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CONTRACEPTION AS A FACTOR FOR PRESERVING WOMEN'S REPRODUCTIVE HEALTH DURING WAR

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During the war, women's reproductive health (RH) becomes one of the most vulnerable links: the "rejuvenation" of many precancerous and tumorous gynaecological diseases, an increase in the number of women with premature ovarian failure, an increase in the risk of sexually transmitted infections (STIs), and fertility control occurs by terminating an unwanted pregnancy.

The purpose of the research is to examine the level of awareness among young women about modern hormonal contraceptives (HC) and the prevalence of their use during wartime.

Materials and methods. In order to achieve this purpose, between November 12, 2023, and March 20, 2024, according to the author's questionnaire, which contained 25 questions in Ukrainian and Hebrew and was posted on the website of the Department of Obstetrics and Gynaecology of the SI "Lugansk State Medical University" and on the Instagram social network, a voluntary online survey of 311 women aged 14 to 35 years, who are legally considered young. The surveyed women were divided into two groups by citizenship and country of residence: I was formed by 190 citizens of Ukraine, II – 121 citizens of Israel.

The results. Female respondents aged 18 to 27 showed the greatest interest in the survey. Among the young women, female students of higher education dominated. A third of the female respondents stated their sexual debut in adolescence. Also, a third of the respondents had unprotected first sexual intercourse. Every fourth Ukrainian woman and every fifth Israeli woman at the time of their first sexual intercourse had no idea about the available means of unplanned pregnancy and STD prevention. The results of the survey prove that there are real difficulties today in the acquisition of sexual knowledge by young people: the vast majority of young women cite only social networks as their main source of information; only one in two respondents considers herself to be fully aware of modern contraceptive methods – which is unreasonable; the low role of gynaecologists, family doctors and the family in the sexual education of young people. Based on the obtained results, the male condom is the most popular means of unwanted pregnancy prevention among Ukrainian women (41.9%), oral contraceptives are used by only 17.4% of surveyed women I Group, some prefer spermicides (9.9%) and interrupted sexual intercourse (15.1%), regarding the surveyed women II Group, after the analysis we have: 10.7%, 67.8%, 1.7%, 9.9%, respectively; 24.2% of surveyed women I group and 8.3% of surveyed women II group still experience difficulties in obtaining information about the influence of hormonal contraceptives (HC) on the general state of RH; the low level of oral contraception application is attributed by the vast majority of female respondents from the I group to a lack of knowledge about its real possibilities and possible risks, the lack of confidence of gynaecologists during appointments and the negative attitude of doctors of related specialities.
Conclusions. It is necessary to change the paradigm of fertility regulation towards safe and effective prevention of unplanned pregnancies in order to create conditions for maintaining the reproductive health of the population in war conditions. The introduction of sex education into the programme of high schools and the strengthening of the role of gynaecologists and family doctors in the educational work with teenagers will make it possible to increase the awareness of young people about the real benefits of contraception.

Key words: contraception, counselling, reproductive health, young people, sex education, prevention of sexually transmitted infections.

Introduction. Women's reproductive health (RH) is one of the most vulnerable areas in times of war. The unregulated conditions caused by hostilities, such as exposure to severe persistent stress, displacement, inadequate hygiene and nutrition, limited access to medical care, essential medicines modern contraception, etc. hurt women's physical health [1]. All population segments, regardless of age and gender, are affected. People are physically and psycho-emotionally exhausted. An unsafe environment is being created for women's reproductive health. In particular, there is a tendency to 'rejuvenate' some pre-tumour and tumour gynaecological diseases, the number of women with premature ovarian failure is growing, the risk of sexually transmitted infections (STIs) is increasing, and birth control is carried out by terminating unwanted pregnancies [2; 3]. Female servicewomen are in a particularly difficult situation, as they have more diseases and problems with their reproductive health than women in 'peaceful' professions due to the negative impact of military and military environment factors [4]. That is why the problem of preserving health during war reaches the national level and becomes a priority [5].

Family planning and the prevention of unwanted pregnancy through safe contraception, according to a woman's condition, play a leading role in the formation of the nation's RH.

The purpose of the study is to examine the degree of awareness of young women about modern hormonal contraceptives (HC) and the prevalence of their use during the war.

