



Awareness and use of emergency contraception methods among university students in Pereira, Colombia

Conocimiento y uso de método anticonceptivo de emergencia en estudiantes universitarios, Pereira, Colombia

Germán Oved Acevedo-Osorio^{1*} orcid.org/0000-0002-1499-2579

Nicolás Ramírez-García¹ orcid.org/0000-0001-5248-1561

Julián David Cardona-Osorio¹ orcid.org/0000-0003-1240-7409

Christian Alexander Oliveros-Ruiz¹ orcid.org/0000-0003-0622-9642

1. Los Asépticos Research Group. Andean Region University Foundation, Campus Pereira. Pereira, Colombia

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Resumen

Introducción: Los métodos anticonceptivos de emergencia o también llamados contracepción poscoital, es una de las alternativas que pueden ser utilizadas para evitar un embarazo no deseado en mujeres que han tenido relaciones sexuales sin protección, hasta 72 horas después de la relación. **Objetivo:** Establecer el nivel de conocimiento y el uso de los métodos anticonceptivos de emergencia utilizados en estudiantes universitarios. **Materiales y métodos:** Estudio observacional, descriptivo y transversal. Se incluyeron estudiantes de 15 a 25 años de una Institución de Educación Superior en el Municipio de Pereira, Colombia con vida sexual activa. Con un total de 127 estudiantes donde se incluyeron variables sociodemográficas de conocimiento y uso de métodos. **Resultados:** Se encuestaron 127 estudiantes donde la mediana en la edad fue de 19 años en sexo femenino con un rango intercuartílico de 3 y el sexo masculino presento una mediana de 21 años con un rango intercuartílico de 5. El condón fue el método más utilizado por los encuestados con un 35,4%, seguido de las píldoras con un 26,8%. **Conclusiones:** El método de elección fue el condón y existe alta prevalencia de consumo de métodos anticonceptivos de emergencia, con desconocimiento frente a su uso.

Palabras clave: Anticonceptivos; anticonceptivos poscoito; conocimiento. (Fuente: DeCS, Bireme).

Abstract

Introduction: The emergency contraceptive method, also known as post-coital contraception, is one of the alternatives that can be used to avoid an unwanted pregnancy up to 72 hours after a woman has had unprotected sexual intercourse. **Objective:** To establish the level of awareness and practice of emergency contraceptive methods among university students. **Materials and methods:** An observational, descriptive and cross-sectional study. The sample included 15- to 25-year-old students of a Higher Education Institution from the Municipality of Pereira- Colombia, with an active sexual life. The study included sociodemographic variables with respect to awareness and practice of contraceptive methods. **Results:** 127 students were surveyed, where the median age for female students was 19 years (IQR of 3), whereas male students showed a median age of 21 years old (IQR of 5). The condom was the most commonly used contraceptive method, used by 35.4% of the students, followed by contraceptive pills, which was used by 26.8% of students. **Conclusions:** The birth control method of choice was condom and although there is a high prevalence of consumption of emergency contraceptive methods, students show little awareness of their use.

Key words: Contraceptive agents; contraceptives, postcoital; knowledge. (Source: DeCS, Bireme).

***Corresponding author at:**

German Oved Acevedo Osorio
e-mail: gacevedo@areandina.edu.co

Introduction

Emergency contraceptives (ECs) are simple, safe and effective family planning methods that women can use to prevent unplanned pregnancies⁽¹⁾. ECs are used within a few days after unprotected sexual intercourse, i.e., when a barrier contraceptive was not used, when this failed or was improperly used, or in extreme cases such as sexual assault. ECs reduce the percentage of both young pregnant women and abortions, allowing them to exert the right to control their fertility⁽²⁾.

Since the 1970s, a mechanism that prevented pregnancy after sexual intercourse was the so-called *Yuzpe* method. Because of subsequent studies, this method was replaced by the administration of levonorgestrel due to its effectiveness and lack of adverse effects⁽³⁾. There are several EC methods and each one is effective as long as it is used within a specific time range. While *Yuzpe* method must be administered within 72 hours, progestins or ulipristal acetate must be taken within 120 hours after intercourse, which is the time frame estimated for Intrauterine Device (IUD). The efficiency of all ECs decrease as time passes⁽⁴⁾.

