Case study

EMERGENCY CONTRACEPTIVE USE AMONG FEMALES STUDENTS AT NURSING AND MIDWIFERY TRAINING COLLEGES IN GHANA: A CASE STUDY AT DUNKWA-ON-OFFIN

ABSTRACT

Background: In the Ghanaian community, there is a mixed level of awareness, wrong perceptions, parental and religious dares, or disdains associated with the use of the various forms of contraceptive method available. Despite many government interventions, unwanted pregnancy remains relatively high. Knowledge of emergency contraceptive effectiveness is crucial to making an informed choice. The study assessed the use of emergency contraceptives among female nursing students in Ghana using Nursing and Midwifery Training College, Dunkwa-On-Offin as a case study.

Methods: The study employed a cross-sectional survey design. A structured questionnaire was used, which took data on knowledge, perception and use of emergency contraceptives among female nursing students. Descriptive, bivariate, and logistic regression analysis techniques were used to analyze the data, and the level of significance was set at 0.05.Data were analysed with SPSS version 23.

Results: The results showed that majority of the respondents 215 (58.9%) were familiar with the purpose of family planning. Again, an overwhelming majority of the respondents (81.1%) said they had heard about emergency contraceptive and had their information from the health workers. It was agreed by the majority (55.9%) that emergency contraceptives were safe for users, hence positive perception about emergency contraceptive. The usage rate for emergency contraceptive use among the respondents was 63.0%. Age of the respondents was found to be statistically significant OR 0.21(CI; 0.43-1.12; p-value=*0.000*). Also, marital status and level/class were significant (p-value=0.001) and p-value=0.000 respectively.

Conclusion: The study concludes that if students are educated on when and how to use emergency contraceptive, the knowledge, perception and usagewill help reduce unwanted

pregnancies among female nursing students in Ghana. There is the need for service providers either at the facilities or pharmacies to provide adequate information about emergency contraceptive to the students such as the correct timing and side effects in order to make it effective.

Keywords:Knowledge, emergency contraceptive, student nurses and Dunkwa-On-Offin

1. INTRODUCTION

Emergency contraception (EC), or post-coital contraception, refers to methods of contraception that can be used to prevent pregnancy in the first 5 days after sexual intercourse [35].Emergency contraception is grouped into three types: emergency contraceptive pills (ECPs), combined oral contraceptive pills or the Yuzpe method, and copper-bearing intrauterine devices (IUDs). ECPs involves the use of either Levonorgestrel as a single dose (1.5 mg) or Ulipristal acetate, used as a single dose at 30 mg within 5 days (120 hours) of unprotected sexual intercourse.TheYuzpe method uses combined oral contraceptive pills which are taken in 2 doses [34]. The copper-bearing IUD method on the other hand is used by inserting within 5 days of unprotected intercourse [28].

Female students become susceptible to unwanted pregnancies which may lead to abortion, abortion-related complications and other health and social problems after having unprotected sexual intercourse [35]. About 80 million unplanned pregnancies occur in the world every year [1]. This resulted in 50 million abortions worldwide, many of which being unsafe and subsequently resulting in approximately 80,000 maternal deaths [3]. Assessing the knowledge and perception on the use of contraceptive is an important step towards gaining access to family planning services and adopting a suitable contraceptive method.

However, WHO estimates that 225 million women in developing countries would like to delay or stop childbearing but are not using any method of contraception [4]. This results in one in three women giving birth before the age 20 and pregnancy-related death during child birth which is two times higher compared to women older than 20 years [2].The sub-Saharan African (SSA) region experiences more than 14 million abortions each year [7]. The proportion of sexually active unmarried females is alarming. In the case of unprotected sexual intercourse female students are susceptible to unwanted pregnancies, which may lead to abortion, abortion-related complications, and other health and social problems such as infertility and dropping out of school [9]. The subsequent effect of unplanned pregnancy and contracting sexually transmitted infections are major medical, social and public health problems [12].

Preventing teenage or unwanted pregnancy is considered a priority among policymakers and the public because of its high economic, social and health costs for students and their families [10]. In spite of continuous global investments in females sexual and reproductive health (ASRH) programs, constraints such as limited knowledge and lack of access to resources as well as

services still exist in effectively meeting the ASRH information and service needs of females. These constraints are particularly evident in sub-Saharan Africa where unintended pregnancies and adolescent childbearing continue to be a burden [27].The current use of any method of contraception in Ghana is 23 percent among all women and 27 percent among currently married women [35]. Moreover, the median age at first sexual intercourse among urban women age 25-49 years in Ghana is 18.8 years. It is thus not surprising that about one-fifth of Ghanaian women age 25-49 years (22 percent) had given birth before reaching age 18, while nearly two-fifths (39 percent) had given birth by age 20 [28].

In Ghana, there is a mixed level of awareness, wrong perceptions, parental and religious dares, or disdains associated with the use of the various forms of contraceptive method available, how they are effectively used despite significant numbers being sexually active [14].Despite many government interventions, unintended pregnancies and termination of pregnancies remain relatively high [14]. The rate of premarital sexual activity, unwanted pregnancies and illegal abortions remain higheramong female nursing students. A study aimed at understanding the knowledge on contraceptive use and sexual behavioursamong this high risk group if the incidence of unintended pregnancy, illegal abortions and high sexual riskybehaviour are to be minimized. Their study showed that majority (70.4%) of the students have had sexual intercourse hadknowledge of contraception. More than half, (58.5%) of sexually active women reported ever usedcontraception before while (41.5%) were current contraceptive users. Majority (74.7%) of the sexually activegroup started sexual activity at young age (19–24 years). Condom, (24.3%) and pills (16.8%) were theknown contraceptive methods [16].