Materials and methods of the study. To achieve this goal, from 12 November 2023 to 20 March 2024, a voluntary online survey of 311 women aged 14 to 35 years, who are legally considered youth, was conducted using the author's questionnaire [6]. The questionnaire, which was posted on the website of the Department of Obstetrics and Gynaecology of the State Institution "Luhansk State Medical University" and the social network Instagram, contained 25 questions in Ukrainian and Hebrew, divided into 6 sections:

Section I: Social and marital status.

Section II: Sexual and reproductive history.

Section III: Sources of information on the impact of hormonal contraceptives on women's general and reproductive health.

Section IV: Level of awareness of modern contraceptives.

Section V: Previously used contraceptives.

Section VI: The role of sexuality education in shaping knowledge about modern contraceptives.

The surveyed women were divided into two groups according to their citizenship and country of residence at the time of the study:

Group I – 190 Ukrainian women;

Group II – 121 Israeli women.

The respondents independently refused to answer some questions, which was considered during the statistical processing of the results.

The study was conducted at the clinical base of the Department of Obstetrics and Gynaecology of the State Institution "Luhansk State Medical University". The study was agreed on and approved at a meeting of the Biomedical Ethics Committee on compliance with the moral and legal rules for conducting medical research at the State Institution "Luhansk State Medical University" (Protocol No. 3 dated 23 October 2023).

Statistical processing of the results was carried out using Fisher's angular transformation method. The results were calculated using Statistica for Windows and Microsoft Excel 14.0. Statistical significance was determined at $p < 0.05$.

Graphs and figures were created using Microsoft Office 2013 and Microsoft Office SR 2 for Windows 10.

Results of the study and their discussion. According to the results of the online survey, it was mainly attended by unmarried (I Group – 162 (85.3%), II Group – 98 (81.0%); $p > 0.05$) and socially active young women (Table 1).

The greatest interest in the survey among women of I Group was shown by respondents aged 18 to 22 (89 (46.8%), among II Group – 21 (17.4%); $p < 0.05$) and 23 to 27 years (I Group – 51 (26.8%), II Group – 51 (42.1%); $p < 0.05$). Some interest in choosing effective contraception was demonstrated by adolescent women of I Group – 15 (7.9%), while their peers from II Group did not participate in the survey – 1 (0.8%). Women in I Group aged 28–35 years showed less interest in the survey (35 (18.4%); II Group – 48 (39.7%); $p < 0.05$), which was 4 times lower than in the age group 18–27 years (I Group – 140 (73.7%), II Group – 72 (59.5%); $p < 0.05$). Among women of II Group, there was also a tendency to a 1.5-fold decrease in the activity of respondents over 28 years old (48 (39.7%), I Group – 35 (18.4%); $p < 0.05$), which reflects current demographic processes in Israel, as the average

age of women who get married for the first time in this country is 28.4 years. The average age of the first child is 27.3 years [6].

According to experts from the Department of Research on Demographic Processes and Demographic Policy of the Ptukha Institute of Demography and Social Studies, the main trend observed in recent decades, not only in Ukraine, is the postponement of marriage and child-bearing to a later age [7]. For example, the average age of first marriage for Ukrainian women in 2019 was 25.9 years, and the average age of first childbirth was 25.5 years. According to Michelle Fernandez [8], in recent years, the number of women in Ukraine who decided to have their first child at 30 or older has increased by one and a half times.

According to the analysis of the responses, both groups of respondents were dominated by women with higher education (I Group – 148 (77.9%), II Group – 56 (46.7%); $p < 0.05$) (Table 1). Almost every second respondent of I Group (93 (48.9%) and 15 (12.4%); $p < 0.05$) of II Group studied at higher medical education institutions. Among the women

