

# Knowledge and Use of Emergency Contraceptive Pills Among University Students (Abidjan-Cote d'Ivoire)

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**Abstract:** *Objective:* To determine female university students' knowledge, attitudes, and practices regarding emergency contraception. *Methods:* We conducted a descriptive cross-sectional survey of 407 female university students selected through convenience sampling over a period from July 14 to September 30, 2022. *Results:* 68.8% of the students knew about emergency contraception. The most frequently mentioned drugs were the Levonorgestrel-based pills Norlevo (66%) and Pregnon (25.7%). 35.6% of the students thought that emergency contraceptive pills were effective within 72-120 hours after sexual intercourse. 54.2% of the students had a favorable attitude toward the use of emergency contraception. 22.8% had used this method at least once and 47.8% of them had used such a method for unprotected sex. *Conclusion:* Students had a low level of knowledge of emergency contraception.

**Keywords:** Emergency Contraception, Female University Students, Abidjan

## 1. Introduction

Emergency contraceptive pills (ECPs) are defined as medicines that can be used to prevent pregnancy after sexual intercourse. There are three regimens of ECPs that are recommended by the World Health Organization (WHO), including ulipristal acetate, levonorgestrel, and combined oral contraceptives (COCs) consisting of ethinyl oestradiol plus levonorgestrel [1, 2].

In Côte d'Ivoire (CI), female university students are confronted with the problem of unwanted pregnancies and the practice of clandestine abortions. Such abortions often have serious consequences on the reproductive health of women and cause morbidity and mortality [3]. These induced abortions could be linked to the low contraceptive prevalence in CI, which is 20% [4]. There are few data available for emergency contraception (EC) to be considered for decision-making by health authorities. The purpose of this study was to determine the level of knowledge, attitudes, and practices

of female students on the use of emergency contraceptives.

## 2. Materials and Methods

We conducted a cross-sectional study of C.A.P. (Knowledge, Attitude, and Practice) type in the dormitory of University Félix Houphouët-Boigny from July 14 to September 30, 2021. The survey involved female over-16-years-of-age students enrolled during the academic year who agreed to participate in the study. A pilot study was conducted in another university dormitory to adjust the understanding of the questionnaire and the length of the survey. Our sample consisted of 407 female students. The questionnaire was completed by each student anonymously to maintain confidentiality.

The questionnaire consisted of 5 sections:

- 1) Socio-demographic characteristics: age, religion, marital status, education.
- 2) The female university students' sexual lives: regularity

of sexual intercourse, condom use or not, number of sexual partners, and history of induced abortion or not.

3) Awareness of emergency contraception: We determined their level of knowledge through 4 multiple-choice questions:

- Ability to identify emergency contraceptives among several medications;
- Maximum Acceptable Time to Take the Pill as Emergency Contraception;
- Circumstances of pill taking;
- Is the emergency contraceptive pill an early abortion method?

#### *Attitudes toward EC:*

Female students were considered to have a positive attitude:

- If they agreed to use emergency contraception after unprotected sex;
  - If they recommended this method to friends.
- If not, they had a negative attitude.

#### *EC Practice*

The fifth section asked the respondents to share their previous experiences with emergency contraceptive use.

The data collected were processed using version 18 of SPSS. The results of the statistics were expressed in terms of mean or percentage. We used the Chi-square test to analyze the relationship between the different variables with the statistical significance level  $p = 0.05$ .

## 3. Results

### 3.1. Sociodemographic Characteristics and Sexual Life of Female Students

Of the 407 female students, 65.9% were under 25 years of age with a range from 17 to 32 years. The average age was 22.9 years. Most of them were single (90.8%). The majority of them (83.5%) were Christian. 65% of the students were undergraduates.

The sociodemographic characteristics of the students are summarized in Table 1:

**Table 1.** Sociodemographic characteristics.

Socio-demographic characteristics	Size	%
Age		
17- 19 years old	38	9.4
20- 24 years old	232	56.9
25- 32 years old	137	33.7
Religion		
Christian	340	83.5
Muslim woman	65	16.2
Other	02	0.4
Marital status		
Single	389	95.8
Bride	17	4.2
Level of Study		
Undergraduate	265	65
Graduate / Postgraduate	142	35

The respondents' sexual practices are described in Table 2 as follows:

**Table 2.** Female Students' sexual lives.

Sexual Life of female students	Size	%
Sexual intercourse practice (n=407)		
Yes	313	76.9
No	94	23.1
Sexual partner (n=313)		
Regular	194	61.9
Irregular	119	38.1
Protected sex (n=313)		
Always	80	25.5
Sometimes	190	60.7
Never	43	13.8
Induced abortion (n=313)		
Yes	72	23.1
No	241	76.9

Tables 3 and 4 summarize students' knowledge, attitudes, and practices regarding emergency contraception.

