UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE

KNOWLEDGE, ATTITUDES AND PRACTICE OF EMERGENCY CONTRACEPTION USE AMONG FEMALE STUDENTS OF THE UNIVERSITY FOR DEVELOPMENT STUDIES (UDS), TAMALE CAMPUS.

BY

ISSAH FATIMA [BSc. NURSING]

UDS/MPH/0056/18

A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH AND FAMILY MEDICINE OF SCHOOL OF MEDICINE AND HEALTH SCIENCES, UNIVERSITY FOR DEVELOPMENT STUDIES, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH.

FEBRUARY 2021

DECLARATION

Student's Declaration

I hereby declare that, except for references to other people's work which have been duly acknowledged, this thesis is the result of my original work. It contains no materials previously presented by another person which has been accepted for the award of any degree elsewhere.

NAME: Issah Fatima

SIGNATURE: DATE:

Supervisor's Declaration

I declare that the preparation and presentation of the dissertation was supervised in accordance with the guidelines on supervision of dissertation laid down by the University for Development Studies.

NAME OF SUPERVISOR: Shamsu-Deen Ziblim (PhD)

SIGNATURE: DATE:

ACKNOWLEDGEMENTS

I wish to express gratitude to the Almighty Allah for His guidance throughout the programme. My greatest appreciation goes to Dr. Shamsu-Deen Ziblim, my able and hardworking supervisor for his efforts in sharping this script. Thank you very much. I am especially grateful to all the lecturers in the Department of Community Health and Family Medicine, School of Medicine for their irreplaceable contributions in my academic development.

I am most grateful to the Deans of students of Faculty of Education, School of Allied Health Science and School of medicine and Health Sciences and all lecturers, for supporting and facilitating my data collections process. I am indebted to the participants who voluntarily decided to share their experiences to enrich this research.

I also wish to express a heartfelt gratitude to my husband and brother for all their support, encouragement, advice and above all, care and love given to me before and during the study and beyond. I say: may Allah preserve you and bless your live. Aameen

Special thanks go to all authors and publishers of the literature used for their contribution towards the success of this study.

I wish to also acknowledge my family, my colleagues, those that supported me in during the data collection and friends whose names are not mentioned here but contributed immensely toward the production of this document. MAY ALLAH BLESS YOU ALL!

DEDICATIONS

I dedicate this thesis in memory of my late father, Alhaji Issah Bobby Moore.

ABSTRACT

The desire for sexual satisfaction and pleasure as opposed by its unintended consequences has given rise to the use of Emergency Contraceptives. Emergency contraceptive is a type of modern contraception, which is used after unprotected sexual intercourse, following sexual abuse, misuse of regular contraception or non-use of contraception. The main objective of this study was to investigate the knowledge, attitudes and practice of emergency contraception use among female students of the University for Development Studies, Tamale campus. The study employed the descriptive cross-sectional study with mixed method approach. Data from this study was sourced from both primary and secondary. The main tool for data collection was questionnaire and focus group discussion. Data was analyzed using thematic content analysis for qualitative data and SPSS version 24 for the quantitative data. The study found out that majority (63.8%) of the students had never had sex, 76.7% have heard about emergency via lecture halls (formal education) (66.2%), friends/relatives (11.4%), media (8.0%), Internet (8.0%) and health professionals (6.3%). Majority (65.0%) of the study participants' demonstrated sufficient knowledge on emergency contraceptives and 54.0% of the students had good attitude toward emergency contraceptives. Results of this study revealed high level of awareness and knowledge of the students on emergency contraception. The students had good attitudes towards the contraceptive but were unwilling to use it in the future. Majority of the respondent had used emergency contraception at least once. The study recommended that emergency contraceptive use should be encouraged by the women commissioner of the student representative council.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

DMIS - District Management Information System

FGD - Focus Grouped Discussion guide

FP – Family Planning

GES – Ghana Education Services

GSS – Ghana Statistical Service

IDI - In-depth interview guide

LI - Legislative Instrument

LMIC - Low- and Middle-Income Countries

PHC - Population and Housing Census

SPSS - Statistical Package for Social Sciences

STDs – Sexually Transmitted Diseases

STIs – Sexually Transmitted Infections

UK - United Kingdom

WHO - World Health Organization

EC – Emergency Contraceptives

UDS – University for Development Studies

FDA – Food and Drug Authority

HIV – Human Immunodeficiency Virus

IUD – Intrauterine Device

ECP – Emergency Contraceptive Pills

GHS – Ghana Health Services

MoH – Ministry of Health

NHCS – National Health Commodity Safety

ICC/CS – Inter-agency Coordinating Committee on commodity Safety

CAT – Commodity Acquisition Table

PHIMS – Public Health Issue Management System

FoE - Faculty of Education

SAHS – School of Allied Health Sciences

SMHS– School of Medicine and Health Sciences

US – United State

CHAPTER ONE

1.0 Introduction

This aspect of this project introduces the study from a broad outlook of the subject matter and narrows to specific issues of concern. Thus, it begins with the scope, content, objectives and significance of the study by highlighting topical issues critical to the subject matter. The chapter is divided into subheading, which includes the background of the study, stating the problems, stating the specific objections and main objectives, research questions justification, and organization of the work.

1.1 Background

Globally, the incidence of unwanted pregnancy and unsafe abortion has emerged as major concern in the landscape of public health especially among female adolescent in developed and developing countries (Manortey, Duah & Baiden, 2016). Young and unmarried women constitute a high-risk group for unsafe abortions (Kongnyuy et al., 2007). The desire for sexual satisfaction and pleasure as opposed by its unintended consequences has given rise to the use of Emergency Contraceptives. Emergency Contraceptives (EC) is a type of modern contraception, which is indicated after unprotected sexual intercourse, following sexual abuse, misuse of regular contraception or non-use of contraception. EC plays a vital role in preventing unintended pregnancy, which in turn helps to reduce unintended childbirth and unsafe abortion, which are major problems of maternal health (Neinstein et. al 2008). Oral contraceptive pills and intrauterine contraceptive devices (IUCDs) are mainly the widely used emergency contraceptives within 72 hours after sexual contact and

the pills have the capacity to prevent pregnancy by 75-85% (Friedman et al., 2011). Also, EC ensures women and girls are able to avoid the socioeconomic stigma and health outcomes of unplanned and unintended pregnancy (Starrs, Ezeh, Barker, Basu, Bertrand, Blum, & Sathar, 2018). Access to EC is particularly important for young women who are vulnerable to sexual abuse and often lack the skills and power to negotiate use of a condom (UNFPA, 2013). Further research has revealed that the use of emergency contraception may significantly reduce the number of abortion-related morbidity and mortality (Kongnyuy et al., 2007).

Following this, it is imperative to note that every woman has the right to decide on when to have children and access to an extensive range of contraceptives (Dawson et al., 2014). Despite this right, there are approximately 250 million pregnancies each year, 83 million of these are unintended, and one fifth of theses undergo induced abortion (WHO and Gutmacher Institute, 2007). Global and regional estimates show that 14 per 1000 incidence of unsafe abortion and associated mortality in women aged 15 to 44 years in the year 2003, which accounts for 13% of all maternal deaths worldwide. In low-income countries, two third of unintended pregnancies are contributed by females who do not use any contraceptives and more than 100 million married females have unmet needs for contraception (WHO and Gutmacher Institute, 2007). As per estimates, about 68000 women die because of unsafe abortions each year and millions of others end up with complications of unsafe abortion (severe infection and bleeding), all this could have been prevented or reduced by use of EC (Grimes et al., 2006). In east Africa the incidence rate is estimated to be 39 per 1000 and accounts for 17% of all maternal deaths in the region. More than half-maternal deaths in Africa are due to unsafe abortion that occurs in age

below 25 years of age (WHO, 2017). The use of contraceptives remains low in Sub-Saharan Africa (SSA) and this may contribute to the high rates of unwanted pregnancies, unplanned deliveries, unsafe abortions and maternal mortalities and high transmission rates of sexually transmitted diseases of which Ghana is no exception (Apanga & Adam, 2015).

In Ghana, the use of Emergency Contraceptive Pills (ECP) has become a common practice to prevent pregnancy after unprotected sex, condom burst, slippage of diaphragm and forgotten pills. Currently, the knowledge and awareness of any contraceptive method is almost universal in Ghana, with 98% of all women and 99% of all men knowing at least one method of contraception (GDHS, 2008). However, while 47.4% of Ghanaian women have a history of contraceptive use only 20% are current users (GDHS, 2008). According to the 2014 Ghana Demographic and Health Survey (GDHS, 2014), 30% of married women in Ghana had an unmet need for family planning services, with 17% having an unmet need for spacing and 13% having an unmet need for limiting. Largely, Ghanaian women had 0.6 children more than their ideal number of 3.6 children. This suggests that the total fertility rate (TFR) was 17% more than it would have been if unwanted births were avoided (GDHS, 2014). Unwanted pregnancies often lead to abortions performed in unsafe environments with complications such as haemorrhage, infections, infertility, or even death (Aiken, Gold, & Parker, 2005). In Ghana, emergency contraceptive pills such as postinor-2, Lydia post pill, Nor- Levo, and pregnon are available in pharmacist, family planning clinics and can be procured without a medical prescription.

Furthermore, a study conducted by (Mohammed, Abdulai & Iddrisu, 2019) among Nurses and Midwives Training College in the Northern Region of Ghana revealed that 166 (86.91%) of the participants indicated they had heard about EC prior to the study but only

49(25.65%) participants said they had ever used ECP. Those who had basic awareness of EC however lacked detailed knowledge about the content effectiveness and the timing schedule after unprotected sex.

1.2 Problem Statement

The World Health Organization estimates that 84 million unwanted pregnancies occur annually worldwide (WHO, 2018). Averagely, 46 million abortions take place every year, out of which 20 million are performed under unsafe conditions (Grimse et al., 2006). Seventy thousand women die yearly as a consequence of unsafe abortion, while five million suffer permanent or temporary disability (WHO, 2018). Approximately 13% of pregnancy-related mortality worldwide is due to unsafe abortions and the majority of these deaths (and morbidity) occur in low-and-middle income countries (WHO, 2018). An important proportion of maternal deaths worldwide is attributable to induced unsafe abortion: Asia (20– 25%), Africa (30–50%) and Russia (25–30%) (cheng et al., 2007).

Planning for pregnancy is very critical not only clinical outcomes, but also the context of population growth. The use of various methods of contraception in family planning interventions are widely acknowledged as important interventions towards achieving the Sustainable Development Goals (SDGs) 3. The use of contraceptives remains low in Sub-Saharan Africa (SSA), and this may contribute to the high rates of unwanted pregnancies, unplanned deliveries, unsafe abortions and maternal mortalities and high transmission rates of sexually transmitted diseases of which Ghana is no exception (Apanga & Adam, 2015).

In Ghana, the consequences of unplanned pregnancies are enormous. They include social stigma, school dropout, unsafe illegal abortions and their risk of very serious morbidity and mortality. Abortion is not legalized in Ghana and therefore the exact number of abortion cases is not known. In 2000, the estimated maternal mortality ratio attributed to unsafe abortion in Ghana was 90 to 100,000 live births (WHO, 2008).

In addition, available data suggests that induced abortion and related complications are the most common outcomes of unintended pregnancies with an estimation of induced abortions accounting for about 12% of maternal deaths in Ghana, third after hemorrhage (22%) and unclassified causes (14%) (Eliason, Baiden, Yankey, & Asare, 2014). Maternal deaths are estimated to be 1.8 times higher in women without contraceptive use (Aniteye, 2016; Aseidu, 2016).

Furthermore, there is expansion of contraceptive information and services and contraceptive technologies have improved given risen to its demand throughout the world. However, access to mainstream contraceptive methods is more limited in Sub-Saharan Africa than elsewhere; on average contraceptive prevalence in Africa is approximately 27%, less than half the average throughout the world (Seifu, Gashe, Jemal, Tessema & Amelo, 2019). In addition, ECPs have become more available in many developing countries but limited awareness and knowledge, as well as limited access. There has been very extensive campaign and dissemination of knowledge on contraceptives. Currently, the knowledge of any contraceptive method is almost universal in Ghana, with 98 percent of all women and 99% of all men knowing at least one method of contraception (GDHS,

2008). However, while 47.4% of Ghanaian women have a history of contraceptive use only 20% are current users (GDHS, 2008).

Emergency Contraceptive, despite being an effective method to prevent unplanned pregnancy, largely remains underutilized. Many adolescent females, including the recently married females, are at high risk of unplanned pregnancy due to many factors including lack of contraceptives knowledge, limited access to health services, failure of contraceptives etc. Research conducted among female university students indicates a low level of knowledge and practice of emergency contraceptives among tertiary students (Baiden, Awini & Clerk, 2002; Tamire & Enqueselassie, 2007 and Akani, Enyindah & Babatunde, 2009). Elsewhere in Egypt, a study was conducted on women within their reproductive ages and the results revealed insufficient knowledge about emergency contraceptives, but revealed strong willingness to receive information to use EC methods when desired (Tamire & Enqueselassie, 2007). Further, during the review of literature, the authors did not find any study on KAP (knowledge, attitude and perception) of EC among tertiary female students. This therefore leaves a gap in knowledge, which this study seeks to fill. Therefore, the present study was planned with the aim of assessing the Knowledge, Attitude and Perception of emergency contraception among the female tertiary student, using University for Development Studies as case study.

1.3 Research Questions

1.3.1 Main Research Question

What is the knowledge, attitudes and practices of contraception use among female tertiary students of the University for Development Studies (UDS), Tamale Campus?

1.3.2 Research Questions

This study shall be guided by the following specific research questions;

1. What is the level of knowledge of female university students in University for Development Studies on emergency contraceptives?
2. What are the attitudes of female University for Development Studies students towards emergency contraception?
3. What are the practices of female university students of emergency contraceptives?

1.4 Objectives of this study

1.4.1 Main Objective

The general objective of this study was to investigate the knowledge, attitudes and practice of emergency contraception use among female students of the University for Development Studies (UDS), Tamale campus.

1.4.2 Objective

1. To examine the levels of knowledge on emergency contraceptives among female students of University for Development Student, Tamale.
2. To investigate the attitudes towards emergency contraceptives among female students of University for Development Student, Tamale.

3. To assess the practice of emergency contraceptives among female students of University for Development Student, Tamale.

1.5 Conceptual framework

Figure 1: Inter relationship between predictor variables and perception and use of emergency contraception

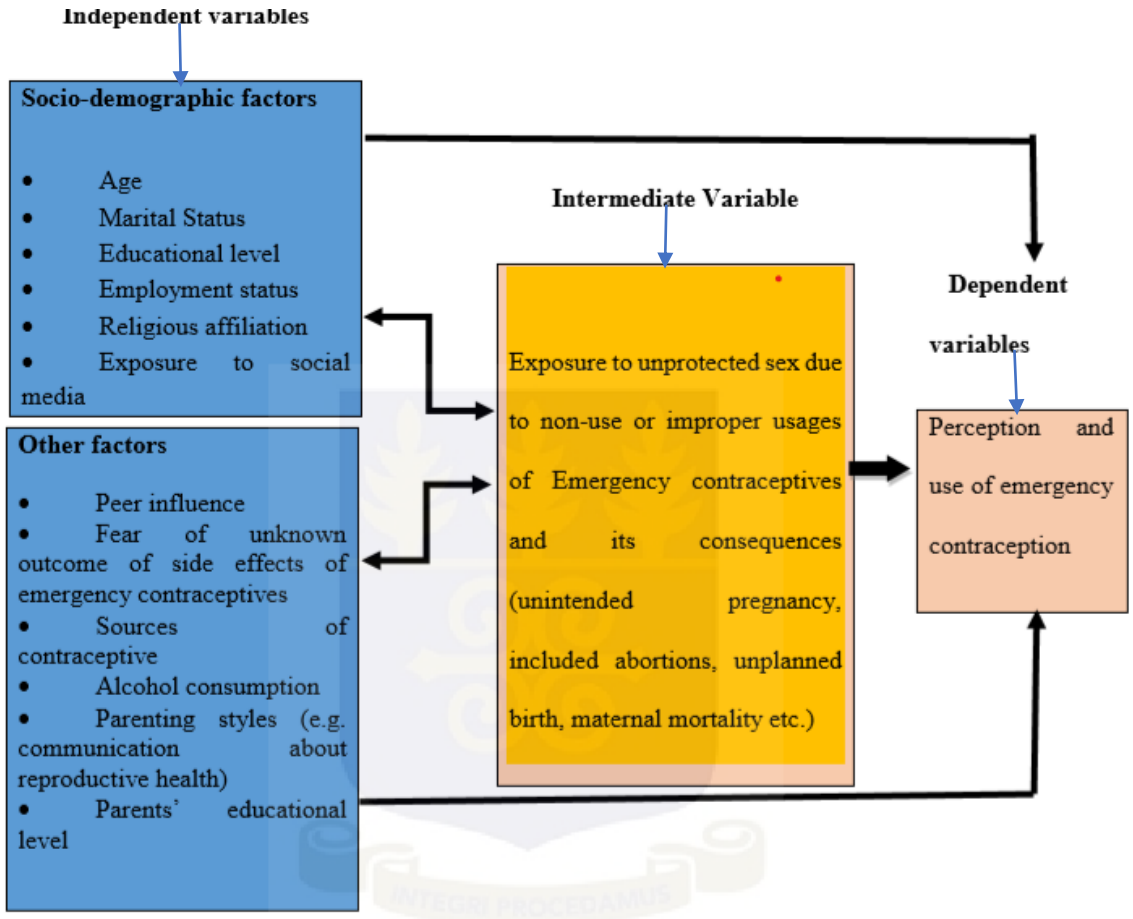

Figure 1.1; Conceptual framework

A Wondimu (2008) methodological structure is a paradigm that tracks what questions the conductor of the study may address, and how observational methods can be used as a tool to answer these questions. Independent variables are the socio-demographic influences (aged, marriage, level of education etc.) and other influences such as pair control, fear of

unpredictable consequences of emergency contraception side effects, origins of contraceptives etc. Exposure to and effect of casual sex is called the intermediate variable and the primary variables for the implementation of awareness and emergency contraceptives.

The objective variables assess the youth's beliefs, behaviors and impact on the use of emergency contraception and underage sex exposure.

1.6 Justification

Emergency Contraceptives plays a vital role in preventing unintended pregnancy, which in turn helps to reduce unintended childbirth and unsafe abortion, which are major problems of maternal health. Sexual activity is usually high in tertiary institutions with lot not having knowledge or refusing to use EC.

Considering the importance of EC in preventing unintended pregnancy, this study aimed to assess the knowledge, attitude and practice of EC and to further elucidate the relationship between these factors and socioeconomic and demographic characteristics among female undergraduate students of in the UDS Tamale campus.

Moreover, there is paucity of data in this research area. Thus, this research will inform and enhance the design of student-centered programs to improve contraceptive knowledge and use, and thus potentially avert the unintended pregnancies and the consequent adverse outcomes in tertiary institutions in Ghana suing University for Development Studies as the baseline.

1.7 Organization of the Study

This thesis is presented in six (6) chapters.

Chapter one provides a general introduction to the research. The chapter discussed the extent of the problem and addressed the significance of the research in the study area. In the opening chapter, research questions and objectives are discussed.

In chapter two however, relevant literature is presented in relation to the objectives of this study. It encompasses the definition of terms related to emergency contraceptives, historical perspectives, and other empirical published studies on knowledge, attitude and practice of emergency contraceptives in the world, Africa and Ghana. The chapter concluded with summary of key lessons obtained from the literature gathered.

In chapter three, the methods and materials are described vividly. It covers description of the study area and explains the research philosophical underpinnings, research design, data sources, techniques and data collection tools as well as data analysis and quality control measures. It also demonstrates that, ethical considerations are adhered to, in order to safeguard the study participants.

Chapter four presents the results and analysis of the findings of the research.