A study was conducted which showed that almost 21% of 244 students with knowledge on contraception were users, 82% of sexually active respondents were non-users while condom was the most common contraceptive method used. Also, 60% and 30% of respondents obtained knowledge about contraception from the media (TV/Radio) and peers (friends) respectively. However, almost 32% of the study participants thought contraceptives are for only adult married persons [14].

As the name propose, emergency contraception is intended for occasional or emergency use only and not as a regular contraception. Situations of unprotected intercourse that demand the use of emergency contraception include failure of barrier methods such as slippage, breakage or misuse of condom, sexual assaults, failed coitus interruptus, two or more consecutive missed oral

contraceptive pills, or simply because intercourse was unexpected and therefore contraception had not been used [21].

Unwanted pregnancy followed by unsafe abortion can be avoided by using different contraceptive methods including emergency contraceptives [23].Several studies conducted among adolescents in Ghana revealed low level of knowledge about contraceptive methods [5]. The lack of knowledge about emergency contraceptive has resulted in women resorting to unsafe or illegal abortions in several low income countries [6]. There were number of reasons found by researchers that attribute or influence the use of contraceptives among adolescent in the country. Poor knowledge about the methods, fears and tales about side effects of some methods of contraception, lack of support and bad influence of family members and sexual partners, religion and traditional beliefs attribute to low use of contraceptives [12].

In sub-Saharan Africa, peers greatly influence nursing students' sexual behavior [15]. Some of the influence can be abstinence from sexual activity and choice of contraception and induced abortion. For students to select a type of contraceptive, they choose methods that worked for their peers [32].Young women's contraceptive decision-making processes are sometimes stuck in between peer and health providers or physicians [31]. Peer influence is primarily based on shared contraceptive goals, while providers are important for myth clarification and education**.** Peer influence appeared to be greatest when participants sharedemergency contraceptive concerns and goals [29].

In relation to the use of emergency contraceptive pills, a research disclosed the accessibility and affordability are factors that cannot be ignored [8]. Religious and cultural believes have not hindered the use of EC pills and therefore health officials must make EC pills accessible to women [8]. Increasing education increases the use of emergency contraceptive methods. For instance, 19% of married women without education use a contraception method compared to 34% of married females with secondary or higher education [11]. Emergency contraceptive use also tends to improve with the number of children living, from 21% among married women with no children to 30% among those with three or four children, after which it decreases moderately to 27% among those with five or more children [13].In Ghana over the last six years, the use of any method of contraception and any modern method has risen somewhat, from 24% in 2014 to 34% in 2020 [13].

Unplanned pregnancies, unsafe abortions, as well as maternal morbidity and mortality have been averted as a result of the use of modern contraception [16]. In 1996 and 2000, oral contraceptives and the Emergency Contraceptive pills (Postinor 2) were licensed respectively [16]. Without prescription, emergency contraceptives are easier to obtain from clinics and pharmacies [19]. The emergency contraceptives on the market include are Postinor 2, Lydia, Lenor, Levon 2 which contains levonorgestrel 1.5mg. From 2010 to 2020, modern methods contraceptive prevalence rate and couple-years of protection have increased over the past decade from 18.7% to 34%, while the unmet need has decreased from 22.2% to 30% [31]. Knowledge of emergency contraceptive effectiveness is crucial to making an informed choice. The consumer has to comprehend the pros and cons of the contraceptive methods being considered [8].

Unintended pregnancy poses a major challenge to the reproductive health of young adults in developing countries. Lack of contraceptive knowledge, poor perception, quality and access to family planning services, methods, cost, women's concerns about side effects, and women's, husbands' or family members' objections, parents disapproval to contraceptive use results in unplanned and unprotected sexual intercourse leading to unwanted pregnancy and invariably abortions [3].

A study at the University of Ghana, reported that even sexually active University students stand a high risk of using contraceptives wrongly due to their insufficient knowledge, and perhaps misinformation about the use of contraceptives. Again, it is on record that 16% of all births in Ghana are unwanted, 40% are unplanned, and 24% are mistimed [5]. Young people are most vulnerable to unsafe induced abortions and its complications. Studies have shown that widespread of emergency contraceptive usage may significantly reduce unintended pregnancies and thus the number of abortion-related morbidity and mortality [17].

Dunkwa Municipality is among the populated municipalies in Ghana with majority of the people, 388,403 and 458,075 in the (15-19) years and (20-24) years range respectively [28]. The disparity between those who know about emergency contraceptive and those who use it is alarming [33]. This has implication on unwanted pregnancies at Dunkwa municipality. This study therefore sought to assess the knowledge, perception and prevalence of emergency contraceptives usage. Also, to establish the association between the sociodemographic characteristics of the respondents and the use of emergency contraceptive among female nursing students in Nursing and Midwifery Training Colleges in Ghana, using Dunkwa-On-Offin NMTC

as a case study. Research in this area can play an essential role in identifying and drawing interventions to look critically into nursing students' perception and knowledge and use of emergency contraceptives so as to provide baseline data to guide in interventions towards contraceptive use. In this way, government, non-governmental organization and health facilities adopt policy to improve emergency contraceptive use among nursing students in the municipality and the nation at large.

