

# Emergency contraception – Attitude of the doctors – Russian experience



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**Objective:** To determine the level of emergency contraception (EC) awareness among physicians of different specialties.

**Methods:** A specially designed questionnaire containing 36 questions was offered to doctors via the social network websites and the specialized internet portal “Doctors of the Russian Federation” and was also given to students, trainees in the specialty and advanced training programs in the Higher Medical Education System. Conditions for participation: higher medical education. The group is a simple random sample; 375 physicians (obstetricians/gynecologists [n=181]; therapists, and surgeons [n=194]) (305 women, 70 men) participated in the investigation.

**Results:** Among the surveyed participants, every second (49%) woman used emergency contraception. 84% of the physicians do not object to the use of postcoital contraceptive pills; almost all (about 95%) physicians are familiar with levonorgestrel-containing drugs and their regimens. No more than two-thirds of the specialists in various disciplines are well informed of the efficiency of emergency contraception. Only one-third of the practicing obstetricians/gynecologists (31%) have sufficient knowledge about the safety of postcoital contraceptive pills. 34% of obstetrician-gynecologists and 47% of doctors of other specialties believe that repeated application of EC leads to infertility. A relatively large proportion of obstetricians-gynecologists (30.5%) answered that with repeated EC applications the risk of heart attacks and strokes increases. Overall, nearly two-thirds of the obstetricians/gynecologists and about 85-90% of the physicians of other specialties have insufficient knowledge about emergency contraception.

**Conclusion:** It is necessary to train physicians of different specialties to enhance the level of their knowledge about emergency contraception.

*Keywords: emergency contraception, physicians of different specialties*

## Sürgősségi fogamzásgátlás – Az orvosok hozzáállása – Orosz tapasztalat

**Célkitűzés:** Felmértük a különböző szakterületeken dolgozó orvosok sürgősségi fogamzásgátlással (emergency contraception, EC) kapcsolatos ismereteit.

**Módszerek:** Egy 36 kérdést tartalmazó, erre a célra szerkesztett kérdőív kitöltésére kértünk orvosokat közösségi hálózati portálokon keresztül és a Doctors of the Russian Federation internetes oldalon. Orvostanhallgatókat és a szakterületen dolgozó, szakirányú orvosi képzésben részt vevő gyakornokokat is felkértünk a kitöltésre. A felmérésben való részvétel felsőfokú orvosi tanulmányokhoz volt kötött. A vizsgálati csoportba való bekerülés randomizált volt: 375 orvos: szülész-nőgyógyász (n=181) és sebész (n=194) vett részt a felmérésben (305 nő és 70 férfi).

**Eredmények:** A megkérdezettek közül minden második nő (49%) alkalmazott már sürgősségi fogamzásgátlást. Az orvosok 84%-a nem zárkózik el a posztkoitális fogamzásgátló tabletták felírásától, és közel az összes megkérdezett orvos (kb. 95%) ismeri a levonorgestrelt tartalmazó gyógyszereket és azok alkalmazását. A különböző szakterületen dolgozók legfeljebb

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kétharmada bizonyult jól tájékozottnak a sürgősségi fogamzásgátlás hatékonyságáról. A gyakorló szülész–nőgyógyászok csupán egyharmada (31%) rendelkezik megfelelő ismeretekkel a posztkoitális fogamzásgátló tabletták biztonságosságáról. A szülész–nőgyógyászok 34%-a, a más szakterületeken dolgozó orvosok 47%-a véli úgy, hogy az ismételt EC-használat meddőséghez vezet. A szülész–nőgyógyászok viszonylag nagy hányada (30,5%) szerint az ismételt EC növeli a szívroham és a stroke kockázatát. Összefoglalásként kijelenthető, hogy a szülész–nőgyógyászok közel kétharmada, más szakterületeken dolgozó orvosoknak pedig 85–90%-a nem rendelkezik elegendő ismerettel a sürgősségi fogamzásgátlásról.