**Table 3.** Knowledge of Emergency Contraceptives.

Knowledge	Size	%
Heard about	280	68.8
Known methods		
Norlevo	269	66
Prégnon	100	24.6
Ellaone	00	00
DIU	05	1.2
Circumstances of taking	221	54.5
Time to take	145	35.6
Misconceptions about EC		
Infertility	142	34.9
Abortion	104	25.7
Cycle disorders	85	21
Source of information		
Entourage	152	37.5
Media	139	34.2
Health workers	90	22.1

**Table 4.** Students' attitudes and practices regarding emergency contraception.

Student attitudes/practices	Size	%
Attitudes		
Favorable	220	54.2
Fear of side effects	145	35.5
Prohibition of religion	42	10.3
Use of EC Pills	93	22.8
Circumstances of use		
Unprotected sex	72	47.8
Accidental condom breakage	12	12
Other	9	9.8

### 3.2. Relationship Between Student Respondents' Characteristics and Emergency Contraceptive Pill Use

Analysis of the data showed that students who had performed at least one previous abortion and those with irregular sexual partners used the emergency contraceptive method more than others ( $p < 0.05$ ).

Factors influencing emergency contraceptive pill use are summarized in Table 5.

**Table 5.** Factors Influencing Emergency Contraceptive Pill Use.

PARAMETERS	EC Pill user: n (93) N (%)	Non-user of EC Pill: n (314) N (%)	P-value
Average age (range)	21.7 (18-25)	20.9 (17-32)	0.084
Religion			
Christian (n=340)	78 (83.8%)	262 (77%)	0.545
Muslim (n=54)	15 (16.2%)	39 (13%)	
Marital status			
Married (n= 17)	6 (6.2%)	11 (3.5%)	0.211
Single (n=390)	87 (93.8%)	303 (96.5%)	
Sexually active			
Yes (n=313)	93 (100%)	220 (70%)	P <0.005
No (n=94)	0 (0%)	94 (30%)	
Abortion experience			
Yes (n= 90)	78 (83.8%)	12 (3.8%)	P <0.005
No (n= 317)	15 (16.2%)	302 (96.2%)	

Christian and unmarried respondents were the most likely to use the emergency contraceptive pill. However, there was no statistically significant difference.

## 4. Discussion

The results of this survey showed that 68.8% of female students had heard of emergency contraception. This result is consistent with the study conducted in Ghana by Ebuehi OM and in Nigeria by Baiden [5, 6], which showed that most students had knowledge of emergency contraceptive methods. On the other hand, Naz S. in Pakistan [7], had observed a higher rate than our study (22.4%). This difference is explained by the popularization of emergency contraceptive methods at all levels of the health system in Pakistan.

The main source of information was family and friends (37.5%). These data are identical to those of some African authors [8]. In other settings, the media was the main source of information [9]. Regarding pill taking, only 35.6% of the respondents knew that emergency contraceptives were effective for up to 72-120 hours, depending on the method. These results are similar to those of Aziken et al [10] in Nigeria, but significantly lower than those of Fourn [11] in Benin, where 92.5% of the students knew about the pill taking time. This may expose other students to unexpected risks of pregnancy despite the use of this method.

In addition, many students had misconceptions about emergency contraceptives, with 34.9% who believed that the pills would cause infertility and 24% considering the pills as a form of abortion. These data are lower than those of Kongnyny [12] in Cameroon who found out that 51.2% of students mentioned abortion. Thus, widespread awareness is needed to eradicate such misconceptions.

In our study, more than half of the female students (54.2%) had a favorable attitude about EC and were ready to use it. This proportion is identical to that of Kongnyny in Cameroon. However, other students did not find it appropriate to use it because of fear of adverse effects and religious prohibition. Texeira [13] in Nigeria cited religion as a barrier to the use of emergency contraceptives, particularly the Muslim religion, which has very restrictive measures regarding the use of this method. Nevertheless,

22.8% of the students reported using an emergency contraceptive method at least once. The method used was mainly Levonorgestrel, the single-dose pill that is most frequently used in African countries [14, 15]. Kongnyny in Cameroon and Sorhaindo in Jamaica had lower rates of use with values of 7.4% and 10%, respectively.

Unprotected sex was the main reason for using the contraceptive pill in our sample (47.8%). In other African countries, however, condom breakage during sexual intercourse was the main reason for their use. The factors associated with emergency contraceptive use in our survey were regular sexual intercourse and the practice of induced abortion. The difference was statistically significant.

Emergency contraception is useful in the university setting as it helps female students prevent unwanted pregnancies and avoid the need for abortion. However, the use of modern contraceptive methods is generally low in African countries. It is the case of ulipristal acetate (Ellaone) which has been recently introduced in our country and has a prolonged efficacy of up to 05 days.

In Côte d'Ivoire, despite awareness sessions, the overall contraceptive prevalence was 20%, according to the 2012 DHS [4]. Information on pills is not widely disseminated, fearing misuse and the multiplication of risky sexual behavior. However, studies have proven the contrary, demonstrating that the use of emergency contraceptive pills should be punctual without hindering the contraceptive habit of women [16, 17].

## 5. Conclusion

In Côte d'Ivoire, Female university students' knowledge of the general characteristics of emergency contraceptives is low. The majority had a positive attitude, but many thought that they were dangerous to the health of users.

Ultimately, the study found low use, high sexuality, and high abortion rates. The expected benefits of this method warrant encouraging students to resort to it when needed.

## Declaration of Interest

The authors declare that they have no ties of interest.

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