2. METHODS

2.1Study site

The study was conducted at the Nursing and Midwifery Training College atDunkwa-On-Offin. The Nursing Training College established in 2007 as Health Assistant Training School. The school started diploma in registered general nursing in 2011 and now accredited with midwifery program.Dunkwa Municipal Hospital serves as the health facility for the practical aspects of the training. The Nursing and Midwifery Training College, is located at the "heart" of Dunkwa-On-Offin adjacent the Dunkwa Municipal Hospital. It is situated in the Upper Denkyira East Municipality of Central Region.

The College consists of the Health Assistant Certificate, Diploma in Midwifery and Registered General Nursing. The school has a population of two thousand one hundred and fifty students (2,150). The Midwifery programme is strictly for females while the Registered General Nursing has both males and females with the females.All the students are Senior High School graduates with certificate in General Arts, Pure Science and Home Economics. The minimum grade for admission is aggregate 24 with admission age between 16 and 35 year.

2.2Study Population

The study was conducted among female nursing students at Nursing and Midwifery Training College, Dunkwa-On-Offin in the Central Region of Ghana. The study participants comprised of femalesbetween the ages of 16 and 35 years. The participants had tobe in school during data collection and willing to participatein the study.

2.3 Study Design

The study employed descriptive cross-sectional survey design to determine the knowledge and perception on emergency contraceptive use among female nursing students at Nursing and Midwifery Training College, Dunkwa-On-Offin (DNMTC). The descriptive cross-sectional survey looks at current challenges, dominant activities, perceptions and behaviors, including ongoing processes and evolving patterns [6]. The cross-sectional form of survey design deals with concerns about what happens in a situation with regard to factors or circumstances.Descriptive surveys design as a tool used by researchers to ask respondents questions about the existence of problems at a certain point in time [18]. In this analysis, samples are chosen to represent the entire population and inferences made for the entire population and occur in a few days to weeks. It is one of the most commonly used research methods in social sciencesand it is used to collect data from a population sample at a point in time. The purpose of quantitative research is to encourage and use statistical models, theories and/or hypotheses relating to traditional phenomena.

2.4 Sample size determination

To get a suitable sample size for the study, Yamane's (1967) statistical formula was used for the determination of the sample size for this study as follows:

$$\mathrm{n} = \frac{N}{1 + \mathrm{N(e)2}}$$

n= the required sample size

N= known population size

1= constant

e= standard error (0.05)

With the known population size of 2190adolescent girls in the two schools, the minimum sample size for the study wascalculated at 332. The 10% non-response rate was included to the minimum sample size to make it 365. Therefore the actual sample size was 365.

2.5 Sampling procedure

Stratified and simple random sampling techniques were used. Stratified sampling method determined the number of respondents from each programme. Based on the required sample size of 365, the number of respondents from each stratum (programme) was

proportionatelycalculated using the formula: A/B*C, where A' is the total number offemale nursing students in of a programme, B'= the total number of female nursing students in the two programmes and C'= the determined sample size. This procedure was used for the various strata as shown in Table 1. The sampling frame was created by listing all female students of the Collegeafter obtaining the lists from their respective Programme Heads. Simple random sampling method was then used to pick respondents by writing their index numbers of the elements on slips of paper. The papers were folded, put in a bowl and shuffled. The papers were then picked randomly with non-replacement method until the desired sample size of 365 was met.

Table 1: Proportionate Stratified sampling of respondents

Facilities	Population	Sample
Health Assistants	465	79
Diploma (RM and RGN)	1685	286
Total	2150	365

2.6 Study Variables

Table 2: Description of study variables

Variables	Operational definition	Type of variable
Independent variables		
Age	Refers to age of participants	continuous
Class	Class of participant e.g. form 1, 2 or 3	Categorical
Residence	Residence of participant either day or boarder	Categorical
Guidance	Refers to who is taking care of the participant	Categorical
Parents occupation	Occupation of the participants	Categorical
Knowledge	Awareness of emergency contraceptive	Categorical
Perception	Observation about emergency contraceptive	Categorical
Dependent variable		
Use of emergency contraceptive	Whether participants use emergency contraceptive	Categorical (dichotomous)

2.7 Data collection tool and technique

A self-administered questionnaire, which had both closed and open ended questions was used in the solicitation of information from the respondents. The questions werestructured in a way to assist in meeting the objectives of the study. The questions solicitedanswers on socio – demographics characteristics of the participants, knowledge on emergency contraceptives and perceptions towards the use of emergency contraceptives.Data collectionoccurred daily until the entire 365 participants responded to the questions.

2.8 Pretesting

The questionnaire was pretested on a sample of 20 respondents at Twifo Praso Nursing and Midwifery Training College. It was chosen because of the similarities of the respondents. The outcome of the pretest was used to modify the questionnaire where necessary.The Cronbach Alpha co-efficient was calculated for the questionnaire and presented in a table as shown below:

Table 3: Reliability scores of questionnaire subscales

Subscales	No. of items	Cronbach Alpha
Knowledge	12	0.846
Perception	15	0.832
Prevalence	15	0.803
Overall	42	0.802

2.9Data Processing and Analysis

Questionnaire administered were double checked for completenessand internal consistencies. The data entry sheet was designed and prepared with appropriate variable definitionsand codes and place in order to minimize errors during the entry process. The data weresorted in classes of the respondents, coded and cleaned in order to ensure accuracy ofinformation. Double entry of data aided in detecting discrepancies toensure corrections are made where needed. The final data were then entered and finallyimported into SPSS version 25.0 for the final analysis.