**Következtetés:** Rendkívül fontos lenne a különböző szakterületeken dolgozó orvosok továbbképzése a sürgősségi fogamzásgátlással kapcsolatban.

*Kulcsszavak:* sürgősségi fogamzásgátlás, különböző szakterületeken dolgozó orvosok

## Introduction

An important principle of women's reproductive health is protection from unwanted pregnancy [1]. The frequency of abortions in Russia remains quite high: in 2015, 746,736 artificial pregnancies interruptions were made; more than half of the abortions were performed in women aged 25 to 34 years. According to the Ministry of Health of the Russian Federation, the number of abortions is 20.9 per 1000 women of childbearing age [2]. Despite the positive trend this indicator is one of the highest in the world. Each episode of termination of pregnancy is a reflection of the insufficient use of modern contraceptives.

Less than one third of women in Russia use planned, highly effective contraceptive methods, such as hormonal contraceptives (12,85% of women) and intrauterine devices (11,2% of women) [2]. Because of this, there are situations that require emergency postcoital contraception in each age group. Means of emergency contraception in Russia are readily available: drugs can be bought without a prescription. However, emergency contraception is not always applied, and if applied, it is not always done correctly, and therefore – ineffective.

The objective of our investigation was: to determine the level of emergency contraception (EC) awareness among physicians of different specialties.

## Material and methods

A specially designed questionnaire was offered to doctors via the social network websites and the specialized internet portal “Doctors of the Russian Federation”, and was also given to students, trainees in the specialty and advanced training programs in the Higher Medical Education System. Conditions for participation was higher medical education. There were 36 questions in the questionnaire. The first block (n=22) consisted of questions exclusively for women about their personal experience of using EC and about their obstetric-gynecological history. We observed the principle of voluntariness in answering any of the questions. The second block of questions (n=10) was aimed at determining responders' theoretical knowledge of emergency contraception (e.g. efficiency, treatment regimen, side effects, complications, etc.) and was directed towards all participants. Some of the questions focused on doctors'

attitudes towards EC in general and the likeliness of them recommending EC methods to their patients in appropriate circumstances. Each question contained an “I find it difficult to answer” option.

The group is a simple random sample of 375 physicians from 20 to 60 years old (with 181 obstetricians/gynecologists; and 194 therapists and surgeons). Out of 375 participated physicians 305 were women, and 70 were men.

## Results

The participants were divided into two groups: group I – obstetricians/gynecologists (n=181), group II – physicians of therapeutic and surgical specialties (n=194). Each group was further divided into subgroups according to the principle of presence/absence of a specialist certificate: Ia – practicing obstetricians/gynecologists (n=118), Ib – doctors studying in the programs of additional vocational education in the specialty “obstetrics and gynecology” (n=63), IIa – practicing therapists and surgeons (n=146), IIb – doctors studying in the programs of additional vocational education in therapeutic and surgical specialties (n=48).

Answers for questions concerning personal experience with the use of emergency contraception were received only from females (n=305). Among the surveyed participants, every second (49% – 149 from 305) woman used emergency contraception (Table 1).

Two thirds (63%) of the 149 women participants in the survey, who had experience with EC, reported that they have used EC more than once; every tenth (10.7% – 16 from 149) of women indicated that they have used EC more than once a year in the lifetime (Table 2).

