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Awareness and utilization of emergency contraceptives among female nursing students at KIU, western campus, Bushenyi District

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ABSTRACT

Emergency contraception is used as an emergency procedure to prevent unintended pregnancy after an unprotected sexual intercourse and method failure. This study assessed knowledge and utilization of emergency contraception among certificate female nursing students of Kampala International University, western campus. A descriptive cross-sectional study was conducted among female nursing students of Kampala International University in August 2016. Participants were sampled using systematic sampling technique. Pre-tested, self-administered questionnaires were used to collect the data. Data was entered and analyzed using Microsoft excel programme. Results were presented using descriptive statistics, frequencies and percentages. A total of ninety-six (96) volunteered certificate nursing female students participated in the study. Seventy-six (79%) of the female certificate nursing students ever heard of emergency contraceptives (EC), only 8(11%) used/or ever used the method. The commonest source of information was formal health education (71%). EC are indicated in preventing pregnancy post rape (29%), failure of barrier method (24%), missing of oral contraceptives (20%); and should be initiated within 24 hours (43.4%). In addition, students knew that ECs do not terminate pregnancy if the woman is already pregnant (68%), are available not only by prescription (74%), effective when taken immediately (50%) and do not protect and prevent STD (88%). The present study shows that knowledge of emergency contraceptives among certificate female nursing students of Kampala International University is high though utilization of the method is still very low despite some having unintended pregnancies. Evidently, there is a need for carefully designed educational programmes and promotion of EC in student health care centers in the campus.

Keywords: Emergency Contraceptives, unintended pregnancy, Bushenyi District, oral contraceptives.

INTRODUCTION

Emergency contraception (EC) refers to methods that women can use to prevent pregnancy after unprotected sexual intercourse, and is also known as "post-coital" contraception [1-5]. EC methods represent the only reliable post coital FP option available to women, and have been recommended by numerous professional associations as safe and effective for use following both consensual and nonconsensual sex [6-10].

There are two types of ECs namely, emergency contraceptive pills and intrauterine devices (IUDs). The pills include combined oral contraceptive pills (COCs), and a progestin only pills (POPs); IUDs can be effective if it is inserted within 5 days of unprotected sexual intercourse [11-16]. EC is said to be safe with minor side effects like nausea and vomiting in case of pills and infection for IUDs if not used properly. Effectiveness of EC said to be 75% in case of COCs and 85% in case of POPs. Regarding the mechanism of action, EC works by preventing fertilization, implantation and tubal transportation of sperm and ovum [17-20].

EC is found to be effective if used as soon as possible after unprotected sexual intercourse, especially within 72 hours of unprotected sexual intercourse [21-25]. The usual combination hormonal formulation consists of 100 µg ethinyl estradiol and 500–600 µg levonorgestrel in several tablets administered twice, 12 hours apart. Under current recommendations, the first dose is administered within 72 hours of intercourse [26-30]. The levonorgestrel-alone formulation requires administration of 750 µg of the progestin twice, also 12 hours apart. Many authorities currently recommend initial dosing within 72 hours, although data suggest this approach may be effective as long as 5 days after intercourse. Furthermore, data suggest that a single dose of 1500 µg levonorgestrel may be as effective as the 2-dose regimen [4]. The active ingredient in the most widely available EC product (levonorgestrel) has a robust safety profile after over 40 years on the market [31-34].

From a global perspective, EC has yet to reach its full potential, many remain unaware that the option exists, EC remains difficult for most women to access in a timely fashion and the most effective methods of EC are even harder to access. Much work remains for clinicians, lawyers, researchers, advocates and activists in ensuring that EC is available in all the world's countries and that unreasonable age and prescription requirements are overturned as rapidly as possible [5].

Additionally, not all pharmacies carry EC, citing either commercial or religious concerns [6].

In sub-Saharan Africa, where access to formal health care and FP services remains limited, dedicated EC pills—often accessed through private-sector pharmacies—have emerged to play an important role in preventing unwanted pregnancies. Demographic and Health Surveys (DHSs) from across the continent demonstrate that, although limited, knowledge and use of EC has increased in nearly all the African countries where data regarding EC is available: Ghana, Kenya, and Uganda [7-10].

Situations of unprotected intercourse where EC can be used as a backup contraceptive method include, failure of barrier methods such as slippage, breakage or misuse of the condom, sexual assaults, rape, failed coitus interruptus, two or more consecutive missed oral contraceptive pills, or simply because intercourse was unexpected and therefore contraception had not been used [1].

Consequences of unprotected sex, such as unintended pregnancy and unsafe abortion, can be prevented by access to contraceptive services including emergency contraception. Knowledge and practice on emergency contraception are particularly important because of high rates of unwanted and teenage pregnancy and soaring sexually transmitted infection (STI) and HIV/AIDS rates. Different studies, however, have shown that the knowledge and practice in relation to emergency contraception are limited among women [11].

Given increasing adolescent sexual activity and decreasing age at first sex in developing countries, the use of contraceptives to prevent unwanted pregnancy and unsafe abortion is especially important [12-18]. Its potential as the last resort to avoid unwanted pregnancy and therefore abortion makes it especially significant for those young couples that opt not to use a long-term regular contraceptive method and their sexual behavior is rather unplanned, erratic and irregular [19].

The risk of pregnancy increases with a widening gap between sexual debut and age of first marriage [20]. At the time of enrolling into Universities, women are at an age of about two years above the median age of sexual debut in Uganda suggesting that they are usually sexually active.

According to the two major surveys conducted among university students in Uganda, findings indicated that students did not have access to sexual and reproductive health services and HIV/AIDS-related programmes despite their engagement in high-risk sexual behaviours [21-22]. Although knowledge of EC in Uganda is higher than in many other

African countries, more than two-thirds of Ugandan women have still never heard of EC, and EC use remains low [8].

Although emergency contraception is not recommended as a regular family planning method, it is a useful method after unprotected sexual intercourse to reduce the chance of unwanted pregnancies. Emergency contraception is most useful when there is a failure of barrier methods such as slippage and breakage of condoms or when sexual intercourse was unpredicted [23].

METHODOLOGY

Study design and rationale

A descriptive cross-sectional study design was utilized. Cross sectional studies are generally quick, easy, and cheap to perform. They are often based on a questionnaire survey. There was no loss to follow-up because participants are interviewed only once. In this way cross-sectional studies provide a 'snapshot' of the outcome and the characteristics associated with it at a specific point in time

Study setting and rationale

The study was conducted at KIU western campus. The campus is located in the town of Ishaka, in Bushenyi District, Western Uganda, approximately 330kilometres (210mi), by road, southwest of Kampala. The students at the university come from Uganda and other African countries. The university is licensed to teach undergraduate and postgraduate courses in Human medicine, dentistry, pharmacy and Nursing. The university maintains the following faculties: Faculty of Medicine, Pharmacy, Dentistry, Nursing and social science. The faculty of nursing also called school of nursing oversees training of various levels of nurses (bachelor degree in nursing science, diploma in nursing science and certificate in nursing science). The number of students registering for certificate nursing study is increasing steadily in the school of nursing and KIU is a new environment which predisposes youth towards new experiences, decision making, and life-style challenges which include having new relationships and being initiated into sex.

Study population

All female nursing students at the school of nursing of KIU pursuing certificate in nursing.

Sample size determination

The formula for determining sample size by Kothari [24] was used:

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

Where:

n = desired sample size if target population > 10,000

Z = standard normal deviate at the required confidence level

P = proportion in the target population estimated to have the characteristics being measured, in this case 90% being aware of EC

q = 1 – p

D = design effect- usually 1 where there are no replications

d = the level of statistical significance set

$$n = \frac{(1.96)^2 \times 0.9 \times 0.1 \times 1}{0.05^2} = 138$$

Sample size (n) =138. However, for convenience purposes, only 100 participants were considered of which data for 96 participants was analyzed because four declined consent.

Sampling procedure

Systematic sampling procedure was employed to recruit 100 certificate female nursing students. The chief advantages of this method are that each combination of *n* individuals in the population has an equal chance of being selected, and it is easy to actually do. Certificate female nurses were then picked systematically until the required number of 100 participants was reached.

Inclusion criteria

Must be a female nursing student pursuing certificate in nursing and willing to take part in the study.

Exclusion criteria

All certificate female nursing students who were very sick and could not fill the questionnaire and those who had gone out of the school due to lack of tuition or for any other reasons.

Definition of variables

Dependent variables

Knowledge and utilization of Emergency contraceptives

Independent variables

Age, marital status, religion, and year of study.

Research instruments

A semi-structured self-administered questionnaire designed to assess participants' knowledge, and utilization of emergency contraceptives was used. To increase the quality of the data, the instrument was prepared after reviewing different literature and modified to suit to the local context. The questionnaire included questions on socio-demographic variables, knowledge, and utilization of ECs.

Before starting the actual study the questionnaire was pre-tested among diploma nursing students for clarity and sensitivity of the questions, and correction were made based on the results obtained.

Data collection procedures

Semi-structured, self-administered questionnaires were distributed to the study respondents who were willing to participate in the study. The filling of the questionnaires was supervised and then recollected by the researcher upon completion.

Data management

Data was checked for completeness, consistency and edited prior to analysis by the investigator.

Data analysis

Data was entered into the computer and analyzed using Microsoft Excel programme. A score for knowledge of Emergency Contraception (EC) was obtained for each participant by summing up the correct answers given on selected questions from the questionnaire.

The findings on participant socio-demographic characteristics, knowledge regarding EC and its utilization were presented in frequencies/percentages, cross table analysis, figures, graphs and descriptive measures.

Ethical considerations

After obtaining ethical clearance from School of Nursing sciences research committee of Kampala International University, permission to conduct the study was thought for from the administration of school of nursing before accessing students. Prior to conducting the study, written consent was obtained from the respondents. Strict confidentiality was assured through anonymous recording and coding of questionnaires and placed in safe place.

RESULTS

Description of the study sample

Table 1: Socio-demographic characteristics (n=96)

Variable	Frequency	Percentage
Age category(years)		
17-20	46	47.9%
20-24	44	45.8%
25-29	6	6.3%
Marital status		
Single	58	60.4%
Married	3	3.1%
In a relationship	35	36.5%
Religion		
Protestant	30	31.3%
Catholic	32	33.3%
Islam	10	10.4%
SDA	6	6.3%
Pentecostal	18	18.8%
Year of study		
First year	20	20.8%
Second year	52	54.2%
Final year	24	25.0%

The majority of the respondents 47.9% (n = 46) were in the age category of 17-20 years and 45.8% (n=44) in the age category of 20-24years. Most respondents were single 60.4% (n = 58) and 36.5% in a relationship. In regards to religious affiliation, most respondents were of catholic faith (33.3%) and Protestants (31.3%). Over half 54.2% (n=52) of the participants were in their second year of study and 25% in their final year of study (Table 1).

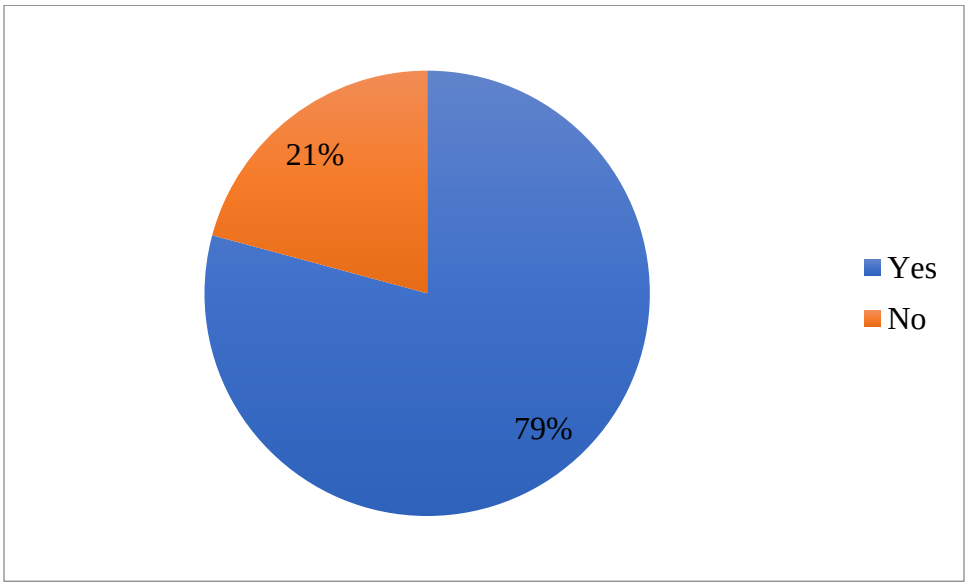

Figure 1: Whether students ever heard of emergency contraceptive

Majority of the respondents, 76 (79%) ever heard or knew EC where as those who hadn't heard about it was about 21%.

Table 2: Sources of information for EC among female students who know ECs at Kampala International University

Source	Frequency	Percentage
Health education	54	71%
Media	6	8%
Health facility	12	16%
Friends	4	5%

Their common sources of information were health education (71%), Media (8%) health facility (16%) and 5% from friends (Table 2 above).

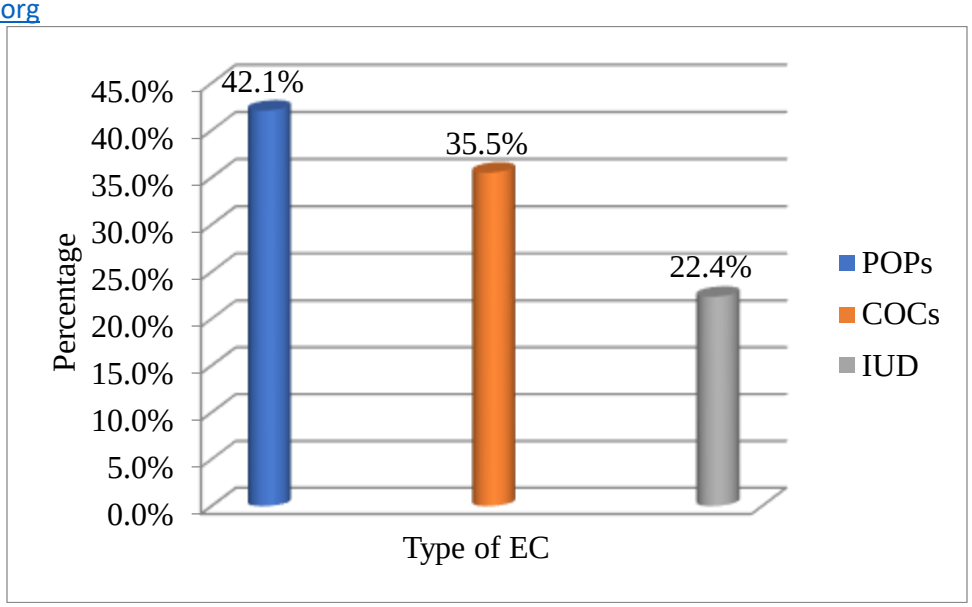

Figure 2: Knowledge of certificate female nursing students regarding types of EC

Of those respondents who had heard of emergency contraceptives 32(42.1%) correctly identified progesterone only pills while 27(35.3%) identified combined oral contraceptive and 17(22.4%) identified IUD as an emergency contraceptive method.

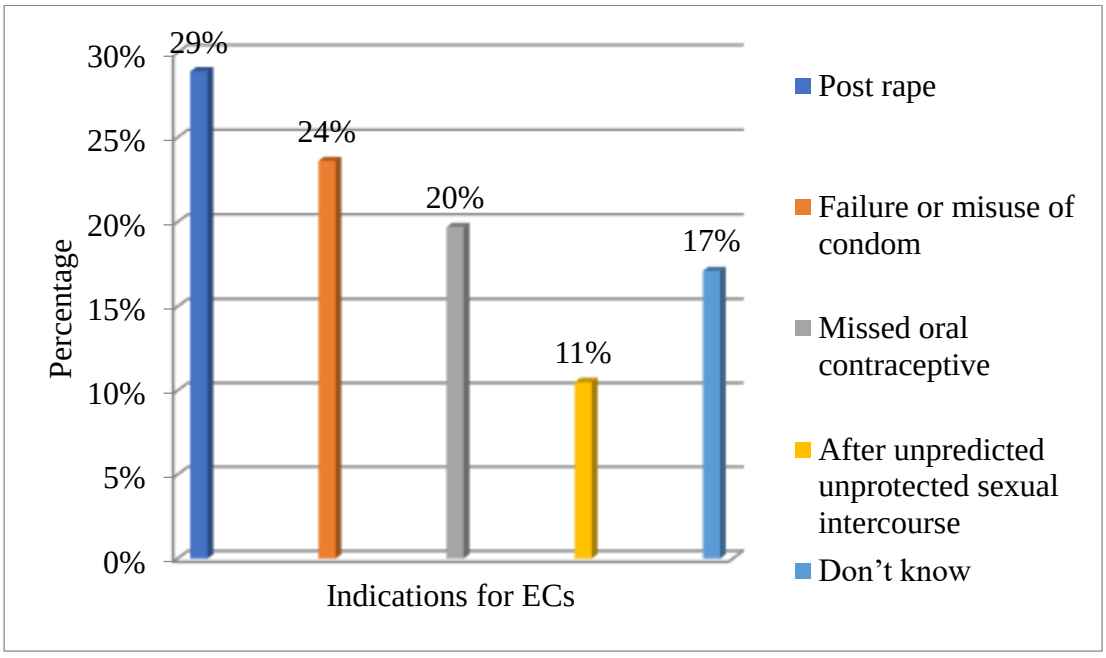

Figure 3: Knowledge on indications for use of Emergency contraceptives

Majority of the students (29%) mentioned that EC helps during post rape, 24% knew it is worth as a back up when condom breaks, 20% thought it is important when oral contraceptive pill is forgotten and 17% never knew when EC can be used.

Table 3: Knowledge regarding the timing and dosing of emergency contraceptive among certificate female students who know ECs at Kampala International University

Knowledge questions	Frequency	Percentage
Recommended time to take EC		
Within 24hours	33	43.4%
Within 48hours	14	18.4%
Within 72hours	3	3.9%
Don't know	26	34.3%
Recommended number of doses		
One dose	47	61.8%
Two doses	18	23.7%
Don't know	11	14.5%
Recommended time between doses		
12hours apart	58	76.3%
24hours apart	7	9.2%
Don't know	11	14.5%

Among the total respondents of 76 female students majority of them (65.7%) correctly identified the recommended 72 hours as the time limit for emergency contraceptives and among the respondents who know about the use of time to take ECs are 65.7%(43.4%, 18.4%, 3.9%) 24hrs, 48hrs and 72hrs after unprotected sex respectively while 34.3% did not the timing. Besides, those respondents who knew about the ECs dose are 61.8%, 23.7% with respect to one dose, two doses respectively and the 14.5% didn't know about ECs dose. But those who know about the interval (12hrs) in between taking the hormonal EC are high at 76.3% (Table 3).

Table 4: Knowledge regarding EC effectiveness, terminating pregnancy, availability, effectiveness when taken immediately and protection from STDs

EC variable	Yes (Freq/%)	No (Freq/%)	Don't know (Freq/%)
EC 100% effective	35(46)	15(20)	26(34)
EC terminate pregnancy, if woman already pregnant	9(12)	52(68)	15(20)
EC available by prescription only	13(17)	56(74)	7(9)
EC more effective when taken immediately	38(50)	26(34)	12(16)
EC provide protection from STD	7(9)	67(88)	2(3)

Regarding the EC effectiveness among the respondents 46% responded positively and 15% responded negatively; but, the remaining 34% responded they don't know. However, the greatest percentage (68%) of respondents responded correctly that EC does not terminate pregnancy if the woman was already pregnant and those who responded negatively about it were 12%. In addition, majority (74%) of the respondents were aware that EC could be accessed even without prescription with half (50%) of them knowing that EC was more effective when taken immediately. Also, 88% of the respondents responded that EC do not protect against STDs (Table 4).

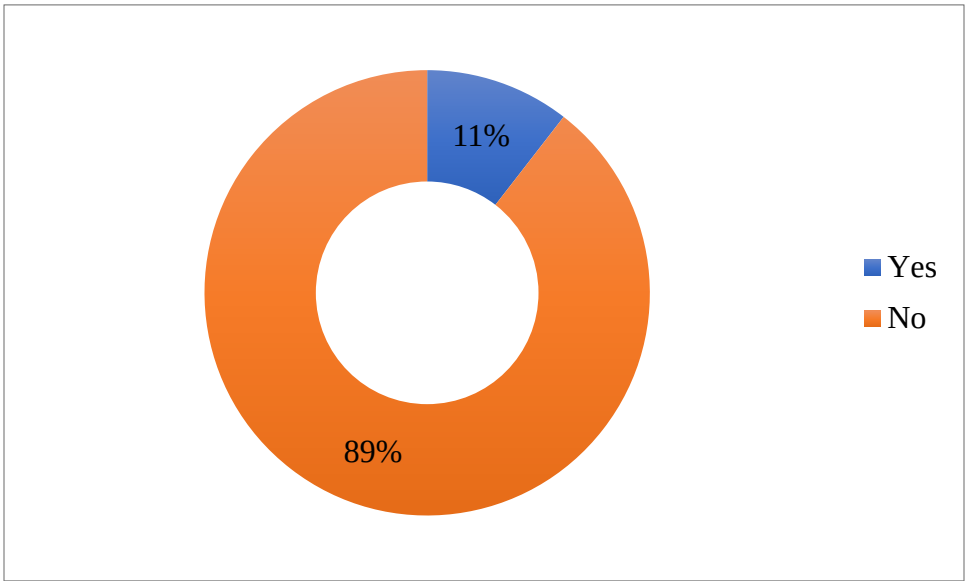

Figure 4: Utilization of EC

Of the respondents who had heard of emergency contraceptives, only 8(11%) had ever used ECs.

DISCUSSION

The result from this study revealed that most of the respondents (79%) had heard of the method. This is higher than the reports on university students in Haramaya University (Eastern Ethiopia) which revealed that 52.4% of the female students had ever heard about emergency contraceptives [25]. This could be due to high health education and being nursing students whereby family planning in context of reproductive health is emphasized and different family planning methods' including emergency contraceptives is covered as a course unit in the nurses' training curriculum. The most common sources of information were health education (71%), health facility (16%) and media (8%) including radio, television which is in agreement with report from Hosanna College of Health Sciences, Hosanna in which the main source was health education (47.9%) and 6.8% got from newspaper [19].

EC is the only form of contraception that can reduce the risk of pregnancy after unprotected intercourse or when a planned contraceptive method fails. Majority of the participants had fairly good knowledge of EC since they knew that EC is used for preventing unplanned pregnancy from post rape, failure or misuse of barrier contraceptive, missing of oral contraceptive and also knew correctly the types of ECs used.

Since most of the participants heard about EC from formal health education, they possibly received proper information from the nurse tutors, health care workers. This finding is contrary to other studies conducted among tertiary students in Osun State, South Western Nigeria. Previous South Western Nigeria study reported low level of knowledge among the participants that revealed that majority of the respondents (80.3%) had poor knowledge of emergency contraception [26]. However, in this study quite a significant proportion (17%) did not know the indications for use of EC. This may be associated with their year of study, ward or health facility placement for practice and/or curriculum coverage.

The majority of female students (65.7%) knew correct timing for oral EC pills administration (within 72 hours) after unprotected sex; this result was higher than the study conducted in Haramiya University in which only 18% of the participants knew the correct timing [27]. Also, the participants in this study had appropriate awareness of the single or double dose of ECPs, and their 12-hour

interval. Results of a similar survey performed in Hosanna College of Health Sciences showed a similar pattern though it was higher in this study. Although the nursing students in this study were well informed about the timing of the emergency contraception, 34.2% respondents did not know time limit to use ECPs [19]. This means that there is still need for more information, education and communication regarding EC timing if its efficacy is to be realized.

Regarding the effectiveness and whether EC terminate existing pregnancy, easy accessibility, and EC protection from STDs, these data showed mixed responses as shown in Table 4. These data suggest that most respondents who had heard about EC did so from formal health education. Given that information about EC is relatively simple to convey accurately, and in light of this finding, peer education approaches may be useful in increasing EC awareness. More generally these findings indicate a substantial unmet need among students for information on EC and a need for greater client-health care provider dialogue regarding EC, including the existence of EC, its availability at public sector clinics, and the timeframes involved in its use after unprotected sex. Relaying basic information on EC needs to become part of routine reproductive health counseling and specific health service interventions to improve EC awareness need to be designed, implemented and evaluated in institutions of learning.

General knowledge about ECs was significantly associated with training of the respondents. The respondents from nursing and medical institutions are more likely to have heard of ECs. This could be related to their education background, as respondents from health training institutions could have better chance and are more likely to get access to different sources of information for ECs which gave them higher awareness relatively.

This indicates that there is awareness of correct information about the method as the health students would be expected to have better knowledge and to give information about the ECs for others who lack the information.

Very few (11%) female students practiced EC in this study.

Practice of EC among participants of this study was very low (11%) when compared with the study done among female students of Hosanna College of Health Sciences, Hosanna town showed that 32.3% of the respondents used emergency contraceptive because they were sexually active during unsafe period compared to 89% who never used [19].

CONCLUSION

The study revealed that female nursing students are aware of the existence of EC and a significant number of them had heard of it mostly from formal health education that is from nursing training. Majority of the participants had fairly good knowledge of EC since they knew that EC is used for preventing unplanned pregnancy and also knew the correct timing that the EC should be taken following unprotected sexual intercourse.

Utilization of EC among female student nurses was very low compared to other studies. The possible reason for low EC practice rate in this study could be lack of awareness of the place where it is available, low promotion and availability of the methods in most health institutions. However, the findings show that quite a proportion of the students lacked sufficient knowledge about the emergency contraceptives and also the finding point out that the health education and promotion carried out concerning emergency contraception is not sufficient enough to initiate its utilization.

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