The categorical variables were presented in percentages, mean, standard deviation and compared with Pearson chi-square. The analysis of association between normally distributed variable was done using Pearson correlation and odds ratio and regression analysis. A probability value of less

than 0.05 was considered as having a significant statistical association. Odds ratio sensitive analysis was added to the bivariate analysis to exclude all confounding variables for validity and reliability of the test. Missing data were addressed by referring to the primary data to enter any oversight data. Any data genuinely missing from the primary data were excluded. To reduce missing data, the investigator made sure respondents complete all items on the questionnaire before retrieval.

3. RESULTS

3.1 Socio-demographic characteristics of respondents

From table 4, almost half of the respondents172 (47.1%) were within the age range of 21-25 years while 10 (2.7%) were within 31-35 age range. While 286(78%) of the respondents were diploma students, 79(22%) were Nurse Assistant Clinical students. An overwhelming majority of the respondents 303 (83.0%) were Christians whileonly 3 (0.8%) were Traditionalists. The majority of the respondent 302(82.7%) were single as against 5 (1.3%) who were married. On level/class of respondents, 124 (33.9%) were level 100 students while 120 (32.8%) came from level 200.

Table 4: Socio-demographic characteristics of respondents

Variables	Frequency, n=365	Percentage (%)
Age range of respondents		
16-20yrs	35	9.6
21-25yrs	172	47.1
26-30	148	40.5
31-35	10	2.7
Programme		
Diploma	286	78
NAC	79	22
Religion		
Christian	303	83.0
Muslims	59	16.1
Traditionalist	3	0.8
Marital status		
Single	302	82.7
Co-habiting	58	15.8
Married	5	1.3

Level/Class		
Level 100	124	33.9
Level 200	120	32.8
Level 300	121	33.1

3.2 Knowledge on emergency contraceptive

Table 5 shows respondents knowledge about emergency contraceptives. Majority of the respondents 215 (58.9%) were familiar with the purpose of family planning while 150 (41.1%) said no. Again, an overwhelming majority of the respondents (81.1%) said they have heard about emergency contraceptive before as against 69 (18.9%) who said no. most of the respondents 140 (47.2%) who have heard about emergency contraceptives had the information from the health workers. Also, 227 (62.2%) had been involved in sexual intercourse before. Furthermore, majority of the respondents 306 (83.8%) were aware of the risks associated with unprotected sex hence stating unwanted pregnancy as the major risk associated with unprotected sex. More than half of the respondents 281 (77.0%) knew emergency contraceptive can be used to prevent unwanted pregnancy after unprotected sex.

Table 4:Knowledge on emergency contraceptive

Variables	Frequency	Percent
Are you familiar with family planning?		
Yes	215	58.9
No	150	41.1
Have you ever heard about emergency contraceptive before?		
Yes	296	81.1
No	69	18.9
If yes, source of information		
Health workers	140	47.2
Media	77	26.0
Partner	27	9.1
Relative/friends	52	17.5
Have you had sexual intercourse before?		
Yes	227	62.2
No	138	37.8
Are you aware of the risks associated with unprotected sex?		

Yes	306	83.8
No	59	16.2
If yes, what are some of the risks		
Unwanted pregnancy	197	57.9
Contracting HIV/AIDS	78	22.9
Contracting STI	65	19.1
Do you know that ECs can be used to prevent unwanted pregnancy after unprotected sex?		
Yes	281	77.0
No	84	23.0

Figure 1 shows the modern emergency contraceptives that the respondents knew about. Majority of the respondents 191 (52.3%) said they knew about Postinor 2 while 5 (1.4%) did not know aboutany emergency contraceptive.

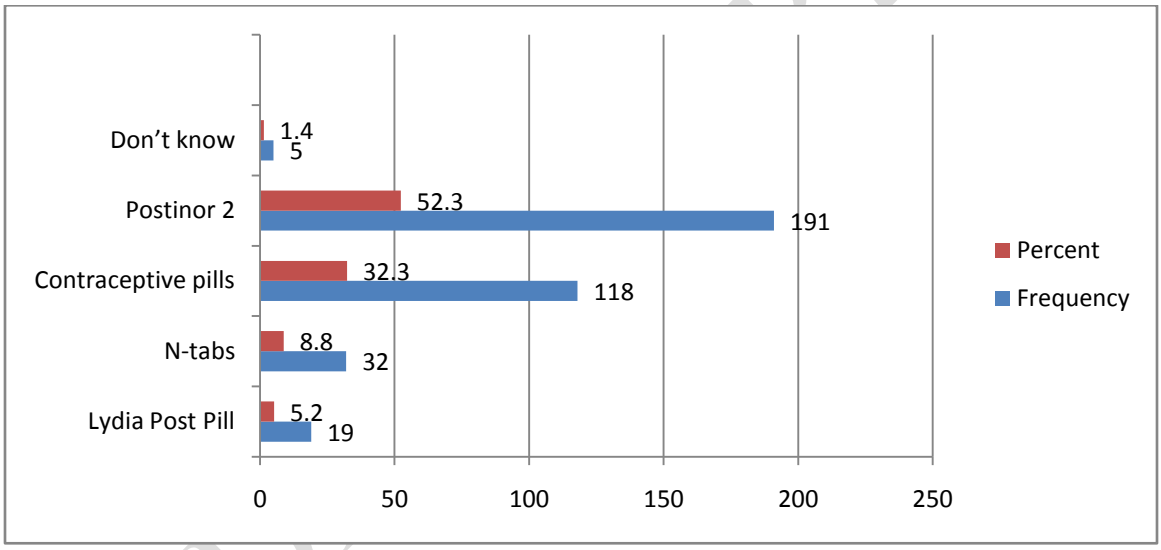

Figure 1: Which modern emergency contraceptive do you know?