In order to determine dominant source about information on EC, the respondents were asked: “which sources do you consult when you need to select an EC tool?” The answer “consultation of the obstetrician/gynecologist” was chosen by every fifth or sixth woman from both groups of physicians of various specialties. 2.4% of respondents of the subgroup Ia (obstetricians/gynecologists) and 15.6% of the subgroup IIa (doctors of the therapeutic and surgical profiles) have resorted to consulting friend, sexual partner or information in the Internet; of residents/interns – 40.7% in subgroup Ib and 23.6% in subgroup IIb. Pharmacists were rarely chosen as a source for EC advice. The most

**Table 1. Presence/absence of personal experience of EC application among female doctors (n=305)**

Groups EC in history	Group I (n=149) % (n)		Group II (n=156) % (n)	
Yes	45.6 (68)		51.9 (81)	
No	54.4 (81)		48.1 (75)	
Subgroups EC in history	Subgroup Ia (n=96) % (n)	Subgroup Ib (n=53) % (n)	Subgroup IIa (n=121) % (n)	Subgroup IIb (n=35) % (n)
Yes	42.7 (41)	50.9 (27)	52.9 (64)	48.6 (17)
No	57.3 (55)	49.1 (26)	47.1 (57)	51.4 (18)

popular answer to this question in all study groups was the “independent decision”, which was selected in the subgroups studied from 59.4% to 95.1% of the people; most often an independent decision on the choice of the EC method was noted in the group of practicing obstetricians/gynecologists. In the subgroups of residents/interns, an independent decision was made by about 70% of women enrolled in various specialties (Table 3).

Theoretical questions about EC were answered both by men and women. Two-thirds (70.2% – n=127) of obstetricians/gynecologists (group I: n=181) have correct information about the efficacy of levonorgestrel-containing EC, agreeing with the statement that the effectiveness of these drugs is 85-99% when administered no later than 3 days after unprotected sexual intercourse. A little over half (57.7% – n=112) of responders in group II (doctors of other specialties: n=194) gave a correct answer with respect to this question. Respondents from group I in 95% of cases (n=172) and from group II in 82% (n=159) gave the correct answer to the question about the regimen (“one tablet or two tablets simultaneously depending on the dose of levonorgestrel (LNG) within 72 hours after unprotected intercourse”) using levonorgestrel-containing EC drugs, rejecting the options “every day from unprotected intercourse until the onset of menstruation” and “the course from the 16th to the 24th day of the menstrual cycle”.

Participants were asked about the possible side effects of repeated applications of EC (Table 4), with the correct answer being “all options are incorrect”. This answer was chosen by every third obstetrician-gynecologist (31%), which is almost double the frequency of the corresponding answer among doctors of other specialties (17%). Most of responders who answered correctly (41.5%) were among practicing obstetricians/gynecologists compared to residents/interns in the spe-

cialty “obstetrics and gynecology”, and compared with specialists and students of other specialties. Nevertheless, every third/second doctor (34% among obstetricians/gynecologists and 47% among doctors of other specialties) believes that repeated application of EC leads to infertility, including 25% of practicing obstetricians/gynecologists; the largest number of similar answers was demonstrated by residents/interns (51%) in the obstetrician-gynecology profile and 65% of future specialists in therapeutic and surgical profiles. A relatively large proportion of practicing obstetricians/gynecologists (30.5%) answered that the repeated use of EC increases the risk of heart attacks and strokes.

A question was asked about the most effective EC tool (Table 5). The most known for its high efficiency EC in the group I of obstetricians/gynecologists was the drug “levonorgestrel 1.5 mg”, which was chosen by 48.6% of doctors (n=88), and in group II, the best known drug was “levonorgestrel 0.75 mg”, which was selected in 33% (n=64) responses. The “copper intrauterine device” option was unpopular in all study groups. Mifepristone 10 mg was chosen as the most effective EC agent by every fifth (22%) practicing obstetrician/gynecologist; to respondents in other subgroups this method is little-known. Every fourth (24.2%) doctor who is not an obstetrician/gynecologist chose the option “I find it difficult to answer”.

The majority of participants in the questionnaire (84.3% – n=316) in all groups consider the use of emergency contraception justified when postcoital protection is necessary. The variant “is not justified due to serious side effects” was chosen in 12% (n=45) cases among all respondents; 1.3% (n=5) of participants felt that the use of EC was not justified, due to low efficiency, and 2.4% (n=9) found it difficult to answer this question.