Worldwide, China leads the use of ECs with 44%, followed by Sweden, Switzerland, Mexico and United States, with 40%, 20%, 16% and 14%, respectively. In different regions of Brazil, ECs usage fluctuates from 13% to 32%. This is the main reason why most countries ensure affordability of ECs to young people. However, there are other factors that contribute to these high numbers, including: not living in a family nucleus, socioeconomic conditions, and social environment⁽⁵⁾.

According to the Colombian Ministry of Health, 99% of abortions are performed illegally, representing nearly 400,000 cases per year and becoming a public health problem. For instance, in 2015, there were only 3,400 legal abortions. Whereas in Bogotá the abortion rate was 66 per 1,000 women, the same rate was reduced to 18 per 1,000 women in eastern regions of Colombia⁽⁶⁾. According to the World Health Organization (WHO) and the Guttmacher Institute, there were 25 million dangerous abortions worldwide between 2010 and 2014 (45% of the total); most dangerous abortions (97%) were performed in developing countries of Africa, Asia and Latin America. In Latin American countries, only one out of every four abortions was performed in a safe

manner, i.e., they represented a low mortality risk for pregnant women⁽⁷⁾.

Based on the 2010 national survey on demography and health, teenage pregnancy is increasing: one out of every five Colombian adolescents aged between 15 to 19 years old have been pregnant at some point, 16% of them have become mothers already and 4% are expecting their first child. At present, the figures are extremely high and continue to be of social and political interest⁽⁸⁾.

Data from WHO shows that when a woman does not use contraceptive methods and has sexual intercourse during the fertile stage of her menstrual cycle, there is an 8% probability of becoming pregnant. This percentage decreases to 1% or 2% if she takes progestogen or uses ECs containing estrogen⁽⁹⁾. Therefore, the objective of this study is to establish the level of knowledge and practice of the emergency contraceptive methods commonly used by university students of a higher education institution in the municipality of Pereira, Colombia. Also, this research is aimed at guiding public health policies at a local level, especially in university institutions.

Materials and methods

An observational descriptive and cross-sectional study was carried out with young people from 18 to 25 years of age, with an active sexual life, who were students from a higher education institution in the municipality of Pereira, Colombia.

Population and sample

A sample of 654 participants was selected from a population of 2,300 university students who were older than 18 years of age. The inclusion criteria were: students legally and financially enrolled during the studied period of time, aged 18 years old and over, who voluntarily accepted to participate in this study. The exclusion criterion of never having had sex was essential to fulfill the study's objective. Based on these criteria, the final sample included 127 students.

Collection of information

A questionnaire asking about knowledge, attitudes and practice of emergency contraceptive methods was used to collect information from university students. In detail, the questionnaire has 19 questions about sociodemographic data of participants and variables about knowledge and usage of

contraceptive methods and emergency contraceptives. This format was validated by psychology experts from the university wellness office.

Information analysis

All the information was collected through *Google Forms*, tabulated in Excel 2015®, and analyzed using SPSS Version 23 statistical software. A frequencies analysis was carried out for qualitative variables, whereas central tendency and dispersion measures were used for quantitative ones. A bivariate analysis was performed for the relationship between knowledge and use of emergency contraceptive methods, with a Chi-square test and a significance value of $p < 0.05$.

Ethical considerations

This research was approved by the Research Committee of Science Faculty of Area Andina University Foundation and, according to the Resolution No. 8430 of 1993 by the Health Ministry of Colombia, is considered a risk-free study. The Health Ministry establishes the scientific, technical and administrative guidelines for health research. Participation was voluntary and the survey was completed only after participants signed the informed consent form

Results

From a total of 127 participants whose information was analyzed, 73.2% were women. The median age was 20 years old with an interquartile range of 4. No significant differences were found between age and use of emergency contraceptive pills ($p = 0.633$). While male population showed a median age of 21

years old and an interquartile range of 5, women had a median age of 19 years with an interquartile range of 3. We observed significant differences ($p = 0.013$) between median ages of men and women.

Usage of contraceptive methods is described in Table 1. Condom was the most common method used by the participants (35%), followed by pills (26.8%). When they were asked about knowledge of ECs, 76.4% answered that this method must be used within 24 hours after coitus. On the contrary, a low number of students (7%) reported that the time frame is 72 hours. 30.2 % of the participants recognized that they had used ECs after drinking alcohol and engaging in unprotected intercourse.

