucus changes, have not been proved by clinical data (White et al., 2008).

2.13 Side Effects

Side effects include nausea and vomiting, abdominal pain, breast tenderness, headache, dizziness, and fatigue. These usually do not occur for more than a few days after treatment, and they generally resolve within 24 hours. The levonorgestrel regimen has a significantly lower incidence of nausea and vomiting than the combined regimen; according to a randomized controlled trial conducted by WHO, progestin-only ECPs are associated with an incidence of nausea 50% lower and an incidence of vomiting 70% lower than that for combined ECPs (Trussell et al., 2014).

2.14 Factors Surrounding Choice of Ec

Factors associated with a person's choice of contraception or effectiveness of use includes individual or personal characteristics, such as sexual relationship, partner influences, social/economic influences, the community, family and peers, service access and provision, and method-specific experiences and attitude (Frost, Frost, & Darroch, 2004). According to a statistical report, only 1 in 3 women (35%) currently married or in relationship reported using any method of contraception. Twenty-four (24%) percent of all women use modern methods and eleven percent use traditional methods. The most frequently used methods are the injectable (9%) followed closely by the pill (8%). There is a slight difference in contraceptive use depending on the area of residence, with 37 percent of users in urban areas against 32 percent in rural areas (GSS, 2011).

University of Ghana http://ugspace.ug.edu.gh

2.15 Availability of Ec

A person's ability to decide on the type or methods available is vital to the practice of contraception. Considerable evidence proves that limited choice of contraceptive methods limits the opportunity for a person to choose a method that suits his or her needs, resulting in lower levels of contraceptive prevalence (Desta & Regassa, 2011). Thus, the availability of a wide range of contraceptive options affords users the ability to make active, free, and informed choices.

New strategies can be used to raise overall awareness of EC, including social media, text messages or mHealth, Internet, and the more traditional advertising and marketing approaches such as radio, television and other tools. Within health care settings, more can be done to provide women with accurate, user friendly information about EC. Particular attention should be paid to women who may not know how or where to ask for EC, including those seeking pregnancy testing, those seeking testing for sexually transmitted infections and women who have ever been raped (Westley & Schwarz, 2012). Women should be aware that the effectiveness of ECPs is limited and that a single dose will not protect against pregnancy if additional acts of unprotected intercourse occur.

2.16 Challenges Associated with Ec Use

In many developing countries, women continue to die from unsafe abortion, yet a great number of women have basically never heard of EC. In Kenya, for example, where 80% of urban women interviewed in 2011 were unable to describe a method of post coital contraception without prompting; in Nigeria, this increased to 90%, and rural women would be expected to have even less awareness (Westley & Schwarz, 2012). Disapproving

University of Ghana http://ugspace.ug.edu.gh

attitude of providers (pharmacists and midwifes) and perceived reservations about the users could be serious challenges for those who intend to use EC.

According to Westley & Schwarz, (2012), for those who are aware of EC, numerous challenges remain including concerns about privacy, cost and, in some settings, the ability to find a pharmacy with pills in stock. In Ghana, lack of access, exaggerated/over stressed side effects by peers, socio-cultural and religious issues are some of the challenges that users of EC and those who intend to use might face. Societal perception of EC users and attitudes of providers, many believe that ladies who use EC have premarital sex, have multiple sexual partners, have STIs, have risky sexual behavior, and could substitute EC for other family planning methods (Anvita et al., 2015).

2.17 Chapter Summary

Prevailing knowledge on EC types, effectiveness, and mode of action, side-effects and contra-indications have been explored and the latest information on the method have also been reviewed in this chapter. The findings of the research will ether confirm or refute these and many other literatures reviewed. The next chapter is the methodology of the study.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was employed in the study. Issues discussed include a description of the study area, research design, the study variables, the study population, sampling method, sample size, data collection methods, quality control, data processing and analysis and ethical consideration.

3.2 Study Design

Quantitative research method was employed in generating the required data for analysis. The study adopted a descriptive cross sectional survey design for data collection and analysis. Using a survey is less expensive and less time involving. The descriptive survey is also very useful for generalizing from a sample to a population so that inference can be made about the knowledge and use of EC. It was very useful in collecting data that can be quantified for reporting the true picture of the situation at UPSA.

3.3 Study Area

The research was carried out at the University of Professional Studies, Accra (UPSA). This is a public university located at Madina in the Greater Accra Region of Ghana with a current student population of about ten thousand (10,000) and a staff population of about six hundred (600) comprising of principal officers (management), senior members (teaching and non-teaching staff), senior staff and junior staff. Apart from the academic departments, the university also has other support services such as the physical development service section, the transport services section, the security services, the health services (Clinic) and other supplementary services.

University of Ghana http://ugspace.ug.edu.gh

3.4 Variables

3.4.1 Dependent variables

- Emergency contraception use

3.4.2 Independent variables

- Socio-demographic
  a. Age
  b. Sex
  c. Marital status
  d. Residence
  e. Religion
  f. Grade level
- Socio-Economic Factors
  a. Exposure to mass media
  b. In a Relationship
  c. Type of funding
  d. Employment status
- Family Background Factors
  a. Parents' educational level
  b. Communication
  c. Other siblings

3.4.3 Intermediate variables

a. Knowledge of contraception
b. Family planning acceptance
c. Peer pressure

University of Ghana http://ugspace.ug.edu.gh

d. Sexual partners

e. Alcohol consumption

f. Communication skills about RH

3.5 Study Population

The study was targeted at undergraduate students comprising of Bachelor of Science/Art in Business Administration, Marketing, Accounting, Information Technology, Public Relation and Banking/Finance. The identity of the selected students were protected, as no name or index number of students were taken as part of the data collection process. A staff of the clinic was employed and trained as a research assistant who assisted in the administration of structured questionnaire with closed ended questions written in English, which was used in this study for data collection. Items in the questionnaire were basically focused on the main and specific research objectives and reviewed literature.

3.6 Sampling

UPSA has six departments/faculties namely Bachelor of Arts in Business Administration (BBA), Bachelor of Science in Marketing (BSc Mgt), Bachelor of Arts in Banking &Finance (BBF), Bachelor of Science in Accounting (BSc Acct), Bachelor of Science in Information Technology (ICT) and Bachelor of Science in Public Relation (PR). There are regular students, Evening students and Weekend students. For the purpose of this study sampling was done among only the regular students (level 100 - 400).

3.7 The Sample Size

In order to reduce error, this study adopted the sample size from a previous study on a similar topic by Desta & Regassa, (2011) on EC use among female students of Haramaya University, Ethiopia documented from a previous study that only 35.6% of the students

University of Ghana http://ugspace.ug.edu.gh

were aware of EC. Taking this information as input, the sample size was calculated using the formula adopted from Cochran (1977):

$$\mathbf{n = \frac{z^2 P(1- P)}{d^2}}$$

Where **P** = proportion of knowledge of EC from previous study is **35.6%; z^2= 95%** confidence interval corresponding to the value of **1.96**; and **d^2** = proportion of sampling error tolerated at **0.05%** (to increase the accuracy). Computing the figures we have:

$$\mathbf{n=\frac{1.96^2 \times 0.36(1-0.36)}{0.05^2}}, \quad \textbf{therefore n=387.}$$

After calculating the sample size of 387, all faculties included in the study (total population of 7973) and grade levels were considered. In order to draw the study participants, the calculated sample size (387) was distributed to each faculty.

3.8 Sampling Technique

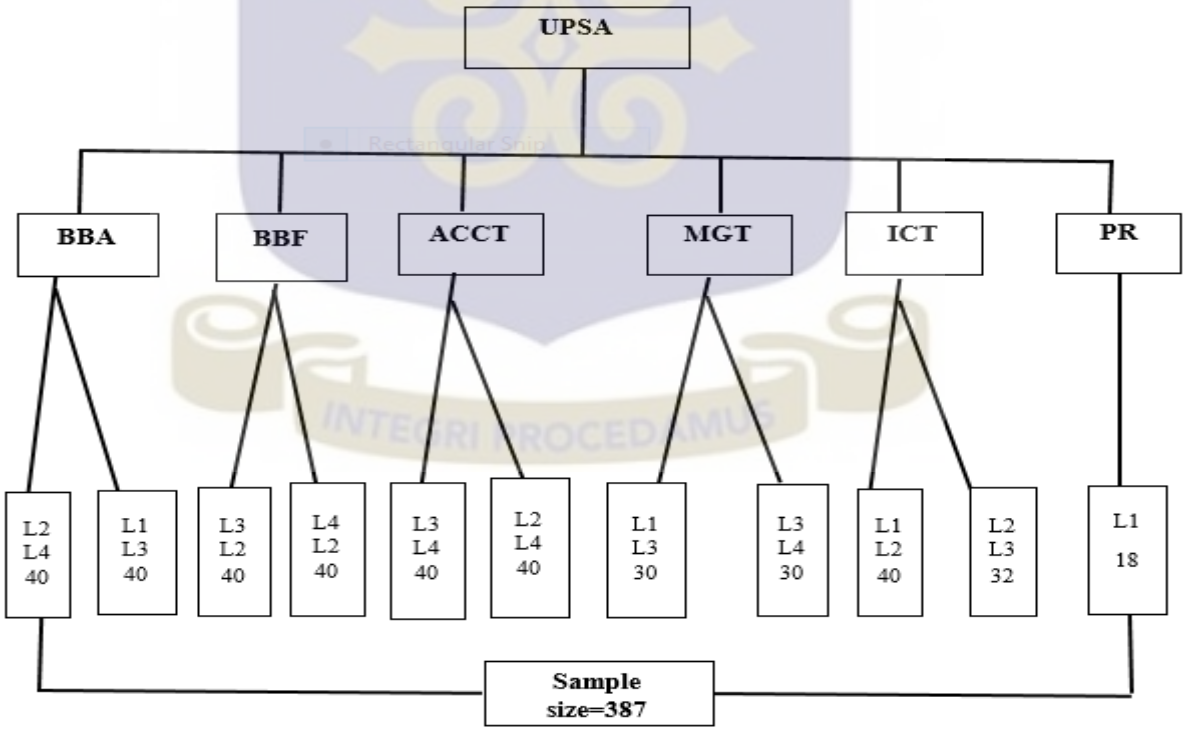
This study used stratified random sampling. Student population was stratified by year group and also by the course (undergraduate department). The sample size of 387 was distributed to the various faculties/department. Per the calculations, each class randomly selected got 40 questionnaires except the PR department which had only year one (level 100) group with only 21 students so only 15 questionnaire were served. Selection of the other year groups was done through systematic random sampling. The names of the year (1-4) of each faculty was written on pieces of paper and shuffled, then one was randomly picked without replacement till the required number was obtained (two levels from each). For the exact number of students, a student was randomly picked from each level, then each 3rd person, till the number required is obtained. This depended on the class population and the sample size distribution. The break down is shown diagrammatically below.