In Chapter five, the results of the study are discussed. The findings of this study are compared with other studies and relevant insights extrapolated.

Finally, in chapter six a summary of the findings of the research, conclusion, recommendations and a direction for future research are presented.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The aim of this study is to perform a cross-sectional analysis on the use of emergency contraception among the undergraduates. The latest and important literature in the field of contraception is reviewed in this chapter. In the first segment, you can find information about what is and needs emergency contraception. The following segment discusses work that explores the awareness and behavior of people towards contraception in emergencies. Literature on context causes, such as past contraception and unwanted pregnancy, is given in the last segment.

2.1 What is Emergency Contraception?

"Emergency contraception also known as Postcoital contraception refers to prevention strategies that can be used during sexual intercourse to avoid pregnancies. They are recommended for use in 5 days, but the earlier they are used after intercourses, the more successful they are (WHO, 2018).

2.2 Emergency contraceptive use globally

In UK (61%) and Sweden (59%), the highest proportion of women who used EC ever can be found. In most countries, EC has always been used by approximately 20%. The lowest (13%) proportion of Germany is Austria. For countries in which EC pills are without prescription available, most women seem to want to get EC pills from their pharmacy directly, with fewer than zehn percent of them first getting a prescription. Nonetheless,

figures from Spain and the United Kingdom show that in these countries roughly one third of EC pills are obtained by patients without a prescription, while the majority of the countries are obtained with EC pills from health facilities or hospitals (Larsson & Stanfors 2014). In a previous study, the potential consumers of emergency contraception were identified as women at risk of being uncontrolled by young, sexually active people without pregnancy and unable to become pregnant (Foster, Harper, Bley, Mikanda, Induni, Saviano, & Stewart, 2004).

Gynetics Inc. announced in August 1998 that the PREFEN, an emergency contraceptive device, for use as an emergency contraceptive method was approved by the Food and Drug Administration (FDA) (Harvey et al., 1999). It was the first such drug on the U.S. market. The FDA licensed PLAN B in July 1999 (Harvey et al, 1999). PLAN B. received the approval. This is the first emergency contraceptive for progestin only. On 24 August 2006, the FDA for retail sales to women approved it over the age of 18 (FDA, 2006). Within 72 hours of unprotected sexual intercourse, each protocol will begin.

The main financial, medical and public health issue is presence of unwanted pregnancies (Abbott et al, 2004). Unintentional abortions in the United States have been a significant cause of social pressure. More than one third of all births (33.7 percent) in 2001- were unmarried mothers, according to the administration for children and families. Women between 18 and 24 years of age are twice as likely to undergo unintended pregnancy (Finer and Henshaw 2006).

Single mothers and their children stress the social welfare system. The younger child has a negative effect on the education of the mother, social economic status, health and other factors. Unintended pregnancy deliveries covered by Medicaid, which is around 60%, cost

an additional $90 million a year (Hayes et al. 2000). The process of children born young mothers is often replicated for many generations. The use of emergency contraception will break the loop. When miscarriages were removed, abortions resulted in 54% unintentional pregnancies and live births were still unintentional (Brening et al. 2003). Consequently, in the United States about 1.5 million babies are born each year to women who do not intend to have a child. The pressure on the woman and on society is excessive. There are considerable benefits from using emergency contraceptives. Specific emergencies can prevent 0.8 million abortions each year, at least 1.7 million unwanted pregnancies each year, and contribute to tremendous savings to society (Brening et al., 2003). There have already begun working on the supply of emergency contraceptive pills. Using emergency contraceptive pills, up to 51,000 abortions were avoided in 2000 (Jones et al, 2002).

Timely access to EC is a major component of the contraceptive services offered to women in order to ensure women's reproductive health and rights. Emergency contraceptive pills are limited in age for four European countries. Those under the age of seventeen and those under the age of fifteen in Bulgaria and the Czech Republic cannot possess Emergency Contraceptive Pills without a doctor's prescription. Parental consent to the receipt of an EC prescription is required for women under the age of 18 in Poland (Union et al., 2014).

Sexual behavior among young people is increasing globally, with an early onset trend (Grimes et al. 2006; WHO 2015). It is estimated that between 14 and 18 years of age 20-50 percent of adolescents have begun sex at first sex (Yen & Martin, 2013). Unintended pregnancy is also a significant threat to young adults' reproductive health. However, particularly in developing countries, the proportion of young women who report unintended pregnancy and unmet needs for contraception remains high (Akintade, Pengpid

& Peltzer, 2011). For example, one female in three births before age 20 and childbirth pregnancy-based death is twice as frequent as females older than 20 (Nsubuga et al, 2016). The use of emergency contraception will avoid unplanned pregnancies and sexually transmitted diseases (WHO, 2015).

Unmarried women in Armenia were less likely than married women to have learned of the operation, and thus knowledge gaps differed according to marital conditions. The technique was better known among older women than the younger ones with the exception of Turkey. Women from 30 to 34 were also less informed of the issue. Higher education and secondary women in Albania, Jordan and Turkey were more likely than under-educated women to have learned of EC in Albania (Koyama et al. 2013). In Ukraine urban women's settlers, the probability of EC being used was much higher than in rural citizens. Understanding and use of EC were higher than married sexually active unmarried women were. The risk of using emergency contraception has increased in Albania, Jordan, Moldova and Ukraine, but not in Armenia or Turkey (Union et al., 2014).

Across the US there are questions raised by teenagers on EC rights to confidentiality, transport and humiliation. Lack of suppliers 'awareness and low EC Pill rates in a significant number of shops and drugstores are obstacles to EC access (Ross & Hardee, 2013). Women with some degree of schooling were more likely to hear about emergency contraceptives in all studied Asian nations. The proportion of women who learned of the method typically grew with income, but the connection to it was very poor in the Maldives. Urban women alone in India were more likely than rural women are to know of emergency contraception (Union et al., 2014).

In comparison to currently married women in this region, women who are not in Bolivia have a greater propensity to know more about the system (odds ratio, 1.7) than in Colombia (1.2) and less awareness of the topic in the Dominican Republic and Haiti. Whereas this correlation in Nicaragua was small, the increasing age was associated with EC hearing. Increased EC awareness was available to illiterate women than to the élite (Haeger et al. 2018).

Older women in Asia were more likely than 15–19 years old to have a higher awareness of EC. Nepal had an unusual case without any gender variations. Women in Maldives had greater chance to hear EC between the ages of 45 and 49. In contrast with the contraception of women in urban areas, those who finished elementary school were considerably better informed of urgent contraception relative to the population of rural areas. Typically, awareness has increased the use of urgent contraception for women with age (Larsson and Stanfors, 2014).

2.3 Emergency contraceptive use in Africa

Research has found in sub-Saharan Africa that modern contraceptives are generally increasing but with a lot of geography variation. Higher levels of use are observed among women who are unmarried sexually active than married. While use is rising, contraceptive discontinuation levels are also high. Recent program activities included expanding contraceptive options, endorsing and delivering postpartum contraceptive strategies, and relying on community health workers to deliver contraception and services (Tsui at al., 2017).

Of the 24 African nations, 8 have lowered the likelihood of hearing emergency contraception in non-marry women relative to women now married (Odd's ratio in Mali is

0.5 to 0.8 in Namibia), while in two of 24 nations, Benin (1.4) and Liberia (1.9), previously married women are at high risk of listening. Young women between 15 and 19 years of age were less likely than older women in South Africa and Egypt to be told of EC, but the experience and age were not linked to women in Liberia. Awareness has been good for knowing emergency contraception. The chances of learning about emergency contraceptives have also increased for most African countries, but in some countries, the distinction is small. In urban areas, there has been considerably more awareness on emergency contraception among women than people in rural areas are (Larsson and Stanfors, 2014).

The relationship between wealth and methods was much lower than the relationship between wealth and knowledge. In three nations, women in urban areas were more likely to use the form than in rural areas. Education is closely linked to the use of contraception, although it varies in terms of context, culture and growth (Larsson and Stanfors 2014). Training is not only relevant to women.

Education is more important in Sub-Saharan than for method selecting to determine between use versus non-use. Furthermore, empowerment has no added influence, net of everything else. It is important to understand factors that mediate the impact of non-traditional empowerment and develop methods, which use disparities. The reproductive actions of women may be affected by couple dynamics and group consequences of women's education and attitudes (Palermo et al. 2014). Results of a Nigerian study show that a significant percentage of current EC users have reported EC as a major contraceptive procedure more than once a month. This suggests that we need greater understanding of repeat-use dynamics and the value of guaranteeing accessibility and access to reliable,

short-term barriers and hormonal methods regulated by men and women (Morgan et al., 2014).

2.4 The use of contraceptive in Ghana

Demographic and health survey in Ghana recommends the use of at least one contraceptive method for sexually active men. The survey included married women aged 15-49. Rhythm, withdrawal and folk methods are known as conventional methods. Ghana's current contraceptive strategies include women and males, oral hormone tablets, IUD, male condoms, injecting content, implants, vaginal barrier procedures, female condoms and emergency drugs. The highest contraceptive incidence in Ghana over the past three decades was 28.60 percent in 2015, while its lowest incidence in 1988 was 5.20 percent.

In connection with the use of EC tablets, accessibility and affordability have been established by research conducted by Amalba et al (2014). Religious and cultural people have not discouraged the use of EC pills, and health officials should therefore open EC pills to women. The use of contraceptive methods is increased by increasing awareness. Nineteen percent of married women without education, for example, use a form of contraception compared with 34% of married women who are in secondary or higher education. Contraceptive use also appears to increase by 21% among married women without kids or 30% for those with three or four children, with the number of children living. In the last six years, the use of both contraceptive method and modern method has increased slightly from 24 percent in 2008 to 27 percent in 2014 (DHS, 2014). This decreases to 27 per cent for people with five children or more.

The use of modern contraceptives avoided unplanned pregnancies, illegal abortions, maternal morbidities and mortality. Oral contraception and Postinor 2 pills were approved respectively in 1996 and 2000. Emergency contraception from hospitals and pharmacies are easier to procure without prescription (Mayhew et al., 2013). Postinor 2, Lydia, Lenor, and Levon 2, which contains 1.5 mg of levonorgestrel, are emergency contraceptives on the market.

2.5 Knowledge and Attitudes about Emergency Contraception

"As patients and professionals know about emergency contraception, and emergency contraceptive pills will be made available to women 24 hours a day, maybe even without a recruitment, the U.S. Public Health Organization, U.S. Medical Association, The international Planned Parenthood Federation, and the American College of Obstetrics and Gynecology have argued" (Abbott et al., 2004, p. 2).

Foster et al. (2004) found that women who did not use a form of contraception had the lowest rates of expertise on emergency contraception (29%) and women who did not use contraception had the highest knowledge on emergency prevention (45%). However, some reports centered on patients visiting clinics for unintended pregnancy abortions.

Several studies in Ghana have shown low rates of knowledge of contraceptive methods among adolescents (Awusabo-Asare et al., 2008). The lack of awareness about the EC indicated that women in many low-income countries resorted to unsafe or unlawful abortions. Current use of any contraceptive method in Ghana is 23% for women, 27% for women who are married and 45% for unmarried women who are sexually active (GDHS 2014). 22% of women currently married employ a modern method, while 5% employ a

conventional method. This has contributed to an estimated 225 million women in developed countries who want to postpone or avoid their childbirth but do not use contraceptive methods "(WHO 2015).

The shortage of knowledge on contraception is aggravating this. Peers and friends were reported to be the most popular source of contraceptive knowledge (Akani et al, 2008). This results in increased confusion of correct contraceptive methods (Abasiattai et al, 2007). This can have far-reaching implications, as women who simply want to use emergency contraception end up using unorthodox methods and instead face the possibility of unintended pregnancy and unsafe abortion.

2.6 Youth and Contraceptive use

Unwanted pregnancy and HIV among young people, especially young women, has led to inadequate insight into sexual and reproductive health worldwide. There are both positive and negative sexual behaviours. Abstinence and use of condoms are positive activities and unplanned pregnancy and the transmission of sexually transmitted infections between young people are negative effects. Awareness of and use of contraceptives are primary markers of youth sexual wellbeing (Grindlay et al. 2018).

In an Ethiopian study, 82.97 percent reported using Emergency Contraceptive Pills among those who reported having sex and 95 percent reported using Emergency Contraceptive pills between the sexes unprotected. Unprotected sexual activity sexually engaged female undergraduate students use high rates of emergency contraceptive pills (Yemaneh et al, 2018).

Results of an investigation in Central Ethiopia have led to a plan to reduce the short and long-term effects of young girls 'unwanted pregnancies in larger educational institutions.

The awareness of the EC and the provision of sexual and reproductive health facilities for young girls at the university are required (Ass et al. 2010).

Research on the Takoradi polytechnic also demonstrated a high understanding (74.7%) of emergency contraception but a low use of 28.4%. Even those with basic EC knowledge did not have a detailed understanding of the material, performance, and timing after unprotected sex. Less than once a year, 67 percent used emergency contraceptive pills. In this student population, usage is not compatible with a high level of ECP awareness. The teachings of young adults on emergency contraception, stressing substance, efficacy and timing accuracy across various forms of communication, may be used to prevent violence and repeated use of contraceptives (Manortey et al. 2016).

Young people vary not only from country to region, but also within a given country in sexual activities and contraceptive usage. Studies in Burkina Faso and Mali found that the proportion of women who reported sexually active increased with increased levels of education, urban housing, and family income. None of these three affects however Senegal's sexual behavior. In Senegal, 4 per cent females between 15 and 24 years of age, regardless of the educational level, reported being sexually active. At the other hand, young unmarried women in Burkina Faso were very twice as likely as young unmarried or untrained women as sexual intercourse (Kunene, 2013).

Research in Tanzania has shown that the female students have a high degree of contraceptive awareness. Most of the students had sexual activity, and sexual activity began earlier. The level of contraception is still small. The low use of contraception demonstrates the need for a sexual and reproductive health education system to promote the use, in certain contexts, of contraceptive services. The importance of using dual

contraceptive approaches to prevent abortion and avoid HIV infection should be addressed by replicative education services in the field of health (Ass et al., 2010).

A survey among university students in South India showed there was a low knowledge of EC pills among one-third of university students. More than 34 respondents said EC-pills should be given appropriate guidance and advice by health professionals. Misinformation or misunderstandings such as EC pills can also avoid STDs, and therapy can be used for the elimination of the apprehension of side effects that can be seen in the few.

Birth control pills use decreases the amount of sexually active youth with unintended pregnancies. Youth, however, ought to have a good knowledge of the various methods of contraception before being used. While the rates of contraceptive awareness are high, its use among married women is relatively small. This, however, is usually associated with a high level of educational activity, particularly in young married women, in urban areas. The awareness of young people's sexual activity and contraceptive usage will improve policies that tackle women's knowledge about reproductive health and behaviour (Kunene, 2013).

Improved awareness in this field would educate young women about their reproductive health and find family planning to be an option. Returns of carnage of STIs such as HIV infections and fewer unplanned teenage pregnancies to a healthy family (Kunene, 2013).

2.7 University Students' Knowledge and Attitudes toward EC

Many studies have shown that information about EC for students is generally low (33.3 percent) apart from education about EC (Babatunde et al, 2016). Poor understanding of the correct EC use timeframe can inhibit a pregnant woman (Awusabo-Asare et al., 2014). The

awareness of contraceptive forms reported was not significant, according to the national survey carried out in Ghana of adolescents (Awusabo-Asare et al, 2014). There was a certain amount of time for participants to record their responses. At the end, participants had time to include everything they thought was important to the study. The researchers had to interpret these results. Fifty-eight percent were males and 42 percent females of the 550 participants. The study was made up of students from undergraduates and graduates. The researchers explored the value of religion, political affiliation, familiarity with a 'close call,' knowledge of the side effects of emergency contraception, knowledge of product knowledge and the timeline for emergency contraception pills. No study was made of age, gender, and race. The results show that the emergency contraceptive pill was essentially sensitized and accepted but students did not have comprehensive information. The scientists also found that there was uncertainty between emergency contraceptive pills supplied by university health services and the abortive RU-486 among several participants. Corbett and associates (2006) analyzed university students 'awareness, attitudes and behavior on emergency contraception. A convenient survey was used of students from both males and females who visited the library lobby. The investigators performed an anonymous paper / pencil survey in person. Ninety-seven participants aged 18-21 years conducted the survey. The researchers analyzed the role of information sources on emergency contraception, the preferred method and use of birth control, their personal risk perceptions of unintended pregnancy, and their opposition to emergency contraception and their perceived wetness. Results revealed that most participants were conscious and found a helpful method to prevent pregnancy. Emergency contraception. However, While Harper and Ellertson (1995) have found that approximately half (49.5%) of the contraceptive

emergencies and RU-486 are different; Corbett et al. (2006) have found that 87.6% cannot distinguish. Female participants who answered that they would be much more likely to use emergency contraception if needed if they already had a prescription. All of the women who mentioned being unable to use emergency contraception suggested that they were ashamed or punished. The primary birth control form recorded was the pill (40.2%). People were also more likely to speak to their health care provider about emergency contraception.

2.8 Demographic Characteristics Affecting Knowledge and Attitudes about Emergency Contraception

2.8.1 Race

A significant link between race and emergency contraception awareness was found in 18-44 years of age in the Foster et al. study (2004). Around one-third (31%) of African Americans are less likely to be aware of emergency contraceptives than white women. Less than half as likely to learn emergency contraceptives in Hispanic women as White women. Such results were not linked to a particular cause by the researchers, who only noted that there were and must be resolved differences. Teens are most likely disregarded, reproached, mocked, branded, or even pushed away by health care professionals (Boamah et al, 2014). This unfavorable role on the part of service providers will restrict the source of contraceptive acquisition.

2.8.2 Gender

Sex has not been extrapolated in variables that have been shown to be significant. Corbett et al. (2006) reported statistically important results in three sex fields: conversation with health care providers about emergency contraception, prior use (or use by the partner) and

shame in requesting emergency contraception. Women are more likely to encounter than men in all fields are. Sex had a major influence on awareness about emergency contraception in an American survey of 18 and older people (Delbanco et al., 2000). The scientists theorized that the information could affect education programs, sex partners, friends or family members.

2.8.3 Age

Women between the ages 20-24, 58.5% of all births are reported to be unintended and 75% unintended for women aged between the ages of 18-19 (Brening et al., 2003). The majority of students at universities range from 18 to 24 years of age. According to this study, students at college are at increased risk for unintended pregnancy, which is why emergency contraception is needed. Age also has been established by the national inquiry, both cumulatively and separately, as a major indicator of the awareness of emergency contraception with other characteristics (Delbanco et al. 2000). The average college age group between 18-24 years old included 1,040 participants in a weighted random sample of women from 18 to 43 in California. Nearly half (47.7 percent) of the subgroup answered they did not think anything could be done to avoid pregnancy after unprotected intercourse (Foster et al. 2004).

2.9 Background Factors Affecting Knowledge and Attitudes about Emergency Contraception

2.9.1 Past Contraceptive Use.

Women are more likely to statistically hear about emergency contraception when they talk about birth control with their physicians (Foster et al., 2004). Delbanco and associates (2000) explored the relationship between patient awareness and the medical profession. They found that women who talked about birth control with their health providers were more knowledgeable (62%) of emergency contraceptive pills. Yet just 26 per cent of them had excellent information. The components are the same as in birth control drugs, both males and females are more likely to help emergencies. The Shiapacasse and Diaz study (2006) suggests that religious opinion leaders and conservative politicians opposed the EC implementation in a number of countries around the world and pointed to moral issues. The Catholic Church and anti-abortion organisations have firmly criticized this (Smugar et al., 2011). Thus, if people feel that they are abortive, they are hesitant to use EC (Keesbury et al, 2011). A research by Larsson et al. (2004) in Sweden reveals that 33% of the interviewees consider EC pills to be a kind of prescription for abortion. This conclusion was no other than a study conducted in Nigeria that also regarded EC as a form of abortion for 25.8% respondents. Corbett et al. (2006) found that 75.3% of participants had knowledge about emergency contraception, while not considered important, and the main birth control tool was the pill.