Table 1

Social and marital status, sexual and reproductive anamnesis

Questions of the questionnaire	Respondents' answers	I Group (N = 190)		II Group (N = 121)	
		Abs. number	%	Abs. number	%
SECTION I. Social and marital status					
Age	Up to 18 years old	15	7.9	1	0.8
	18–22 years old	89	46.8	21	17.4*
	23–27 years old	51	26.8	51	42.1*
	28–32 years old	28	14.8	41	33.9*
	33–35 years old	7	3.7	7	5.8
Marital status	Married	28	14.7	23	19
	Not married	162	85.3	98	81
Social status	Applicant for education	148	77.9	56	46.3*
	Employee	15	7.9	2	1.6*
	Servicewoman	5	2.7	26	21.5*
	Worker	13	6.8	20	16.5*
	Housewife	9	4.7	17	14.1*
Education	Incomplete higher education, including in – medical education institutions of the II (master's) level; – other higher education institutions of the II (master's) level;	148 93 55	77.9 48.9 29	56 15 41	46.3* 12.4* 33.9
	Completed higher education, incl. III educational and scientific level	26 23	13.7 12.1	36 33	29.7* 27.3*
	Secondary	9	4.7	10	8.3
	Secondary specialized education	7	3.7	19	15.7*
SECTION II. Peculiarities of sexual and reproductive anamnesis					
Age of sexual debut	Under 18 years old	109	57.4	81	66.9*
	After 18 years of age	63	33.2	38	31.4
	Never had sexual relations	18	9.4	2	1.7*

Continuation of table 1

Questions of the questionnaire	Respondents' answers	I Group (N = 190)		II Group (N = 121)	
		Abs. number	%	Abs. number	%
Was your sexual debut protected?	Yes	108	56.8	81	66.9
	No	64	33.7	38	31.4
	No response received	18	9.5	2	1.7
At the time of sexual debut, did you know about contraceptive methods?	Yes	126	66.3	96	79.3
	No	46	24.2	23	19.0
	No response received	18	9.5	2	1.7
Number of sexual partners in sexual history	One	64	33.7	21	17.3
	Two	46	24.2	67	55.4
	Three and more	49	25.8	31	25.6
	No response received	31	16.3	2	1.7
Previous pregnancy in the past	Yes	38	20.0	46	38.0
	No	134	70.5	73	60.3
	No response received	18	9.5	2	1.7
Results of pregnancies	Childbirth	13	6.8	11	9.1
	Artificial / spontaneous miscarriage	24	12.6	24	19.8
	Ectopic pregnancy	1	0.6	11	9.1
	No response received	152	80	75	62.0

*Note: * – significance between groups $p < 0.05$.*

in II Group, there was a significant predominance of women with the third level of education (33 (27.3%), I Group – 23 (12.1%); $p < 0.05$). Seven respondents of I Group (3.7%) and 19 respondents of II Group (15.7%; $p < 0.05$) had secondary specialised education. At the same time, every seventh respondent in II Group (17 (14.1%), I Group – 9 (4.7%); $p < 0.05$) is a housewife, and every fifth (26 (21.5%), I Group – 5 (2.7%); $p < 0.05$) is a military servicewoman. The latter fact is very important, because for countries in a state of permanent warfare, and their women are under the negative influence of chronic stress caused by war, the interest in preserving the reproductive health of the defenders of the state is a guarantee of preserving the nation's gene pool.

Analysing the peculiarities of sexual relations of the women surveyed, we noted a higher level of frankness and willingness to share their experiences among respondents of II Group: none of them

refused to answer 'uncomfortable' questions. In contrast, almost 6.8% (13 cases) of women in I Group avoided answering certain questions about their sexual history and reproductive history. Sexual debut in adolescence was reported by 109 (57.4%) respondents of I Group and 81 (66.9%; $p < 0.05$) respondents of II Group. In 64 women of I Group (37.2%) and 38 (31.9%; $p > 0.05$) of II Group, the first sexual intercourse was unprotected, and every fourth (46 – 23.6%) and every fifth (23 – 19.3%; $p > 0.05$) respondent of Groups I and II, respectively, had no idea about the available means of preventing unplanned pregnancy and sexually transmitted infections (STIs), which indicates an insufficient level of sexual education of adolescents.

Nowadays, the problem of sex education for young people is still stigmatised in Ukrainian society, as the mainstream view is that sex education is exclusively about sex. As defined by UNESCO (2009), sexuality education is an age- and culturally appropriate approach to learning about sex and relationships that provide accurate, realistic and impartial information [9]. That is, sexuality education is primarily about gender identity and, the prevention of sexually transmitted infections and unwanted pregnancy. Margarita Yegorenko, a child psychologist and member of the National Psychological Association of Ukraine, emphasises that sex education is about human physiology and the right to one's body [9].