University of Ghana http://ugspace.ug.edu.gh

Key

BBA	Bachler of Arts in Business Administration
BBF	Bachler Arts in Banking and Finance
ACCT	Bachler of Arts in Accounting
MGT	Bachler of Arts in Management
ICT	Information Technology
PR	Public Relation
L1, L2, L3, L4	Level 100, 200, 300 and 400

Figure 3.1: Diagram of sample size distribution



YR =Year, Years 1 to 4

Sampling technique diagram

University of Ghana http://ugspace.ug.edu.gh

3.9 Inclusion And Exclusion Criteria

Respondents Were Registered Males, Female, Full-Time Undergraduate Students From All Years (Levels 100-400) Of Study At The University Of Professional Studies, Accra. All Students Who Satisfied The Above Criteria And Were Willing To Participate In The Study Were Included In The Study. All Part-Time Undergraduates (Bsc/Ba), Diploma And Postgraduates (Part Time Or Full Time) Students Were Excluded From The Study.

3.10 Data Collection Technique

A structured questionnaire was designed and administered to regular undergraduate students of UPSA at the time of the study. The questionnaire was based on the objectives of the study. It was also interviewer administered. The researcher employed a nurse and a records officer at the UPSA clinic as research assistants and trained them on data collection. Emphasis was placed on techniques of data collection, rapport creation, assurance of privacy and confidentiality. The meaning of the items and correct ticking of responses was provided. Attention was also given to skip patterns used in the questionnaire. Each student was told the purpose of the study and how the questionnaire should be answered. Those who consented to take part in the research were given the questionnaires to answer.

3.11 Quality Control

Data collected was checked to ensure that information gathered is accurate. Questionnaires were checked for completeness before acceptance. Questionnaires were also numbered during data entry to ensure accuracy. Errors detected during the data collection such as incomplete forms were checked before collecting.

University of Ghana http://ugspace.ug.edu.gh

3.12 Data Analysis

For the purpose of this study, descriptive statistics was used to describe the knowledge and contextual factors of EC use and practice. This was done by summarizing them into percentages, proportions and frequencies. Mean and median were calculated for age while figures were presented in tables, graphs and charts. Data were analyzed using univariate (percentage), bivariate and multivariate analysis/binary logistic regression. Descriptive analysis was performed to explore respondent's knowledge on EC, other methods of family planning, sources of information and sexual behavior.

Pearson's chi-square was also conducted at 95% confidence interval (CI) to determine the associations between respondent's socio-demographic characteristics and the dichotomous response outcome/dependent variable. In evaluating the dependent variable (EC use), a value of 1 was assigned to a 'yes' answer and 0 to a 'no' answer. Logistics Regression was performed to determine the influence and the strength association of some selected independent variables on the dependent variable.

3.13 Training of Research Assistants

Before embarking on the data collection exercise, a day training session for the two research assistants was organized by the researcher with the aim of preparing them with the required skills needed to assist in the study. There was a discussion on the purpose of the study, ethical issues, how to administer the questionnaire, and proper handling of the questionnaires to avoid damage.

3.14 Pre-Test/ Pilot Study

In the pre-test of the questionnaires and methodology of this study at Accra Teacher Training College (ATRACO), it was realized that respondent did not answer when last did

University of Ghana http://ugspace.ug.edu.gh

you have sexual intercourse due to its sensitive nature. Hence, the question on the last time you had sex was changed to when last did you use emergency contraception.

3.15 Strength of the Study

On the strength of the study, because the study was based on large sample (387) size drawn from one of the biggest public universities in the country, the findings may give better discernments into the problems and have practical relevance for other higher institutions in the country.

3.16 Ethical Issues

3.16.1 Ethical approval

To certify that the research meets ethical standards, an approval was sought from the Ethical Review Committee of the Ghana Health Service (GHS), Research and Development Division, Accra. This (ID NO:GHS: ERC:63/12/15) approval was duly obtained before the study was conducted. Subsequently, a formal letter was written to the authorities of UPSA through the registrar to seek permission for the study to be carried out in the school.

3.16.2 Privacy and Confidentiality

Confidentiality was key to the researcher as such the questionnaires were coded and names of respondents were not required in filling out the questionnaire. Respondents were assured of optimum privacy during filling of the questionnaires. Participant's names or any form of identity were not also mentioned in the report of the study and information gathered on participants was kept strictly confidential between the researcher and the study participants.

University of Ghana http://ugspace.ug.edu.gh

3.16.3 Compensation

There was no any form of compensation package for participating in the study and this was declared by the researcher to participants before they decided whether to partake in the study or not. However, the researcher provided a little refreshment or snacks after administering questionnaires.

3.16.4 Risk and benefits

Aside the time that was lost by study subjects in answering the questionnaires, there was no risk or cost associated with the decision to participate in the study. Participants were not also given any direct benefits such as cash. The only benefit however is that, it is expected that findings from the study would contribute towards policy decisions on health education particularly contraceptives use in the study area. This would be beneficial to both the study participants and the researcher. In addition, the safety and comfort of participants was ensured at all times.

3.16.5 Voluntary withdrawal

Participants were made to know that, participation in this study was purely voluntary and they could choose not to answer any individual question or not participate in the study at all. Participants were at free to withdraw from the study at any point in time of the study. However, participants were admonished and encouraged to fully participate to ensure that results from the study would be a true reflection of the level of knowledge and contextual factors surrounding emergency contraception use. In the event of any withdrawal by a participant, all data gathered on the participant were deleted.

University of Ghana http://ugspace.ug.edu.gh

3.16.6 Consenting process

Every single participant in the study was approached and the nature and purpose of the study explained to seek his/her consent. The decision to take part in the study was absolutely voluntary and refusal to take part did not affect the study in any way neither did it affect the relationship between the participant(s) and the researcher. Participants were also made to sign a written consent form after a detailed explanation before they participated in the study.

3.16.7 Data storage and usage

The completed questionnaire (hard copy) was stored under lock and key and only accessible by the researcher and the research/study supervisor. The data files (soft copy) generated from the entered data was saved with a password on a personal computer accessible to only the researcher and the study supervisor.

3.16.8 Declaration of conflict of interest

The researcher as the principal investigator had no conflict of interest in this study and this was declared prior to the study.

3.16.9 Funding of the study

This study was basically for academic purposes and was conducted in partial fulfilment of requirements towards the award of a Master of Public Health (MPH) degree at the School of Public Health, College of Health Sciences, University of Ghana, Legon. Hence, there was no funding from any source and all estimated cost that was incurred was fully borne by the researcher.

University of Ghana http://ugspace.ug.edu.gh

3.17 Chapter Summary

Chapter three presented the methods used to conduct this research work. It described in detail the various steps followed in the conduct of the study. The next chapter presents the results of the study.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the findings of the research work on emergency contraception (EC) use among students of the University of Professional Studies Accra (UPSA). Primary data was collected using questionnaires from 387 mixed sex undergraduate students of UPSA. The results have been discussed based on the objectives of the study. The findings are in Tables and Figures with their related interpretations. The presentation of findings begins with the socio.-demographic characteristics of respondents.

4.2 Socio-demographic characteristics

The socio-demographic characteristics of the survey respondents are presented in Table 4.1. The mean age of the respondents in the study was 23.33 years ± 3.9 years, with a range of 17 to 36 years. The age distribution was right-skewed, with 42.89% of respondents between 25 – 30 years of age. With reference to current residential address or where students lived, 54.9% (a little above half of the student population) live on campus hostels (54.9%) while the rest lived off campus (45.1%). With reference to sex, majority of the respondents were females (88.6%) and single (74.4%).