2.9.2 Past Unintended Pregnancy.

In developing countries particularly, unintended pregnancy is still a major challenge to women's reproductive health. Adolescent women who are vulnerable to unintended pregnancy, leading to abortion, complications linked to abortion and other social and health issues including miscarriage and withdrawal from school due to non-protected sex (Okereke, 2010; Yen & Martin, 2013). This makes a major contribution to maternal morbidity and death (Hoque, 2012). Unintentional pregnancies have been reported to result in no less than 50 million abortions worldwide per year, many of them illegal and thus leading to about 80,000 deaths from motherhood (WHO, 2014). This had a very low sample (N=83). Of the two hundred thirty six women, 153 declined to participate. There were participants between the ages of 15 and 44. Among these, 46% were under the age among 21 years. Researchers found that 71% had no clear knowledge of the choices for urgent contraception. They noticed that only 3% had relatively complete knowledge.

Unintended pregnancies have dangerous implications for women and their families; they contribute to unsafe abortion; pregnancy delays; bad maternal health; a decreased mother and child relationship, poor children's growth, physical or emotional abuse; an increased risk of low birth weights; and a rise in maternal morbidity and mortality (Eliason et al., 2014).

For countries where illegal abortion is rife, accidental pregnancy, induced abortions have adverse consequences. Several lives were lost and millions more suffer from non-fatal disease because of unsafe abortions. The proportion of unwanted pregnancies in traditional cultures, where big families are dominant, could be lower than in modernized communities, where contraception usage is increasing.

In 2012, 222,000,000 women were unable to use modern contraception in third world countries (Singh and Darroch, 2012). Inversely, it would have been possible to prevent 54 million unintended pregnancies annually if the target for the use of contraceptives had not been met, with an exception of 21 and 26 million unplanned births and abortions, respectively. The enhancement of programs for current women users could significantly reduce unintended pregnancies (Setgh, Singh & Hussain, 2014). Sub-Saharan states, like Ghana, show that access to reproductive health care is limited, especially family planning, inadequate rights to reproductive health, and women have less empowerment. In most sub-Saharan countries, in particular Ghana would be difficult, in part because of this current situation (Westley & Schwarz, 2012).

2.10 Factors Associated With the Use of Contraceptives

The literature has extensively analyzed factors inhibiting the use of contraception in Sub-Saharan Africa from 2005 to 2015. The study was conducted in a total of 58 studies in 12 sub-Saharan African countries. The use of contraceptive variables has been shown to be graded as two. Positive and negative, therefore. Negative factors that limited or decreased use of contraception were mixed effects, use of contraception among women, drawbacks between male partners, cultural and social norms relating to fertility. Positive factors included schooling, employment and contact with male partners. The use of contraceptives in sub-Saharan Africa allows the society and institutions to intercede widely for adverse expectations and misinformation (Blackstone et al. 2017). In this regard, the use of contraception is a multidimensional issue.

A study examined the ties between certain socio-demographic factors chosen, including literacy, knowledge of the availability of contraceptive method, methods insight, jobs and marital status, residency, fertility and ethnicity choices, and its effect on current contraceptive use in Ghana. Knowledge of the type of contraception was the most significant element. Periodic sensitization will be a central component of both the public and the user's policy by contraception providers. These will include the general advantages of contraceptive methods. Setting up feedback centers to reduce women's unmet needs (Adjei et al., 2014).

Although about 97 percent of participants in the survey had knowledge of at least one modern contraceptive form, just 16 percent of the participants used modern contraceptives, the socio-demographic factors affecting the usage of modern contraceptive by women in Ghana's Asuogyaman District reported. It also showed that the level of schooling, residence and jobs affected considerably modern contraceptive usage among women in the research field. Fears about the side effects, more children against family planning and the spouses 'rejection were the main barriers to modern contraceptive use in the research field. Health workers were recommended for addressing attitude factors, including questions regarding side effects, and the option of high fertility in terms of access to family planning centers (Teye, 2017).

In 2014, the Ghana Longitudinal Health Survey was used to assess the relationships between women's sexual empowerment and use of contraception between women who do not want to get pregnant in Ghana in the next 3 months. After adjustment for contraceptive use demographic predictors have been found to be correlated with rising female empowerment levels. Formal education, increased income, and unmarried marriages are

correlated with the use of contraceptives, although it is not possible for Muslim women to use contraceptives other than the women Christians. It shows that gender disparity in sexual empowerment, in particular among the less affluent women, demands stronger negotiations to obtain reproductive health services (DHS, 2014).

An experiment in Nkwanta has also shown that the use of modern family planning plays a crucial part in the reduction of female roles, social or cultural values and contact between couples. The use of contemporary contraception has been influenced by work facilities that extend hours and distances to health centres (Eliason et al, 2014). Very few studies have reported the use of EC among females in Ghana and very little coverage, so this study tries to fill the divide in literature. The work has centered on aspects such as understanding, perception and use of ECs among females.

2.11 Contraceptive Security in Ghana

Ghana has developed dramatically in recent decades with the development of GHS promoting public health institutions by decentralization in the 1980s, 1996 with the Health Policy Project (GHS) and in 2003 with the Act to Procurement (HPPP 2015). The management of the supply chain is organized and performed in conjunction with the wider HR product protection framework. The MoH has developed the National Health Commodity Safety (NHCS) Strategy for 2011-2016 with a comprehensive Action plan and budget to ensure long-term protection of supplies of reproductive health. The RHCS strategy's key objectives are improving the policy environment, strengthening participation and capacity, enhancing teamwork and exchange of information, ensuring sufficient financial funding, generating demands and increasing usage, guaranteeing access to facilities and contraceptives in all areas and reinforcing logistics structures. A multi-

stakeholder body headed by the National Population Council (NPC) and GHS, the Inter-agency Coordinating Committee on Commodity Safety (ICC / CS), plays an important role in the field of contraceptive protection, as it brings together health stakeholders working on reproductive health and family planning, sponsors, government agencies and the related policy bodies, and civil society (MoH, 2011).

The ICC / CS oversees the security of commodities in the country as a whole, mobilizes financial capital, manages donors and partners and controls the execution of commodity security activities. The Government has borne some of the costs of FP commodities since it founded the ICC / CS as one of the first CS initiative in the country in 2002. Civil society, donors, and the government are continuing efforts to promote the budget for these commodities for the future (MoH, 2014).

The sum is not sufficient to satisfy current requirements because now the government contributes to the financing of FP goods and thus relies very heavily on donors in goods procurement (Health Policy Project, 2015). In order to tackle and drive change, more policy funding and development partners must be taken. Several experts have established the need for a more sustainable and slowly self-sufficient diversification of contraceptive financing. However, the logistics program has holes. Most experts believe that health facilities 'inventory shortages are often "artificial "— a stockpiling that is encountered at facilities level through misrepresentation when appropriate stocks are available at the central or national level. The promising solution to improving commodity protection has been established to help the private sector to become more involved in FP product production, distribution, selling and promotion.

MoH's supply chain policy says that the National Health Product Supply Agency handles the major product categories: medicines, such as vaccines, antiretroviral and TB. The supply chain also provides significant "value-added" advantages to FP and malaria commodities; unique and essential commodities, such as cancer drugs and services with immense supply risks; and products for the Focused Public Sector System (MoH 2012). The ICC / CS meets periodically and its members are actively involved in the preparation and prediction of product procurement. The Commodity Acquisition Table (CPT) will be finalized in February and revised every year in August (Health Policy Project, 2015). Nonetheless, the timing of contraception is severely divided. Furthermore, the downstream flow of contraceptive data and information is slow across the system. In terms of domestic stock surveillance, however, lower stock status information is incomplete, inaccurate and delayed (Health Policy Project 2015).

The procurement of the condom (Health Policy Project 2015) by means of a supply chain by the end consumer faces a range of problems associated with inefficiencies in the delivery system in line with the Ghana National Condom and Lubricant Programming Strategy. It was a challenge to track and report male condom info. Moreover, the DHIMS does not break down details gathered on female condoms. The DHIMS does not disagreed. Non-traditional outlets like vending equipment are not used for male and female condoms and the distribution of female condoms is limited to urban public installations. Condoms are not ideally stored as storage conditions were not originally conceived for the storage of bulk articles such as condoms, especially at the facility level (MoH, 2011).

CHAPTER THREE

STUDY AREA AND RESEARCH METHODOLOGY

3.0 Introduction

This chapter is divided into two section. Section A deals with a brief background of the study area. This is so because understanding the people and the study area connotes the study methodology and design to employ.

3.1 Study area

The research is carried out on the UDS-Tamale Campus, The largest university in the northern part of Ghana. With a fertility level of around 3.82 (World Data Atlas, 2019). Different ethnic groups, such as Akan, Frafras, Gonjas, Dagarbas, Dagbani, Konkomba, Bimoba, Hausa, etc., exist in the University. All students belong to either Christianity or Islam. Students from various regions of the country attends this university, and the results are comparable with those from various regions. According to the University Registrar's Office, there were approximately 7,560 undergraduate students on Tamale campus during the study, of whom approximately 2,801 were female (unpublished data). Below is a satellite map of the study area.

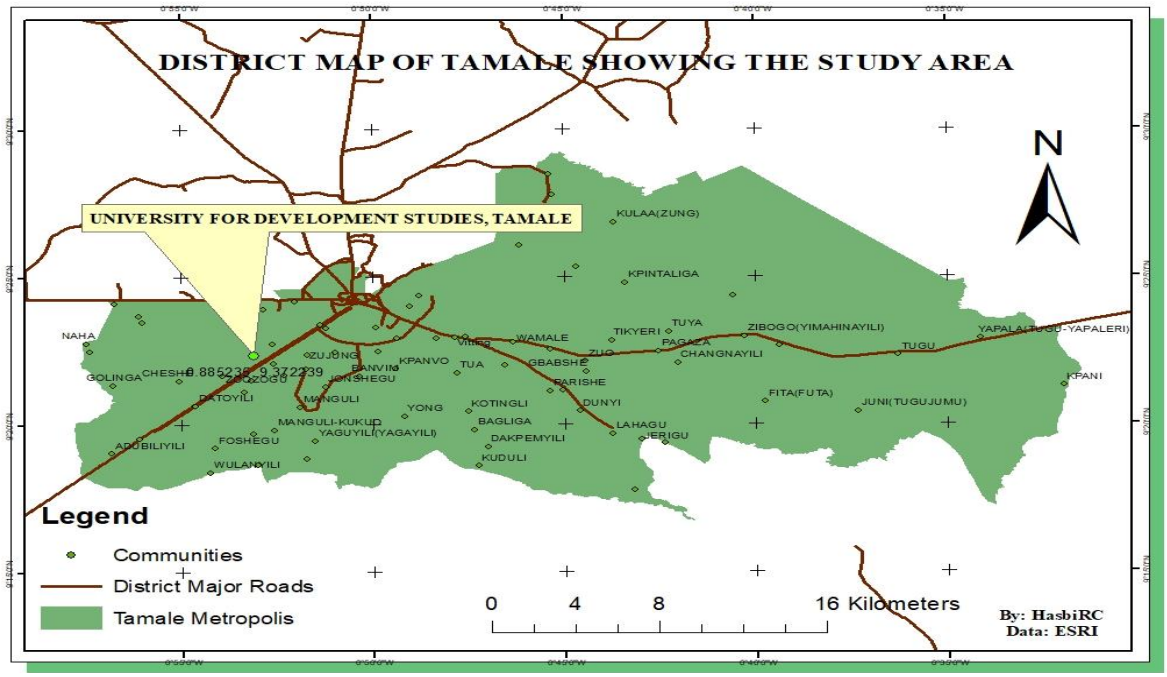

Figure 3.1 Map of the University For Development Studies, Tamale Campus

3.1 Study Design

A descriptive "cross-sectional study" using the mixed method approach. The cross-sectional design permits the investigator to collect information at single spot at a time from two distinct locations (communities with health centers and communities without health centers) to see whether differences exist among the study variables as well as the data collected from groups that encompasses different ages or unlike phase of development (Polit and Beck 2008).

A mixed survey method was appropriate for this study because the objectives were better assessed using quantitative and qualitative method. Also, the mixed method approach was used so that the weakness of one approach can be augmented by the strength of the other.

3.2 Study population

All students at the UDS-Tamale campus are the research population for this study. According to the office of the university Registrar, approximately 2,801 female undergraduates were admitted in 2019; 1644 (58.7%) of them were admitted to the department of health and 1,157 (41.3%) to non-medical scientific institutions.

3.3 Study unit

The study was conducted on the undergraduate female leaving on the Tamale campus selected from the various departments. The Tamale campus has three faculties namely; School of medicine, Allied health and Faculty of education.

School/Falculties	Number of respondents
School of Medical and Health Sciences	115
School of Allied Health Sciences	120
Education	74
Total	309

The School of Allied Health Sciences and that of School of Medical and Health Sciences had high number of respondents because they were free to answer the responses. This could be due to their background.

3.4 Sample size

The total number of students who answered the questionnaire were 309.

This calculator uses the following formula for the sample size n:

$n = N*X / (X + N - 1)$,

Where,

$X = Z_{\alpha/2}^2 *p*(1-p) / MOE^2$,

Moreover, $Z_{\alpha/2}$ is the critical value of the Normal distribution at $\alpha/2$ (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. Note that a Finite Population Correction has been applied to the sample size formula.

Calculating for X

$X = 1.96^2 *0.50*(1-0.50) / 0.05^2$

$X = 3.8416*0.50*0.5/0.0025$

$X = 384.16$

Calculating for n

$n = N*X / (X + N - 1)$

$n = 2{,}801*384.16 / (384.16 + 2{,}801 - 1)$

$n = 1{,}076{,}032.16/3{,}184.16$

$n = 338$

3.5 Sampling technique

A stratified random sampling of selected study participants from the school and faculties are used to achieve a representative sample of 350. Next, the students were divided into

two practical strata, students of health (School of Medicine and Faculty of Allied Health) and non-health science (Faculty of Education). Participants were chosen from each stratum by means of simple random samples based on the proportion of women in each stratum who are 58.7% health science students and 41.3% non-health science students. Each individual is chosen entirely by chance and each member of the population has an equal chance of being included in the sample.

3.6 Sources of Data

Data for this study was sourced from both primary and secondary sources.

3.6.1The Primary Sources of Data

The principal (primary) data was gathered using in-depth interview, focus group discussions and Self-administered questionnaire.

3.6.2 The secondary source of Data

The Secondary data was collected from relevant books, journals, reports from the DHMT and internet sources.

3.7 Data collection and Study instruments

Two aim tools were adopted in conducting this study. They were questionnaires for quantitative and focused group discussion for the qualitative data.

3.7.1 Questionnaire

The questionnaires were designed and used to collect the quantitative data in conducting the study. 338 respondents were sampled. Out of this, 309 were used for the quantitative

and 29 for the qualitative. The questionnaire was designed in line with the study objectives. The 309 that were administered were all received and analyzed.

3.7.2 Focus Group Discussion

Focus group discussion was one of the methodology adopted through the use of focus group discussion guide. In all five (5) focus group discussion were organized. Two each in the School of Medicine and Health Sciences (SMHS) and School of Health Sciences (SAHS). This is because they were very opened in their responses. In the school of education, one focus group discussion was conducted. For the school of SMHS and SAHS, six respondents were used for the focus group discussion and five for the school of education.

3.8 Ethical considerations

- Before the collection of the data, letter of consent was obtained from the Head of Department Community Health and Family Medicine, SMHS.
- Thereafter, a letter was written to the Deans of all the schools that were to be a part of this study to seek permission to undertake the study. This permission was subsequently granted/
- Before issuing the questionnaire, an informed verbal and/or written consent would be sought from all respondents; each respondent were assured of anonymity and confidentiality of information they may provide.
- They were also informed that all data would be used solely for the purpose for which it will be collected and that they will not be under any obligation to participate in the study.

3.9 Quality control measures

All questionnaires were coded onto Kobo Toolbox, checked for completeness, consistency and logical accuracy of the survey instrument before it was deployed. All responses to the questionnaire were randomized to reduce enumerator's selection bias.

Android (smartphones) would use to collect the data this allow the researcher to track the progress of work and also provide feedback to the enumerators on the field. The data was clean before being exported onto SPSS version 24 for analysis.

3.10 Rigor of the Research

In other to create the real significance of the study, this study adopted the qualitative research rigor criteria which includes credibility, transferability, dependability and confirmability as acknowledged by Lincoln & Guba, (2000).

3.10.1 Credibility

Credibility is a part of the research rigor. It makes the reader to have confidence, truthfulness of this results and findings of the study (Polit & Beck, 2010; Profetto-McGrath et al., 2010; Speziale & Carpenter, 2007). Credibility also "ensures that the research methodology adopted measures what is intended to measure"(Shenton, 2004). To ensure credibility in this research, the researcher read extensively on the topic on current literature and also took guidance from the supervisor. The aforementioned informed the choice of the research methodology and design as well as guided the drafting of interview guide that was appropriate to gather the true response from qualified study participants to answer the research questions. To add to this, it was necessary to establish a strong rapport to be able to build trust to allow the participants feel freely in answering the questions. This was

attained by prolonging the interviews and asking follow ups questions to bring forth the real issues concerning hepatitis B. Again, triangulation was done by adopting several tactics such as prolonged engagements of participants, reframing some question and among other.

The supervisor in debriefing on the research methodology and interviews guides made critical inputs which address some gaps in the work and necessary corrections were done. Colleagues and peer also made essential contributions that enriched the work. The maiden research findings and interpretations were showed to the participants to be sure that reflected their views and experiences (Profetto-McGrath et al., 2010) prior to making conclusions on the said results.

3.10.2 Transferability

Another key parameter to ensure trustworthiness of this study was transferability. Transferability refers to the possibility that the outcomes of the study have inferences for others in related conditions(Creswell, 2014). This is often call called fitness; transferability decides whether findings can suitably fit well in or are transferable to related conditions. To realize transferability in this study, a vivid description of the setting, methodology, and the characteristics of the participants have been provided.

3.10.3 Dependability

According to (Lincoln & Guba, 2000), dependability is one of the rigor of research. Dependability of a study is consistency and reliability of the research (thus judgments about likenesses and dissimilarities of content are stable with time) (Graneheim & Lundman, 2004). To realize this, same interview guide was used to interviewing all respondents which produced similar findings. Aside above, an exhaustive explanation of

all phases of the methodology in this research process have been outlined to offer readers the chance to follow the parameters to replicate this study.

3.10.4 Confirmability

The final step in ensuring rigor of the study was confirmability. "Confirmability in research is the degree to which the results could be confirmed or substantiated by others. It is to ensure that the meanings of the data collected are not changed by the prejudices, knowledge, and experiences of the researcher"(Kusi, 2012). The researcher ensured confirmability by "reflexivity and bracketing" her biases, thoughts and assumptions, delimitation etc.

To guarantee confirmability of this study, the data collection tools (in this case the interview guides) were developed after thoroughly reviewing relevant literature and structured in accordance to the study specific objectives. The researcher probed based on answers given to the questions using interview guide to bring about the appropriate response from participants to answer the research questions.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents the results of the study. The data was collected among three hundred and nine (309) female students of the University for Development Studies (UDS), Tamale campus. The presentation of data was done in two types. Firstly, Descriptive statistics of the socio-demographic variables of the respondents and the other variables were presented in charts and tables. The study also used qualitative data to complement the quantitative data. The study findings have been organized according to the objectives through thematic content analysis. The results have been presented in the form of verbatim quotation from study participants.

4.1 Socio Demographic Characteristics

Majority of the students were within the ages of 20 to 29 years representing 78.3%, followed by 17.2% being less than 20 years old and 4.40% of the students being within the ages of 30 and 39 years of age. The minimum age of the students is 17 years and the maximum age being 37 years. The mean age is 23.55 and standard deviation is 3.81.