Gaps in sex education are one of the reasons for refusing monogamous relationships, unwanted pregnancies, artificial and spontaneous abortions, sexually transmitted infections and, as a result, ectopic pregnancies.

Thus, during the survey, 159 women in I Group answered the question about the number of partners in their sexual history, while only one in three of them (64 (37.2%); II Group – 21 (17.6%); $p < 0.05$) reported having a single sexual partner. Although both groups were significantly dominated by women who had no history of pregnancy (I Group – 134 (77.9%), II Group – 73 (61.3%); $p < 0.05$), a significant number of respondents in II Group (11 women, 23.9%; I Group – 1 case, 2.6%), indicating a history of ectopic pregnancy, one of the risk factors of which is inflammatory diseases of the internal genital organs in the setting of sexually transmitted STIs [10; 11]. A history of induced or spontaneous termination of pregnancy was reported by 63.2% (24) of respondents in I Group and 52.2% (24; $p > 0.05$) in II Group. It is worth noting that in the structure of abortions, respondents from both groups had an almost parity ratio of induced (I Group – 12 (50.0%), II Group – 13 (54.2%); $p > 0.05$) and spontaneous terminations (I Group – 12 (50.0%), II Group – 11 (45.8%); $p > 0.05$). There is no doubt today about the negative role of both miscarriage and artificial termination of pregnancy in initiating the development of women's reproductive health disorders, and thus the health of the nation as a whole, since only a healthy woman can give birth to a healthy child who can also give birth to healthy offspring [12; 13; 14; 15; 16; 17].

According to the results of the survey, the vast majority of respondents consider it extremely important to provide professional information to young people on the possible use of means to prevent unplanned pregnancy and sexually transmitted infec-

tions. Sex education, especially information about contraceptive methods and prevention of sexually transmitted infections, is considered very important and insisted on the expediency of timely – in adolescence and before sexual debut – mastering practical skills of their use by 166 (87.4%) of the surveyed women of I Group and 104 (86.0%; $p > 0.05$) of the respondents of II Group (Table 2). Only a small proportion of respondents (I Group – 7 (3.7%), II Group – 1 (0.8%)) had difficulty answering this question or considered it unimportant (I Group – 17 (8.9%), II Group – 16 (13.2%); $p > 0.05$). Today, it is the latter two categories of respondents who deserve the most attention, as under certain social conditions it is still possible to form a rational attitude to the prevention of unplanned pregnancy.

Ukrainian youth today face real difficulties in acquiring sexual knowledge. Although the State Standard of Complete General Secondary Education identifies a social and health education area with clearly formulated requirements for mandatory learning outcomes for students, including, in particular, the modelling of safe sexual behaviour by students, and the goal of this area is to develop a personality capable of interacting to preserve their health and the health of others, the curricula of general secondary education institutions following the current Model Educational Programme Certain topics related to reproductive health, sex and sexual relations are very superficially addressed in the study of 'Fundamentals of Health' and 'Human Biology', but the focus here is mainly on the reproductive functions of women and men, without providing the necessary knowledge and skills to adolescents, and thus, real achievements in preserving reproductive health – to the state [19]. At the same time, according to Douglas Kirby, who studied the validity of the most common arguments against sex education in 97 countries, quality sex

Table 2

Results of the survey on sources of information and awareness of modern contraceptives

SECTION III. Sources of information on the impact of hormonal contraceptives on women's general and reproductive health					
Questions of the questionnaire	Respondents' answers	I Group (N = 190)		II Group (N = 121)	
		Abs. number	%	Abs. number	%
Do you consider sex education in adolescence important?	Very important	166	87.4	104	86.0
	Not important	17	8.9	16	13.2
	Difficult to answer	7	3.7	1	0.8
Do you think it is necessary to involve specialists in sex education?	Yes	137	72.1	108	89.3*
	No	53	27.9	13	10.7*
SECTION IV. Awareness of modern contraceptives					
Do you consider yourself informed about modern contraceptives?	Not aware of it	15	7.9	–	–
	Rather unaware	32	16.8	14	11.6
	It is difficult to answer	37	19.5	36	29.8*
	I am quite aware	106	55.8	71	58.6

*Note: * – significance between groups $p < 0.05$.*

education contributes to delaying sexual debut to a later age, more frequent use of contraception, and a reduction in the number of sexual partners and unprotected sex acts [9].