In terms of year groups, as shown in Table 4.1 the largest group of respondents were in Level 200 (29.5%) whilst the smallest group was Level 400s (20.7%). From the various departments, Information Technology (ICT) was the largest 21.2%), the department of Public Relations (PR) has the smallest number of respondents (8.3%). On religious affiliation, Christians constitute the highest number of respondents (59.7%) followed by Muslims (40.3%). The remaining 0.8 percent were Buddhists.

University of Ghana http://ugspace.ug.edu.gh

Table 4.1: Socio-demographic distribution of respondents

Variable	Frequency	Percentage
Age of respondents (in years)		
15-19	51	13.2
20-24	136	35.1
25-30	166	42.9
≥ 31	34	8.8
Sex		
Male	44	11.4
Female	343	88.6
Marital Status		
Single	324	83.7
Married	63	16.3
Current address		
On campus	213	54.9
Off campus	177	45.1
Religious status		
Christian	229	59.2
Islam	155	40.1
Traditional religion	3	0.7
Level		
100	93	24.0
200	114	29.5
300	100	25.8
400	80	20.7

4.3 Socio-Economic/Family Background

A little family background of each respondent was also sought. Areas of interest were; parents level of formal education (primary, secondary plus and no school) and whether or not they are employed. Table 4.2 shows that one hundred and forty students had mothers who had primary education (36.2%), a little above average (54.5%) of the respondents had mothers who have had secondary plus education. 36 students had mothers who did not have any formal education (9.3%). Five (1.3%) respondents did not answer this question

University of Ghana http://ugspace.ug.edu.gh

With regard to respondents' fathers level of formal education, Table 4.2 shows that 56.1% had secondary education and beyond**.** This is followed by 32.6% who had primary education. Only few 9.6% of respondents' fathers had no formal education at all. On level of mothers' formal education, 54.5% had secondary education and beyond followed by 36.2% with primary education with the remaining 9.3% without any formal education. On parental employment statuses, majority 56.3% of the respondents had both of their parents gainfully employed, with 30.7% of respondents had either mother or father employed whilst the remaining 12.9% had both parents not employed.

Table 4.2: Frequency distribution of socio-economic characteristics of respondents

Variable	Frequency	Percent
Mother's level of education		
Primary	140	36.2
Secondary plus	211	54.5
No School	36	9.3
Father's level of education		
Primary	132	34.1
Secondary plus	218	56.3
No School	37	9.6
Employment status of parents		
Both employment	218	56.3
One employed	119	30.7
Both unemployed	50	12.9
Total	387	100.0
Employment status of student		
Yes	142	36.7
No	245	63.3

University of Ghana http://ugspace.ug.edu.gh

4.4 Knowledge and Contextual Factors Surrounding Emergency Contraception Use

To measure the level of knowledge, respondents were asked if they have heard of emergency contraception. According to the results as shown in the table indicates that of the 387 respondents, about three-quarters (77.8%) have ever heard of EC whilst the remaining minority (22.2%) have never heard of EC.

The results from Table 4.3 indicate that a good number of the respondents (58.1%) were familiar and knew Postinor2 (progestin only) more than the other forms or types of emergency contraception. Again in Table 4.3, findings show that 52.2% and 46.5% of respondents knew the Pill and also the Intra-uterine Device (IUD) respectively as other types of EC.

Table 4.3: Distribution of Respondents who have heard of EC

Variable	Frequency	Percent
Heard of EC		
Yes	300	77.5
No	87	22.5
If yes, which type		
IUD		
Yes	180	46.5
No	207	53.5
Postinor2		
Yes	225	58.1
No	162	41.9
PILL		
Yes	202	52.2
No	185	47.8
Don't know	-	-

University of Ghana http://ugspace.ug.edu.gh

4.4.1 Sexual initiation

Respondents were asked if they have had sexual intercourse before. Of the 387 respondents, 296 (76.5%) have had sexual intercourse. The mean and median ages of first time initiation of sexual intercourse were 18.14 and 18 respectively. And ages range between 10 – 30 years. Regarding the number of their sexual partners, 57.1% of the 279 had one sexual partner, 19.4% had two sexual partners but none had more than two sexual partners.

4.4.2 Emergency Contraception use

The distribution of respondents by use of EC is presented in Table 4.3. The results show that majority (72.1%) of the students had ever used EC. Only 27.9 percent reported that they never used emergency contraception.

Table 4.4: Distribution of respondents by sexual initiation and EC use

Variable	Frequency	Percent
Sexual intercourse before		
Yes	296	76.5
No	91	23.5
Ever used		
Yes	279	72.1
No	108	22.9

4.4.3 Actual knowledge on usage of emergency contraception

Majority (63.3%) of respondents had the erroneous perception that emergency contraception is used to terminate pregnancy. Also 62.0% also perceived that the use of EC protects against STIs. While 0.8% respondents did not respond to that.

University of Ghana http://ugspace.ug.edu.gh

Only about one hundred and nine of the respondents representing (35.9%) know the actual usage of EC as in the preventing pregnancy but not termination of pregnancy. Again 0.8% of the respondents neither ticked yes nor no.

4.4.4 Knowledge on proper timing and duration of effectiveness of EC

Majority (80.2%) of the respondents did not know when to take EC. From the data, 80.2% of respondents' answered "yes" to the question that EC must not be taken morning after unprotected sexual intercourse. Only 19.8% of respondents answered 'no' indicating EC could be the morning after unprotected sex. On the duration of time or hours of time for the effectiveness of EC majority (45.2%) said EC is only effective after 6 hours after unprotected sex, 31.3% said 24 hours after having unprotected sex. Only (21.4%) of respondents said EC can be taken within 72 hours after unprotected sex and still be effective. Figure 4.1 shows the distribution of students' knowledge on EC effectiveness.

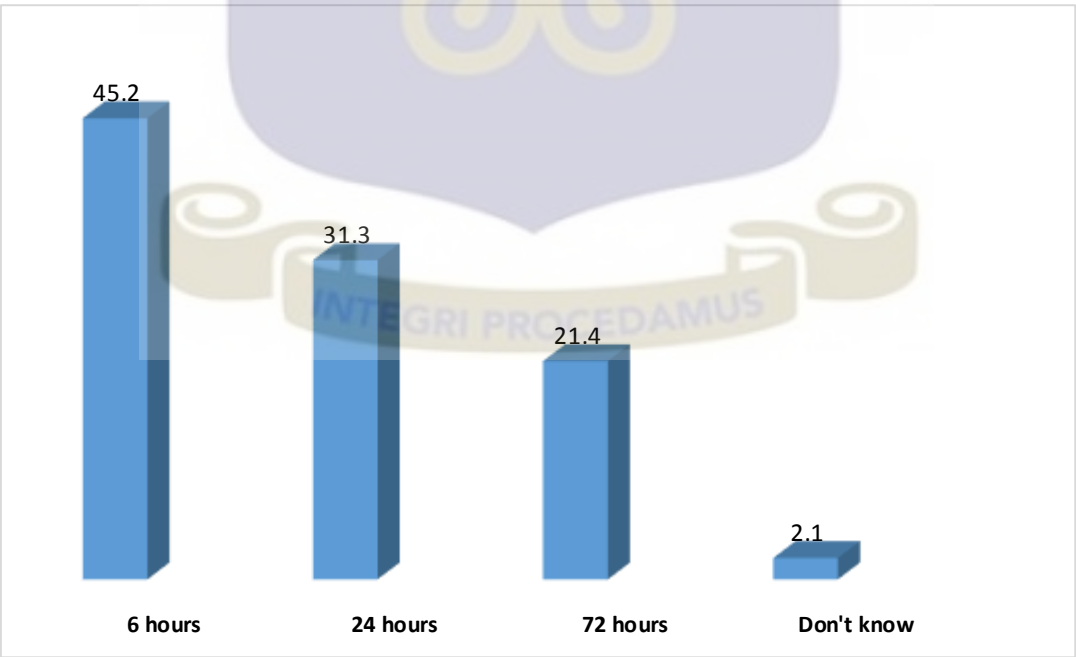


Figure 4.1: Distribution of hours of effectiveness of EC as mentioned by respondents

University of Ghana http://ugspace.ug.edu.gh

4.4.5 Knowledge on Reason for Using Ec

Finding out why students use emergency contraception, respondents had different reasons for using EC. Reasons such as to prevent STI, had unprotected sex, as regular family planning method and faulty condom. From Figure 4.1, results indicate that (60%) of respondents use EC as a regular family planning method. While 21% use EC to prevent sexually transmitted infections, 17% of respondents use EC on each occasion of unprotected sexual intercourse with only one percent of the respondent using EC either because of a faulty condom or other unspecified reason as shown in Figure 4.1.