On the level, Majority (31.7%) of the students were in their fourth year, followed by 30.1% being in their second year, 17.8% of the students were in their third year, 11.0% were in their first year, 5.2% were in their sixth year and 4.2% were in their fifth year.

Most of the students (52.1%) were staying outside the school residential facilities whilst 47.9% staying at the school residential halls. It was realized by the study that, majority (53.4%) of the students were Muslims and 46.6% being Christianity.

On marital status, majority (84.1%) of the students had never married, and 15.9% were married. Among the students who participated in the study, majority (32.4%) of the students belong to other tribes (these were minor tribes that participated in this study, they include Gonja, Mamprusi, Ewe, Sissala, Konkombas, Mossi, Ga and Kassena), followed by 23.3% being Dagombas, 19.1% beings Akans, 16.5% being Dagarti and 8.7% being Frafra.

Majority of the students (thus about 44.7%) belong to the school of Allied Health Sciences (SAHS), and 28.2% from the Faculty of Education (FOE) as well as 28.2% being students of School of Medicine and Health Science (SMH).

On the level of education of mothers of these students, the study revealed that, most (36.9%) of the mothers had no form of education, 23.6% had only secondary education, 20.7% had primary education and only 18.8% had tertiary education. On the other hand, on the fathers' educational level it was observed that 31.4% of the students had their fathers' educational level being tertiary level, 29.10% had no form of education, 30.7% had secondary education and 8.7% had education up to the primary school (Table 1)

Table 4.1: Socio demographic characteristics of the respondents

Variables	Categories	Frequencies	Percentage %
Age	< 20 years	53	17.20
	20 to 29 years	242	78.30
	30 to 39 years	14	4.50
	Mean		**23.6+/-3.8**
Level	level 100	34	11.0
	level 200	93.00%	30.10
	level 300	55	17.80
	level 400	98	31.70
	level 500	13	4.20
	level600	16	5.20
Residence	Campus	148	47.90
	Out of campus	161	52.10
Religion	Christianity	144	46.60
	Islam	165	53.40
Marital status	Married	49	15.90
	Single	260	84.10
Ethnicity	Akan	59	19.10
	Dagomba	72	23.30
	Dagarti	51	16.50
	Frafra	27	8.70
	Others	100	32.40
Faculty	SMH	87	28.20
	SAHS	135	43.70
	FOE	87	28.20
Mother's educational Status			
	No formal education	114	36.90
	Primary	64	20.70
	Secondary	73	23.60
	Tertiary	58	18.80
Father's educational Status			
	No formal education	90	29.10
	Primary	27	8.70
	Secondary	95	30.70
	Tertiary	97	31.40

4.2 Reproductive Characteristics of Female Students

On the reproductive characteristics of the students, majority (63.8%) of the students had never had sex, whilst 36.2% have had sex before. A total of 74 (23.9%) have had unprotected sex. Minority (6.6%) of the students have had unintended pregnancy. On the reason for the unintended pregnancy, 35.7% attributed it to contraceptive failures and 64.3% attributed the cause of unintended pregnancy to forgetfulness to take pills.

On the number of children, Majority of the students (88.3%) had no child, 5.8% of the students had one child, 3.6% had two children, 0.6% had three children and 1.6% had four children.

Most of the students (72.8%) have heard of modern contraceptive whiles 27.2% have never heard about modern contraceptives.

Majority (65.7%) of students have never used of modern contraceptives, while 34.3% have used modern contraceptives (Table 2)

Table 4.2: Sexual activity and use of contraceptives among female University for Development Studies students

Variables	Categories	Frequencies	Percentage
Ever had sex?	Yes	112	36.20
	No	197	63.80
Had unprotected sex	Yes	74	23.90
	No	234	76.10
Had unintended pregnancy	Yes	20	6.60
	No	285	93.40
Reasons for unintended pregnancy			
	Contraceptive failure	5	35.70
	Forget to take contraceptive	9	64.30
Number of children	0	273	88.30
	1	18	5.80
	2	11	3.60
	3	2	0.60
	4	5	1.60
Heard of modern contraceptive	Yes	225	72.80
	No	84	27.20
Ever used modern contraceptive			
	Yes	106	34.40
	No	203	65.70

Field survey, 2020

4.3 Knowledge of female students on emergency contraceptives

Various questions were asked to assess the knowledge of female students on emergency contraceptives. The students were asked if they have ever heard about emergency contraceptive (EC), majority (76.7%) have heard about emergency contraceptives and 23.3% have never heard of emergency contraceptives.

On the sources of information of emergency contraceptives, 66.2% of the students had the information about emergency contraceptives via formal education, 11.4% of the students had the information from their friends/relatives, 8.0% heard about emergency contraceptives from the media, 8.0% of the students heard about emergency contraceptives from the internet and 6.3% of the student getting information on emergency contraceptives from health professionals.

In the focus group discussion, most of the participated have heard about emergency through lecture hall, media, health professionals and friends.

> "*Oooh as for emergency contraceptive, we were taught about the types of contraceptive. So, I know about it. For me, even before the lecture I had heard some of my friends discussing about it in the hostel"* (22-year-old female student, FGD)
>
> "*For me, I actually got to hear about it when I was having problems with menses. The doctor in advising me asked if I have ever used emergency contraceptive. I was innocent so the doctor explained to me what it was used for" (*19 years old female student, FGD).
>
> *"Ooh for emergency contraceptive, I heard about it through the media and also one time I had a problem ……. And then my friend told me about it and directed*

me to Marie stopes for more information and guidance which I did" (25 years old female student, FGD).

Some of the participants have never heard about emergency contraceptive from any source.

"What is emergency contraceptive? Please madam I don't understand your question. Can you reframe it for me? Eeiiii I have never heard about this, today is actually my first of hearing about this" (17-year-old female student, FGD)

For most the students (82.2%), they have heard about emergency contraceptives for more than six (6) months ago while 17.8% of the student have only heard about emergency contraceptives less than six (6) months ago.

For most of the study participants (66.4%), the best time for EC to work is taking the pills with 72 hours of unprotected sex, 25.2% of the students believed the best time for emergency contraceptives to work is taking the pills within 5 days of unprotected sex, 0.7% believed the ideal time should be within 24 hours and 7.7% could not tell which time is best for the EC to work.

Majority (56.4%) of the study participants believed that the effectiveness of emergency contraceptives is between 75 to 99%, 23.30% believed it was within 51 to 74% and 3.0% believed the effectiveness of emergency contraceptives was below 50% and 17.4% were not sure of the effectiveness of emergency contraceptives.

Majority (38.7%) of the respondent believed that emergency contraceptives was safe, 28.9% did not think emergency contraceptives was safe and 32.5% of students were not sure of safety of emergency contraceptives. For most of the study participants (50.5%) believed that the number of doses of emergency contraceptives was 2 (twice), 40.5% believed it is one (1) and 8.9% believed the recommended number of doses is 3 (three).

Majority (67.0%) believed that, the interval between the pills is 12 (twelve) hours, 17.9% of the respondents believe the interval is 6 (six) hours, 9.3% were not sure if there is actually any interval and 5.7% believed there was no interval.

In the focus group discussion, some participants believed the effectiveness of emergency was higher than 70%, safe to use and using comprise of two pills taken with 12 hours.

> *"For me I feel that emergency contraceptive is effective……errrhm for me I would score the effectiveness of 80% and so is safe for use. For the fills errrhrn is usually two which can be taken at once or at the interval of 12 hours. Madam, am not to sure for all other emergency contraceptive but Lydia and postinor-2 is usually taken 12 (twelve) hour apart."* (32 years old female student, FGD).

> *"Ooh emergency contraceptives are safe for use and they are usually very effective though sometimes it fails. Errrrhhhm if you ask me about effectiveness …. Errrhm Hmmmm I think is about 70% or more. For me I have never used emergency contraceptive am not too sure of the number of pills and the interval but I think it's usually two pills and usually taken within 12 hours" (*28 years old female student, FGD)

On the indicators for emergency contraceptives, 69.6% of the study participants mentioned 'after unprotected sex' as an indicator for emergency contraceptives, 52.8% of the study participants cited unwanted pregnancy as an indicator, 68.0% of the study participants made mention of ruptured condoms as an indicator for emergency contraceptives, 62.1% of the study participants cited missed period as an indicator of emergency contraceptives whilst 68.6% mentioned post rape as an indicator for emergency contraceptives.

In the focus group discussion, a lot of reasons were given for taking emergency contraceptive. They are excerpts of some of the participants who have used emergency contraceptives;

"Yes, I have used emergency contraceptive, it was because I had unprotected sex. I feared getting pregnant so my partner got it for me" (27 years old female student, FDG)

"I actually took it once, it is because I had missed my birth control sex" (21 years old female student, FDG)

"Errrhrn, for me I took it out of fears. I could not see my menses for more than two months and so I was becoming scared that I may be pregnant and so I spoke with some friends who advised me to go for it. So, when I took it my menses did flow after five (5) days" (19 years old female student, FGD)

Some participants also used emergency contraceptive for therapeutic purposes

"Ooh, I took emergency contraceptive from the hospital. It was started when I had irregular menses. So, I was advised to take one for about three days so that it would correct my menses" (20 years old female student, FGD)

However, the issues they gave me is the one-week menstruation, my fingers often even freeze and after every menstrual cycle, I have to take medication. It took me to a halt. [22-year -old female student FGD]

On the avenue to obtain emergency contraceptives, majority (88.7%) of the students mentioned health facilities or pharmacy as areas one could obtain emergency contraceptives, 9.4% believed emergency contraceptives could be obtained form the

market and 1.9% of the study participants did not have an idea as to where to obtained the emergency contraceptives (Table 4.3 below shows details of above narration).

Table 4.3: Knowledge of female students on emergency contraceptives

Variables	Categories	Frequencies	Percentage
Have you heard about emergency contraceptive (EC)			
	Yes	237	76.70
	No	72	23.30
Where did you hear about EC?			
	Formal Education	157	66.20
	Media	19	8.00
	Internet	19	8.00
	Health professionals	15	6.30
	Friends/relatives	27	11.40
What time did you hear of EC?			
	< 6 months	31	17.80
	> 6 months	143	82.20
Best time EC works			
	Within 72 hours	190	66.40
	Within 5 days	72	25.20
	Within 24 hours	2	0.70
	I don't Know	22	7.70
Effectiveness of EC	75 to 99%	172	56.40
	51 to 74%	71	23.30
	< 50%	9	3.00
	Not sure	53	17.40
How safe is EC?	Safe	118	38.70
	Unsafe	88	28.90
	Not sure	99	32.50
Recommended number of doses	One	118	40.50
	Two	147	50.50
	Three	26	8.90
Interval between them	No interval	16	5.70

	6 hours	50	17.90
	12 hours	187	67.00
	Not sure	26	9.30
Indicators of EC**	After unprotected sex	215	69.60
	Unwanted pregnancy	163	52.80
	rupture of condom during sex	210	68.00
	Missed period	192	62.10
	Post rape	212	68.60
Where can I obtain EC			
	Market	29	9.40
	Health facilities/pharmacy	274	88.70
	Not sure	6	1.90

Field survey, 2020

On the knowledge, each question was scored and calculated in percentages. So that, those who chose a response that is consistent with available literature is score one (1) and those whose responses are not supported by literature, wrong response, no response and I don't know were all score zero (0). At the end those who obtained 50% and more were said to have sufficient knowledge on emergency contraceptives (EC) and those who obtain commutative score of less than 50% were said to have insufficient Knowledge on emergency contraceptives. From above, the overall knowledge of the students on emergency contraceptives was assessed by scoring the knowledge questions. Majority (65.0%) of the study participants demonstrated sufficient knowledge on emergency contraceptives and 35.0% demonstrated insufficient knowledge on emergency contraceptives (see Figure 4.1 for details).

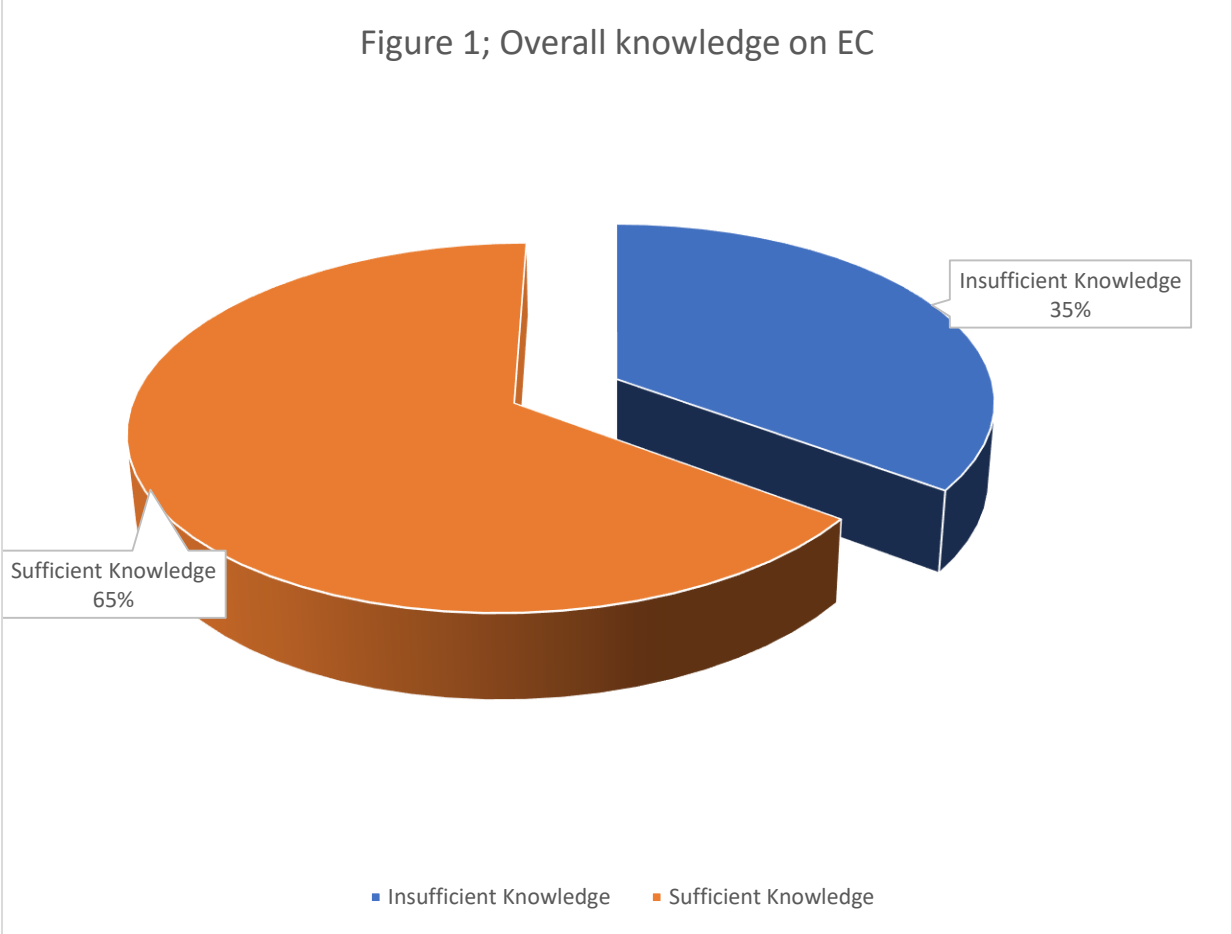

Figure 4.1; Overall knowledge of female University for Development Studies student on Emergency Contraceptives (EC).

Field survey, 2020

4.3.1 Associations between socio demographic and reproductive characteristics and overall knowledge of emergency contraceptive (EC)

Within ages, 32.1% of the students who are less than 20 years had sufficient knowledge of emergency contraceptive whiles the remaining 67.9% had insufficient knowledge of emergency contraceptive. Among students within the ages of 20 to 29 years, majority (63.4%) had sufficient knowledge on emergency contraceptive while 29.8% had

insufficient knowledge on emergency contraceptive. All participants within the ages of 30 to 39 years had sufficient knowledge on emergency contraceptive. The study further revealed a significant association between overall knowledge of emergency contraceptive and age (X^2=35.754, P<0.001).

On the levels of the students, majority (63.4%, 65.5% and 70.4%) of female's students in their level 200, 300 and 400 respectively has sufficient knowledge on emergency contraceptive whilst 26.6%, 34.5% and 29.6% of respondents in their level 200, 300 and 400 respectively had insufficient knowledge on emergency contraceptive. All level 500 and 600 student had 100.0% sufficient knowledge on emergency contraceptive. However, for respondents in their first year, majority of the student (76.5%) had insufficient knowledge on emergency contraceptive whilst 23.5% had sufficient knowledge on emergency contraceptive. There was a statistically significant association between the levels/ year of the students and the overall knowledge on emergency contraceptive (X^2=42.7, P<0.001).

Majority (70.8% and 60.0%) of female university who are Christian and Muslims respectively has sufficient knowledge on emergency contraceptive as compare to their counterparts (29.6% and 40,0%) of Christians and Muslims demonstrating insufficient knowledge on emergency contraceptive. The study further revealed significant association between religion and overall knowledge level of emergency contraceptive (X^2=3.97, P; 0.046).

The study revealed a significant association between marital status and overall knowledge of emergency contraceptive. Majority (58.5%) of female university students who were single (not married) had sufficient knowledge on emergency contraceptive as compare to

41.5% who had insufficient knowledge on emergency contraceptive. All female students who were married had 100% having sufficient knowledge on emergency contraceptive (X^2=31.2, P<0.001).

Most students at the SAHS and SMH respectively had sufficient knowledge on emergency contraceptive (81.5% and 80.5% respectively) while 18.5% and 19.5% of students from SAHS and SMH respectively has insufficient knowledge. However, for students from FOE, majority (75.9%) had insufficient knowledge on emergency contraceptive with only 24.1% of the respondents demonstrating some understanding on emergency contraceptive. there was a statistically significant association between faculty and overall knowledge on emergency contraceptive (X^2=89.17, P<0.001).

Majority (60.5%, 70.3%, 79.5% and 50.0%) of female students who mothers' had no form of education, primary, secondary and tertiary level respectively had sufficient knowledge on emergency contraceptive as compare to 39.5%, 29.7%, 20.5% and 50.0% of female students who mothers' had no form of education, primary, secondary and tertiary level respectively had insufficient knowledge on emergency contraceptive. The study further revealed that there was a statistically significant association between mother's level of education and overall knowledge on emergency contraceptive (X^2=14.24; P; 0.003).

Majority 54.4%, 100.0%, 69.5% and 60.8%) of female students who fathers' had no form of education, primary, secondary and tertiary level respectively had sufficient knowledge on emergency contraceptive as compare to 45.6%, 0.0%, 30.5% and 39.2% of female students who fathers' had no form of education, primary, secondary and tertiary level respectively had insufficient knowledge on emergency contraceptive. There was a

significant association between father's level of education and overall knowledge on emergency contraceptive (X^2=20.54, P<0.001).

Majority (75.9% and 58.9%) of female university students who have had sex and those who have not had sex respectively has sufficient knowledge on emergency contraceptive as compare to 24.1% and 41.1% of those who have had sex and those who have never had sex respectively had insufficient knowledge on emergency contraceptive. There was a significant association between sexual activity and overall knowledge on emergency contraceptive (X^2=9.09, P<0.003).

There study could not establish any association between overall knowledge of emergency contraceptives (EC) and residential status (P;0.59) and ethnicity (P;0.080) (table 4).