More than half of the students (52.3%) have used EC methods during the last year, indicating that the main reasons for EC use were engaging in unprotected sex (19.7%) and condom rupture or failure (17.3%). Whereas 63.8% reported that the initiative to use ECs came from the sexual partner, 59% of the surveyed stated it was suggested by a friend (Table 2).

According to a gender analysis, 26.5% of surveyed males reported that their female sexual partners had to practice EC methods because they engaged in unprotected sex, while 20.6% of them reported the reason was condom failure. In the case of surveyed female students, 17.2% of them used ECs because they had not used any contraceptive method. On the other hand, 8.6% and 5.4% of women forgot to take contraceptive pills and misused the rhythm method, respectively. We observed significant differences between gender and reasons to use an EC method ($p = 0.002$) (Table 3).

Table 1. Characterization of usage of contraceptive method

		n	%
Gender	Female	93	73.2
	Male	34	26.8
Sexual intercourse	Yes	111	87.4
	No	16	12.6
Have you or your partner ever been pregnant	Yes	5	3.9
	No	122	96.1
Contraceptive methods use	Yes	92	72.4
	No	35	27.6
Contraceptive methods	Condom	45	35.4
	Pills	34	26.8
	Injectable	24	18.9
	IUD	7	5.5
	Rhythm method	4	3.1
	Coitus interruptus	2	1.6

Table 2. Description of usage of emergency contraceptive methods

		n	%
Emergency contraceptive methods use	Yes	65	51.2
	No	62	48.8
frequency use during last year	1-2 times	34	52.3
	3-4 times	3	4.6
	Do not remember/do not answer	28	43.0
Reason why the emergency contraceptive method was used	Did not use contraceptive method	25	19.7
	Condom rupture or failure	22	17.3
	Forgot to take contraceptive pills	9	7.1
	Wrong fertility date	6	4.7
	Failure of coitus interruptus	1	0.8
	Other reasons	9	7.1
	Do not know/do not answer	55	43.3
	Sexual partner accepted the usage of the method	Yes	81
	No	20	15.7
	He/she is not sure	26	20.5
Would you recommend the usage of emergency contraceptive methods	Yes	77	60.6
	No	19	15.0
	He/she is not sure	31	24.4
Who did recommend the emergency contraceptive method to you?	A friend	76	59.0
	Sexual partner	17	13.4
	Web site	7	5.5
	Other	9	7.0
	Do not know/do not answer	25	19.6

Table 3. Relationship between gender and usage of contraceptive methods

		Gender		p value
		Female N (%)	Male N (%)	
Emergency contraceptive	Yes	43(46.2)	22(64.7)	0.065
	No	50(53.8)	12(35.3)	
Reason why the emergency contraceptive method was used	Did not use contraceptive method	16(17.2)	9(26.5)	0.002
	Condom rupture or failure	15(16.1)	7(20.6)	
	Forgot to take contraceptive pills	8(8.6)	1(1.6)	
	Wrong fertility date	5(5.4)	1(2.9)	
	Failure of coitus interruptus	0(0.0)	1(2.9)	
	Other reasons	2(2.2)	7(20.6)	
Sexual partner accepted the usage of the method	Yes	56(60.2)	25(73.5)	0.057
	No	19(20.4)	1(2.9)	
	He/she is not sure	18(19.4)	8(23.5)	

Discussion

We observed that a large percentage of students (45%) either practice emergency contraception inadequately or do not know how the method actually works. The relatively widespread practice of ECs is related to its easy availability, as reported by Sanchez, *et al.*⁽¹⁾. In addition, usage of these contraception methods is associated with excessive alcohol consumption and the irresponsible practice of sexual intercourse. The deficient knowledge about ECs is also linked to limited sexual education at both schools and home, which leads to premature motherhood/fatherhood and precarious adulthood.

Finally, it is important to consider the risk to which female students and their neonates are exposed to during unplanned pregnancies, as described by Sam, *et al.*⁽¹⁰⁾ and Chofakian, *et al.*⁽⁵⁾.