Modern sex education is based on five principles, including a comprehensive approach that includes physical and emotional aspects; active parental involvement; the use of specially trained teachers to teach the subject or individual topics; mandatory student attendance; and the availability of curricula that allow for the discussion of various topics without taboos [20].

The results of the survey show that there are gaps in the system of sex education. Thus, when assessing the level of their awareness of modern contraceptives, 15 (7.9%) respondents of I Group admitted that they were generally unaware, while there were no such respondents among respondents of II Group. Also noteworthy are the respondents who considered themselves rather unaware (I Group – 32 (16.8%); II Group – 14 (11.6%); $p > 0.05$) or had difficulty assessing their knowledge and practical skills (I Group – 37 (19.5%); II Group – 36 (29.8%); $p < 0.05$) (Table 2). It is these young women who should be under the close attention of their families and primary care physicians, which will help to raise awareness of contraceptive methods.

According to Maganova T. V. et al. (2021), 78% of women are partially familiar with the entire range of modern contraceptives, and the degree of awareness of modern contraceptives varies by age: among women who knew the entire range, the age group of 25–29 years prevails (6.42%), after 30 years, every sixth woman in Ukraine does not know about the existence of certain types of contraception [21].

There is no doubt that the quality of knowledge and the level of practical skills depend primarily on the source of information. The data obtained show that the vast majority of respondents in I Group (99 (52.1%), II Group – 19 (15.7%); $p < 0.05$) receive information about available contraceptives, their disadvantages and advantages via the Internet and social media; for the vast majority of women in II Group, the source of information is a gynaecologist (80 (66.1%), I Group – 34 (17.9%); $p < 0.051$). At the same time, in both countries, the role of the first contact physician – a family doctor – remains extremely insignificant (I Group – 8 (4.2%), II Group – 10 (8.3%); $p > 0.05$). 17.4% (33 people; II Group – 10 (8.3%); $p < 0.05$) of I Group respondents named their family as a source of information, emphasising that contraception, sexual and reproductive health issues are under the close attention of parents (Fig. 1)

Despite this, the role of the family in sex education for young people in Ukraine remains extremely insufficient, which can be explained, on the one hand, by the lack of knowledge of parents themselves, as 32% of married women and 38% of married men do not use contraception at all, and, on the other hand, by the taboo of 'uncomfortable' topics in families [21].

It is also significant that none of the respondents mentioned school and the school curriculum as a trigger for sex education. However, the vast majority of women surveyed (I Group – 137 (72.1%), II Group – 108 (89.3%); $p < 0.05$) believe that a sex education programme for secondary school students with the involvement of specialists is necessary to ensure a high level of compliance on the part of the youth.