Table 4.4; Associations between socio demographic and reproductive characteristics and overall knowledge of emergency contraceptive (EC)

Variables	Categories	Overall Knowledge		Statistical test
		Insufficient knowledge (%)	Sufficient Knowledge(%)	
Age	< 20 years	36(67.9)	17(32.1)	X2=35.754
	20 to 29 years	72(29.8)	170(70.2)	P<0.001
	30 to 39 years	0(0.0)	14(100.0)	
Level of education	Level 100	26(76.5)	8(23.5)	X2=42.71
	Level 200	34(26.6)	59(63.4)	P<0.001
	Level 300	19(34.5)	36(65.5)	
	Level 400	29(29.6)	69(70.4)	
	Level 500	0(0.0)	13(100.0)	
	Level 600	0(0.0)	16(100.0)	
Residence	Campus	54(36.5)	94(63.5)	X2=0.29
	Out of Campus	54(33.5)	107(66.5)	P<0.59
Religion	Christianity	42(29.6)	102(70.8)	X2=3.97
	Islam	66(40.0)	99(60.0)	P<0.046
Marital status	Singles	108(41.5)	152(58.5)	X2=31.20
	Married	0(0.0)	49(100.0)	P<0.001
Ethnicity	Akan	23(39.0)	36(61.0)	X2=8.32
	Dagomba	29(40.3)	43(59.7)	P<0.080
	Dagarti	23(29.6)	28(54.9)	

	Frafra	8(29.6)	19(70.4)	
	Others	25(25.0)	75(75.0)	
Faculty	SMH	17(19.5)	70(80.5)	X2=89.17
	SAHS	25(18.5)	110(81.5)	P<0.001
	FOE	66(75.9)	21(24.1)	
Mother's educational level				
	No education	45(39.5)	69(60.5)	X2=14.24
	primary	19(29.7)	45(70.3)	P<0.003
	Secondary	15(20.5)	58(79.5)	
	Tertiary	29(50.0)	29(50.0)	
Father's education level				
	No education	41(45.6)	49(54.4)	X2=20.54
	primary	0(0.0)	27(100.0)	P<0.001
	Secondary	29(30.5)	66(69.5)	
	Tertiary	38(39.2)	59(60.8)	
Have you ever had sex	Yes	27(24.1)	85(75.9)	X2=9.09
	No	81(41.1)	116(58.9)	P<0.003

Field survey, 2020

4.4 Attitudes of female students towards the use of emergency contraceptives

Majority (69.3%) of the female university students disagree that using EC will not cause infertility, 24.3% agrees and 6.5% could not pick side hence remain neutral. The main of the response was 1.18 and a standard deviation of 0.53.

Majority (53.1%) of the female university students agrees that using EC after unsafe sex is helpful, 42.4% disagree and 4.5% remained neutral. The mean of the responses is 1.49 and a standard deviation of 0.58.

Most of the female university students (45.6%) disagree that EC creates lack of confidence between partners, 39.2% agrees and 15.2% remained neutral. The mean was 1.24 and a standard deviation of 0.7.

Most (48.5%) of the female university students disagree that it is a good idea to avail EC to all women, 39.8% of the participants disagrees and 16.8% of the female students remained neutral with the mean response of 1.24 and standard deviation of 0.71.

For 48.5% of female university students disagree that EC usage was a sin, 34.6% agree and 16.8% remained neutral with a mean 1.18 and a standard deviation 0.7. When the students were asked if EC could hurt the baby if it fails, 43.4% disagree, 38.8% disagree and 17.8% of the students did not agree nor disagree with the mean of 1.21 and standard deviation of 0.72.

More than half (50.8%) of the students disagree to be willing to use emergency contraceptives in the near future when made available, 31.1% agrees and 18.1% had no option with a mean response of 1.13 and a standard deviation of 0.69.

A statement was made that emergency contraceptives cannot protect one from sexually transmitted infection (STIs), 44.0% disagree to the statement, 40.1% agree and 15.9% were neutral on the statement with the mean of 1.24 and a standard deviation of 0.71.

Emergency contraceptives should be used only once every month was a statement made. More than half (54.7%) disagrees, 26.9% agrees and 18.4% were neutral with a mean of 1.08 and a standard deviation of 0.67. Again, a statement was made that, emergency contraceptives pills can fail. More than half (53.4%) disagree, 31.7% agrees to the statement and 14.9% could agree or disagree to the statement with a mean of 1.17 with a standard deviation of 0.66.

Also, a statement was made that emergency contraceptives cannot be a regular family planning taken after unprotected sex. More than half (58.6%) of the students disagree to the statement, 22.7% agrees and 18.8% of the students did not agree or disagree with a mean of 1.04 and a standard deviation of 0.64 (see Table 4.5 for details of above narration).

Table 4.5; Attitudes of female students towards the use of emergency contraceptives

Variables	Agree (N, %)	Neutral (N, %)	Disagree (N, %)	Mean	Standard dev.
Using EC will not cause infertility	75(24.3)	20(6.5)	214(69.3)	1.18	0.53
Using EC after unsafe sex is helpful	164(53.1)	14(4.5)	131(42.4)	1.49	0.58
EC creates lack of confidence between partner	121(39.2)	47(15.2)	141(45.6)	1.24	0.7
Good idea to avail EC to all women	123(39.8)	50(16.8)	150(48.5)	1.24	0.71
Sin to use EC method	107(34.6)	52(16.8)	150(48.5)	1.18	0.7
Believe EC may hurt baby if it does not work	120(38.8)	55(17.8)	134(43.4)	1.21	0.72
Willingness to use EC in the near future	96(31.1)	56(18.1)	157(50.8)	1.13	0.69
Emergency contraceptives cannot protect you from sexually transmitted infections.					
	124(40.1)	49(15.9)	136(44.0)	1.24	0.71
Emergency contraceptives should be used only once every month.					
	83(26.9)	57(18.4)	169(54.7)	1.08	0.67
Emergency contraceptive pills can fail.	98(31.7)	46(14.9)	165(53.4)	1.17	0.66
Emergency contraception cannot be used as a regular form of Family Planning taken after unprotected sex.					
	70(22.7)	58(18.8)	181(58.6)	1.04	0.64

Field survey, 2020

In the focus group discussion, the study participants express some disaffection about the use of emergency and acquiring it. Below are some excerpts from the interviews;

"*Hmmm, you its just difficult getting these pills. Sometimes you have to master courage to get go and get the pills or you have to write it on a paper and send a child to buy for you. When you buy the people would be looking at you as though you stole their husband... hahahahaha. Madam am serious, maybe my other colleagues are shy. That is the realities on the grounds. Hmmm" (*26 years old female student, FGD).

"What the sister said is true, sometimes you would have to even go to the pharmacy and change to another drug just because of the low courage" (28-year-old female student, FGD)

Some of the participants express disappointment in those who use emergency contraceptive. Below are some of the excerpts;

*"Oooh, yes those who use emergency contraceptives usually are bad girls. Please I am not the one saying it oooh… that is how the society people who use it. If you are nit ready for pregnancy why would you go and have unprotected sex. You could use condoms to prevent the stress errrhm. Ooh our generation is very bad. Me kuraaa I wish they would pass a law to regulate how this day's girls use the emergency contraceptive pills hmm" (*30 years old female student, FGD)

*"Taking emergency contraceptive pills is not recommended for us as Catholics. We do not support it usage. So, for me I see those who use these emergency contraceptive pills as people with low faith. It's unfortunate for our generation…" (*24 years old female student, FGD)

*"I am a Muslim too and I can tell you that our religion does not like the of all contraceptives. My friend who is also Jehovah witness told me they do not use it. Is sad all those using these emergency contraceptive pills belong to either Christianity or Islam. Aaaaahhh hmmm, I don't even want to talk again… (*22 years old female student, FGD).

Some of the study participants in the focus group discussion, did not think they would go back to the hospital for emergency contraceptive. Below are reasons for the assertion.

"Ooh the nurse attitude toward those who are taking these emergency contraceptive pills is very bad. They also gossip about you" (26 years old female student, FGD)

On the attitude, a scoring scale was adapted from (Kgosiemang, & Blitz, 2018; Tilahun, Assefa, & Belachew, (2010) and modify to suit the current the study. In the end, participants who had a mean of 1.5 and about were said to have good attitude and those who score less than 1.5 (mean) were classified as having poor attitude towards emergency contraceptives. From above the overall, 54.0% of the students had good attitude toward emergency contraceptives and 46.0% of the female university students had poor attitude towards emergency contraceptives (See figure 4.2 below)

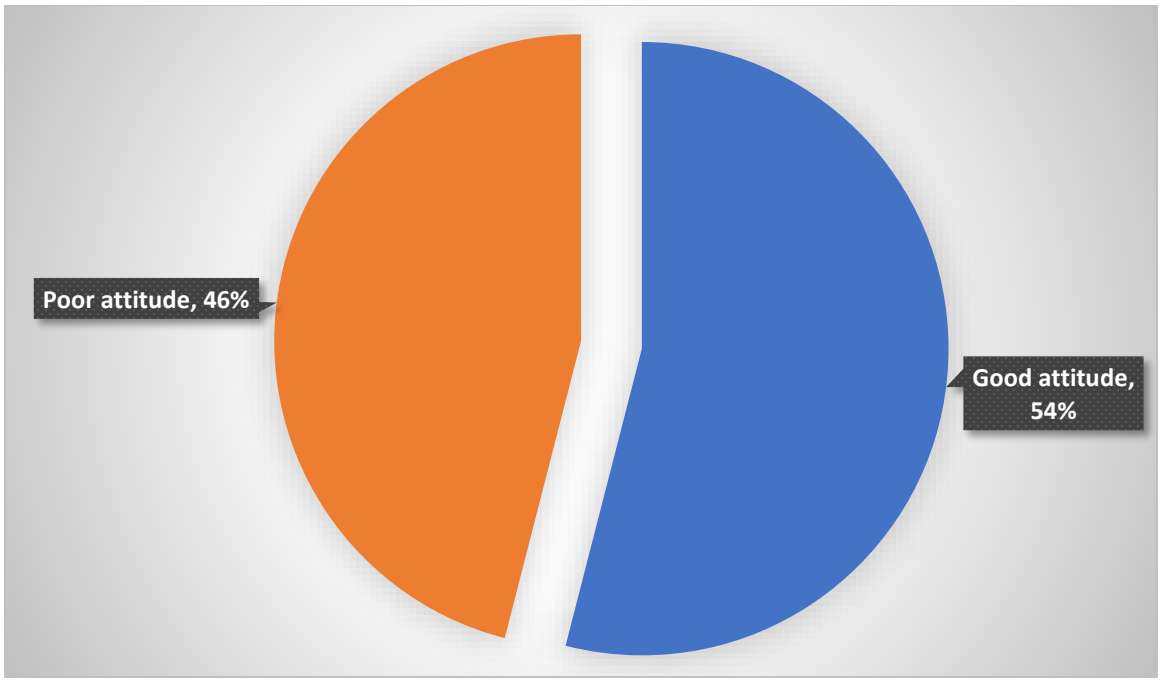

Figure 4.2: Attitude of female university students toward emergency contraceptive (EC)

4.4.1 Associations between socio demographic and reproductive characteristics and attitude towards emergency contraceptive

Within ages, majority (60.4%, 50.8% and 86.7%) of female university student who are less than 20 (twenty) years of age, between 20 to 29 years and between 30 to 39 years respectively demonstrated good attitude toward emergency contraceptives as compare to 39.6%, 49.2% and 14.3% of female university student who are less than 20 (twenty) years of age, between 20 to 29 years and between 30 to 39 years respectively demonstrated poor attitude toward emergency contraceptives. The study further revealed a significant association between age and attitude toward emergency contraceptives (X^2=7.52, P; 0.023).

Majority (50.8%) of female student had poor attitude toward emergency contraceptives while 49.5% had good attitude towards emergency contraceptives. Also, 50% each of the

female university students had good and bad attitude toward emergency contraceptives. Majority (70.6% and 77.8%) of female university students who belong to the Dagarti and Frafra respectively had demonstrated good attitude towards emergency contraceptives as compare to 29.4% and 22.2% of female university students who belong to the Dagarti and Frafra respectively had demonstrated poor attitude towards emergency contraceptives. The study further revealed statistically significant association between ethnicity and attitude toward emergency contraceptives (X^2=16.08, P;0.003).

Majority (66.7% and 51.1%) of female university students belonging to the faculty of education (FOE) and School of allied health Science (SaHS) respectively had good attitude towards emergency contraceptives as compare to 33.3% and 53.4% of female university students belonging to the faculty of education (FOE) and School of allied health Science (SaHS) respectively had poor or bad attitude towards emergency. However, majority (54.0%) of the female university students in the SMH (School of medicine and health sciences) had poor attitude towards emergency contraceptives as compare to 46.0% demonstrating good attitude towards emergency contraceptives. The study further revealed statistically significant association between faculty and attitude toward emergency contraceptives (X^2=8.33, P;0.016).

Majority (58.9%, 60.0% and 52.6%) of students' whose fathers had no form of education, secondary and tertiary level of education respectively has good attitude towards emergency contraceptive as compare to 41.1%, 40.0% and 47.4% of students' whose fathers had no form of education, secondary and tertiary level of education respectively has poor attitude towards emergency contraceptive. The study revealed significant association between father's level of education and attitude of emergency contraceptive (X^2=13.3, P;0.004).

Majority (71.4%) of the female university students who had sex had good attitude toward emergency contraceptive as compare to 28.6% of the study participants had poor attitude towards emergency contraceptive. Majority (55.8%) of the respondents who never had sex had poor attitude towards emergency contraceptive as compare to 44.2% of the respondents who have never had sex demonstrated poor attitude towards emergency contraceptives. The study further revealed statistically significant association between sexual activity and attitude towards emergency contraceptives (X^2=21.37, P<0.001).

Majority (64.8% and 51.7%) of female university students who had insufficient and sufficient knowledge on emergency contraceptive respectively had demonstrated good attitude towards emergency contraceptives as compare to 35.2% and 48.3% of female university students who had insufficient and sufficient knowledge on emergency contraceptive respectively demonstrating poor attitude towards emergency contraceptives (X^2=7.75, P;0.005)

There was no statistically significant association between attitude towards emergency contraceptives (P;0.38), marital status (P;0.272), religion (P; 0.27), residence (P;0.22) and level (P;0.36) (See table 4.6 below for details)

Table 4.6: Associations between socio demographic and reproductive characteristics and attitude towards emergency contraceptive

Variables	Categories	Overall Attitude (%)		Statistical Test
		Good Attitude	Poor Attitude	
Age	< 20 years	32(60.4)	21(39.6)	X2=7.52
	20 to 29 years	123(50.8)	119(49.2)	P;0.023
	> 30 years	12(85.7)	2(14.3)	
Level	Level 100	16(47.1)	18(52.9)	X2=5.50
	Level 200	47(50.5)	46(49.5)	P;0.36
	Level 300	32(58.2)	23(41.8)	
	Level 400	60(61.2)	38(38.8)	
	Level 500	5(38.5)	8(61.5)	
	Level 600	7(43.8)	9(56.3)	
Residence	Campus	70(47.3)	78(52.7)	X2=5.21
	Out of campus	97(60.2)	64(39.8)	P;0.22
Religion	Christianity	73(50.7)	71(49.3)	X2=1.22
	Islam	94(57.0)	71(43.0)	P;0.27
Marital Status	Single	137(52.7)	123(47.3)	X2=1.21
	Married	30(61.2)	19(38.8)	P;0.272

Ethnicity	Akan	29(49.5)	30(50.8)	X2=16.08
	Dagomba	36(50.0)	36(50.0)	P;0.003
	Dagarti	36(70.6)	15(29.4)	
	Frafra	21(77.8)	6(22.2)	
	Others	45(45.0)	55(55.0)	
Faculty	SMH	40(46.0)	47(54.0)	X2=8.33
	SAHS	69(51.1)	66(48.9)	P;0.016
	FOE	58(66.7)	29(33.3)	
Mother's level of education				
	None	60(52.6)	54(47.4)	X2=3.11
	Primary	35(54.7)	29(45.3)	P;0.38
	Secondary	45(61.6)	28(38.4)	
	Tertiary	27(46.6)	31(53.4)	
Father's level of education				
	None	53(58.9)	37(41.1)	X2=13.3
	Primary	6(22.2)	21(77.8)	P;0.004
	Secondary	57(60.0)	38(40.0)	
	Tertiary	51(52.6)	46(47.4)	
Ever had sex	Yes	80(71.4)	32(28.6)	X2=21.37
	No	87(44.2)	110(55.8)	P<0.001
Overall knowledge				
	Insufficient Knowledge	70(64.8)	38(35.2)	X2=7.75
	Sufficient Knowledge	104(51.7)	97(48.3)	P;0.005

Field survey, 2020

4.5 Practice of emergency contraceptives among female university student

Majority of the students (79.6%) have never used emergency contraceptive (EC) as compare 20.4% have used emergency contraception (EC) (Figure 3).

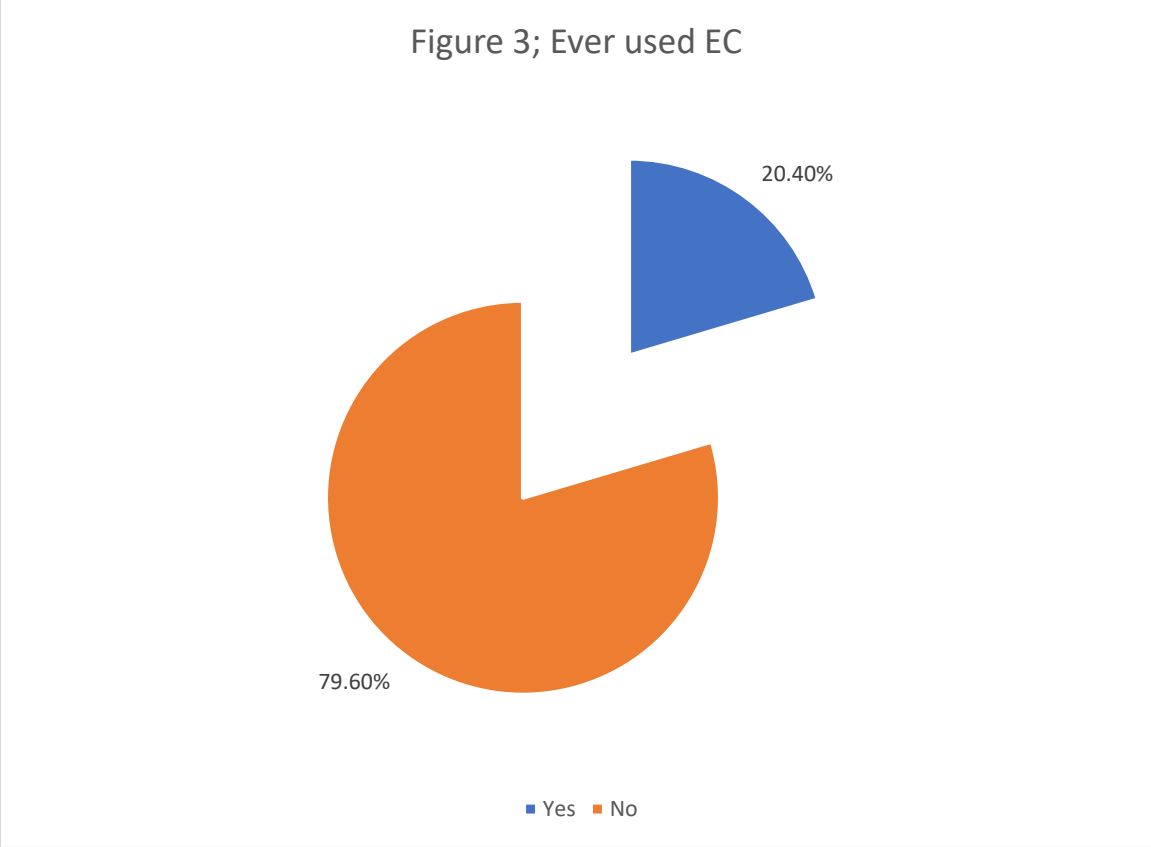

Figure 4.3; ever used EC?