**Table 2. The number of episodes of EC use among female doctors who had such a personal experience (n=149)**

Groups EC in history	Group I (n=68) % (n)		Group II (n=81) % (n)	
one time in life	39.7 (27)		34.6 (28)	
more than once in life	60.3 (41)		65.4 (53)	
more than once a year	8.8 (6)		12.3 (10)	
Subgroups EC in history	Subgroup Ia (n=41) % (n)	Subgroup Ib (n=27) % (n)	Subgroup IIa (n=64) % (n)	Subgroup IIb (n=17) % (n)
one time in life	36.6 (15)	44.4 (12)	32.7 (21)	41.1 (7)
more than once in life	63.4 (26)	55.6 (15)	67.2 (43)	59.9 (10)
more than once a year	12.2 (5)	3.7 (1)	12.5 (8)	11.8 (2)

**Table 3. Sources that have been consulted by respondents who had experience of personal EC application (n=149), when choosing the EC method (it was possible to give more than one answer)**

Groups Choice of EC	Group I (n=68) % (n)	Group II (n=81) % (n)		
Consultation of obstetrician/ gynecologist	17.6 (12)	18.5 (15)		
Friend's advice	7.4 (5)	8.6 (7)		
the Internet	7.4 (5)	4.9 (4)		
Council of the sexual partner	2.9 (2)	3.7 (3)		
Independent decision	85.3 (58)	61.7 (50)		
Pharmacist's advice	0	1.2 (1)		
Other sources	25.0 (17)	29.6 (24)		
Subgroups Choice of EC	Subgroup Ia (n=41) % (n)	Subgroup Ib (n=27) % (n)	Subgroup IIa (n=64) % (n)	Subgroup IIb (n=17) % (n)
Consultation of obstetrician/ gynecologist	19.5 (8)	14.8 (4)	20.3 (13)	11.8 (2)
Friend's advice	2.4 (1)	14.8 (4)	7.8 (5)	11.8 (2)
the Internet	0	18.5 (5)	4.7 (3)	5.9 (1)
Council of the sexual partner	0	7.4 (2)	3.1 (2)	5.9 (1)
Independent decision	95.1 (39)	70.4 (19)	59.4 (38)	70.6 (12)
Pharmacist's advice	0	0	0	5.9 (1)
Other sources	14.6 (6)	40.7 (11)	29.7 (19)	29.4 (5)

## Discussion

Reducing the frequency of abortion is a primary goal of medicine aimed at maintaining women's reproductive health. The most effective method of preventing unwanted pregnancies and fighting abortions is correct family plan-

ning through highly effective methods of contraception. According to the World Health Organization (WHO), up to 45% of women of reproductive age in Western Europe use hormonal contraception, and among women aged 18 to 25 this figure reaches 70% [3]. Previous studies of the authors have shown that, among Russian women of the correspond-

**Table 4. Opinions of doctors of various specialties on possible adverse effects in the application of EC (n=375) (it was possible to give more than one answer)**

Groups Effects repeated applications of EC	Group I (n=181) % (n)	Group II (n=194) % (n)		
Infertility	33.7 (61)	47.4 (92)		
Reduction of contraceptive effect	16.0 (29)	23.7 (46)		
Heart attacks. strokes	25.4 (46)	18.6 (36)		
Biliary dyskinesia	2.8 (15)	6.2 (12)		
Arterial hypertension	5.0 (19)	11.3 (22)		
All options are incorrect	30.9 (56)	17.0 (33)		
All options are correct	5.5 (10)	4.6 (9)		
Groups Effects repeated applications of EC	Subgroup Ia (n=118) % (n)	Subgroup Ib (n=63) % (n)	Subgroup IIa (n=146) % (n)	Subgroup IIb (n=48) % (n)
Infertility	24.6 (29)	50.8 (32)	41.8 (61)	64.6 (31)
Reduction of contraceptive effect	15.3 (18)	17.5 (11)	22.6 (33)	27.1 (13)
Heart attacks, strokes	30.5 (36)	15.9 (10)	16.4 (24)	25 (12)
Biliary dyskinesia	11.0 (13)	3.2 (2)	5.5 (8)	8.3 (4)
Arterial hypertension	12.7 (15)	6.4 (4)	11.6 (17)	10.4 (5)
All options are incorrect	41.5 (49)	11.1 (7)	18.5 (27)	12.5 (6)
All options are correct	5.1 (6)	6.4 (4)	3.4 (5)	6.25 (4)

