Emergency Contraception. Users Profile in Primary Care Emergency Services

J.C. Vergara Cano, a A. López-Guerrero Almansa, a and F. López López b

Objectives. To establish the emergency contraception (EC) users profile and whether she perceives this type of contraception as an emergency.

Design. Cross sectional study (over one year period: March 2002-March 2003).

Setting. Emergency Services in Primary Care. Usera and Carabanchel; 11th Area; Madrid.

Participants. Women requesting EC in these centres.

Main outcome measures. A questionnaire was filled out for all participants with their age, how many hours had spent since sexual intercourse took place (within 24 h), usual method of contraception used, previous use of EC, level of education, and reason for this request.

Results. 89 women. Drops out: 0. Average age: 23.7±4.8 years (range: 16–40 years), 79.8% of them came to medical emergency services in less than 24 h after sexual intercourse. Usual anticonceptive method was the condom (88.8%), 2.2% used hormones, 9% no contraceptive method at all and none of them had used the intrauterine device. 34.8% were previous users of EC. Education levels: 2.2% of women only could read and write, elementary school (37.1%), secondary school (34.8%) and high school (25.8%). Reasons for requesting EC: 91% condom failure, 7.9% not to have used any contraceptive method, and 1.1% wrong use of natural birth control methods.

Among the women who had went to the emergency services within the 24 h of the sexual intercourse the 77.4% of all of them had requested EC previously and the 93% of those had requested EC for the first time (P=0.032). Likewise all of them with high school level and who could write and read, the 93.9% with elementary school level, and the 71% with secondary studies went to the emergency services within the 24 h of the non protected sexual intercourse (P=0.05).

Conclusions. Most of the women were young, they perceived the unprotected sexual intercourse as an emergency, the condom was the most frequently used anticonceptive method, they requested EC due to condom breakage. In 1/3 of the cases the EC had been requested previously and this group and the young women with secondary studies one were who requested it later.

Key words: Women. Contraception. Pocoital anticonceptives. Health primary care.

ANTICONCEPCIÓN DE EMERGENCIA: PERFIL DE LA USUARIA EN SERVICIOS DE URGENCIAS DE ATENCIÓN PRIMARIA

Objetivos. Establecer el perfil de la solicitante de anticoncepción de emergencia (AE) y su percepción de este tipo de anticoncepción como una urgencia.

Diseño. Estudio descriptivo transversal de un año de duración (marzo de 2002 a marzo de 2003).

Emplazamiento. Servicios de Urgencia de Atención Primaria de Usera y Carabanchel, Área 11 de Madrid.

Participantes. Mujeres solicitantes de AE en estos centros.

Mediciones principales. Encuesta, contestada por todas las solicitantes, en que se recogían: edad, horas desde el coito (punto de corte: 24 h), método anticonceptivo habitual, uso anterior de AE, nivel de estudios y motivo de solicitud.

Resultados. Solicitaron AE 89 mujeres, con una edad media de 23.7 ± 4.8 años (rango: 16–40 años). El 79.8% la solicitó antes de que hubieran transcurrido 24 h desde el coito. El 88,8% utilizaba el preservativo como método de anticoncepción habitual, el 2,2% usaba anticonceptivos hormonales y el 9% no empleaba ningún método; ninguna utilizaba el dispositivo intrauterino. El 34,8% había recurrido con anterioridad a la AE. Por lo que se refiere a la instrucción académica, el 2,2% tenía un nivel de alfabetización, el 37,1% había cursado estudios primarios, el 34,8% secundarios y el 25,8% universitarios. En cuanto a los motivos de solicitud, en un 91% de los casos fue por fallos del preservativo, en un 7,9% por haber mantenido relaciones sin protección y en un 1,1% por uso incorrecto de métodos naturales.

Acudieron al consultorio antes de 24 h poscoito el 77,4% de todas las mujeres que habían solicitado AE previamente, y el 93% de las que la demandaban por primera vez (p = 0,032), así como el 100% de las universitarias y del grupo de alfabetización, el 93,9% de las mujeres con estudios primarios y el 71% con estudios secundarios (p = 0,005).