Field survey, 2020

Out of those who had ever used emergency contraceptive, 45.6% of the respondents had the recommendation to use emergency contraceptives from the health professionals, 36.8% from partners and 17.5% from friends.

In the focus group discussion, those who took the emergency were advised from friends and health professionals. Below are excerpts from some of the participants.

"Errrhrn, for me I took it out of fears. I could not see my menses for more than two months and so I was becoming scared that I may be pregnant and so I spoke with some friends who advised me to go for it. So, when I took it my menses did flow after five (5) days" (27 years old female student, FGD)

"Ooh, I took emergency contraceptive from the hospital. It was started when I had irregular menses. So, I was advised to take one for about three days so that it would correct my menses" (24 years old female student, FGD)

However, the issues they gave me is the one-week menstruation, my fingers often even freeze and after every menstrual cycle, I have to take medication. It took me to a halt. [22-year -old female student FGD]

Majority (55.6%) used emergency contraceptive (Postinor-2) whilst 44.4% used Non-emergency contraceptives. Minority (24.4%) of the respondents are of the view that, they have had the opportunity to use emergency but they rescinded the decision, while 75.6% of the respondents said they have not been presented with any of such opportunities (Table 6).

The reasons for not using emergency contraceptive were as follows; 26.6% of the female university students wanted pregnancy, 18.1% of the respondents had no knowledge about emergency contraceptive, 4.3% of the respondents had their partners opposing the decision ,Majority of the respondents (37.2%) stated religion as the reason for not using emergency contraceptives and 13.8% stated fear of pregnancy as the reason for not using emergency contraceptives (figure 4).

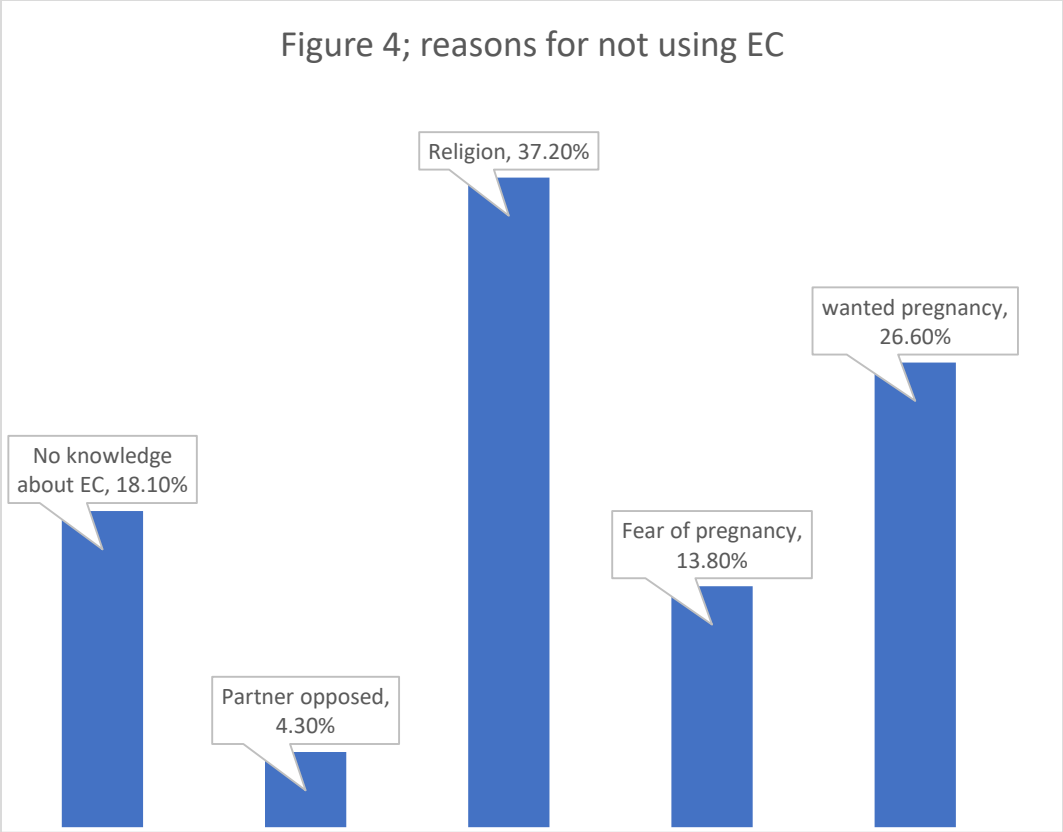

Figure 4.4; reasons for not using emergency contraceptives (EC)

Field survey, 2020

On the kind of information received on emergency contraceptives, 22.6% of the respondents did not receive any information, 37.1% were told the pill could make them vomit, 27.4% of the respondents were told that emergency contraceptive can affect one's menses, and 12.9% were told the pills could make them feel dizzy.

Most (35.5%) of the respondents' experience bleeding and menses not stopping when they took the emergency contraceptives, 27.4% felt nauseating and vomiting, 22.6% had headache and dizziness and 14.5% did not get any form of experience after taking the emergency contraceptive pills.

Most of the students (43.5%) bought the emergency contraceptive pills at GHS 10(ten Ghana cedis) and above, 30.6% bought the emergency contraceptive pill less than GHS 10 (ten Ghana cedis) and 25.8 % did not remember how much they bought the pills (Table 6). Majority of the female university students (93.4%) knew less than 5 (five) other people who were currently using emergency contraceptive while 5.6% knew at least 5 (five) people who were currently using the emergency contraceptive pills (figure 5).

Most of the students (48.4%) have only used emergency contraceptives once, 29.9% have used emergency contraceptives twice, 17.7% have used emergency contraceptives three time and 4.8% have used emergency contraceptives for four and more times (figure 6).

Majority (72.8%) of the female university students believed that alcohol could influence their emergency contraceptive (EC) usage while 27.2% disagrees.

Minority (23.9%) think support from friends could make emergency contraceptive (EC) easier to use, 76.1% did not agree with the earlier position. Also, 93.4% did not think support from the family could make the use emergency contraceptive (EC) easier while 6.6% believe family support could make the use of emergency contraceptive (EC) easier.

The study further revealed that, 20.4% and 24.4% of the study participants believe that affordability and availability of emergency contraceptive (EC) respectively could influence their use of EC as compare to 79.6% and 75.6% of the study participants believe that affordability and availability of emergency contraceptive (EC) respectively does not influence the use of EC (Table 6).

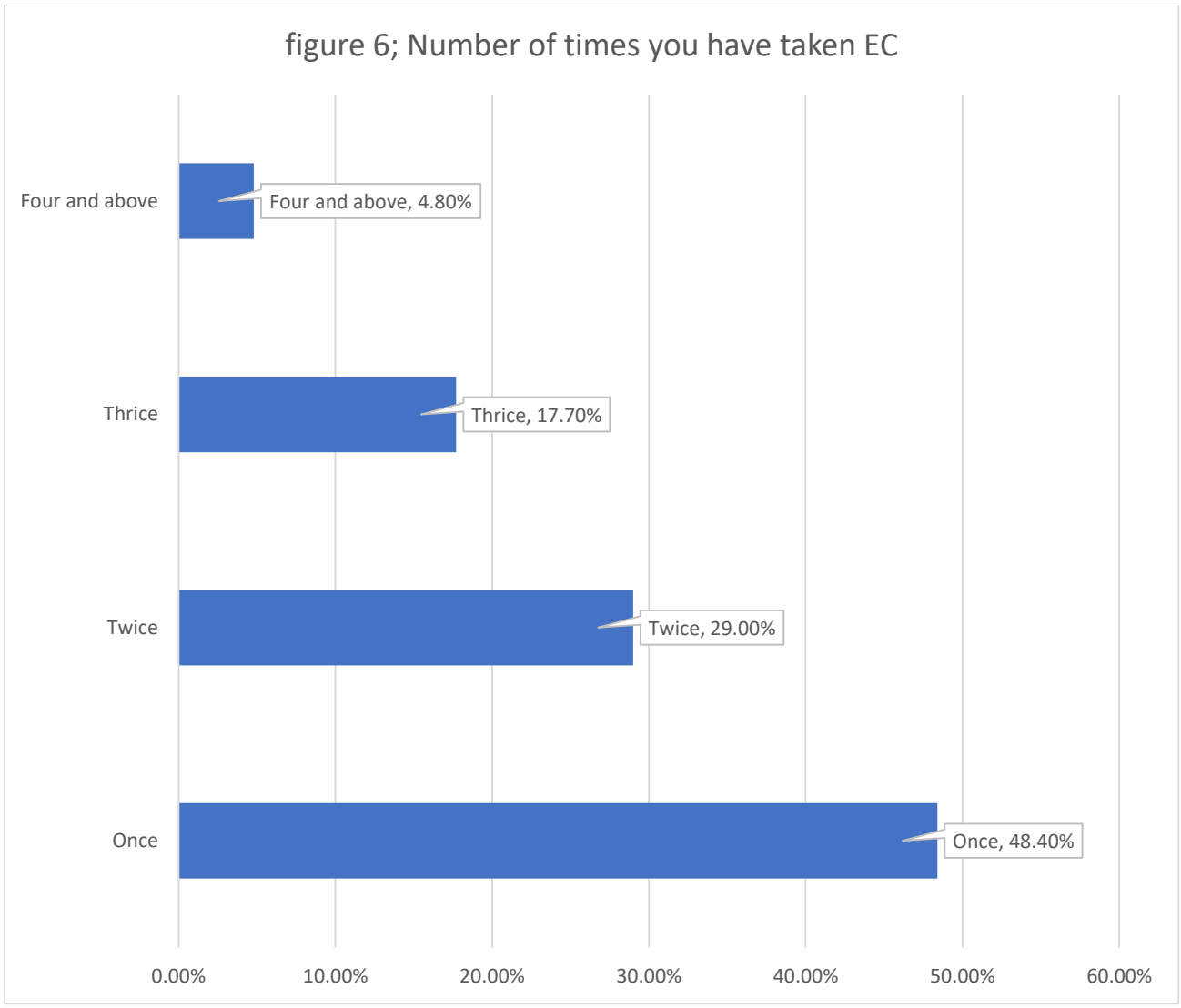

Figure 4.6; number of EC taken

Field survey, 2020

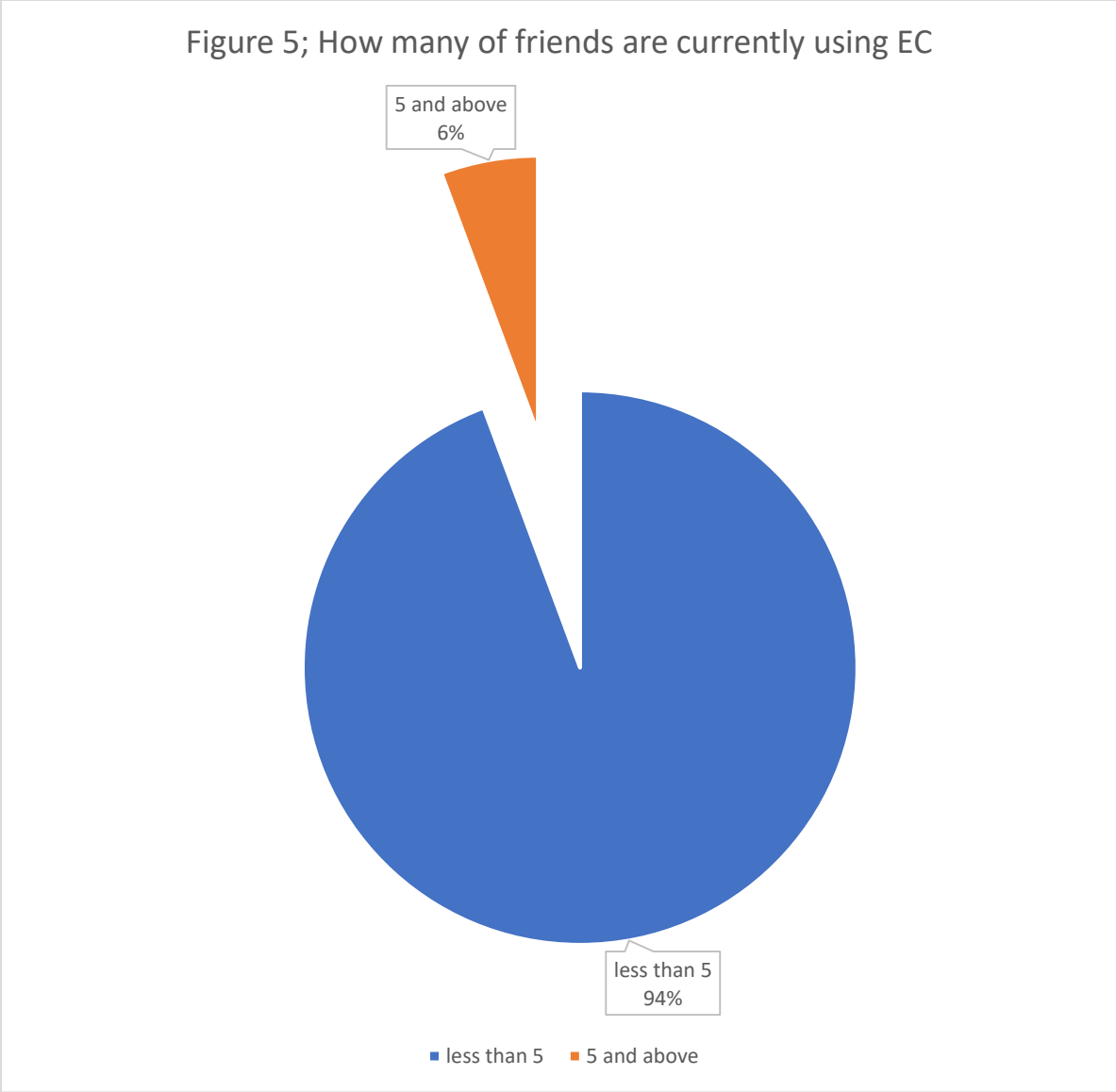

Figure 4.5; How many of your friends are currently using emergency contraceptive (EC)

Field survey, 2020

Table 4.7; practice of emergency contraceptives among female university student

Variables	Categories	Frequencies	Percentage (%)
Who recommended for you			
	Friends	10	17.50
	Partners	21	36.80
	Health professional	26	45.60
Which contraceptive did you use			
	EC(Postinor-2)	5	55.60
	Non- EC	4	44.40
Ever choice not to use EC?	Yes	75	24.40
	No	233	75.60
What information were you given?			
	No information	14	22.60
	Pills will make me vomit	23	37.10
	It can affect my period	17	27.40
	It makes me feel dizzy	8	12.90
How did you feel upon using it			
	Nausea and Vomiting	17	27.40
	headache/dizziness	14	22.60
	Bleeding/period not stopping	22	35.50
	None	9	14.50
How much did you buy			
	Less than 10 cedis	19	30.60
	10 cedis and above	27	43.50
	don't know	16	25.80
How many of friends are currently using EC			
	less than 5	57	93.40
	5 and above	4	5.60
Alcohol influence EC use	Yes	225	72.80

	No	84	27.20
Support from friends will make it easier to use EC?			
	Yes	74	23.90
	No	235	76.10
Support from family will make EC easier to use?			
	Yes	20	6.60
	No	285	93.40
Affordability of EC	Yes	63	20.40
	No	246	79.60
Availability of EC			
	Yes	75	24.40
	No	232	75.60

Field survey, 2020

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter reviews the findings of the thesis in relation to examined literature on the research subject. Comparison were made and new insights presents based on the findings. The study examined the use of emergency contraceptives among female students of the University for Development Studies, and therefore established the level of knowledge and awareness of the use of emergency contraceptive (EC) and its influencing factors.

5.1 Socio Demographic and Reproductive Characteristics

The study comprised of female students of the University for Development Studies. The minimum age of the students in this study was 17 years and the maximum age being 37 years. The mean age was 23.55±3.81. Compared to a mean age of 20.6±1.62 among female tertiary students in Botswana (Kgosiemang & Blitz, 2018) and 21.06±2.14 in Ethiopia (Mishore et al., 2018), the average in this study was high. This study unlike the others included female students in level 500 and 600 who are older (maximum age in this study was 37 years) hence pushing the average age of this study to 23.55 years. Majority of these students were single and 15.9% were married; hence were sexually active. All respondents included, 36.2% have had sex before. When analysed by taking out the percentage of those married from this figure, the implication was that 20.3% of single ladies in this study had sexual experience and 23.9%/36.2% had unprotected sex. Similar result were stated in Ethiopia (Dagnachew, 2017) and in Nigeria (Tilahun et al., 2009). It is common for young female tertiary students to engage in sex or involve in high risk sexual behaviour without condom as reported by Adissa et al., (2017). Unprotected sex leads to unintended

pregnancy. In this study, it emerged that 6.6% of the students had unintended pregnancy. Reasons given included contraceptive failure and forgetfulness to take pills. Forgetfulness as a cause of unintended pregnancy had the higher responses. This calls into question the students' knowledge, attitudes and practice of contraceptive usage and gives credence to the need for the study.

5.2 Knowledge of female students on emergency contraceptives

The level of knowledge of these students were assessed on emergency contraception. There was high awareness of emergency contraceptives among respondents and majority had heard about emergency contraceptives via formal education. This result was consistent with a study conducted among University of Cape Coast, Ghana students (Darteh & Doku, 2016). Similarly, high level of awareness and same main source of information among female university students was revealed in Ethiopia (Mishore et al., 2019). Dagnachew, (2017) also reported high level of awareness but the main source of information among female university students was the mass media. It must be noted that majority of students in this study were health (medicine and allied health) students and were privy to extensive information on contraceptives. With regard to specific knowledge on emergency contraception, majority of the students (81.6%) could identify the correct timing for administration of emergency contraception. This finding was lower than results found in Nigeria, 87.4% (Fekadu, 2017) but superior to studies done in Ethiopia by Mishore et al., (2019) 65% and Abate et al., (2014) 18.5%.

Majority of participants also knew the percentage effectiveness of emergency contraceptives but did not know the how safe emergency contraceptives were. In the study by Mishore et al., (2019) majority knew the right percentage effectiveness and believed

emergency contraceptives were safe. The difference in perception of safety could be attributed to the different colleges Mishore et al. (2019) conducted their study whereas this study was conducted in one university. Also, majority knew the right interval between pills. On the indicators for emergency contraceptives, the respondents cited 'after unprotected sex', 'post rape' and ruptured condoms'. Erroneously, high percentages of the students cited 'unwanted pregnancy' and 'missed period' as indicators. This finding was differed markedly from a study in Botswana where majority pointed out 'missed period' as an inappropriate situation in which to use the emergency contraception (Kgosiemang & Julia, 2018). Unwanted pregnancy and missed periods imply the conception has already taken place. Emergency contraceptive may not be effective at this stage. On access to emergency contraceptives majority obtained EC from health facilities or pharmacies. This finding was consistent with results reported by Mishore et al., (2019).

Overall, majority of the students (65.0%) had sufficient knowledge on emergency contraceptives. This result was comparable with results a study conducted in Ethiopia, 70.0% (Mishor et al., 2019) but superior to the 52.8% reported in Botswana (Kgosiemang & Julia, 2018). This current study unlike the others included 3 faculties, 2 of which are health-oriented faculties (School of Medicine and School of Allied Health Science). This could have influenced the higher level of sufficient knowledge on emergency contraceptives.