**Table 5. Opinion of doctors about the most effective means of EC (n=375)**

Groups Means	Group I (n=181) % (n)	Group II (n=194) % (n)		
Levonorgestrel 0.75 mg	16 (29)	33 (64)		
Levonorgestrel 1.5 mg	48.6 (88)	26.3 (51)		
Mifepristone 200 mg	11 (20)	7.2 (14)		
Mifepristone 10 mg	14.9 (27)	3.6 (7)		
Copper intrauterine device	1.7 (3)	3.1 (6)		
Vaginal suppositories (chloride benzalkonium)	1.1 (2)	2.6 (5)		
Difficult to answer	6.6 (12)	24.2 (47)		
Subgroups Means	Subgroup Ia (n=118) %, (n)	Subgroup Ib (n=63) %, (n)	Subgroup IIa (n=146) %, (n)	Subgroup IIb (n=48) %, (n)
Levonorgestrel 0.75 mg	9.4 (11)	28.6 (18)	32.2 (47)	35.4 (17)
Levonorgestrel 1.5 mg	48.3 (57)	49.2 (31)	23.3 (34)	35.4 (17)
Mifepristone 200 mg	11.0 (13)	11.1 (7)	7.5 (11)	6.3 (3)
Mifepristone 10 mg	22.0 (26)	1.6 (1)	4.1 (6)	2.1 (1)
Copper intrauterine device	1.7 (2)	1.6 (1)	3.4 (5)	2.1 (1)
Vaginal suppositories (chloride benzalkonium)	1.7 (2)	0	2.7 (4)	2.1 (1)
Difficult to answer	5.9 (7)	7.9 (5)	26.8 (39)	16.6 (8)

ing age (female students), high-performance hormonal contraception in the planned regimen, unfortunately, is applied almost 3 times less frequently than among female students of foreign countries (29.3% and 86.5%, respectively) [4].

Modern EC means are highly effective and safe. International experts note that EC allows to decrease the risk of unwanted pregnancy after intercourse in 85-99% of cases, unprotected or inadequately protected by another method of contraception [5, 6].

Despite the fact that the participants in our study were doctors (a certain professional "slice" of the population), the randomness and representativity of the sample allow us to view the general trends. Half of women of reproductive age (49%) faced the need for EC. Almost 2/3 of the women (63%) who had experience of EC use this method repeatedly.

Most women with higher medical education independently chose the option of EC (72.5%). However, if necessary, only one in five women asked for help from an obstetrician/gynecologist, while others preferred to receive information from other sources: advice of girlfriends and sexual partners, the Internet. This situation, possibly, is connected with not absolutely free access to the state obstetrics and gynecological institutions due to the requirement of scheduling the consultation with a specialist, which may take longer than acceptable in the case when EC is needed. The fact is surprising that one in five (19.5%) obstetrician/gynecologist consulted colleagues for advice on EC (there were no cases of introduction of a copper intrauterine device), although they themselves should have this information, as specialists, in full.

WHO experts believe that any EC method is more effective than its absence or placebo [5, 9]. It is good that 84% of

the participants in the study consider it possible and justified to use EC methods in case of necessity of emergency protection from unwanted pregnancy.