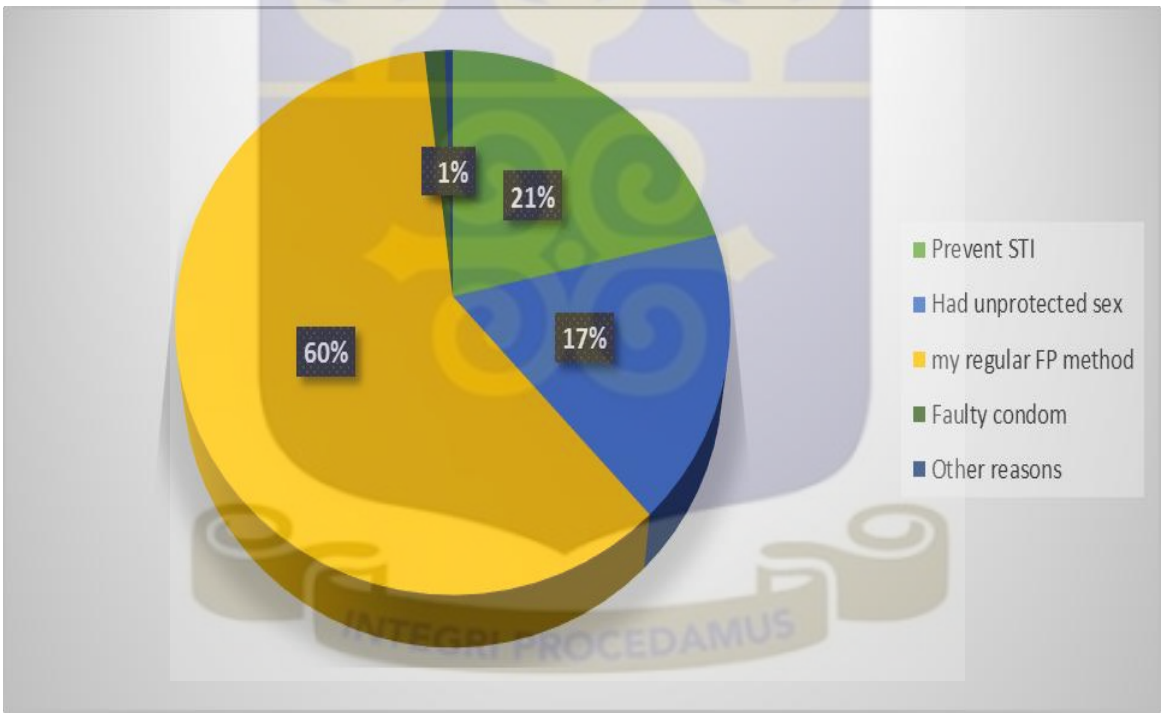


Figure 4.2: Reasons for using EC

4.4.6 Failure of Emergency Contraception

Available data indicate that students are aware that EC can sometimes fail in potency. Results show that a greater proportion (66%) of respondents agree that yes EC can actually fail. Even though others (33%) said "no" EC cannot fail, it is hundred percent

University of Ghana http://ugspace.ug.edu.gh

potent no matter what. There is yet however, a percentage (1%) of students population who have no idea as to whether EC can or cannot fail.

4.4.7 Sources of information on emergency contraception

The findings in Table 4.5 show that majority of respondents (54.5%) rely and depend on friends for information. From the survey source of information from friends was the most (45.7%) selected followed by partners (40.3%). The least source of information was by lecturers as displayed in Table 4.5.

Table 4.5: Frequency distribution of respondents and sources of Information

Source of Information	Frequency	Percent
Radio	92	23.8
Internet	146	37.7
Friend	211	54.5
Parent	35	9.0
Health worker	66	17.1
Partner	182	47.0
Lecturer	7	1.8
Others specify	4	1.0

4.5 Other Family Planning Methods

4.5.1 Knowledge on other Family Planning Methods

Out of the 387 respondents in the survey, more than three-quarters of the student population (80.9%) know about other methods of family planning while (19.1%) of the respondents have no knowledge of any other family planning method.

University of Ghana http://ugspace.ug.edu.gh

4.5.2 Knowledge on various types of Family Planning

Participants who knew about other family planning methods were not restricted to choose only one method. There were multiple options of the forms of family planning. The most frequently/popular method of Family planning was Intrauterine Device (IUD) 386 (99.7%) followed closely by condom 372 (96.1), then came the Pill 308 (79.6%) among others. Depo Provera 87 (22.5%) preceding Vasectomy 89 (23.0%).

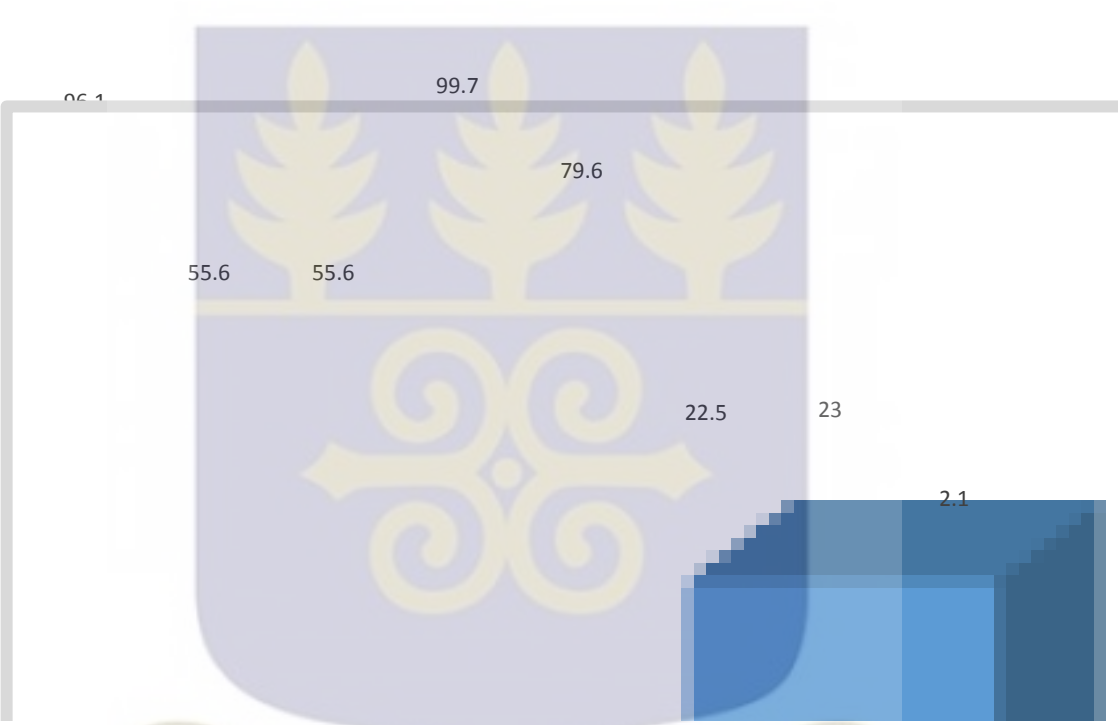


Figure 4.3: Distribution of respondents' knowledge on various forms family planning methods

4.6 Factors that Influence Choice of Emergency Contraception

4.6.1 Alcohol-consumption

The researcher was interested in finding out if alcohol intake played a role in influencing choice of emergency contraception by asking respondents to tick a "yes" or a "no" if the respondents themselves or their partners take alcohol. Even though majority (90.5%) of the respondent did not take alcohol, a few (9.5%) of the student population however do

University of Ghana http://ugspace.ug.edu.gh

take alcohol. With reference to their sexual partners, 84.0% of the respondents did say that their sexual partners do not take alcohol while 16.0% confirmed that their sexual partners do take alcohol. As to whether alcohol influenced their sexual behavior, 94.6% said alcohol does not influence their sexual behavior whilst the remaining 5.4% said yes alcohol does influence their sexual behavior.

Table 4.6: Frequency distribution of Respondents on Alcohol in take

Variable	Frequency	Percent
Do you take Alcohol		
Yes	36	9.5
No	351	90.5
Does Partner take Alcohol		
Yes	62	16.0
No	325	84.0
Alcohol Influence		
Yes	21	5.4
No	366	94.6

4.6.2 Access to Emergency Contraception

Of all the options that were provided to respondents to indicate which one of the options made it easy or difficult to access emergency contraception, 62.8% indicated that support of partners will make it easily accessible for them to use EC. Others, 65.6% also indicated that cost will not be a hindrance to them accessing EC. No matter the cost of EC, they will be able to access it. Interestingly a little above half (53.5%) of the respondents indicated that family support will be a difficulty and a hindrance for them to access EC.

University of Ghana http://ugspace.ug.edu.gh

4.7 Challenges Associated With Intention To Use, And Use Of Emergency Contraception In Terms Of Sources Of Supply And Availability.

4.7.1 Cost

The research sought to find out if cost was a challenge or would be a challenge majority (65.6%) of the respondents said cost was not a challenge while 34.4%

4.7.2 Side effects of EC

Of the 72.1% respondents who have used emergency contraception before, 43.0% said they never experienced any side effects whilst 29.0% said they had side effects such as painful menstruation, irregular menstrual periods and nausea.

4.7.3 Intention to use emergency contraception

Respondents were asked if they had any intention to use emergency contraception in future. Out of the 22.9% who have never used emergency contraception before, 13.3% said they might in future use EC whilst 9.6% said they might never use EC.

4.7.4 Source of supply and recommendation of Emergency contraception

Almost all respondents indicated that there was no such service(s) provided at UPSA. With reference to source of supply of EC, (26.1%) of respondents know that EC is available at the Pharmacy. Of the various options the respondents were restricted to choose only one option. As to who recommended EC to respondents at UPSA, majority indicated that their friends (38.8%) and partners (36.4%) recommended EC to them.