5.2.1 Associations between socio demographic and reproductive characteristics and overall knowledge of emergency contraceptive (EC)

Inferential analyses was done to determine the association between selected demographic characteristic/ reproductive characteristics and overall knowledge of emergency

contraceptives. Analyses revealed a significant association between age and knowledge of emergency contraceptive. This finding was consisted with studies conducted in Nigeria (Tilahun et al., 2010) and Ethiopia (Getahum et al., 2016) but differed from a study Botswana where there was no statistical association between the level of knowledge and age (Kgosiemang & Julia, 2018). In this study, the trend of knowledge on emergency contraceptives significantly increased with increasing age. Similar trends were reported in the studies by Tilahun et al., (2010) and Getahum et al., (2016). Just like the pattern seen in the age demographic compared with knowledge, similar pattern was observed with education level and knowledge. As the level of knowledge increased, percentage of respondents with sufficient knowledge increased accordingly. There was a statistically significant association between the levels/ year of the students and the overall knowledge on emergency contraceptive. This finding was again consistent with result the study by Tilahun et al., (2010). Tilahun et al., (2010) also reported that as the year of study in campus increased, there appears to be a relative increase on emergency contraceptive knowledge. In this current study however, for respondents in their first year, the majority (76.5%) had insufficient knowledge on emergency contraceptives. In this study, the main source of information on emergency contraceptives was via formal education. Students in level 100 might not have done courses pertaining to contraceptives hence the poor level of knowledge.

The study revealed also significant association between marital status and overall knowledge of emergency contraceptive. This assertion was by Tilahun et al., (2010) but differed from Kgosiemang & Julia, (2018). Analyses revealed that all female students who were married had 100% having sufficient knowledge on emergency contraceptive unlike

just 58.5% for single female university students. It could be said that married women were more sexually active and open to more information on contraceptives. Also, **m**ost students at the School of Allied Health Sciences (SAHS) and School of Medicine and Health Sciences (SMHS) had sufficient knowledge on emergency contraceptive compared to students at the Faculty of Education (FOE) where majority (75.9%) had insufficient knowledge on emergency contraceptive. Students of SAHS and SMHS are health-oriented (nursing/midwifery, medicine, nutrition and medical laboratory students) and have more information on issues relating to health. There was therefore a statistically significant association between faculty and overall knowledge on emergency contraceptive.

Sexual experience was also tested against knowledge to determine the level of association. The results showed that female university students who have had sex had more percentages with has sufficient knowledge on emergency contraceptive as compared to those who have never had sex. There was a significant association between sexual activity and overall knowledge on emergency contraceptive. Emergency contraceptive usage can be said to be synonymous with risky sexual behaviour. As recorded during the Focused Group Discussions, some of the students who were sexually active reported to have used EC after unprotected sex or when they missed their regular birth control pills.

5.3 Attitudes of female students towards the use of emergency contraceptives

Attitudes involves the mind's predisposition to certain ideas, values, people and systems, institutions (Saini, 2014). In this study, the students' cognizance to sex and sexual behaviours were thought to influence their attitudes towards EC. Majority agreed that emergency contraception is helpful after unsafe sex and does not cause infertility. Students attitudes towards these two variables was mainly influenced by the high knowledge they

already possess on emergency contraception. Also, majority of the students disagreed that availing EC to all women was a good idea. This finding was contrary to Fekadu (2017) finding which reported that majority of students supported the idea of making available emergency contraceptives for all females. University life for many students represents a move towards independence from parental supervision, new friendships and a chance to experience romantic or sexual relationships (Kgosiemang & Blitz, 2018). Some of these young adults engage risky behaviours. Mishore et al., (2019) reported that availing EC to all women could lead to increase in risky sexual behaviours, misuse leading to side effect and increased risk of HIV/AIDS as unprotected sex would be encouraged. It was also revealed in this study that majority of the students were not willing to use emergency contraceptives in the near future. A significant percentage also where uncertain of its use in the future. This finding again differed from reports in Ethiopia where majority of the respondents were willing to use emergency contraceptives (Fekadu, 2017).

Overall, 54.0% of the students had good attitude toward emergency contraceptives. Compared to other studies, Tilahun et al., (2010) reported that (62.9%) of the students had positive attitude towards EC and in Ethiopia, majority of the respondents (71.9%) have favourable attitude towards EC use (Dagnachew, 2017). Contrarily, Kgosiemang & Blitz (2018) reported that majority of respondents had a negative attitude towards EC in Botswana.

5.3.1 Associations between socio demographic and reproductive characteristics and attitude towards emergency contraception.

Inferential analyses revealed a significant association between age and attitude towards emergency contraceptives. The results showed that majority of female university students

in all the age groups included in this study had good attitude toward emergency contraceptives. However, Kgosiemang & Blitz (2018) found no association between age and attitudes towards EC. Majority of participants in that study were noted to have negative attitudes and this could have impact on the inferential analyses.

Sexual activity of students was also tested against attitude towards emergency contraception. The results revealed that 71.4% of the female university students who had sex had good attitude toward emergency contraceptive compared to 44.2% of the respondents who never had sex. On the other way around, 28.6% who had sex had poor attitude compared to 55.8% who had never had sex and had poor attitudes. This resulted in a statistically significant association between sexual activity and attitude towards emergency contraceptives. This finding was confirmed in a study which revealed that the likelihood of favourable/good attitude towards EC among female students who had sexual intercourse was six times higher than their counter parts (Tilahun et al., 2010).

Regarding the association between knowledge and attitude towards emergency contraception, the results showed that majority of the participants who had sufficient knowledge also demonstrated good attitudes towards emergency contraceptives. The was strong evidence of association between knowledge and attitudes in this study. This finding was consistent with a study conducted in Botswana where it emerged that students with good knowledge were more likely to have positive attitudes (Kgosiemang & Blitz, 2018)

5.4 Practice of emergency contraceptives among female university student.

In this study, 20.4% of students were found to have ever used an emergency contraception. Darteh & Doku (2016) found that 36% of respondents in University of Cape Coat, Ghana had ever used emergency contraceptive. Higher level of usage (58.8%) was reported in

Ethiopia (Fekadu, 2017). The difference stemmed from the fact in Fekadu (2017) 84.7% students have sexual intercourse in the past compared to just 36.2% in this study. Majority of students in this study had used EC at least twice. Out of those who had ever used emergency contraceptive, majority got the recommendation from health professionals, partners and from friends. Kgosiemang & Blitz, (2018) reported that those that used EC were encouraged by either a friend or partner. The Health professional as a source of recommendation was seen in this study because some of the participants used EC for therapeutic purposes and not just as an anti-conception drug. Also, most of the students in this study are clinicians and are privy to advise from health professionals as they engage with them regularly.

In Ghana, the common emergency contraceptive pills include postinor-2, Lydia post pill, NorLevo, and pregnon. Postinor-2 is the most popular of brand of EC. Most of these are available at pharmacies, family planning clinics and can be procured without a medical prescription (Mohammed et al., 2019). As of 2014, the price of EC ranged from 4 to 19 Cedis ($1.20 - $5.78) (ICEC, n.d.). In 2018 till now, the prices now ranges from GH¢3.00 to GH¢10.00 ($0.52 - $1.73) (GNA, 2018). This current price range was correlated in this study as most participants bought an EC for at least GH¢10. The most used brand of emergency contraceptive was postinor-2 in this study. Some participant asserted that they have had the opportunity to use emergency but they rescinded the decision. Some of the reasons given was that they wanted the pregnancy, lacked of awareness of emergency contraception and their partners opposed the decision to use EC. Religion was also mentioned as a reason for not using emergency contraceptives. Similar finding was reported Botswana were respondents cited that EC transgressed their religious beliefs,

hence why they did not use ECs (Kgosiemang & Blitz, 2018). Regarding the side effects of emergency contraceptives, majority mentioned bleeding and menses not stopping. Others mentioned nausea and vomiting, headache and dizziness. Despite the low usage of EC among the students in this study, majority of the female university students know other females who were currently using emergency contraceptives.

Religion, partner refusal and lack of awareness have already been mentioned as factors that hinder the use of EC in this study. Some of the participants also believed that affordability and availability of emergency contraceptive (EC) respectively could influence their use of EC.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary of the findings

Results of the study showed that apart from the married women included, one-fifth of single ladies in the university had sexual experience and a small section had experience unintended conception. There was high awareness of emergency contraceptives among respondents and main source of information on emergency contraceptives was via formal education. Majority of the students had sufficient knowledge on emergency contraceptives. Age, marital status, level/years of student, faculty of study and sexual activity were found to be statistically associated with overall knowledge of emergency contraceptives.

Majority of the student had good attitudes towards emergency contraceptives but were however not willing to use emergency contraceptives in the near future. There was strong evidence of association between age, sexual activity and knowledge and attitudes towards emergency contraceptives in this study.

In this study, more than half of sexually active participants were found to have ever used an emergency contraception with recommendation mainly from health professionals, partners and from friends. Religion, partner refusal, lack of awareness, affordability and availability of emergency contraceptive (EC) were stated as factors that could influence their use of emergency contraceptive (EC).

6.2 Conclusion

University life for many students represents a move towards independence from parental supervision, new friendships and a chance to experience romantic or sexual relationships (Kgosiemang & Blitz, 2018). Risky sexual behaviours are a precursor to unintended pregnancies. Emergency contraceptives are key to avoiding such pregnancies. It was therefore important to understand knowledge, attitude and practice of female university students on emergency contraception. Results of this study revealed high level of awareness and knowledge of the students on emergency contraception. The students had good attitudes towards the contraceptive but were unwilling to use it in the future. Majority of sexually active respondents had used emergency contraception at least once. Religion, partner refusal, lack of awareness, affordability and availability of emergency contraceptive (EC) were stated as factors that could influence their use of EC. There is the need for a targeted health education programs towards secondary and tertiary level student to provide accurate information about emergency contraception and increase accessibility to emergency contraceptives.

6.3 Recommendations

In view of the empirical results and the conclusions of this study, the following recommendations could aid in developing policies to encourage family planning and improve sexual and reproductive health for female students in Ghana and aim at developing programs to promote family planning.

6.3.1 Ghana Health Service and Ministry of Health

The government should make available and accessible the youth friendly adolescent health corners

6.3.2 Ministry of Gender Children and Social Protection and the Religious Councils

They should be a dialogue between religious leaders and traditional authorities to increase acceptance of contraceptives in general.

6.3.3 Tamale Municipal Health Management Team

The Health Management Team in the Metropolis could help the different organizations rely on reproductive sex education services to increase awareness through radio talk shows, seminars, durbar etc.

Public sensitization to raise public awareness, demystify misunderstandings and misconceptions and resolve concerns related to health.

6.3.4 Recommendations for further studies

The research was primarily based on the knowledge, attitude and practice of female tertiary students without regard to their male colleagues' contraception issues because of time limits. The outcome of the research may also be a bias against women and children's reproductive health needs. Therefore, it is important that work in these areas take account of all desires to resolve these concerns.

6.3.5 Limitations of the study

The study was limited by the corona virus pandemic. As a result the work plan for the work and data collection period was extended. This led to an increase of the budget previously allocated for the study.

REFERENCES

Abasiattai, A. M; Umoiyoho, A. J; Bassey, E. A; Etuk, S. J & Udoma, E. J. (2007). Misconception of emergency contraception among tertiary school students in Akwa Ibom State, South-south, Nigeria. Niger J Clin Pract, 10, 30–4.

Abate, M., Assefa, N., & Alemayehu, T., (2014), Knowledge, attitude, practice, and determinants emergency contraceptive use among women seeking abortion services in Dire Dawa, Ethiopia, PLoS ONE, vol. 9, no. 10, 2014.

Abbott, J., Feldhaus, K. M., Houry, D., & Lowenstein, S. R. (2004). Emergency contraception: What do our patients know? American College of Emergency Physicians, 43(3), 376-381.

Abdissa B, Addisie M, Seifu W. Premarital Sexual WrĂcticĞȩ Consequences and Associated Factors among Regular Undergraduate Female Students in Ambo University, Oromia Regional State, Central Ethiopia, 2015. Health Sci J. 2017, 11: 1.

Adjei, D., Sarfo, J. O., Asiedu, M., & Sarfo, I. A. (2014). Psychosocial factors affecting contraceptive usage: A case of unmet needs in Ghana. *European Scientific Journal, ESJ*, *10*(15).

Aiken, A. M., Gold, M. A., & Parker, A. M. (2005). Changes in young women's awareness, attitudes, and perceived barriers to using emergency contraception. *Journal of pediatric and adolescent gynecology*, *18*(1), 25-32.

Akani, C; Enyindah, C & Babatunde, S. (2008). Emergency contraception: Knowledge and perception of female undergraduates in the Niger delta of Nigeria. Ghana Med J, 42, 68–70.

Akintade, O. L; Pengpid, S & Peltzer, K. (2011). Awareness and use of and barriers to family planning services among female university students in Lesotho. South African Journal of Obstetrics and Gynaecology., 17(2), 36–42.

Amalba, A., Mogre, V., Appiah, M. N. A., & Mumuni, W. A. (2014). Awareness, use and associated factors of emergency contraceptive pills among women of reproductive age (15-49 years) in Tamale, Ghana. *BMC Women's Health*.

Aniteye, H. A. (2016). *Experiences Related to Modern Contraceptive Use among Fishermen and their Partners in the Accra Metropolis* (Doctoral dissertation, University of Ghana).

Apanga, P. A., & Adam, M. A. (2015). Factors influencing the uptake of family planning services in the Talensi District, Ghana. *Pan African Medical Journal*, *20*(1).

Asiedu, C. (2016). *Sexual behaviour among senior high school students in the Cape Coast Metropolis* (Doctoral dissertation, University of Cape Coast).

Ass, T., Univer, J., & Sc, B. (2010). Predictors of emergency contraceptive use among Regular Female Students at Adama University , Central Ethiopia, 1–19.

Awoleke, J. O., Adanikin, A. I., Awoleke, A., & Odanye, M. (2015). Awareness and practice of emergency contraception at a private university in Nigeria. *BMC research notes*, *8*, 215. https://doi.org/10.1186/s13104-015-1204-y

Awusabo-Asare, K; Bankole A & Kumi-Kyereme, A. (2008). Views of Adults on Adolescent Sexual and Reproductive Health: Qualitative Evidence from Ghana. Occasional Report No 34. New York, NY: Guttmacher Institute.

Babatunde, O. A; Ibirongbe, D. O; Omede, O; Babatunde O. O; Durowade, K. A; Salaudeen A. G & Akande, T. M. (2016). Knowledge and use of emergency

contraception among students of public secondary schools in Ilorin, Nigeria. Pan African Medical Journal, 23, 74.

Baiden, F., Awini, E., & Clerk, C. (2002). Perception of university students in Ghana about emergency contraception. *Contraception*, *66*(1), 23-26.

Blackstone, S. R., Nwaozuru, U., & Iwelunmor, J. (2017). Factors Influencing Contraceptive Use in Sub-Saharan Africa: A Systematic Review. *International Quarterly of Community Health Education*, *37*(2), 79–91.

Boamah, E. A.; Asante, K. P; Mahama, E; Manu, G; Ayipah, E. K; Adeniji, E & OwusuAgyei, S. (2014). Use of contraceptives among adolescents in Kintampo, Ghana: a cross-sectional study. Open Access Journal of Contraception, 5, 7–15.

Brening, R. K., Dalve-Endres, A. M., & Patrick, K. (2003). Emergency contraception pills (ECPs): Current trends in the United States college health centers. Contraception, 67, 449-456.

Chofakian, C., Moreau, C., Borges, A., & Santos, O. (2018). Contraceptive patterns after use of emergency contraception among female undergraduate students in Brazil. *The European journal of contraception & reproductive health care : the official journal of the European Society of Contraception*, *23*(5), 335–343. https://doi.org/10.1080/13625187.2018.1526897

Corbett, P. O., Mitchell, C. P., Taylor, J. S., & Kemppainen, J. (2006). Emergency contraception: Knowledge and perception in a university population. Journal of the American Academy of Nurse Practitioners, 18, 161-168.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Dagnachew, A. (2017). Assessment of Knowledge, Attitude and Practice of Emergency Contraceptive Use among Female Students in Harar Preparatory Schools, Harari Regional State, Eastern Ethiopia. *Reprod Syst Sex Disord*, *4*(215), 2.

Darteh, E. K., & Doku, D. T. (2016). Knowledge and Usage of Emergency Contraceptives Among University Students in Ghana. *Journal of community health*, *41*(1), 15–21. https://doi.org/10.1007/s10900-015-0057-6

Delbanco, S. F., Mauldon, J., & Smith, M. D. (2000). Little knowledge and limited practice: Emergency contraceptive pills, the public, and the obstetriciangynecologist. Obstetrics & Gynecology, 89(6), 1006-1011.

Demographic Health Survey Programme (2014). *Unmet Need.* Available at: http://dhsprogram.com/topics/Unmet-Need.cfm. Retrieved 4 November 2014.

Demographic Health Survey Programme (2014). *Unmet Need.* Available at: http://dhsprogram.com/topics/Unmet-Need.cfm. Retrieved 4 November 2014.

Eliason, S., Awoonor-Williams, J. K., Eliason, C., Novignon, J., Nonvignon, J., & Aikins, M. (2014). Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: a case–control study. *Reproductive Health*, *11*(1), 65.

Etalemahu D (2007). Assessment of barriers of emergency contraception use among antenatal care clients of Addis Ababa health centers. Addis Ababa University Libraries Electronic Thesis and Dissertations: AAU-ETD, Faculty of medicine: Thesis-public health 2007 [http://etd.aau.edu.et/dspace/handle/ 123456789/817].

Fekadu Y. (2017). Knowledge Attitude and Utilization of Emergency Contraception among Health Science and Medical Students of Arba Minch University,

2015. *Journal of women's health care*, *6*(4), 10.4172/2167-0420.1000383. https://doi.org/10.4172/2167-0420.1000383

Finer, L., & Henshaw, S. K. (2006). Disparities in rates of unintended pregnancy in the united states, 1994 and 2001. Perspectives on Sexual and Reproductive Health, 38(2), 90-96.

Food and Drug Administration. (August 24, 2006). FDA approves over-the-counter access for plan B for women 18 and older prescription remains required for those 17 and under. Retrieved December/12, 2006, from http://www.fda.gov/bbs/topics/NEWS/2006/NEW01436.html

Food and Drug Administration. (August 24, 2006). FDA approves over-the-counter access for plan B for women 18 and older prescription remains required for those 17 and under. Retrieved December/12, 2006, from http://www.fda.gov/bbs/topics/NEWS/2006/NEW01436.html

Foster, D. G., Harper, C. C., Bley, J. J., Mikanda, J. J., Induni, M., Saviano, E. C., & Stewart, F. H. (2004). Knowledge of emergency contraception among women aged 18 to 44 in California. *American journal of obstetrics and gynecology*, *191*(1), 150-156.

Getahun, M., Beyene, B., Gallagher, K., Ademe, A., Teshome, B., Tefera, M., ... & HaileGiorgis, Y. (2016). Epidemiology of rubella virus cases in the pre-vaccination era of Ethiopia, 2009–2015. *BMC public health*, *16*(1), 1-7.

Ghana Statistical Service, & Ghana Demographic Health Survery. (2014). Ghana Demographic and Health Survey 2008: Ghana Statistical Service, Ghana Health Service, Ghana AIDS Commission. Ghana Statistical Service (GSS) Ghana Demographic and Health Survey.

GNA, (2018), Mad Rush For Emergency Contraceptives, ModernGhana. Retrieved from https://www.modernghana.com/news/862544/mad-rush-for-emergency-contraceptives.html.

Grimes, D. A; Benson, J; Singh, S; Romero, M; Ganatra, B; Okonofua, F. E & Shah, I. H. (2006). Unsafe abortion: the preventable pandemic. Lancet, 368, 1908–1919.

Grindlay, K., Dako-Gyeke, P., Ngo, T. D., Eva, G., Gobah, L., Reiger, S. T., … Blanchard, K. (2018). Contraceptive use and unintended pregnancy among young women and men in Accra, Ghana. *PloS One*, *13*(8), e0201663.

Haeger, K. O., Lamme, J., & Cleland, K. (2018). State of emergency contraception in the U.S., 2018. *Contraception and Reproductive Medicine*, *3*, 20.

Harper, C. C., & Ellertson, C. (1995). Knowledge and perceptions of emergency contraception pills among a college-age population: A qualitative approach. Family Planning Perspectives, 27(4), 149-154.