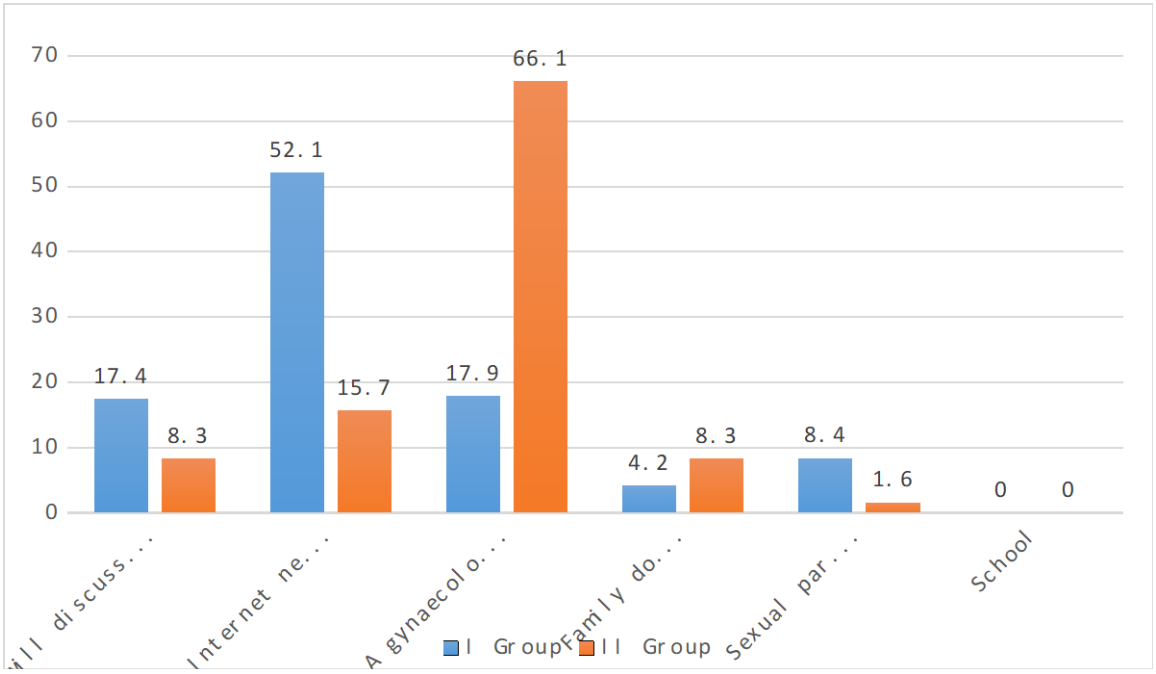

Fig. 1. Sources of information about contraceptives, %

The analysis of responses from young women in I Group who provided information about their experience of using contraceptives (Table 3) shows the highest prevalence of barrier contraceptives (72 (41.9%), II Group – 13 (10.7%); $p < 0.05$); the frequency of use of HC (30 (17.4%), II Group – 82 (67.8%); $p < 0.05$) and spermicides (17 (9.9%), II Group – 2 (1.7%); $p < 0.05$) was almost the same. A combination of barrier methods of contraception with any traditional and/or modern contraceptives was reported by 27 women (15.7%) in the I Group and 10 (8.4%; $p > 0.05$) in the II Group. At the same time, some respondents in I Group (26 (15.1%), II Group – 12 (9.9%); $p > 0.05$) still prefer interrupted sexual intercourse.

Ukraine faces a paradox in contraception: despite the high contraceptive effectiveness and numerous additional effects of modern contraceptives, Ukrainian women prefer traditional methods, and this trend has been maintained for decades. For example, according to Tatarchuk T. F. (2018), the most common methods of contraception in Ukraine are the male condom (24%), intrauterine contraceptive (IUC) (18%) and interruption of sexual intercourse (10%); combined oral contraceptives (COCs) are used by only 2.8% of women of reproductive age, and the highest figure did not exceed 3.5% for all years of the state's independence [22].

At the same time, the highest rates of COCs use were reported in Denmark (51%), Sweden (39%), and Norway (37%); in Germany, the rate of COCs use in different years was 35–39% [23]. Consequently, Ukrainian women are ten times less likely to use combined oral contraception, which is considered the most effective method. This general trend in the use of hormonal contraception was demonstrated by the results of the survey. Thus, among the respondents of I Group, 30 women (17.4%) reported their own experience of using hormonal contraceptives, which

Table 3

Data on previously used contraceptives

Section V. Previously used contraceptives					
Questions of the questionnaire	Respondents' answers	I Group (N = 190)		II Group (N = 121)	
		Abs. number	%	Abs. number	%
What contraceptives do you have experience with?	Condoms	72	37.9	13	10.6
	Hormonal contraceptives	30	15.8	82	67.8
	Combinations of contraceptives	27	14.2	10	8.3
	Spermicides	17	8.9	2	1.7
	Interruption of sexual intercourse	26	13.7	12	9.9
	No response received	18	9.5	2	1.7
What hormonal contraceptives have you used?	COC	19	10.0	76	62.8
	Emergency contraception	11	5.8	6	4.9
	No response received	160	84.2	39	32.3
Are you considering the possibility of adopting COCs?	Yes	54	28.4	97	80.2*
	No	91	47.9	14	11.6*
	Not decided	45	23.7	10	8.3*
What properties of COCs will play a role in their use?	Contraceptive	31	16.3	88	72.7
	Additional non-contraceptive effects	23	12.1	9	7.5
	No response received	136	71.6	24	19.8
Who did you consult when choosing a contraceptive?	Gynecologist and obstetrician	42	22.1	76	62.8
	Family medicine doctor	5	2.6	–	–
	Own decision	67	35.3	12	9.9
	Family medicine doctor	49	25.8	23	19.0
	Family	6	3.1	8	6.6
	No response received	21	11.1	2	1.7
Which contraceptive properties are prioritized for you?	Contraceptive effectiveness	62	32.7	49	40.5
	Easy to use	19	10.0	20	16.5
	Convenience	13	6.8	11	9.1
	Protection against STDs	51	26.8	4	3.3
	Positive impact on health	15	7.9	26	21.5
	Low price	19	10.0	11	9.1
	No response received	11	5.8	–	–