University of Ghana http://ugspace.ug.edu.gh

Table 4.7: Distribution of respondents by source of supply and recommendation on EC

Source	Frequency	Percent
Health facility	74	19.1
Family	47	12.1
Peers/friends	86	22.2
Partner	79	20.4
Pharmacy	101	26.1
Recommended by		
Friend	150	38.8
Partner	141	36.4
Health professional	74	19.1
Parents	20	5.2
Others	2	0.5

4.8 Bivariate Analyses

4.8.1 Relationship between EC use and socio-demographic characteristics and other variables

A chi-square test at 95% confidence interval was done to determine association between socio-demographic characteristics of respondents and emergency contraception. The socio-economic and the other variables were also looked at in relation to EC use. Details are presented in Table 4.8.

University of Ghana http://ugspace.ug.edu.gh

4.8.2 Emergency contraception use and socio-demographic characteristics

Of the 387 responses, (72.1%) responded in the affirmative representing majority whilst only (27.9%) reported that they have not used EC before. Emergency contraceptive use was found to be high among married women (87.3.8%) compared to women who were single and never married (69.1%) as shown in Table 4.8.

A Pearson chi-square test at 95% confidence interval was done to establish any relationship between emergency contraception use and socio-demographic characteristics of respondents. Marital status ($p<0.003$), was significantly associated with EC use. Employment status of students ($p<0.087$) based on this evidence, there is an 8.7 percent chance of no association, which suggest that employment status of student is independent of EC use. The rest of the socio-demographic characteristics such as age, educational level, residential address, sex, religion showed no association with emergency contraception use as shown in Table 4.8

University of Ghana http://ugspace.ug.edu.gh

Table 4.8: EC use by socio-demographic characteristics of respondents

Variables	Ever used EC		χ^2	p value
	Yes	No	Chi-square	
Sex				
Male	28 (63.6%)	16 (36.4%)	1.765	0.184
Female	251 (73.2%)	92 (26.8%)		
Age				
17-25 years	155 (70.8%)	64 (29.2%)	0.435	0.510
26 years and above	124 (73.8%)	44 (26.2%)		
Marital status				
Single	224 (69.1%)	100(30.9 %)	8.651	0.003
Married	55 (87.3%)	8 (12.7%)		
Current address				
On campus	149 (70.0%)	64 (30.0%)	1.078	0.299
Off campus	130 (74.7%)	44 (25.3%)		
Religious affiliation				
Christian	164 (71.6%)	65 (28.4%)	1.189	0.552
Muslim	112 (72.3%)	43 (27.7%)		
Traditional religion	3 (100%)	0 (0%)		
Level				
100	68 (73.1%)	25 (26.9%)	4.887	0.180
200	88 (77.2%)	26 (22.8%)		
300	64 (64.0%)	36 (36.0%)		
400	59 (73.8%)	21 (26.2%)		
Father' level of education				
Primary	89 (67.4%)	43 (32.6%)	2.492	0.288
Secondary plus	161 (73.9%)	57 (26.1%)		
No education	29 (78.4%)	8 (21.6%)		
Mother's level of education				
Primary	105 (75.0%)	35 (25.0%)	3.994	0.136
Secondary plus	152 (72.5%)	58 (27.5%)		
No education	21 (58.3%)	15 (41.7%)		

University of Ghana http://ugspace.ug.edu.gh

Parent employment status				
Both employed	156 (71.6%)	62 (28.4%)	0.092	0.955
One employed	87 (73.1%)	32 (26.9%)		
Both unemployed	36 (72.0%)	14 (28.0%)		
Employment status of student	139 (72.8%)	52 (27.2%)	1.768	0.087
Yes	140 (71.4%)	56 (28.6%)		
No				
Heard of EC				
Yes	226 (81.5%)	74 (68.5%)	6.964	0.008
No	53 (19.0%)	34 (31.5%)		
Which type of EC				
IUD				
Yes	155 (70.5%)	65 (29.5%)	0.680	0.409
No	124 (74.3%)	43 (25.7%)		
Postinor2				
Yes	134 (71.7%)	53 (28.3%)	0.034	0.854
No	145 (72.5%)	55 (27.5%)		
Pill				
Yes	141 (68.4%)	65 (31.6%)	2.911	0.088
No	138 (76.2%)	43 (23.8%)		
Others				
Alcohol intake		10 (27.8%)		
Yes	26 (72.2%)	93 (27.2%)	0.006	0.940
No	249(72.8%)			
Does partner take alcohol				
Yes	52 (83.9%)	10 (16.1%)	5.090	0.024
No	227(69.8%)	98 (30.2%)		
Number of sexual partners				
One sexual partner	168 (76.0%)	53 (24.0%)	4.031	0.045
Two sexual partners	13 (100%)	0 (0.0%)		
Source of supply of EC				
Health facility	55 (74.3%)	19 (25.7%)	6.579	0.160
Family	37 (78.7%)	10 (21.3%)		
Peers	59 (68.6%)	27 (31.4%)		
Partner	61 (81.3%)	14 (18.7%)		
Pharmacy	67 (66.3%)	34 (33.7%)		
Know of other FP method				
Yes	235(75.1%)	78 (24.9%)	7.258	0.007
No	44 (59.5%)	30 (40.5%)		

University of Ghana http://ugspace.ug.edu.gh

4.9 Emergency Contraception Use and other Variables

A Pearson chi-square test at 95% confidence interval was done to establish any relationship between modern contraceptive use and other variables of respondents. Knowledge of EC ($p<0.008$), knowledge of other family planning method ($p<0.007$), type of EC (Pill) ($p<0.088$), sexual initiation ($p<0.000$), and number of sexual partners ($p<0.045$) were statistically associated with emergency contraception use. There was however no association between father's education. Mother's education, employment status of parents and source of information and emergency contraception use. Additionally, source of emergency contraception supply and source of recommendation is expected to shape student's knowledge contraceptives. However, this study found no association between source of EC supply and source of recommendation as shown in Table 4.8.

4.10 Association Between Alcohol Influence And The Use Of Ec

The study further probed to find out if alcohol played a role to influence respondents or their partners to use EC. From Table 4.8, findings indicate that even though alcohol consumption did not influence respondents ($p<0.940$) directly, however, respondents whose partners take or consume alcohol were more likely ($p<0.024$) to use EC than their counterparts whose partners did not consume alcohol.

University of Ghana http://ugspace.ug.edu.gh

4.11 Association Between Marital Statuses, Knowledge Of Ec, Other Fp Methods, Ever Had Sex, Number Of Sex Partners And The Outcome Variable (Multivariate Analysis).

Table 4.9 indicate the association between ever use EC, marital status, ever had sex, knowledge of EC, knowledge of other family planning methods and partner alcohol. Logistics regression was used to estimate the strength of the five independent variables, on the two dichotomous outcome/dependent variables of 'yes' or 'no' to ever use EC. The logistic Regression model is done in order to test the level of significance and association between dependent variable selected independent variables of interest as shown in the conceptual framework in Figure 2.1.

Table 4.9: Influence of some independent variables on emergency contraception use (Logistic regression)

Variable	Ever use EC	Bivariate chi-square χ^2 (p-value) 95% CI	Multivariate AOR (95%CI)	p-value
Marital status	Yes No	8.651 (0.003) 0.6-0.7	0.015 (0.007-0.264)	0.017
Knowledge of EC	Yes No	6.964 (0.008) 1.2-3.2	0.020 (0.006, 0.212)	0.079
Had sex before	Yes No	24.718 (<0.001)2.1-5.6	0.016 (0.132, 0.337)	0.010
Number of sex partners	Yes No	4.031 (0.045) 0.7-0.8	0.013 (0.059-0.419)	0.080
Other FP methods	Yes No	7.258 (0.007) 1.2-3.4	0.016 (0.423-0.026)	0.015
Partner alcohol	Yes No	5.090 (0.024) 0.2-0.9	0.011 (0.262-0.019)	0.043

4.12 Results of Logistic Regression

In the bivariate analysis (Table 4.8), students who were married were more likely to use EC than their single or unmarried counterparts with p-value of (p<0.003). There was still a

University of Ghana http://ugspace.ug.edu.gh

significant association between marital status with other variables and the dependent variable after multivariate analysis with Adjusted Odds Ratio and 95% Confident Interval of (AOR=0.015, [95% CI 0.007-0.264]) and the p-value (p<0.017). Emergency contraception use is also influenced by the level of knowledge of other methods of preventing unwanted pregnancy (family planning) with AOR 0.016 [95% CI 0.423-0.026}). The respondents who already had some knowledge of the existence of other methods of family planning are more likely to know the importance of EC. This is because information delivered to clients/audiences on contraception is usually given in a package, where EC is a part, it is likely that knowing some method of prevention may help access knowledge on others. Likewise, consuming alcohol was found to have significant positive relationship with the use of emergency contraception use. Respondents who reported their partners were taking alcohol were found to be times more likely to use EC than those whose partners were not taking alcohol.

4.13 Chapter Summary

In summary, the results indicate that the respondents largely had a fair knowledge of emergency contraception and students who are married, more likely to use emergency contraception than the counterparts who are married or are single. Chapter six presents discussion of results.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter discusses the findings of the study. This includes the level of knowledge of students in comparison with the similar studies. The study has aimed at examining the level of knowledge and the contextual factors surrounding EC use among young undergraduate student of UPSA. From the findings in chapter four above, it is evident that students of UPSA have a fair knowledge of EC and other family planning methods. Seventy-five percent (77.5%) of the respondents have knowledge of EC, but does not know the actual hours or time frame within which EC Pill should or can be taken to achieve its effectiveness.