Figure 2 depicts respondents' knowledge on when to use emergency contraceptives to effectively prevent pregnancy after sexual intercourse. Virtually half of the respondents 129 (35.3%) said the emergency contraceptives should be used within 72 hours after sex while 82 (22.5%) said it should be taken within 24 hours.

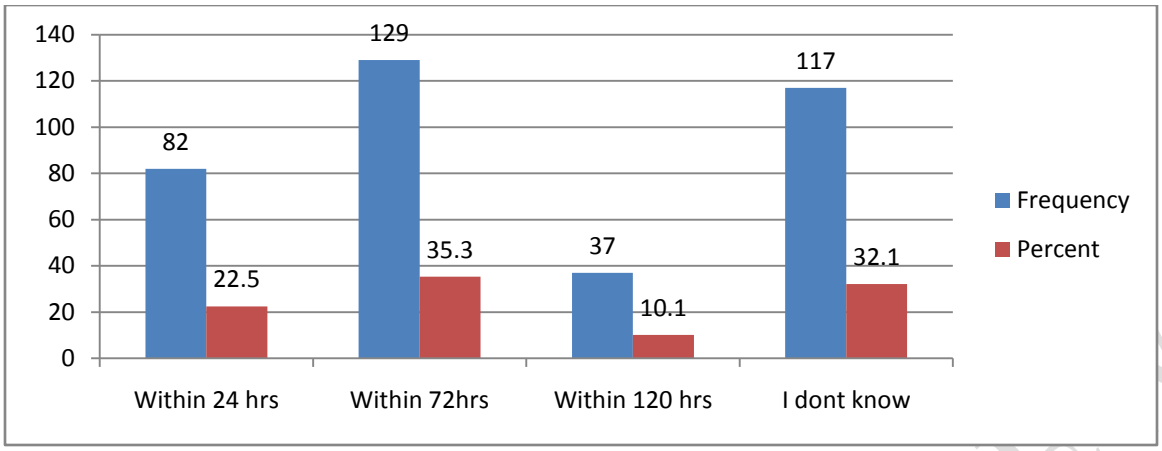

Figure 2: When to use emergency contraceptives to effectively prevent pregnancy after sex

Figure 3 presents where respondents were able to access emergency contraceptives. About half of the respondents 143 (39.2%) accessed the contraceptives from their friends while 9 (2.5%) had it from the chemical shops.

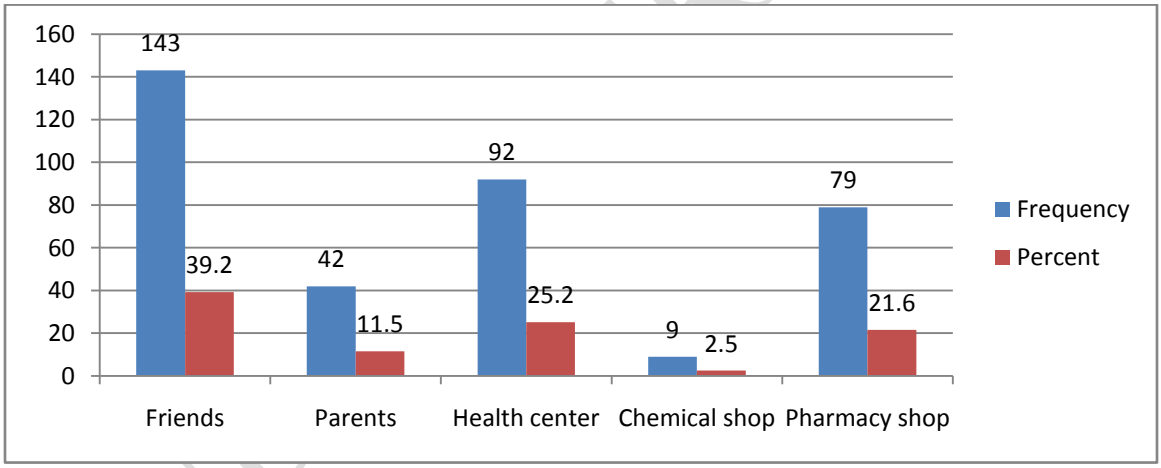

Figure 3: Where emergency contraceptive can be accessed

3.3 Perception about emergency contraceptive use

Table 6, shows the perception of respondents about emergency contraceptive use among adolescent girls. Most of the respondents (38.4%; 32.4%) agreed it was against their religious doctrines to use emergency contraceptives. Majority of the respondents (38.4%; 32.6%) agreed

that they used emergency contraceptives even if it was against their religious beliefs. Again, most of the respondents (32.1; 35.3%) agreed that emergency contraceptive has significant side effect while the minority disagreed. Furthermore, majority of the respondents (67.6%) agreed that emergency contraceptives promote promiscuity hence increase the prevalence of HIV/AIDS and STIs. Also, most of the respondents (70.4%) agreed that they would take emergency contraceptives if they had unintended sexual intercourse. Lastly, it was agreed by the majority (55.9%) that emergency contraceptives are safe for its users.