Harvey, S. M., Beckman, L. J., Sherman, C., & Petitti, D. (1999). Women's experience and satisfaction with emergency contraception. Family Planning Perspectives, 31(5), 235-240.

Hayes, M., Hutchings, J., & Hayes, P. (2000). Reducing unintended pregnancy by increasing access to emergency contraceptive pills. Maternal and Child Health Journal, 4(3), 203-208.

Health Policy Project. (2015). *Stakeholder Consultations for Ghana Family Planning Costed Implementation Plan, 2015–2020.* Unpublished notes and analysis.

Hoque, M.E & Ghuman, S. (2012). Knowledge, Practices, and Attitudes of Emergency Contraception among Female University Students in KwaZulu-Natal, South Africa, 7(9).

International Consortium for Emergency Contraception (ICEC), (n.d.), EC Status and Availability, Ghana. Available from https://www.cecinfo.org/country-by-country-information/status-availability-database/countries/ghana/

Jamieson, M. A., Hertweck, S. P., & Sanfilippo, J. S. (1999). Emergency contraception: Lack of awareness among patients presenting for pregnancy termination. J Pediatr Adolesc Gynecol, 12, 11-16.

Jones, R. K., Darroch, J. E., & Henshaw, S. K. (2002). Contraceptive use among U.S. women having abortions in 2000-2001. Perspectives on Sexual and Reproductive Health, 34(6), 294-303.

Kaiser Family Foundation Entitlement Poll, March 1997. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008-04-16. https://doi.org/10.3886/ICPSR02178.v2

Kgosiemang, B., & Blitz, J. (2018). Emergency contraceptive knowledge, attitudes and practices among female students at the University of Botswana: A descriptive survey. *African journal of primary health care & family medicine, 10*(1), e1–e6. https://doi.org/10.4102/phcfm.v10i1.1674

Kongnyuy, E. J., Ngassa, P., Fomulu, N., Wiysonge, C. S., Kouam, L., & Doh, A. S. (2007). A survey of knowledge, attitudes and practice of emergency contraception among university students in Cameroon. *BMC Emergency medicine*, *7*(1), 7.

Koyama, A., Hagopian, L., & Linden, J. (2013). Emerging options for emergency contraception. *Clinical Medicine Insights. Reproductive Health*, *7*, 23–35.

Kunene, H. S. (2013). *Factors Influencing Emergency Contraceptive Use: Perspectives of Students in Durban, South Africa*.

LaGuardia, K. D., Shangold, G., Fisher, A., Friedman, A., Kafrissen, M., & Norgestimate Study Group. (2003). Efficacy, safety and cycle control of five oral contraceptive regimens containing norgestimate and ethinyl estradiol. *Contraception*, *67*(6), 431-437.

Larsson, C., & Stanfors, M. (2014). Women ' s Education , Empowerment , and Contraceptive Use in sub- Saharan Africa : Findings from Recent Demographic and Health Surveys, *28*(2), 1022–1034.

Lincoln, Y. S., & Guba, E. G. (2000). The only generalization is: There is no generalization. *Case Study Method*, 27–44.

Manortey, S., Duah, W., & Baiden, F. (2016). Factors Associated with the Use of Emergency Contraceptive Pills among Students of the Takoradi Polytechnic in Ghana. *Journal of Scientific Research and Reports*, *12*(3), 1–10.

Mayhew, S., Osei, I., & Bajos, N. (2013). Attitudes des professionnels de santé à l'égard de la contraception d'urgence au Ghana et au Burkina Faso. *Population*, *68*(1), 123.

Ministry of Health. (2004). *Meeting the Commodity Challenge: The Ghana National Contraceptive Security Strategy 2004 – 2010.* The Ministry of Health Agencies and Partners. Available at: http://www.rhsupplies.org/fileadmin/user_upload/Country_pages/Ghana/Systems/strategy.pdf. Retrieved 27 January 2015.

Ministry of Health. (2011). *Meeting the Commodity Challenge: The Ghana National Reproductive Health Commodity Security Strategy 2011–2016.* The Ministry of Health. January 2011.

Ministry of Health. 2012. *Health Commodity Supply Chain Master Plan.* September 2012. Available at: http://iaphl.org/files/2014/05/GhanaSCM-2013.pdf. Retrieved 11 March 2015.

Mishore, K. M., Woldemariam, A. D., & Huluka, S. A. (2019). Emergency Contraceptives: Knowledge and Practice towards Its Use among Ethiopian Female College Graduating Students. *International journal of reproductive medicine*, *2019*.

Mohammed, S., Abdulai, A. & Iddrisu, O.A. (2019), Pre-service knowledge, perception, and use of emergency contraception among future healthcare providers in northern Ghana. *Contracept Reprod Med* **4,** 1 (2019). https://doi.org/10.1186/s40834-018-0082-9

Morgan, G., Keesbury, J., & Speizer, I. (2014). Emergency contraceptive knowledge and use among urban women in Nigeria and Kenya. *Studies in Family Planning*, *45*(1), 59–72.

Neinstein LS, Gordon MC, Katzman KD, Rosen SD, Woods RE. (2008). Adolescent Health Care: a practical guide. Edited by: Lippincott Williams and Wilkins. Philadelphia, 533-649. 5

Neinstein, L. S. (Ed.). (2008). *Adolescent health care: a practical guide* (Vol. 414). Lippincott Williams & Wilkins.

Nibabe, W. T., & Mgutshini, T. (2014). Emergency contraception amongst female college students – knowledge, attitude and practice. African Journal of Primary Health Care & Family Medicine, 6(1). doi:10.4102/phcfm.v6i1.538

Nsubuga, H; Sekand, J. N; Sempeera, H & Makumbi, F. E. (2016). Contraceptive use, knowledge, attitude, perceptions and sexual behavior among female University students in Uganda: a cross-sectional survey. BMC Women's Health, 16, 6.

Okereke, C. I. (2010). Unmet reproductive health needs and health-seeking behaviour of adolescents in Owerri, Nigeria. Afr J Reprod Health, 14(1), 43–54.

Palermo, T., Bleck, J., & Westley, E. (2014). Knowledge and Use of Emergency Contraception: A Multicountry Analysis. *International Perspectives on Sexual and Reproductive Health*, *40*(02), 079–086.

Polit, D. F., & Beck, C. T. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. Lippincott Williams & Wilkins.

Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, *47*(11), 1451–1458.

Profetto-McGrath, J., Polit, D. F., & Beck, C. T. (2010). *Canadian essentials of nursing research*. Lippincott Williams & Wilkins.

Ross, J., & Hardee, K. (2013). Access to contraceptive methods and prevalence of use. *Journal of biosocial science*, *45*(6), 761-778.

Ross, J., & Hardee, K. (2013). Access to contraceptive methods and prevalence of use. *Journal of Biosocial Science*, *45*(6), 761–778.

Saini A., (2014) "Knowledge, attitude and practice of emergency contraceptives among female college students in Arba Minch town, Southern Ethiopia," *Ethiopian Journal of Health Development*, vol. 25, no. 3, pp. 176–183, 2012.

Schein, E. (1999), "Empowerment, coercive persuasion and organizational learning: do they connect?" The Learning Organization, Vol. 6 No. 4, pp. 163-172. https://doi.org/10.1108/09696479910280622

Sedgh, G., Singh, S., & Hussain, R. (2014a). Intended and unintended pregnancies worldwide in 2012 and recent trends. *Studies in Family Planning*, *45*(3), 301–314.

Seifu Mekonnen, Fanta Gashe, Awol Jemal, Shibiru Tessema, Wote Amelo (2019). Assessment of the knowledge, attitude and practice of EC and barriers to its use among the antenatal care seekers of Sululta Health Centers, Oromia region, Ethiopia. International Journal of Scientific Reports. 2 (2) pp. 29-35

Shiapacasse V. and Diaz S. (2006). Access to emergency contraception.

Singh S and Darroch JE, Adding It Up: Costs and Benefits of Contraceptive Services—Estimates for 2012, New York: Guttmacher Institute and United Nations Population Fund (UNFPA), 2012, < http://www. guttmacher.org/pubs/AIU-2012-estimates.pdf>.

Smugar S. S, Spina B. J & Merz J. F (2011). Informed consent for emergency contraception: variability in hospital care of rape victims.

Speziale, H. J. S., & Carpenter, D. R. (2007). Action research method. *Qualitative Research in Nursing: Advancing the Humanistic Imperative*, 327–348.

Starrs, A. M., Ezeh, A. C., Barker, G., Basu, A., Bertrand, J. T., Blum, R., ... & Sathar, Z. A. (2018). Accelerate progress—sexual and reproductive health and rights for all: report of the Guttmacher–Lancet Commission. *The Lancet*, *391*(10140), 2642-2692.

Tamire, W., & Enqueselassie, F. (2007). Knowledge, attitude, and practice on emergency contraceptives among female university students in Addis Ababa, Ethiopia. *Ethiopian Journal of Health Development*, *21*(2), 111-116.

Teye, J. K. (2017). Modern Contraceptive Use among Women in the Asuogyaman District of Ghana: Is Reliability more Important than Health Concerns? *African Journal of Reproductive Health*, *17*(2).

Tilahun, D., Assefa, T., & Belachew, T. (2010). Knowledge, Attitude and Practice of Emergency Contraceptives among Adama University Female Students, Ethiopia. *Ethiopian journal of health sciences*, *20*(3).

Tsui, A. O., Brown, W., & Li, Q. (2017). Contraceptive Practice in Sub-Saharan Africa. *Population and Development Review*, *43*(Suppl Suppl 1), 166–191.

Union, A. (2014). Science, technology and innovation strategy for Africa 2024. *Addis Ababa*.

Union, E., Consortium, E., & Contraception, E. (2014). Access to emergency contraception in the European Union countries, (October), 1–8.

Westley, E., & Schwarz, E. B. (2012). Emergency contraception: global challenges, new opportunities. *Contraception*, *85*(5), 429–431.

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

World Health Organisation (2017). Adolescent healthhttp://www.who.int/topics/adolescenthealth/en/

World Health Organization and Gutmacher Institute, (2007). Knowledge, awareness and perception of female students of emergency contraceptive pills. Journal of Behavioral Health.

World Health Organization. (2008). Family planning/Contraception: Fact sheet. *WHO, Geneva*.

World Health Organization. (2015). Family planning/Contraception: Fact sheet. WHO, Geneva.

World Health Organization. (2018). Emergency contraception: Fact sheet. *WHO*.

Yemaneh, Y., Sayih, A., Niguse, W., Lema, M., & Tsegaye, A. (2018). Emergency oral contraceptive use among undergraduate female students of mizan-tepi University, mizan campus south nation's nationalities and peoples regional state southwest, Ethiopia 2016, (September).

Yen, S & Martin, S. (2013). Contraception for adolescents. Pediatr Ann., 42(2), 21–25.

Appendix I: Participant Information Leaflet and Consent Form

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF MEDICINE AND HEALTH SCIENCES

DEPARTMENT OF COMMUNITY HEALTH AND FAMILY MEDICINE

CONSENT FORM

NAME OF INTERVIEWER ……..…….

PARTICIPANT ID……..……

PLACE OF INTERVIEW……..…….

DATE…….

I am from University for Development Studies. I am seeking for your voluntary participation in this important scientific study. The general objective of this study is to investigate the knowledge, attitudes and practice of emergency contraception use among female students of the University for Development Studies (UDS), Tamale campus.

Your participation is very important to the success of the study. All information that you give us will be treated with care and will not be released to anyone but researchers conducting the study. All your information provided would be stored as confidential documents in a locked file accessible only to study staff. I would take 30 minutes of your time to complete the questionnaire.

Results from this study would provide data to support the need for introduction/expansion of interventions. We would also share findings of this study with all participants.

Do feel free to skip any question or you can voluntarily stop at any point of the interview.

Please, do you have any questions about the study?

You can contact the following people for further clarification

PARTICIPANT SIGNATURE/THUMB PRINT

INTERVIEWER SIGNATURE

Appendix II ; Questionnaire

QUESTIONNAIRE

SOCIO-DEMOGRAPHICS OF FEMALE STUDENTS

1. How old are you?.....
2. What is your level

   Level 100 ☐ level 200 ☐ level 300 ☐ level 400 ☐
3. Residence? (i) Campus (ii) Out of campus
4. What religion do you belong?

   (i) Christian (ii) Muslim (iii) ATR
5. What is your marital status?

   (i) Single (ii) Married (iii) co habituating (iv) divorce/separated/widow
6. What is your ethnicity? (i) Akan (ii) Dagomba (iii) Dagarti (iv) Frafra (v) Others
7. What is your Mother's Educational Status?

   Primary ☐ JHS ☐ SHS ☐ Tertiary ☐ No education ☐

   Others ☐
8. What is your Father's Educational Status?

   Primary ☐ JHS ☐ SHS ☐ Tertiary ☐ No education ☐

   Others ☐
9. Which department or school do you belong?

   School of Medicine ☐ School of Allied Health ☐ Faculty of

   Education ☐

REPRODUCTIVE CHARACTERISTICS OF FEMALE STUDENTS

10. Have you ever had sex?

Yes ☐ No ☐

11. Have you had unprotected sexual intercourse?

Yes ☐ No ☐

12. Have you had any unintended pregnancy?

Yes ☐ No ☐

13. What are the reasons for the unintended pregnancy?

Contraceptive failure ☐

Forget to Take Contraceptive ☐

Pressure from partner ☐

Forced to have Sex ☐

14. How many children do you have?

One ☐ Two ☐ Three and above ☐ None ☐

15. Have you ever heard about modern contraceptive?

Yes ☐ No ☐

16. Have you ever used modern contraceptives?

Yes ☐ No ☐

KNOWLEDGE OF EMERGENCY CONTRACEPTION AMONG FEMALE STUDENTS

17. Have you ever heard of Emergency Contraceptives (EC)?

Yes ☐ No ☐

18. Where did you hear about EC?

Formal Education ☐

Media ☐

Internet ☐

Health Facilities ☐

Friends/ Relatives ☐

Others ☐

19. What time did you hear about EC ? (i) less than 6 months ago (ii) > 6 months ago

20. What is the recommended time to take EC?

within 72 hours ☐

Within 5 days ☐

within 24 hours ☐

I don't know ☐

21. What is the effectiveness of EC?

75%-99% ☐ 51%-74% ☐ 30-50% ☐ Not sure ☐

22. How safe is EC?

Safe ☐ Unsafe ☐ I don't know ☐

23. Recommended number of doses for EC? (i) 1 (ii) 2 (iii) 3 (iv) not sure

24. Recommended time interval for EC? (i) 12 hours (ii) 6 hrs (iii) 24 hours (iv) no interval

25. What is/are the indication(s) of EC?

After unprotected sex

Yes ☐ No ☐

Unwanted pregnancy

Yes ☐ No ☐

rupture of condom during sex

Yes ☐ No ☐

post rape

Yes ☐ No ☐

missed period

Yes ☐ No ☐

26. Where can you obtain EC?

Health Institution ☐

Supermarket ☐

Don't know ☐

ATTITUDE OF FEMALE STUDENTS ON EMERGENCY CONTRACEPTION

For each of the following questions, please check the box closest to your opinion.	Agree	Neutral	Disagree
27. EC use will not cause infertility in woman?			
28. Using EC after unsafe sex intercourse is helpful in preventing pregnancy?			
29. EC creates lack of confidence between regular partner?			
30. Good ideal to make EC accessible to all female			
31. It is a sin to use EC method?			
32. Believe EC may hurt the baby in case it does not work?			
33. Willingness to use EC in the near future?			
34. Emergency contraceptives cannot protect you from sexually transmitted infections.			
35. Emergency contraceptives should be used only once every month.			
36. Emergency contraceptive pills can fail.			
37. Emergency contraception cannot be used as a regular form of Family Planning taken after unprotected sex.			

PRACTICE OF FEMALE STUDENTS ON EMERGENCY CONTRACEPTION

38. Ever used EC? (I) Yes (ii) No
39. Who recommended EC for you? (I) Friends (ii) Partner (iii) health professional (iv) I don't know
40. What contraceptive method do you use? (I) Emergency Contraception pill (postinor-2) (ii) Non-Emergency Contraception method
41. Ever choose not to use EC? (I) Yes (ii) No
42. Reasons for above? (i) Don't know where find it (ii) No knowledge about EC (iii) partner opposed (iv) fears of pregnancy (v) wanted to be pregnant
43. How many times did you use emergency contraceptive Pills (Postinor-2) in the last six months? (I) Once (ii) Twice (iii) Thrice (iv)Four times (v) More than four times (vi)None
44. What information were you given the last time you bought emergency contraceptive pills (Postinor-2)? (i) No information (ii) Pills would make me vomit/feels nauseous (iii)It can affect my period/menses (iv) It can make me feel weak/dizziness
45. Which side effect did you experience when you used emergency contraceptive pill (postinor2)? (i) Nausea/Vomiting (ii)General Weakness/Dizziness (iii)Bleeding/Period not stopping (iv) None
46. How much do you usually spend on a pack of emergency contraceptive pills (Postinor2)?

    (i) Less than 10 cedis (ii) 10 cedis and above (ii)Don't know

47. How many of your friends are currently using emergency contraceptive pills (e.g. Postinor-2)?

None ☐ One ☐ Two ☐ Three ☐ Four ☐ Five. ☐

48. Does alcohol influence your choice of Emergency Contraceptive use?

Yes ☐ No ☐

49. Will support from friends will make it easier for you to use an emergency contraceptive.

Yes ☐ No ☐

50. Does support from family will make it easier for you to use an emergency contraceptive?

Yes ☐ No ☐

51. Will affordability of Emergency contraceptive pills make it easy to use

Yes ☐ No ☐

52. Will availability of Emergency contraceptive pills make it easy to use.

Yes ☐ No ☐

Appendix III; Focus Group Discussion Guide

Focus Group Discussion (FGD)

1. How do you consider emergency contraceptive?
2. For what purposed do you use emergency contraceptive?
3. Have you had any emergency contraceptive problems recently?
4. What did you do when you needed help on emergency contraceptive the last time?
5. How do you decide for emergency contraceptive?
6. What do you think about the facilities available when in need of emergency contraceptive?

7. Did you have any discomforts related to emergency contraceptive while reaching out to the healthcare facility?
8. Do you have to pay for the emergency contraceptive?
9. What did you think about the services provided and staff's treatment on emergency contraceptive when you seek for it?
10. Will you go the health facility next time when you need emergency contraceptive?
11. Are you using any contraceptive methods now?
12. Did you use any method of contraception before pregnancy?
13. Who and how it is decided on which type of emergency contraceptive method you should use.

Appendix IV; Introductory letter from the department

UNIVERSITY FOR DEVELOPMENT STUDIES
School of Medicine and Health Sciences
(Department of Community Health and Family Medicine)

Tel : 03720 - 93295
E-Mail :
Local : 5:7811/106.15
Internet: www.uds.edu.gh

Post Office Box TL 1883,
Tamale, Ghana, West Africa.

Office of the Head 10/03/2020

The Dean
School of Medicine and Health Sciences
UDS – Tamale

LETTER OF INTRODUCTION

Issah Fatima

This is to introduce to you, Ms. Issah Fatima, a Master of Public Health student of School of Medicine and Health Sciences, University for Development Studies. Ms. Fatima is currently working on her thesis titled: ***Assessing the knowledge, attitude and practices of Female Tertiary students on the use of Emergency Contraceptives: Evidence from the UDS Tamale Campus.*** Ms. Fatima wants to have access to talk to Female Students on Tamale Campus of the University for Development Studies to enable her to carry out this important academic exercise. I would be grateful if you could grant her access and any other assistance she may need.

Thank you.

OFFICE OF THE HEAD
Dept. of Comm. Health & Family Medicine
UDS, Tamale

Yidana Adadow
(HoD, CH&FM)