Conclusiones. La mayoría de las mujeres que solicitaron AE eran jóvenes, percibían los coitos desprotegidos como urgencias, utilizaban preservativo como anticoncepcional habitual y la rotura de éste fue el motivo por el que solicitaron la AE. Un tercio de ellas habían utilizado AE previamente, y fue este grupo, junto con el de jóvenes con estudios secundarios, las que consultaron más tardíamente.


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Emergency contraception (EC) can be defined as the use of a drug or device to prevent pregnancy after unprotected sexual relations.\(^1\) The history of EC\(^1\)-\(^4\) goes back to the 1920s, when experiments were done in monkeys with high doses of estrogen. In the mid-1960s hormonal treatments began to be used in humans. During the 1970s combined oral contraceptives contained ethinylestradiol and levonorgestrel in 2 doses: the first to be administered within 72 hours after unprotected sex, and the second 12 hours later (Yuzpe method). The same period saw publication of the first trials with levonorgestrel, and in 1976 the postcoital insertion of an intrauterine device (IUD) for emergency contraception was reported.\(^5\) In 1998 the WHO published a randomized controlled trial\(^6\) that showed levonorgestrel (2 doses given 12 hours apart) to be more effective than the Yuzpe method.

Current research centers on the administration of danazol (a semisynthetic steroid similar to progesterone),\(^7\)-\(^9\) low-dose mifepristone,\(^10\) and a single dose of levonorgestrel.\(^11\),\(^12\) However, the methods currently available for EC still consist of combined oral contraceptives containing ethinylestradiol and levonorgestrel, pills consisting entirely of levonorgestrel pills, and the insertion of an IUD.

Despite its long history, EC remains controversial for a number of reasons which include its potential abortive effects,\(^13\),\(^14\) its use by minors,\(^1,\)\(^15\) the professional’s right of conscientious objection,\(^16\),\(^17\) the information given to patients and informed consent,\(^1\) and free dispensation in emergency services.\(^18\)

Information about the profile of women who request EC and whether they perceive EC as an emergency measure can help to develop future educational, preventive and other actions related with contraception. The present study was designed to establish the profile of users who requested EC, and their perception of unprotected sex as an emergency (time elapsed until EC was requested).

### Methods

This descriptive, cross-sectional study was carried out from March 2002 to March de 2003. The study population consisted of women who came to 2 primary care emergency services (Usera and Carabanchel) in Health Care Area 11, Madrid, Spain, to request EC after unprotected sex.

All requests were recorded by medical staff during the centers’ regular opening hours (8:30 PM to 8:00 AM Monday through Friday, 5:00 PM on Saturday to 8:00 on the following Monday). Data were collected with a brief questionnaire completed by each woman who came to the centers to request EC.

The variables covered by the questionnaire were: a) age of user; b) time elapsed between unprotected sex and the request for EC, with a cutoff at 24 hours; c) usual method of contraception (none, natural methods, barrier methods, hormonal methods, or IUD); d) prior use of EC; e) educational level (unable to read and write, able to read and write, primary school, secondary school, university); f) reason for requesting EC (incorrect use of condom or condom breakage, incorrect use of other methods, unprotected sex under other circumstances such as rape, effects of drugs or alcohol, or recent use of teratogens), and g) relationship between requesting EC within 24 hours and other variables

\(\chi^2\) tests were used to characterize the relationships between qualitative variables, and the level of statistical significance was set at \(P<.05\). All statistical analyses were done with SPSS software.

### Results

The questionnaire was completed by all women who came to the centers to request EC, and all women were prescribed the medication. The total number of cases recruited was 89, and none of them was excluded from the analysis.

Mean age was 23 (4.8) years (range, 16-40 years). About half of the women (49.8%) were between 20 and 30 years old, 23.1% were younger than 20 years old, and 6.2% were more than 30 years old. A notable finding was that minors made up 4.4% of the sample.