Table 5: Perception about emergency contraceptive use

Variables	Frequency	Percent
EC use is against my religious doctrines		
Strongly agree	140	38.4
Agree	119	32.6
Disagree	69	18.9
Strongly disagree	37	10.1
I will use EC even if it is against my religious beliefs		
Strongly agree	100	27.4
Agree	127	34.8
Disagree	88	24.1
Strongly disagree	50	13.7
EC has significant side effects hence fear to use it		
Strongly agree	117	32.1
Agree	129	35.3
Disagree	64	17.5
Strongly disagree	55	15.1
EC increases rate of HIV/AIDS and other STIs		
Strongly agree	129	35.3
Agree	118	32.3
Disagree	75	20.5
Strongly disagree	43	11.8

Unintended sexual intercourse lead to EC use		
Strongly agree	99	27.1
Agree	158	43.3
Disagree	75	20.5
Strongly disagree	33	9.0
Emergency contraceptives are safe for its users		
Strongly agree	86	23.6
Agree	118	32.3
Disagree	115	31.5
Strongly disagree	46	12.6

3.4Prevalence of emergency contraceptive usage

The table 7 shows the prevalence of 63.0% emergency contraceptive use among the adolescent girls. Most of the respondents 180 (78.2%) used emergency contraceptive sometimes while 20(8.6%) used it most of the time. Almost half of the respondents 104 (45.2%) used Postinor 2 as their emergency contraceptive. Also, most respondents 146 (63.4%) used emergency contraceptives when their condoms break during sexual intercourse.

Table 6: The prevalence of emergency contraceptive usage

Variables	Frequency	Percent
Have you ever used emergency contraceptive before?		
Yes	230	63.0
No	135	37.0
Total	365	100.0
If yes how often do you use EC		
Sometimes	180	78.2
Most of the time	20	8.6
All the time	30	13.0
Total	230	100.0
What drugs/method do you use as EC?		
Combined oral pills	82	36.0
N-tab	18	7.8
Lydia post pill	18	7.8
Postinor2	104	45.2
Hot bath and douching immediately after sex	8	3.4
Total	230	100.0

When do you use emergency contraceptives?		
Condom breakage	146	63.4
Failed Interruptus Coitus	20	8.6
Miscalculation of rhythm method	5	2.1
Unexpected unprotected	59	25.6
Total	230	100.0

4.6 The association between the socio-demographic characteristics of respondents and the use of emergency contraceptive

Table 8 shows the association between the socio-demographic characteristics of the respondents and the use of emergency contraceptives. Age of the respondents was found to be statistically significant (p-value=*0.000*).Also, marital status of respondents and level/class were significant (p-value=*0.003*) each.

Table 7: Bivariate analysis of association between the socio-demographic characteristics of respondents and the use of emergency contraceptive

Independent Variables	**Have ever used EC before**		**Total f(%)**	**χ(*p-value*)**
	Yes	**No**		
Age of respondents				
16-20	5(1.4)	5(1.4)	10(2.7)	
21-25	125(34.2)	47(12.9)	172(47.1)	
26-30	85(23.3)	63(17.3)	148(40.5)	15.683(*0.001*)*
31-35	5(1.4)	5(1.4)	10(2.7)	
Total	230(63.0)	135(37.0)	365(100)	
Programme				
Diploma	200(54.7)	87(23.8)	287(78)	
NAC	70(19.1)	9(2.4)	79(22)	2.462(*0.292*)
Religion of respondents				
Christian	183(50.1)	120(32.9)	303(83.0)	
Muslim	42(11.5)	10(2.7)	52(14.2)	9.356(*0.019*)
Traditionalist	5(1.4)	5(1.4)	10(2.7)	
Marital status				
Single	187(51.2)	115(31.5)	302(82.7)	
Co-habiting	29(7.9)	10(2.7)	39(10.7)	13.699(*0.003**)
Married	19(5.2)	5(1.4)	24(6.6)	

Level/class				
Level 100	81(22.2)	43(11.7)	124(33.9)	
Level 200	91(24.9)	29(7.9)	120(32.8)	8.837(*0.003*)*
Level 300	85(23.2)	36(9.8)	121(33.1)	

Table 9 shows the multivariate logistic regression on association between the socio-demographic characteristics of the respondents and the use of emergency contraceptives. Age of the respondents was found to be statistically significant OR 0.21 (CI; 0.43-1.12) and p-value= (*0.000*). Also, marital status of the respondents was statistically significant (p-value=*0.001*). Level/class of the respondents appeared to be highly significant OR 1.70 (CI 0.97-2.97) and p-value=*0.000*).

Table 8: Multivariate logistic regression on socio-demographic factors and the use of EC

Independent Variables	**Have ever used EC before**		**OR (95% CI)**	**χ2(*p-value*)**
	Yes	**No**		
Age of respondents				
16-20	5(1.4)	5(1.4)		
21-25	125(34.2)	47(12.9)	0.21(.04,-1.12)	
26-30	85(23.3)	63(17.3)		15.683(*0.000*)*
31-35	5(1.4)	5(1.4)		
Programme				
Diploma	200(54.7)	87(23.8)		
NAC	70(19.1)	9(2.4)	0.75(.19,3.00)	1.699(*0.009*)
Religion of respondents				
Christian	183(50.1)	120(32.9)		
Muslim	42(11.5)	10(2.7)	1.65(.94,2.90)	8.837(*0.007*)
Traditionalist	5(1.4)	5(1.4)		
Marital status				
Single	187(51.2)	115(31.5)		
Co-habiting	29(7.9)	10(2.7)	1.70(.97,2.97)	30.535(*0.001*)*
Married	19(5.2)	5(1.4)		
Level/class				
Level 100	81(22.2)	43(11.7)		
Level 200	91(24.9)	29(7.9)		89.387(*0.000*)*
Level 300	85(23.2)	36(9.8)		

4. DISCUSSION

4.1 Knowledge of respondents on emergency contraceptives

This study revealed that more than half 58.9% of the respondents were familiar with the emergency contraceptives. The findings also showed that an overwhelming majority (81.1%) of the respondents said they have heard about emergency contraceptive before. Most of the respondents 141 (43.3%) who have heard about emergency contraceptives had the information from the health workers. Also, 227 (62.2%) had been involved in sexual intercourse before. Furthermore, majority of the respondents 306 (83.8%) were aware of the risks associated with unprotected sex hence stating unwanted pregnancy as the major risk associated with unprotected sex. More than half of the respondents 281 (77.0%) knew emergency contraceptive can be used to prevent unwanted pregnancy after unprotected sex.