Given that ECs are methods commonly used to prevent unplanned pregnancies, it is important to highlight that they must be practiced within specific time periods to obtain the expected results⁽⁵⁾. Since these methods are considered legal in Colombia, appropriate sexual education of adolescents is critical to avoid premature pregnancies⁽¹¹⁾.

A study conducted by Laperia, *et al.* focused on knowledge, beliefs and practices of contraception in adolescents from the Caribbean region and found that they had engaged in sexual intercourse at early ages with more than one sexual partner. Other important findings are that (i) 35% of these adolescents had had unprotected sex, (ii) men strongly influenced women in terms of practicing contraception methods, and (iii) 3 out of 5 teenagers stated that they did not receive sexual education either at home or school⁽¹²⁾.

In 2018, Sili-Francisco, *et al.*⁽¹³⁾ showed that 45% out of a total population of 244 students reported little knowledge about ECs and that they used those methods incorrectly. They also explained that 44.4% of surveyed women had a low knowledge level about these preventive practices, which is similar to our results since we found that women had a deeper understanding of EC methods than men. On the other hand, Tapia, *et al.*⁽¹⁴⁾ has described the existence of double standards between men and women, because women are culturally responsible for family planning while there is a greater permissiveness for men. This view is in line with our data, since we found that in only 20.4% of the cases the decision to use ECs was consented by both sexual partners.

Moreno, *et al.*, with respect to knowledge and practice of contraception, showed that 9% of nursing students and 35.7% of the students from medical school had a proper knowledge of emergency contraception⁽¹⁵⁾. On the contrary, we found that 52.3% of the participants of our study have practiced ECs and the majority of them have used it due to risky and inadequate sexual practices.

Some young people who improperly use EC methods have no previous knowledge of their complications and risks. Therefore, it is critical to implement programs of prevention of unplanned pregnancy and emergency contraception, preferably making use of news media. Even though there is broad availability and effectiveness of ECs, the experience of using them in public health intervention has been disappointing⁽¹⁶⁾. Cárdenas-García, *et al.*, examined emergency contraceptives usage in a group of 107 university female students and found that 76.6% of them had used condoms instead⁽¹⁷⁾. In a 2017 paper about contraception and maternity by Gogna, *et al.*, they described that the most common contraceptive methods were pills (40.7%), condoms (37.0%) and injectable contraceptives (8.2%)⁽¹⁸⁾. Similarly, in our

study we observed that condoms were used by 35.4% of the surveyed population.

In agreement with what has been shown in previous studies on contraceptive methods, we observed that ECs usage was strongly supported by sexual partners (63.8%). For instance, Covarrubias, *et al.*, in 2016 analyzed the use of contraceptive methods by nursing students. Here, they noted that 56% of male participants had actually bought the “day after” pill for their female partners and 34% of them had done so multiple times a year⁽¹⁹⁾.

We think that clear and truthful information about contraception must be provided by trained personnel in order to avoid unplanned pregnancies and reduce early pregnancy rates. In this respect, a study conducted by Guerrero, *et al.*, with medicine students found that 60% of them reported that the first source of information about contraceptive methods would be health personnel⁽²⁰⁾. Similar results were obtained in a study carried out in Honduras that investigated women using contraceptive pills and found that 38% of them received information from either health centers or hospitals, whereas educational institutions were the main source for 21% of participants⁽²¹⁾. However, the same group indicated that 59% of surveyed women actually received guidance about ECs from a friend, which coincides with the findings of Mandujano, *et al.*, who reported that 81% of young women practiced EC methods as suggested by pharmacists and friends⁽²²⁾.

Conclusions

The excessive use of emergency contraceptives can be attributed to a lack of knowledge about their indications, contraindications and risks. Since they are perceived as methods of routine contraception, there is an increased possibility of unplanned pregnancies. Therefore, sexual education for university students should become a priority to avoid misunderstandings in reference to emergency contraception.

Recommendations

The participating university population of this study has sociodemographic and ECs usage characteristics similar to those reported in the literature. However, our random population selection and inclusion criteria significantly reduced the sample, which could represent a limitation in our study. To improve this aspect, it is recommended in the future to carry out

studies that either discriminate by gender or include only women.

Conflict of interests: The authors declare that there is no conflict of interests regarding the publication of this paper.

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