5.2 Knowledge and Contextual Factors

The level of knowledge about EC is higher compared to a study conducted in Addis Ababa University 43.5% (Athede 2007; Tamire et'al, 2007). It is even much lower as compared to the studies conducted among universities in other African countries such as Nigeria (58%), Cameroon (63%) and Niger Delta of Nigeria (50.7%). However general level of knowledge of students on EC at UPSA is lower as compared to a study done in Kingston/Jamaica (84%). Higher levels of knowledge enables students to take responsibility of their reproductive life towards preventing unwanted pregnancies should they engage in unprotected sexual intercourse that may result in pregnancy.

From the findings, majority (77.5%) of students have heard of EC but lack knowledge of the correct timing for taking EC. Only twenty-one (21.4%) percent of respondents were able to correctly identify the recommended time frame to start the first dose of EC after

University of Ghana http://ugspace.ug.edu.gh

sexual intercourse and this results however is higher compared findings in Nigeria (18%) among undergraduate female students (Aziken et al., 2003) and Northern Ethiopia (17.3%) factors associated with EC use among female preparatory schools students (Miruts, 2014). Comparing with another study in Nigeria 88.2% (Akani et al., 2008), the findings at UPSA (21.4%) is much lower.

The time frame varies with the type of emergency contraception, for the one tablet pack, to achieve maximum effect it should be taken within the first 72 hours of unprotected sexual activity. Time can be extend to five days but with decreasing effect. For the two tablets pack, the second tablet is taken 12 hour after the first dose (Magesa, 2014). Correct timing of use is necessary for the effectiveness of the EC method. The longer one delays taking emergency contraceptive after unprotected sex, the higher the likelihood of getting unwanted pregnancy. In this study it was evident that knowledge of right or correct timing for EC use was low.

Analysis in chapter four indicate that majority (60.3%) of respondents use emergency contraception especially postinor2 as a regular family planning method. This could be due to inadequate knowledge on the proper or ideal purpose of EC resulting in abuse. Additionally, the users also lack information on the immediate side effects and the future impact of continuous use of EC use on the endometrium. Emergency contraception as the name suggest is used only in rare cases or for emergencies only but not as a regular family planning method. It is therefore necessary to reinforce information education communication in the university campuses on EC.

University of Ghana http://ugspace.ug.edu.gh

From the results of the findings 76.5% of the respondents have had sexual intercourse before, with a mean age at first sex 18.18 years. Comparing this findings with GDHS, (2008) (16.1years) findings, mean of first sex at UPSA is slightly higher. Young people have early (16.1 years) sexual experience/initiation. Due to immaturity, they are usually faced with nervousness and anxiety and as a results put these young females at a relatively higher chance of having unprotected sexual intercourse. Additionally, these girls are unable to negotiate for safer sex with their partners.

Results from the analysis show that religion ($p>0.005$) is independent of knowledge and EC use. All though the use of EC is common among Christian than Moslems in UPSA as shown in Table 4.9. Ever use of EC is also affected by the level of knowledge of other methods of family planning. Those respondents who already had some knowledge of method of family planning are more likely to use of EC. This is because information usually delivered to clients/audiences on contraception is mostly given in a package, where EC is a part, it is likely that knowing some method of prevention may help access knowledge on others.

Access to information on EC is influential to use of the EC when necessary. The knowledge of students about EC depends much on where they receive information from. This study has categorized source of information as radio, internet, parents, Health workers, partner, friends, lectures, and books. Findings from this study shows that 54.5% and 47.0% of respondents respectively indicated friends and partners as the main sources of information about emergency contraception. Four respondents (1.0%) however mentioned that they had read about emergency contraception from a health magazine.

University of Ghana http://ugspace.ug.edu.gh

With regards to health worker, only 17.1% respondents This is slightly lower compared to other studies done in some African countries like Cameroon which showed that 69.9% of respondents stating friend and family as the source of information on EC, Health personnel 19.9% which is slightly higher. Many studies showed that the major source of information about the EC is friends and family. This could be seen as a failure on the part of health workers to provide clients with adequate health information and education. All though peers and partners are influential in an individual's decision to use EC, the source of information generally does not influence emergency contraception use.

5.3 Chapter Summary

The study has revealed that overall awareness of EC is high (77.5), actual usage is also above average (72.9%) among undergraduate students of University of Professional Studies. Among those who have ever heard of EC, 76.5 percent of them have favorable attitude toward EC. The present study has also documented that knowledge and attitudes of female university students are affected by a range of personal characteristics and family background including; age, grade level, religion, and alcohol and the like. Finally, given the high rate of sexual activity and unprotected sex reported, the researcher calls for concerned of school authorities to take some important measures such as; provision of information education communication (IEC) and continuous guidance and counseling services especially during the first year and probably introducing family planning services to students. It is worth noting that the campus health workers can play important roles as part of their routine work to educate students on EC as a method used only when necessary but not as a regular family planning method by percolating the message deep down in the student community through individual counseling when female students visit the clinic. The last chapter presents conclusions and recommendations

University of Ghana http://ugspace.ug.edu.gh

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter presents a summary of research activities and the main concerns that were observed from the study. It also presents details of key findings and provides conclusions and necessary recommendations. The study sought to assess the level of knowledge of emergency contraception use among under graduate students of UPSA. The objectives were to assess the level of knowledge and contextual factor surrounding EC use, find out other various methods of contraception used by students of university of professional studies, Accra. Find out what factors that inform a student's choice of Emergency Contraception and investigate challenges associated with intention to use, and use of Emergency Contraception in terms of sources of supply and availability.

6.2 Conclusions of the Study

Findings from the study indicated that a good number of the student population of UPSA had heard of emergency contraception. And the source of their information mostly was from their partners and friends/peers. Regarding respondent's knowledge of emergency contraception methods, the findings showed that a little above average of respondents knew postinor2, pills and IUD as types/kinds of EC. Furthermore, most of the respondents also had the erroneous perception that the use of EC protects against STIs.

Additionally, the study found that a high percentage of the respondents were of the view that EC is used to terminate pregnancy. However, only a few of the respondents knew that EC is a post-coital contraception and its purpose is only for the prevention of pregnancy but not termination of pregnancy. It could therefore be concluded that even though

University of Ghana http://ugspace.ug.edu.gh

knowledge and awareness is fair, users however did not understand appropriately when EC is taken and the purpose of emergency contraception.

The findings further revealed that higher proportion of the student population have ever used or are still using emergency contraception. A greater number of them who have used EC have also had sexual intercourse before with one or two sexual partners. Further probing of those who have had sex before indicate that either the respondents themselves or their partners were under the influence of alcohol.

Findings also show that there is generally no emergency contraception service on UPSA campus. However, majority of the students who have heard and used EC got the source of supply from their peer, partners, health facility and pharmacy respectively. Again friends and partners were the persons that mostly recommended the use of emergency contraception. Support of family was seen to be a difficulty for most of the students to use EC whereas availability and support of partners according to the respondents were easy access EC use.

6.3 Recommendations

Based on the findings of the study, the following recommendations are made for consideration by policy makers and health care practitioners.

6.3.1. Practice-service providers

Findings from the study show that majority of the respondents use emergency contraception as a regular family planning method. It is therefore crucial for health care agencies and family planning advocates to target the involvement of university students in family planning education and sensitization programs. This will enable students to have a

University of Ghana http://ugspace.ug.edu.gh

better understanding of the use of emergency contraceptive so that it is not mistaken for a regular family planning method. There is the need for service providers either at the facilities or pharmacies to provide adequate and accurate information about EC to the student body of UPSA, such as correct timing, side effects in order to make it effective.

6.3.2 Policy makers

There is also the need for an inter-ministerial or inter-sectorial collaboration between the Ministry of Health and Ministry of Education to intensify reproductive health education by enforcing a health policy through the university hospitals and health professionals to provide counselling to students on each. This will boost students' confidence in the reliance on health professionals for information rather relying on peers for wrong or inadequate information as shown in the study.

6.3.3 Recommended for further studies

This study has highlighted important findings, but its limitations have also been highlighted. The study focused on only in undergraduates and was mainly quantitative in nature. There would therefore be the need to conduct a similar study comprising of both quantitative and qualitative design at UPSA and only female population. This study was conducted among literates, a similar study can be done in the same setting however among illiterate cleaners

6.4 Weakness of the Study

Because of the very sensitive nature of the subject, some of the respondents especially the males withdrew from the study with the excuse that EC is a female affair and for those who did participate did not want to answer some of the questions, and thereafter, gave back unfinished and unanswered questionnaire. Due to this, expected responses for some

University of Ghana http://ugspace.ug.edu.gh

key variables such as contraception use, influence of alcohol, age at first sex and sexual experience might have been affected.

6.5 Limitation

It is essential to note that there were a few challenges/limitations to this study. This study was cross-sectional in design and therefore characterized the relationships between the variables at a single point in time. Therefore, past or future relationships may not be generalized from this study. As the sampling frame included only the University of Professional studies students, the results may not be generalizable to all university students; the generalizability may be further limited because survey response was voluntary.