Most women (80%) came to the center within 24 hours of intercourse. The contraceptive method used most frequently was condoms (88.8%). A few women (2.2%) used hormonal methods, 9% used no contraception, and none of the women used an IUD. The most frequent reason for
CONCLUSION

The results of this study are consistent with earlier findings of several Spanish19-23 and international studies.4,24-27 In general, users were young (younger than 25 years of age), unmarried, childless women. According to information contained in the WHO guidelines for EC,4 the main reason for requesting EC is unprotected sex. This contrasts with our findings and those from other Spanish studies, which found that the most frequent reason for seeking EC was condom rupture. In the series reported here, this cause motivated 91% of all requests for EC. Future studies should attempt to obtain more information on the possible reasons why this widely used method—generally considered safe—fails so often. The cases involving minor-aged women (4.45% in the present study) are important because of the significance of the event for these users, and because of the potential controversy surrounding EC measures for minors. Almost all women (79.8%) perceived unprotected sex as an emergency, and came to the center within 24 hours. Requests for EC usually took place during the evening or night and on holidays or weekends. It should be noted that family planning centers in Spain are not open during emergency primary care center opening hours. There was a statistically significant relationship (P=.032) between prior use of EC and time elapsed between unprotected sex and the request for EC. In contrast to expectations, women who had used EC before more often took longer to come to the center (up to 60 hours). This emphasizes the need to provide women who have used these methods previously with better information, including advice to seek EC as soon as possible after unprotected sexual relations to ensure effectiveness.2 Educational level might be felt to influence knowledge about contraception and related topics. We found a statis-

### Table 1: Global Results for the Sample*

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. de patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time elapsed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;24 hours</td>
<td>71</td>
<td>79.6%</td>
</tr>
<tr>
<td>&gt;24 hours</td>
<td>18</td>
<td>20.2%</td>
</tr>
<tr>
<td>Prior use of EC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>31</td>
<td>34.8%</td>
</tr>
<tr>
<td>No</td>
<td>58</td>
<td>65.2%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to read and write</td>
<td>2</td>
<td>2.2%</td>
</tr>
<tr>
<td>Primary</td>
<td>33</td>
<td>37.1%</td>
</tr>
<tr>
<td>Secondary</td>
<td>31</td>
<td>34.8%</td>
</tr>
<tr>
<td>University</td>
<td>23</td>
<td>25.8%</td>
</tr>
<tr>
<td>Usual method of contraception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>Barrier</td>
<td>79</td>
<td>88.8%</td>
</tr>
<tr>
<td>Hormonal</td>
<td>2</td>
<td>2.2%</td>
</tr>
<tr>
<td>Reason for requesting EC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom failure</td>
<td>81</td>
<td>91%</td>
</tr>
<tr>
<td>Incorrect use of other methods</td>
<td>1</td>
<td>1.1%</td>
</tr>
<tr>
<td>Unprotected sex</td>
<td>7</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

*EC indicates emergency contraception.

### Table 2: Variables With a Statistically Significant Association With Time Elapsed Until Contraception Was Sought*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Time Elapsed Until Contraception Was Sought</th>
<th>&lt;24 h</th>
<th>&gt;24 h</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior use of EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24 (77.4%)</td>
<td>4 (22.6%)</td>
<td>.032</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>54 (93.1%)</td>
<td>4 (6.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to read and write</td>
<td>2 (100%)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>31 (93.9%)</td>
<td>2 (61%)</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>22 (71%)</td>
<td>9 (29%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>23 (100%)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*EC indicates emergency contraception.

### Table 3: Variables not Significantly Associated With Time Elapsed Until Contraception Was Sought

<table>
<thead>
<tr>
<th>Variables</th>
<th>Time Elapsed Until Contraception Was Sought</th>
<th>&lt;24 h</th>
<th>&gt;24 h</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reason for requesting EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom failure</td>
<td>72 (89.9%)</td>
<td>9 (11.1%)</td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td>Failure of other methods</td>
<td>1 (100%)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unprotected sex</td>
<td>5 (71.4%)</td>
<td>2 (28.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usual method of contraception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>7 (87.5%)</td>
<td>1 (12.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>69 (87.3%)</td>
<td>10 (12.7%)</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>Hormonal</td>
<td>2 (100%)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(P=.37) or the usual method of contraception (P=.86) (Table 3).