In the European Guidelines on EC (second edition, 2016) [8] the methods used for contraception after unprotected sexual intercourse are presented: copper intrauterine device (IUD), pills with ulipristal acetate (UPA) (not registered in Russia for emergency contraception), pills with levonorgestrel (LNG) and combined oral contraceptives (COCs). For doctors in Russia the most well-known methods of EC were levonorgestrel-containing drugs (for 65% of obstetricians/gynecologists and 59% of doctors of other specialties). 95% of obstetricians/gynecologists and 82% of physicians-therapists and surgeons have the correct information on the regimen aspects of the use of LNG drugs for EC. At the same time, only 2/3 of obstetricians/gynecologists and slightly more than half (58%) of doctors of other specialties have the correct information about the high effectiveness of LNG drugs 1,5 mg and 0,75 mg. A maximum of 6% of participants chose a copper intrauterine device as an effective means of emergency contraception.

The knowledge of doctors of various specialties regarding the safety of emergency contraception is unsatisfactory. Only one-third of the practicing obstetricians/gynecologists (31%) have sufficient knowledge about the safety of pills after unprotected sexual intercourse. A relatively large proportion of obstetricians/gynecologists (30.5%) answered that with repeated EC applications the risk of heart attacks and strokes increases. At present, serious medical complications are not registered with the use of EC. Even women with history of severe cardiovascular disease as well as women with migraines, can generally use pills with ulipristal acetate, pills with levonorgestrel and even combined oral

contraceptives for emergency contraception (category 2) [8, 9]. The latter is not the first choice. EC does not increase any risk of stroke or cerebrovascular accident. No woman should be refused or discouraged from using EC based on her weight (category 1). EC pills may be less effective among women with body mass index (BMI) of 30 kg/m<sup>2</sup> or higher, than among women with BMI of 25 kg/m<sup>2</sup> or lower. Despite this, there are no safety concerns. For all women, the copper IUD is the most effective EC method, followed by UP.

The incorrect knowledge that doctors have about the potential impact of emergency contraception on the reproductive system of women is of particular concern. Every third specialist obstetrician/gynecologist (33.7%) and almost every second specialist of therapeutic and surgical profiles (47.4%) believe that repeated EC applications cause infertility (!). WHO experts point out that there are no restrictions on re-use of tablets for emergency contraception – COCs, LNGs or UPAs (eligibility category 1: there are no restrictions for using the method). Repeated ECP use is an indication that the woman requires further counseling on other contraceptive options. Frequently repeated ECP use may be harmful for women with conditions classified as Category 2 (a condition where the advantages of using the method outweigh the theoretical or proven risk), 3 (a condition where the theoretical or proven risks usually outweigh the advantages of using the method) or 4 (a condition which represents an unacceptable health risk if contraceptive method is used) for combined hormonal contraception or progestogen-only contraceptive use [8, 9].

If emergency contraception was ineffective, and there was a pregnancy that was decided to be maintained, there were no increased risks of spontaneous abortion, complications of pregnancy, fetal development anomalies; there were no differences in the rates of fetal and postnatal growth, the development of children [9, 10].

In Russia, EC drugs are released in pharmacies without prescriptions, so there is no barrier associated with the impossibility of over-the-counter purchase of EC, as in many other countries. The main barriers to EC are insufficient users' knowledge and, what is much more important, insuffi-

cient knowledge specialists show supposed to counsel on EC applications.

## Conclusion

The urgency of the situation determines that counseling on the EC should be achievable with a doctor of any specialty in primary health care. In fact, it turns out that people with higher medical education do not have sufficient and event correct understanding about the use of EC neither as consultants, nor as potential as well as real users. In our study overall, nearly two-thirds of the obstetricians/gynecologists and about 85-90% of the physicians of other specialties have insufficient knowledge about emergency contraception. It is necessary to train physicians of different specialties to enhance the level of their knowledge about emergency contraception.

*The authors declare no conflict of Interest.*

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