Knowledge on emergency contraceptive in this study was higher than that of Takoradi Technical University where majority of the students (74.6%) sampled had prior knowledge of emergency contraceptive. A most of them heard of it through a formal lecture [6]. The difference could be due to the fact that most of the adolescent girls in the this current study felt shy to go to health facilities for long term family planning methods hence the use of emergency contraceptives after sexual intercourse.

The findings corroborate with a study undertaken at the University of Ghana also revealed an overwhelming majority of the respondents (87.9%) stated they had knowledge on some emergency contraceptives such as Postinor 2. The students that study had their information from different sources, (48.5%) said their source of information was from the media and (36.5%) stated their source as friends and relatives. The rest of the respondents (15%) got information from health professionals [16]. However, in this study most of the students had their knowledge from the health workers. On the contrary, the finding is higher than a study among female university students in Uganda which indicated that (45.1%) who knew about emergency contraceptive pills and friends, media and school were their sources of information [31].

To find out if the students had enough knowledge on emergency contraceptive a question on the duration of time for the effectiveness of emergency contraceptive was asked. Most of the respondents stated 72 hours after sexual intercourse. This is in support with a study where those who had prior knowledge knew the correct period for taking ECPs. However quite a substantial number (40.7%) did not know the time that it should be taken [18].The efficacy of the

emergency contraceptive method requires correct timing of use. The longer one delays after unprotected sex taking emergency contraceptive, the greater the probability of unwanted pregnancy. It was obvious in this research that understanding of correct timing was low for emergency contraceptive use. Emergency contraceptive knowledge is very critical in the quest to avoid unwanted pregnancies among students because it could negatively affect their academic work.

The low level of students on good timing for emergency contraceptive use might be due to the issue of providers failing to provide appropriate emergency contraceptive details when dispensing with the notion that it will promote promiscuity among female nursing students. Students were also informed of the existence of emergency contraception emergency pills from various sources of information. Media-created awareness may not be sufficiently thorough to include understanding of adequate method use, content, and efficacy. This low level of knowledge on timing may also be due to the lack of a Careers and Counseling Centers in the various schools that enhances students' reproductive health programmes and helps to incorporate these concerns into fresh student orientation programmes. Unwanted pregnancies have become a problem for many students, and school authorities need to provide students with the needed information on emergency contraceptive use.

4.2 Perception of nursing students about emergency contraceptive use

The findings showed that the majority of the respondents agreed it was against their religious doctrines to use emergency contraceptives. Again, most of the respondents agreed that emergency contraceptive has significant side effect hence their failure to use them. Furthermore, majority of the respondents agreed that emergency contraceptives promote promiscuity hence increase the prevalence of HIV/AIDS and STIs. Also, most of the respondents agreed that they would take emergency contraceptives if they had unintended sexual intercourse. Lastly, it was agreed by the majority that emergency contraceptives are safe for its users.

The findings are in support with a research at the University of Ghana that disclosed that students had the understanding and appreciated the significance of emergency contraceptives, but most believed they preferred not to use emergency contraceptives because they abstained or feared their side effects[1].Few students in Uganda also feared to use emergency contraceptives because of the side effects. Majority of the respondents did not fear about the side effects of emergency

contraceptives because of the inadequate knowledge on the use of emergency contraception and a higher number of them did not experience any side effect.

There are number of reasons found by researchers that attribute or influence the use of emergency contraceptives among adolescent in the country. Poor knowledge and perception about the methods, fears and tales about side effects of some methods of contraception, lack of support and bad influence of family members or friends and sexual partners, religion and traditional beliefs attribute to low use of contraceptives which supports the findings of the current study. For example in sub-Saharan Africa, peers greatly influence adolescent sexual behavior and contraception use[14]. This implies that adolescent and young women's contraceptive decision-making processes are sometimes stacked in between peer and health providers or physicians. Peer influence is primarily based on shared contraceptive goals, while providers are important for myth clarification and education**.** Peer influence appeared to be greatest when participants sharedcontraceptive concerns and goals.In Ghana the reasons for non-use of contraceptives include fear of side effect and opposition to contraceptive use on religious grounds. Partner refusal and the fact that some adolescents feel they are not susceptible to pregnancy are some reasons why adolescents do not use contraceptives [15].

According to a study, the fundamentalist opinion leaders and conservative politicians have stood against the introduction emergency contraceptives in many countries of the world, mentioning moral issues. This was a result of strong opposition by the Catholic Church as well as anti-abortion groups [32]. Thus women are hesitant to use emergency contraceptives if they believe it is an abortifacient. A study done in Sweden showed that 33% of the respondents considered emergency contraceptives pills as a kind of abortion drug [19]. This finding was not different from a study done in Nigeria in which 25.8% of the participants also considered use of emergency contraceptives as a form of abortion. However, in this study respondents see emergency contraceptives as agents of promiscuity.