**Discussion**

The results of this study are consistent with earlier findings of several Spanish19-23 and international studies.4,24-27 In general, users were young (younger than 25 years of age), unmarried, childless women. According to information contained in the WHO guidelines for EC,4 the main reason for requesting EC is unprotected sex. This contrasts with our findings and those from other Spanish studies, which found that the most frequent reason for seeking EC was condom rupture. In the series reported here, this cause motivated 91% of all requests for EC. Future studies should attempt to obtain more information on the possible reasons why this widely used method—generally considered safe—fails so often. The cases involving minor-aged women (4.45% in the present study) are important because of the significance of the event for these users, and because of the potential controversy surrounding EC measures for minors. Almost all women (79.8%) perceived unprotected sex as an emergency, and came to the center within 24 hours. Requests for EC usually took place during the evening or night and on holidays or weekends. It should be noted that family planning centers in Spain are not open during emergency primary care center opening hours. There was a statistically significant relationship (P=.032) between prior use of EC and time elapsed between unprotected sex and the request for EC. In contrast to expectations, women who had used EC before more often took longer to come to the center (up to 60 hours). This emphasizes the need to provide women who have used these methods previously with better information, including advice to seek EC as soon as possible after unprotected sexual relations to ensure effectiveness.2 Educational level might be felt to influence knowledge about contraception and related topics. We found a statis-
Prior use of EC did not lead users to seek EC earlier, and educational level was related with the time elapsed between seeking EC within 24 hours after intercourse because of condom failure, and who has not previously used EC.

**What This Study Contributes**

- The perception of EC as an emergency measure after unprotected sex was related with the user profile of women who requested EC.
- Prior use of EC did not lead users to seek EC earlier, probably because inadequate information about EC was provided previously.
- Educational level was related with the time elapsed between intercourse and the request for EC.

Because emergency service centers are the only centers (along with hospital emergency rooms) that are open during the evening and night, on holidays and on weekends, these centers should provide EC as a regular part of their services, and a standardized protocol should be in place that ensures continuity of care for these women.

**Acknowledgments**

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**References**

15. Ley 41/2002 de 14 de noviembre, Reguladora de la Autonomía.
At the dawn of the 21st century, responsibility for contraception continues to fall, for the most part, to women. However, recent decades have seen striking changes in customs and couples’ sexual behaviors. Contraceptive methods are few, and none of them is 100% effective. Thus throughout her sexually active lifespan a woman runs the risk of unprotected sex at any time, with the consequent possibility of accidental or undesired pregnancy.

**Emergency Contraception**

Some of these pregnancies could be prevented with the postcoital pill (PCP). This treatment, which only recently came on the market in Spain, consists of high doses of levonorgestrel (750 µg) in 2 tablets that should be taken within 72 hours of unprotected complete sexual relations. The first pill should be taken as soon after unprotected sex as possible, and the second should be taken 12 hours after the first.

The PCP is marketed in Spain under the brand names Postinor, Postfemin, and Norlevo. Until now, the Yuzpe regimen (100 µg ethinylestradiol and 500 µg levonorgestrel) has been used. Currently available treatment containing only gestagens is more expensive but avoids the side effects of the Yuzpe method (vomiting, headache, abdominal pain, dizziness, etc.). Its effectiveness is very high and inversely proportional to the number of hours elapsed since high-risk intercourse.

The mechanism of action of levonorgestrel, a synthetic hormone, works at a number of levels: the hormone inhibits ovulation if it has not yet occurred at the time of intercourse, impeding fertilization of the egg by the sperm.
The postcoital pill consists of high doses (750 μg) of levonorgestrel in 2 tablets that should be taken within 72 hours after complete unprotected sexual relations. The first tablet should be taken as soon as possible after unprotected sex, and the second should be taken 12 hours after the first.

- The product is marketed in Spain under the brand names Postinor, Postfemin, and Norlevo.
- The postcoital pill avoids the side effects of the Yuzpe method.
- Availability is far from being standardized throughout Spain, although the list of Services for Young People (Cartera de Servicios al Joven) includes emergency contraception with the postcoital pill.
- Both health care professionals and the public need more information about contraceptive methods so that the failures of different methods can be minimized, and so that when failure occurs, the postcoital pill can be offered in the most effective manner.