.

University of Ghana http://ugspace.ug.edu.gh

REFERENCES

Addo, V. N., & Tagoe-Darko, E. D. (2009). Knowledge, Practices, And Attitudes Regarding Emergency Contraception Among Students At A University In Ghana. *International Journal Of Gynecology & Obstetrics*, *105*(3), 206–209. Http://Doi.Org/10.1016/J.Ijgo.2009.01.008

Adewunmi, A. A., Rabiu, Tayo, Ottun, Adeboye, & Akindele. (2012). Knowledge Of Emergency Contraception Among Students In A Tertiary Institution In A Developing Country. *Open Access Journal Of Contraception*, 23. Http://Doi.Org/10.2147/Oajc.S30041

Ajah, L. O., Onubogu, E. S., & Lawani, L. O. (2015). Adolescent Reproductive Health Challenges Among Schoolgirls In Southeast Nigeria□ : Role Of Knowledge Of Menstrual Pattern And Contraceptive Adherence. *Patient Preference And Adherence*, 1219–1224.

Akani, C., Enyindah, C., & Babatunde, S. (2008). Emergency Contraception: Knowledge And Perception Of Female Undergraduates In The Niger Delta Of Nigeria. *Ghana Medical Journal*, *42*(2), 68–70. Http://Doi.Org/10.4314/Gmj.V42i2.43598

Anvita Dixit, M. E. K. And I. B. Population Council. (2015). Mainstreaming Of Emergency Contraception Pill In India: Challenges And Opportunities. *India Journal Of Community Medicine*, *40*(1), 49–55. Http://Doi.Org/10.4103/0970-0218.149271

Asekun-Olarinmoye, E. O., Adebimpe, W. O., Adeomi, A. A, & Olugbenga-Bello, A. I. (2013). Emergency Contraception: An Untapped Resource Among Sexually Active College Students In Osogbo Metropolis, Nigeria. *Open Access Journal Of Contraception*, *4*, 1–8.

Aziken, M. E., Okonta, P. I., & Ande, A. B. A. (2003). Knowledge And Perception Of Emergency Contraception Among Female Nigerian Undergraduates. *International Family Planning Perspectives*, *29*, 84–87. Http://Doi.Org/10.1363/Ifpp.29.084.03

Baiden, F., Awini, E., & Clerk, C. (2002). Perception Of University Students In Ghana About Emergency Contraception. *Contraception*, *66*(1), 23–26. Http://Doi.Org/10.1016/S0010-7824(02)00315-3

Charlotte, E. (1996). History And Efficacy Of Emergency Contraception: Beyond Coca-Cola. *Beyound Coca Cola*, *28*(2), 44. Http://Doi.Org/10.1363/2804496

Cheng, L., Che, Y., & Am, G. (2012). Interventions For Emergency Contraception (Review). *The Cochrane Library*, (8). Retrieved From Http://Www.Thecochranelibrary.Com

Dartey E. K. Marfo, And D. D. T. University Of Cape Coast. (2015). Knowledge And Usage Of Emergency Contraception Among University Students In Ghana. *Journal Of Community Health*, *41*(1), 15–21. Http://Doi.Org/10.1007/510900-0-15-0057-6

University of Ghana http://ugspace.ug.edu.gh

Dawson, A., Tran, N.-T., Westley, E., Mangiaterra, V., & Festin, M. (2014). Improving Access To Emergency Contraception Pills Through Strengthening Service Delivery And Demand Generation: A Systematic Review Of Current Evidence In Low And Middle-Income Countries. *Plos One*, *9*(10), E109315. Http://Doi.Org/10.1371/Journal.Pone.0109315

Desta, B., & Regassa, N. (2011). On Emergency Contraception Among Female Students Of Haramaya University , Ethiopia□ : Surveying The Level Of Knowledge And Attitude. *International Research Journals*, *2*(April), 1106–1117.

Figo. (2013). The Global Epidemic Of Unintended Pregnancies. *Figo.Org*, 1–53. Retrieved From Http://Www.Figo.Org/Files/Figo-Corp/Figo_Esc_Unwanted Pregnancy Slides.Pdf\Npapers3://Publication/Uuid/55c4d8bc-3098-436f-A98a-341896231864

Frost, B. J. J., Frost, J. J., & Darroch, J. E. (2004). Factors Associated With Contraceptive Choice And Inconsistent Method Use , United States , 2004, 28–37. Http://Doi.Org/10.1363/4009408

Ghana Statistical Service. (2008). Demographic And Health Survey. *Ghana Demographic And Health Survey*, 1–20. Retrieved From Http://Www.Measuredhs.Com

Ghana Statistical Service. (2011). Ghana Multiple Indicator Cluster Survey.

Ghana Statistical Service. (2014). Demographic And Health Survey. *Ghana Demographic And Health Survey*, 1–20.

Greene M. F., D. J. M. (2016). A New Lable For Mifipristone. *New England Journal Of Medicine*. Retrieved From Www.Nejm.Org../Nejme1604462

Griggs, S. K. (2011). The Influence Of Personal Characteristics, Attitude, Subjective Norm, And Perceived Behavioral Control As Predictors Of University Students' Intention To Utilize Emergency Contraception.

Gss. (2013). Population And Housing Census Report: Children, Adolescents And Young People In Ghana, 130.

Harper, C. C., & Ellertson, C. E. (1995). The Emergency Contraceptive Pill: A Survey Of Knowledge And Attitudes Among Students At Princeton University. *American Journal Of Obstetrics And Gynecology*, *173*, 1438–1445. Http://Doi.Org/10.1016/0002-9378(95)90630-4

Hoff, T. (2003). National Survey Of Adolescents And Young Adults□ : Sexual Health Knowledge , Attitudes And Experiences. *The Henry J. Kaiser Family Foundation*, 1–141. Retrieved From Www.Kff.Org

Hoque, M. E., & Ghuman, S. (2012). Knowledge, Practices, And Attitudes Of Emergency Contraception Among Female University Students In Kwazulu-Natal, South Africa. *Plos One*, *7*(9). Http://Doi.Org/10.1371/Journal.Pone.0046346

University of Ghana http://ugspace.ug.edu.gh

Hoque, M. E., Ntsipe, T., & Mokgatle-Nthabu, M. (2013). Awareness And Practices Of Contraceptive Use Among University Students In Botswana. *Sahara J*, *10*(2), 83–88. Http://Doi.Org/10.1080/17290376.2013.869649

Hussain, R., & Finer, L. B. (2013). Unintended Pregnancy And Unsafe Abortion In The Philippines: Context And Consequences. *Issues In Brief (Alan Guttmacher Institute)*, (3), 1–8.

Kitshoff, C. (2010). Knowledge Of Students In Higher Education Regarding Contraception. *Stellenbosch University Library*, 1–132.

Magesa, E. (2014). Assessment Of The Knowledge , Attitudes And Practices Of Female Secondary School Learners On Emergency Contraception In Ongwediva , Oshana Region, (March).

Meyer, Jennifer L. (2007). *Emergency Contraception And Ball Stateuniversity Students*.

Miruts, G. (2014). Factors Associated With Emergency Contraceptive Use Among Female Preparatory Schools Students Adwa Town , Northern Ethiopia . Across Sectional Study, *5*(10), 665–669.

Nibabe, W. T., Mgutshini, T., Society, E., Ababa, A., Africa, S., Mgutshini, T., … Mgutshini, T. (2014). Emergency Contraception Amongst Female College Students – Knowledge , Attitude And Practice. *African Journal Of Primary Health Care And Family Medicine*, *6*(March), 1–7. Http://Doi.Org/10.4102/Phcfm.V6i1.538

Ojule, J. D., Oriji, V. K., Georgewill, K. N., & Harcourt, P. (2008). Awareness And Practice Of Emergency Contraception Among Students, *8*(1), 1–4.

Opoku, B., & Kwaununu, F. (2011). Knowledge And Practices Of Emergency Contraception Among Ghanaian Women. *African Journal Of Reproductive Health*, *15*(2), 147–152. Retrieved From Http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/22590900

Thonneau, P. F. (2000). *Maternal Mortality And Unsafe Abortion□ : A Heavy Burden For Developing Countries*. *Paul Sabatier University, France*.

Trussell, J., Raymond, E. G., & Cleland, K. (2014). A Last Chance To Prevent Unintended Pregnancy Emergency Contraception□ :,*6*(August), 7–38.

United Nations. (2009). World Contraceptive Use, (October), 151456.

Westhoff, C. (2005). Emergency Contraception. *The New England Journal Of Medicine*, *349*(19), 1830–1835. Http://Doi.Org/10.1542/Peds.2012-2962

Westley, E., & Schwarz, E. B. (2012). Emergency Contraception□ : Global Challenges , New Opportunities. *Contraception*, *85*(5), 429–431. Http://Doi.Org/10.1016/J.Contraception.2012.01.012

White, M. J., Muhidin, S., Andrzejewski, C., Tagoe, E., Knight, R., & Reed, H. (2008). Urbanization And Fertility: An Event-History Analysis Of Coastal Ghana.