4.3Prevalence of Emergency ContraceptionUse

The prevalence of emergency contraceptive use among the adolescent girls was 63.0%. Most of the respondents 192 (52.6%) used emergency contraceptive sometimes. Majority of the respondents 184 (58.7%) used Postinor 2 as their emergency contraceptive. Also, most respondents 173 (55.2%) used emergency contraceptives when their condoms break during sexual intercourse.This may be because of the higher level of education among respondents in

this current study since they are second cycle students. The respondents might have researched to know the importance of emergency contraceptives.

The proportion of female students who had ever used an emergency contraceptive was 60.0% this is higher compared to the study conducted in Takoradi Technical University and University of Ghana where 28.4% and 29.6% respectively of respondents had ever used an emergency contraceptive [6]. The rate of use was low in University of Ghana because most students were aware of ECs and had the knowledge but had never used any because they abstained [10]. The rate of use is also lower in this study as compared to a study in Ethiopia where 82.97% of students used emergency contraceptives [8].

The use of emergency contraceptive was high in this study which may be due to the fact that higher majority of the respondents were sexually active. Also, there was no in-depth appreciation of the study participants about their purpose for emergencies since they had a low level of knowledge on when to use the emergency contraceptives. From the analysis, health workers were the major source of information and access to information is influential to the use of emergency contraceptives hence this could contribute to the high level of emergency contraceptive use.

Also, most of the students who lived on campus used emergency contraceptive more because getting access to emergency contraceptive pills would be easier through their friends and mostly engage in sexual intercourse since they are living on their own with no parental guidance. Those who experienced no side effects of the emergency contraceptive pills might continue to use the emergency contraceptive pills. This is of concern to public health because studies have shown that if emergency contraceptive pill is used several times, the danger of unwanted pregnancy rises.

Over the past 35years, the highest value of contraceptive prevalence in Ghana was 28.60% in 2015, while its lowest value was 5.20% in 1988. In relation to the use of emergency contraceptive pills, a research conducted disclosed the accessibility and affordability are factors that cannot be ignored [31]. Some religious and cultural beliefs have not hindered the use of emergency contraceptive pills and therefore health officials must make emergency contraceptive pills accessible to women.

4.4 The association between the socio-demographic characteristics of respondents and the use of emergency contraceptives

The findings revealed that age of the respondents was statistically significant to the use of emergency contraceptive among the students OR 0.21(CI0.43-1.12; p-value=0.000). Also, marital status and level/class of the respondents were significant. From the analysis, respondents within the age 21-25 used emergency contraceptive. This implies that individuals' age influences their decision to use emergency contraception. Age influences one's sexual behavior and knowledge about pregnancy so after engaging in sexual intercourse one might take an emergency contraceptive to avoid any unwanted pregnancy. Support from parents would also influence one's decision to use emergency contraceptive. When a female stays with the parents it will be easier for them to accept and use emergency contraceptive since they would not like to be pregnant for their parents to withdraw them from school.

Level/class was statistically significant to the use of emergency contraceptive. A study on the socio-demographic factors on the usage of modern contraceptive by females in Ghana's at Asuogyamandistrict disclosed that about 97% of the survey participants educational level influenced the use of contraceptive method [6]. It also showed that in the research area, the marital status and religion did not influence modern contraceptive use among females. Contraceptive use is associated with formal education, increased wealth and unmarried partnership, whiles Muslims women are not likely to use contraceptives than the female Christians [9]. A survey conducted in Nkwanta also revealed that, less female elites, beliefs, social or cultural and communication among couples also played a critical part in the modern family planning usage [12].

4.5 Limitations of the Study

A crucial challenge that the researcher encountered in the study was how to obtaining support from target population due to the sensitive nature of the study however the questions were worded in such a way that the sensitivity was reduced. Again, social desirability bias was introduced as the response was self-reported hence the respondents were encouraged to give frank answers.

5CONCLUSION

The knowledge on when to use the emergency contraceptive was low hence most of the respondents did not get the desire effects of the emergency contraceptives. The perception on emergency contraceptive use was good since respondents agreed that it was safe to use emergency contraceptives to prevent unwanted pregnancies. Socio-demographic factors that influenced the use of emergency contraceptive included age, marital status and level/class of the respondents. The study concludes that if female student nurses are educated on when and how to use emergency contraceptive, the desire effects, perception and prevalence rate would be increasedwithin the female student population in Ghana.Based on the findings, the study recommends that health care agencies and family planning advocates should nursing students in family planning education and sensitization programmes. This will enable students to have a better understanding, so that the emergency contraceptive is not mistaken for a regular family planning method. Also, there is the need for service providers either at the facilities or pharmacies to provide adequate information about emergency contraceptive to the students such as the correct timing and side effects in order to make it effective. Further studies should be done on the relationship between source of information on emergency contraceptive and the use of emergency contraceptive.

6. ETHICAL CONSIDERATION

Ethical clearance and approval was sought from The Ghana Health Service Ethical Committee. Also,written consent was sought from the respondents well as staff members of the College in the participating schools.The participants were given clear explanations on the objectives and details of the study aswell as its benefits. Those who agreed to be a part of the study asked to giveacknowledgement by signing the consent form. They were also made aware that,notwithstanding their consent given, they were free to pull out from the study at any pointin time they felt they did not want to continue. To ensure confidentiality, student'sidentities were remained anonymous and undisclosed at every point of the study.

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