If ovulation has already occurred, the hormone prevents implantation of the fertilized egg in the uterus.

In the general population and among some health professionals, there is some confusion between the PCP and RU 486 or mifepristone, an abortive treatment dispensed only at clinics authorized for this type of intervention in accordance with the current Voluntary Interruption of Pregnancy Law passed in 1985.

Obviously, the PCP is an emergency solution that should not be considered or used as a routine method of contraception. Its authorization, distribution and private use—like many other issues that touch on sexuality and human reproduction—have been the subject of biomedical and religious debate, although the core issues remain difficult to resolve. The Episcopal Conference considers the PCP an abortifacient as in certain cases it would prevent the implantation of a fertilized egg. The WHO, on the other hand, considers gestation to begin when the fertilized egg is implanted in the endometrium, and thus does not consider the PCP a method of abortion.

Another technique for preventing undesired pregnancies after unprotected sex—insertion of an intrauterine device—has never been widely used in Spain for medical and organizational reasons.

In recent years family physicians have faced a growing number of requests for health care related with sexuality and reproduction. Men and women value their sex lives as an important aspect of health, and many citizens no longer hide problems that were considered taboo until recently.

The right of women and men to sexual health and birth control is exercised more freely by an increasingly well-informed population.

In 50% of the cases the woman who requests the PCP is younger than 20 years of age. Many are minors, and physicians must judge the woman’s degree of maturity in deciding whether to prescribe this treatment, just as they must also weigh the risks of undesired pregnancy in this type of patient.

The Situation in Spain

Access to this treatment remains unequal in different parts of Spain. Marketing of the PCP was authorized by the Ministry of Health and Consumer Affairs but its cost is not covered by the public health service in most autonomous communities. Each treatment costs slightly more than €19.

The only region that dispenses PCP through public health care centers is Andalusia, where this treatment is provided according to structured protocols for health care professionals. The protocols include interviewing the woman who requests the PCP, and providing information about health centers that can offer appropriate contraception. As a result, in this autonomous community the rate of increase in voluntary interruptions of pregnancy was reduced by 3.42% from 2001 to 2002, a reduction that appeared when dispensation in public centers was started. In the rest of Spain during the same period, the rate of voluntary interruptions of pregnancy continued to rise steadily.

A look at developments in other autonomous communities reveals a variety of situations. On one extreme, some emergency services at large hospitals do not keep records of visits by women who seek help after high-risk intercourse, but only provide women with the telephone number of a planned parenthood center that is naturally closed on weekends—which is precisely when most requests for the PCP occur. Conscientious objection by some family physicians and misinformation by others does the rest. Postcoital contraception for unwanted pregnancy, listed in the services such centers are obliged, in theory, to provide throughout the country, is not provided under the same conditions to the whole population everywhere in Spain.

In a country where the official abortion rate is approximately 50 000 per year, experts estimate that up to 75% of these interventions could be avoided if women had access to appropriate medical treatment.

The original article published in this issue of ATENCION PRIMARIA by Vergara Cano, López-Guerrero, and López López describes the user profile of women who requested emergency contraception in urban health care centers that form part of the system of continuing primary care. The data these authors report confirm that women seek this...
treatment most often on weekends, and that most requests for this medical service came from young women. Postcoital contraceptive treatment was perceived as an emergency. In most cases the women indicated that the couple had had problems with condom failure. 

It is noteworthy that information and education services for women who had previously used this treatment seemed to be inadequate, as women who had used the PCP on a previous occasion more often took longer than 24 h to come to the health center. For those of us familiar with the conditions most primary health care teams work under in Spain, the efforts of this group of professionals to undertake research are praise-worthy. Also deserving of note are their efforts to provide this emergency care, whose availability at continuous care services or hospital emergency rooms cannot be taken for granted. 

It is to be hoped that this service will soon be offered appropriately as part of health care services provided throughout the country, and that information will be provided for couples so that they can optimize their use of all available methods and thus minimize failures. 

Health authorities in each autonomous community in Spain should be urged to deal with this high-priority issue. Decided action will prevent unwanted pregnancies and avoidable abortions, and will have the further benefit of endowing citizens with less angst- and guilt-ridden sex lives.