University of Ghana http://ugspace.ug.edu.gh

Demography, *45*(4), 803–816. Http://Doi.Org/10.1353/Dem.0.0035

Who. (2011). World Health Statistics 2011. *Who Library Cataloguing-In-Publication Data*, *1*(Isbn 978 92 4 156419 9), 170. Http://Doi.Org/978 92 4 156419 9

Yapici, G., Oner, S., Sasmaz, T., Bugdayci, R., & Oner Kurt, A. (2010). Awareness Of Emergency Contraception Among University Students In Mersin, Turkey. *Journal Of Obstetrics And Gynaecology Research*, *36*(5), 1087–1092. Http://Doi.Org/10.1111/J.1447-0756.2010.01276.X

University of Ghana http://ugspace.ug.edu.gh

APPENDICES

Appendix A: Consent Form For Respondents

General Information

My name is Muniratu Brinyl Musah, I am a Master of Public Health student of the University of Ghana, Legon. I am conducting a study on "EMERGENCY CONTRACEPTION USE AMONG UNDERGRADUTE STUDENTS OF THE UNIVERSITY OF PROFESSIONAL STUDIES, ACCRA"which seeks to assess level of knowledge and contextual factors surrounding emergency contraception use among undergraduate students of university of professional students, Accra. Information will be gathered through a self-administered questionnaire which will last approximately 15-35 minutes. You have been selected because I know you can provide useful information to enable me meet the objectives of the study. However, Participation is on a voluntary basis.

Possible Risk and Discomfort

There are no risks involved. Some of the questions are very sensitive and you may only feel uncomfortable sharing some information with me which you consider very personal. You do not need to answer any question you do not feel like answering and you do not have to offer me any explanation for refusing to answer any question. Participation is solely voluntary.

Confidentiality

All information you provide will be for academic purposes alone and no information will be linked to your name. You will be identified by a pseudonym which will be known only to the research team. Other students who see you filling this questionnaire may ask you about the study which you have the right to give the general information but not what you filled personally on the questionnaire. I will not share your information with anyone

University of Ghana http://ugspace.ug.edu.gh

outside of this study. The completed questionnaire after entry will be stored under lock and key accessible only to me and the study supervisor.

Costs and Benefits

There will not be any monetary payment that will be required of you, and you will not also be compensated or paid any money for participating in this study. However, you will only be required to spare a little of your precious time to complete the questionnaire which will not last more than 35 minutes.

Right to withdraw from study

Participation is solely voluntary and you can decide at any point of the study to withdraw from participating. You do not have to offer reasons for your withdrawal from the study and you will not also be penalized for your withdrawal from the study.

Sharing of results

The results of this study are for academic purposes only. The knowledge I will learn from this study will be shared with the university authorities and the medical directorate to enablethem educate students on emergency contraception and improve on health service delivery in general. I may also publish the results for others to learn from.

Contacts for additional information:

You may ask me any questions now or later regarding the study. If you want to contact me later with any questions, you can reach me through: 0265018126.

Certificate of consent

I have been thoroughly briefed on the study. The purpose, risks, benefits as well as the right to withdraw have been explained to my understanding. I have been given the

University of Ghana http://ugspace.ug.edu.gh

opportunity to ask questions regarding the study. I understand my participation is voluntary and therefore wish to state that I have not been coerced/forced to participate and my participation is solely voluntary.

Name of respondent…… Signature:…… ….Date:……

Researcher's declaration

I have thoroughly briefed the participant on the study. The purpose, risks, benefits as well as the right to withdraw have been explained to the participant to the best of my ability. The participant have been given the opportunity to ask questions regarding the study. I declare that the participant was not coerced/forced to participate and participation is by the respondent's own wish.

Name of researcher…… Signature:…… ….Date:……

University of Ghana http://ugspace.ug.edu.gh

Appendix B: Questionnaire

The researcher is a student of University of Ghana and currently conducting a study on "**Emergency Contraception Use among Undergraduate Students of the University of Professional Studies, Accra"** the study is meant for academic purpose only, therefore, any information provided by respondents would be treated with utmost confidentiality. It is against these backgrounds, therefore, that your input is very much needed to make this study a success. Thank you for your participation. Key word: emergency contraception (EC), reproductive health (RH)

Section A: Socio-Demographic Characteristics

1) How old are you? [ ]
2) Sex? [ ] male [ ] female
3) Current marital status?

[ ] single [ ] married [ ] others specify

4) Where are you currently living?

[ ] on campus (hostel) [ ] off campus

5) What is your religious affiliation?

[ ] Christian [ ] Muslim [ ] Traditional Religion [ ] others specify

6) Which level are you in?

Level	100	200	300	400
Please tick				

7) What department or faculty are you?

Faculty/department	BBA	ICT	BBF	ACCT	PR	MGT
Please tick						

Section B: Socio-Economic/Family Background

8) What is the educational level of your father? [ ] primary [ ] secondary+ [ ] No school [ ]
9) What is the educational level of your mother? [ ] primary [ ] secondary+ [ ] No school [ ]

University of Ghana http://ugspace.ug.edu.gh

10) Employment status of parents. [ ] both employed [ ] one employed [ ] both unemployed [ ]

11) Are you employed? [ ] yes [ ] No

Section C: Knowledge of Emergency contraception

12) Have you heard of EC before? [ ] Yes [ ] No If No skip to question 17

13) If yes which type?

EC	IUCD	Pill	Postinor2	Don't know
Please tick				

14) Where did you hear of this EC?

Source	Radio	Internet /social media	Friends	Parents	Partner	Health worker	lecturer	Others specify
Tick								

15) Have you ever had sexual intercourse? [ ] yes [ ] No

16) At what age did you have your first sexual intercourse? [ ]

17) How many sexual partners do you currently have? [ ] One [ ] Two [ ] above two

Section D: Contextual factors surrounding EC use

18) Emergency contraception must be taken the morning after having unprotected sex to be effective. Yes [ ] No [ ]

19) Emergency contraception protects you from sexually transmitted infections. Yes [ ] No [ ]

20) Emergency contraception causes termination of pregnancy. Yes [ ] No [ ]

21) Emergency contraception is effective when taken within….hours of sexual intercourse 6hrs [ ] 24 [ ] 72 [ ] Don't know [ ]

22) Emergency contraception can be used as a regular form of Family Planning taken after unprotected sex, instead of other contraceptives. Yes [ ] No [ ]

23) Can emergency contraceptive pill fail? Yes [ ] No [ ]

University of Ghana http://ugspace.ug.edu.gh

Section E: Other Methods of Family Planning

24) Do you know of any other method of family planning? Yes [ ] No [ ]

25) Which family planning method do you know of?

Method	Condom	Injectable	Implant	IUD	Pill	Depo Provera	Vasectomy	Others specify
Tick								

Section F: Circumstances Surrounding Choice of Emergency Contraception

26) Have you ever used EC? Yes [ ] No [ ]

27) If No, do you intend to use EC in the future? Yes [ ] No [ ]

28) What was your reason for using emergency contraception?

Reason	Don't want to get STI	Had unprotected sex	Is my regular F/planning method	Faulty condom	Others specify
Tick					

29) How many times have you used emergency contraception? Never [ ] once [ ] twice [ ] more than twice [ ]

30) When last did you use EC? Yesterday[ ] 2-6 hours ago [ ] 6-12 hours ago[ ] < a week ago [ ] one week - one month ago [ ] one year ago

31) Did you have any side effects from EC? Yes [ ] No[ ]

32) What side effect did you experience?

Side effect	Nausea	Weight gain	Painful periods	Increased menstrual bleeding	Menstrual irregularities	Intermenstrual bleeding	Others specify

33) Do you or your partner drink alcohol?
Please tick

Person	Me	Partner
Drink Alcohol		

34) Does alcohol influence your choice of EC use? Yes [ ] No [ ]

35) Are you forced by anybody to use contraception? Yes [ ] No[ ]

University of Ghana http://ugspace.ug.edu.gh

36) Will the following make it easy or difficult for you or your partner(s) to use EC?

Items	Difficult tick	Easy tick
Readily available		
Expensive to buy		
Support of family		
Support of partner		
Easy access		

Section G: Source of emergency contraception

37) Is there emergency contraception service on UPSA campus? Yes [ ] No [ ]

38) Where is your source of supply of EC from? Health facility [ ] family[ ] peers[ ] partner [ ] pharmacy [ ]

39) Who recommended emergency contraception to you?
A friend [ ] Partner [ ] Health professional [ ] parents [ ] others specify

University of Ghana http://ugspace.ug.edu.gh

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

My Ref. GHS/RDD/ERC/Admin/App
Your Ref. No.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: Hannah. Frimpong@ghsmail.org

11th March, 2016

Muniratu Brinyl Musah
University of Ghana
School of Public Health
Legon, Accra

ETHICS APPROVAL - ID NO: GHS-ERC: 63/12/15

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol titled:

"Emergency Contraceptive Use among Undergraduate Students of the University of Professional Studies, Accra"

This approval requires that you submit yearly review of the protocol to the Committee and a final full review to the Ethics Review Committee (ERC) on completion of the study. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Please note that any modification without ERC approval is rendered invalid.

You are also required to report all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your sponsor before any publication of the research findings.

Please note that this approval is given for a period of 12 months, beginning 11th March, 2016 to 10th March, 2017. However, you are required to request for renewal of your study if it lasts for more than 12 months.

Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
PROFESSOR MOSES AIKINS
(GHS-ERC VICE-CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra