

# Knowledge, Attitudes, and Practices of Emergency Contraception among Female Undergraduate Health Science Students in Kenya

Gitonga Isaiah\*

University of Nairobi, P.O. Box 30197-00100, Nairobi, Kenya

## Corresponding author:

Gitonga Isaiah,  
University of Nairobi,  
P. O. Box 30197-00100, Nairobi,  
Kenya,  
Tel: +254722109289;  
E-mail: gitongaisaiah@gmail.com

## Abstract

**Background:** Emergency contraception is a safe, simple, effective, and convenient form of family planning method that women can use to minimize the chances of unwanted pregnancy after unprotected sex. **Aims:** This study sought to determine the levels of knowledge, attitudes and practices of emergency contraception pills among female undergraduate health sciences students. **Subjects and Methods:** This study utilized a cross-sectional descriptive design. Stratified random sampling was done and data collected by use of self-administered researcher-designed questionnaires (n=203) capturing knowledge, attitudes and practices of emergency pills use. **Results:** This study found that almost one-third (27.1%) of the participants were unaware of the existence of the pill. Of those who were aware, slightly less than half (41.4%) held the belief that use of the pill was unsafe and that it was not something that they would freely discuss with their parents. Some students (1.5%) believed that emergency contraception pills reduce transmission of HIV/AIDS. Over 80% of the students did not know the number of times that pills can be used safely in a year. **Conclusion:** Our findings suggest that correct knowledge on emergency contraception pills among the students was poor. Measures should be undertaken to educate the youth on reproductive health, especially emergency contraception as a way of curbing cases of unintended pregnancies in colleges. Health sciences students constitute an early pool of health care providers and are often consulted on reproductive issues by the general public in low resource settings. Timely provision of correct information on emergency contraceptive pills will ensure that others in the society also have the right information.

**Keywords:** Emergency contraception pill; Health sciences students; Reproductive health; Family planning; Kenya

## Introduction

Each year about 250 million pregnancies occur globally, out of which about one million are seen in teenagers<sup>[1]</sup>. About one-third of these pregnancies are unintended and 20% of these undergo induced abortion<sup>[2]</sup>. According to new worldwide estimates, the overall abortion rates are almost similar in developing and developed countries, while the unsafe abortions are dominating in the developing countries<sup>[3]</sup>. In low socio-economic countries like Kenya, there are 60 million unintended pregnancies out of which two thirds are due to lack of contraceptive use. A fifth of these unintended pregnancies undergo induced abortion where 11% are unsafe<sup>[3]</sup>, thereby causing death or complications like severe infections and bleeding. All these could be reduced by using emergency contraception<sup>[4]</sup>.

Emergency contraception (EC) is a safe, simple effective and convenient form of protection that women can use to minimize the chance of pregnancy when they have unprotected sexual intercourse<sup>[5]</sup> especially when not on any regular family planning method, or the regular method has failed, when a condom broke or slipped, or if the woman has had unexpected or forced sex such as in cases of rape<sup>[6]</sup>.

The use of the EC pill is not as widespread in Africa as in more developed parts of the globe<sup>[7-12]</sup>. As a result, studies show that more than half of all pregnancies are either unplanned or

unwanted in Africa<sup>[13]</sup>. According to the 1998 South Africa Demographic and Health Survey<sup>[14]</sup>, 61% of sexually active women used a modern contraceptive method, yet 53% of all births were reported as mistimed or unwanted. More than three-quarters (78%) of births by women aged 19 years or younger were unplanned<sup>[15]</sup>. Such situations have been shown to lead many women to opt for abortions – which are often illegal or carried out by unqualified personnel – leading to untold pain and suffering<sup>[16]</sup>. A recent survey concluded that women deserve that last chance, in this case emergency contraception, and barriers to availability should be eliminated<sup>[17]</sup>.

Building on the results of focus group discussions with a population of university students in Ethiopia who had convenient access to EC pills, it was found that whereas basic awareness about this method is high, there were indications that specific knowledge on appropriate use, such as the window of time for use, level of effectiveness, and possible side effects was lacking<sup>[18]</sup>. This study, therefore, sought to determine the level

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of knowledge, attitudes, and practices surrounding the use of EC pills. The subset of female health sciences students was selected based on the hypothesis that they were more likely to be aware of emergency contraception topics compared to other students [19].

## Materials and Methods

### Study design

This study utilized a cross-sectional design

### Study population and setting

The study population comprised female undergraduate students at the college of health sciences at the University of Nairobi. The college has four schools including dental Sciences, medicine, pharmacy, and nursing Sciences. At the time of study, the college had a population of 800 undergraduate female students.

### Sampling

Using Fischer's formula for sample size calculation, the targeted sample size was 260 students. This was increased to 286 to accommodate for non-response including refusals. Stratified random sampling was used whereby each level of study (year of study) formed a strata and their samples proportionately calculated across the four strata (year 1 to year 4). Simple random sampling was then used to get the required number of students from each of the stratum. This was done using pre-generated fully concealed papers whose number was equal to the total number of participants in that specific stratum. Half of the concealed papers had been inscribed 'Yes' and the other half had been inscribed 'No'. As students were leaving the lecture halls after the afternoon lectures, they were invited to randomly pick a paper from a basket placed at the exit door. Any student who picked 'Yes' was invited to participate in the study and those who picked 'No' were allowed to pass. This was done until the required sample in each stratum was reached. The few who picked 'Yes' and refused to participate were also let to pass.

### Data collection and management

A researcher-designed semi-structured questionnaire was handed to each respondent who picked 'Yes' and consented to participate in the study. This enabled the respondents to fill the questionnaires in their private hostels since some questions were rather confidential and sensitive. Pretesting of the questionnaire was done among the level three and four of the nursing students. This helped in assessing the validity, willingness of the respondents to answer the questions, any need to revise the format or the presentation of the questionnaire, as well as helping to identify any potential difficulties to be encountered during the actual data collection.

The raw data was entered into an SPSS database version 20, checked for errors, cleaned and analysed. Descriptive statistics including frequencies and proportions was used to explore the patterns of the data. Pearson's Chi-square ( $X^2$ ) was used for bivariate analysis of study variables.

### Ethical considerations

Ethical approval for the study was sought and received from the

University of Nairobi/Kenyatta National Hospital Ethics and Research Committee and study approval reference number was granted. Respondent privacy and confidentiality was protected throughout the study by use of codes instead of participant names.

## Results

A total of 203 students consented to the study and filled in the questionnaires. This represented a response rate of 70.2%. Table 1 summarizes the socio-demographic information of the participants. A majority of the respondents (96.5%) were aged 25 years or below; all the schools in the college and levels of study were represented. Almost two-thirds, 64.5%, were residents in student hostels based in campus while the rest were non-residents. Slightly above half, 56.7%, were government sponsored students.

**Table 1: Socio-demographic characteristics of the respondents**

Variable	Frequency (n)	Percentage (%)
<b>Age group</b>		
16-20 years	61	30
21-25 years	135	66.5
26-30 years		3.4
Median Age Years (range): 22 (17-30)	7	
<b>Level of study</b>		
Level 1	50	24.6
Level 2	54	26.6
Level 3	46	22.7
Level 4	53	26.1
<b>Undergraduate Degree program</b>		
Nursing	58	28.6
Pharmacy	43	21.2
Dental surgery	30	14.8
Medicine	72	35.5
<b>Students residence</b>		
In campus	131	64.5
Out of campus	72	35.5
<b>Mode of study</b>		
Regular (Government sponsored)	115	56.7
Pararell (Self sponsored)	88	43.3

As regards knowledge, about three-quarters (72.9%) of the participants correctly defined emergency contraception where majority (60.6%) knew some types of the EC pills (Table 2). When asked whether emergency contraception reduces HIV/AIDS transmission, 98% disagreed but 1.5% agreed ( $X^2$  (1, N=203)=37.00,  $p<0.001$ ). Participants were asked to indicate the duration after unprotected sexual intercourse for which emergency pills are effective and the responses were varied. Whereas, two-thirds (68%) of the participants reported that the pill is effective up to 72 hours after unprotected sexual intercourse, 10.8% reported that they did not know ( $X^2$  (1, N=203)=24.80,  $p<0.001$ ). Only 56.5% of the participants were able to identify situations when use of the pills is contraindicated ( $X^2$  (1, N=203)=14.30,  $p=0.001$ ).

Table 3 reports participants' attitudes and practices of EC pills. Slightly more than half (58.6%) of the participants displayed

a positive attitude towards the use of EC as they felt it is safe and agreed that they should be encouraged to freely discuss it. Indeed, slightly more than one fifth (23.3%) of the participants reported frequent use of ECs. More than three-quarters (88.3%) disagreed that students who use of the emergency pills are immoral. Majority of the participants (92.1%) reported that the clinics in Nairobi central business district were the major sources of EC pills and slightly more than half of the participants (55.7%) indicated that EC pills are often acquired from the sources to prevent unwanted pregnancies. Books were reported as the major source of information about EC pills.

**Table 2: Knowledge of emergency contraceptives**

Variable	Frequency (n)	Percentage (%)
<b>Definiton of emergency contraception</b>		
Correct definition	148	72.9
Wrong definition	55	27.1
<b>Examples of emergency contraception</b>		
Morning after pill-p2	123	60.6
Others	20	9.9
Dont know	60	29.6
<b>E.C Reduces transmission of HIV/AIDS</b>		
Yes	3	1.5
No	199	98
Dont know	1	0.5
<b>Circumstances when emergency contraception is done</b>		
Knows-list examples	158	77.8
Dont know-No examples	45	22.2
<b>Number of times that emergency contraceptives should be used in a year</b>		
>1 but <3	51	25.1
<5 times	54	26.6
As many times as possible	16	7.9
Dont know	82	40.4
<b>Duration up to which emergency contraceptive is effective</b>		
24 hours	28	13.8
48 hours	6	3
72 hours	138	68
120 hours	9	4.4
Dont Know	22	10.8
<b>Contraindications to use of emergency contraceptives</b>		
YES-Lists examples	111	54.7
NO-No examples	40	19.7
Dont know	52	25.6

**Table 3: Attitude and practice of emergency contraceptives**

Variable	Frequency (n)	Percentage (%)
<b>Emergency contraceptives are safe to use</b>		
Yes	119	58.6
No	59	29.1
Dont Know	25	12.3
<b>Students should be given free access to EC like condoms</b>		
True	74	36.5
Not True	108	53.2
Don't Know	21	10.3
<b>Students should freely discuss EC with their peers</b>		

True	94	46.3
Not True	79	38.9
Don't know	30	14.8
<b>Students who use EC are immoral</b>		
True	6	3
Not True	170	83.7
don't know	27	13.3
<b>Students should be discouraged from using EC</b>		
True	72	35.5
Not True	112	55.2
Don't Know	19	9.4
<b>Source of Information about Emergency contraceptives</b>		
Books	91	44.8
Parents	3	1.5
Friends	47	23.2
Media	45	22.2
Family planning clinics	15	7.4
University clinics	2	1
<b>Frequency of usage of Emergency Contraceptives among students</b>		
Very often	47	23.2
Often	66	32.5
Sometimes	52	25.6
Rarely	19	9.4
Do not use it at all	5	2.5
Dont know	14	6.9
<b>Source of Emergency Contraceptives in campus</b>		
Clinics in town	187	92.1
Friends	8	3.9
University clinics	3	1.5
Dont know	5	2.5

Table 4 shows differences in knowledge, attitudes and practices in EC Usage among those who have ever used EC (users) and those who had never used EC (non-users). Majority of the users (98.4%) knew that it does not reduce the transmission of HIV/AIDS as compared to non-users (80%). About 26% of the users were able to correctly identify the number of times EC should be used in a year. Two thirds of EC users as compared to one fifth of the non-users correctly knew the duration after unprotected sex in which EC is effective. Close to half (48.4%) of the users of EC affirmed that students should freely discuss about EC with their peers as compared to 20% of the non-users.

## Discussion

This study found that almost one-third (27.1%) of female undergraduate students at the college of health sciences did not know what the emergency contraceptive pill was. This contrasts with a study done by Gichangi et al. who found the proportion of students with inadequate knowledge on EC to be 52% [19]. Even though our proportion was low, there is still cause for concern that health sciences students are not adequately knowledgeable on the key issue of reproductive and sexual health. This suggests a potential risk of transmission of wrong information to the public.

Regarding the attitudes of female health sciences students towards EC, this study found that almost half (41.4%) held the belief that use of the pill was unsafe and that it was not something that they would feel free to discuss with their parents. This is similar to other studies that have shown that negative perception on the safety of EC pills [20] as well as social or cultural taboos [21]

**Table 4: Differences in knowledge, attitude and practice in e.c use among users and non-users.**

	Contraceptive usage		chi-square $\chi^2$	p-value <i>P</i>	
	No (N=5) n (%)	Yes (N=184) n (%)			
<b>E.C Reduces transmission of HIV/AIDS</b>					
	Yes	0 (0)	3 (1.6)	37	<0.0001
	No	4 (80)	181 (98.4)		
	Don't know	1 (20)	0 (0)		
<b>Number of times that emergency contraceptives should be used in a year</b>					
Knowledge	>1 than once but <3	0 (0)	47 (25.5)	7.6	0.054
	<5 times	0 (0)	50 (24.9)		
	As many times as possible	0 (0)	16 (8.7)		
	dont know	5 (100)	71 (37.6)		
<b>Duration up to which emergency contraceptive is effective</b>					
	24hours	0 (0)	25 (13.6)	24.8	<0.0001
	48hours	0 (0)	6 (3.3)		
	72hours	1 (20)	127 (69.0)		
	120hours	0 (0)	9 (4.9)		
	Dont Know	4 (80)	17 (9.2)		
<b>Contraindications to use of emergency contraceptives</b>					
	YES-Lists examples	0 (0)	104 (56.5)	14.3	0.001
	NO-No examples	0 (0)	35 (19)		
	Dont know	5 (100)	45 (24.5)		
<b>Students should freely discuss EC with their peers</b>					
Attitude	True	1 (20)	89 (48.4)	3	0.22
	Not True	2 (40)	69 (37.5)		
	Don't know	2 (40)	26 (14.1)		
<b>Source of Information about EC</b>					
Practice	Books	0 (0)	87 (47.3)	21.9	0.001
	Parents	0 (0)	2 (1.1)		
	Friends	0 (0)	41 (22.3)		
	Media	2 (40)	40 (21.7)		
	Family planning clinics	3 (60)	12 (6.5)		
	University clinics	0 (0)	2 (1.1)		
<b>Source of EC in campus</b>					
	Clinics in town	3 (60)	173 (94)	74.5	<0.0001
	Friends	0 (0)	8 (4.3)		
	University clinics	0 (0)	3 (1.6)		
	Dont know	2 (40)	0 (0)		

are barriers to its use and uptake <sup>[22]</sup> – especially in sub-Saharan Africa where it is needed to avoid unplanned and unwanted pregnancies.

This study found that about 23% of the students reported frequent use of EC, but their level of knowledge was not very high. A similar study conducted in Ethiopia had found a lower percentage (6%) <sup>[23]</sup>. Possible explanation to this difference would be because the study in Ethiopia was conducted among graduating students who probably had better knowledge on use of EC or were married and therefore using other contraceptive methods. Also, some of the courses included in this study like dentistry do not cover topics on contraception comprehensively which leads to lack of specific knowledge of intended use of EC. Students who have ever used EC reported relatively higher knowledge, better practice and positive attitude as compared to those who don't use it at all. Similar results have been found in other studies <sup>[24]</sup>.

This study also found that an overwhelming majority of female health science students get their information on emergency

contraception from books. This is contrary to a study done in Nigeria where the popular media was the common source of information <sup>[25]</sup> while in South Africa, 40% reported to have heard about EC pills first from friends and family members, 9% from mass media and 5% from school <sup>[26]</sup>. A study in Uganda revealed friends and the media being important sources of EC pills information <sup>[27]</sup>.

This study found that among those who use EC pills, more than 90% source the pills from clinics in the city centre, far from their university campus. This may be a result of social fears among the students and the perception that girls who use the pill are promiscuous or immoral. As expected, students who reported to have ever used EC pills had better knowledge and positive attitudes towards EC pills compared to non-users.

## Conclusion

While the level of knowledge on existence of EC was adequately high, it did not translate to rational use of the emergency pills because knowledge on the correct timeframe for taking EC pills was poor among the students. In addition, the fact that EC pills

do not protect one against sexually transmitted infections like HIV/AIDS also needs to be emphasized. It is recommended that more effort still needs to be put in place to ensure that female health science students are all equipped with the right information about emergency contraception.

Health sciences students form an early pool of health care providers and they are more often consulted on reproductive issues by the general public in low resource settings. Timely provision of information on EC pills will ensure that others in the society also have the right information. Finally, more work still needs to be done to combat the underlying social and cultural barriers to the uptake of EC pills in Kenya and sub-Saharan Africa.

### Study limitations

Emergency contraception is a sensitive topic amongst students and therefore there is a possibility that some students were not out rightly honest with their responses. However, we tried to allay any fears by not using any identifiers and by allowing the students to fill the questions in their private hostels in the evenings then return them in the morning.

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### Declaration of conflict of interest

To the best of our knowledge no conflict of interest, financial or other, exists.

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