Continuation of table 3

What reasons do you think prevent the use of COCs?	Negative impact on health	32	16.8	6	5.0*
	Poor tolerance	41	21.6	20	16.5
	Reduced intensity of menstruation	17	8.9	7	5.8
	Weight gain	13	6.8	5	4.1
	Harmfulness of use before childbirth	10	5.3	4	3.3
	High price	29	15.3	23	19.0
	All contraceptive methods are equally effective	18	9.5	8	6.6
	Uncertainty of the gynecologist when prescribing COC	18	9.5	29	24.0*
	Negative feedback from a doctor of a related specialty	12	6.3	19	15.7*
Do you consider using intrauterine systems that release levonorgestrel?	No	82	43.2	14	11.6*
	I have not decided	39	20.5	30	24.8
	Yes, after giving birth	69	36.3	77	63.6*

*Note: * – significance between groups $p < 0.05$.*

is 2.7 times less than among women of II Group (82 – 67.8%; $p < 0.05$); in I Group, the proportion of female users of COCs reached 63.3% (19 respondents, II Group – 76 (92.7%); $p < 0.05$), respectively, 11 women in I Group (36.7%) and 6 women in II Group (7.3%) ($p < 0.05$) resorted to preventing unwanted pregnancy by using hormonal drugs for emergency contraception. At the same time, 54 respondents in the I Group (28.4%) and 97 respondents in the II Group (80.2%) ($p < 0.05$) are considering taking s in the future. The vast majority of respondents in I Group (23 (42.6%); II Group 9 COCs (9.2%); $p < 0.05$) assume that they will use COCs because of their additional non-contraceptive or therapeutic properties, and one in five (12 (22.2%); II Group – 2 (2.1%); $p < 0.05$) hopes to initiate COC use after fulfilling their reproductive plans. At the same time, one in three respondents in I Group (45 (23.7%), II Group – 10 (8.3%); $p < 0.05$) was undecided about the possibility of contraception with COCs at the time of the survey, attributing this to a lack of knowledge about their side effects.

One of the most difficult and serious issues that young women have to solve before their sexual debut is the choice of a means of preventing unwanted pregnancy. A total of 169 women in the I Group (88.9%) and 119 (98.23%) women in the II Group ($p < 0.05$) were willing to share their experiences of hesitation. The vast majority of women in the II Group (76 (63.9%); I Group – 42 (24.9%); $p < 0.05$) chose contraception in consultation with a gynaecologist. This approach allows a young woman and her sexual partner to receive clear, objective and comprehensive information, helping to make an informed

choice based on the needs of their particular life situation, i.e. to gain knowledge about responsible sexual behaviour and have safe sex. Confidential contact between young people and their doctors provides them with wide access to contraceptives, which potentially ensures the health of young women [24; 25]. In the study, young women who chose to prevent unplanned pregnancy on their own significantly prevailed among respondents in I Group (67 (39.6%), II Group – 12 (10.1%); $p < 0.05$), as they considered it their problem. 49 women in I Group (29.0%, II Group 23 (19.3%; $p < 0.05$)) involved their sexual partner in the choice of contraceptives, which increased the level of satisfaction with the chosen contraceptive and fully confirms the view that sexual partner involvement has a positive impact on contraceptive adherence [26]. The role of the family in the prevention of unplanned pregnancy among the surveyed women in both countries is insignificant (I Group – 6 (3.6%), II Group – 8 (6.7%); $p > 0.05$).

Choosing a means of preventing unplanned pregnancy (Table 3), 179 respondents in I Group and 121 respondents in II Group, like most women in Western and Eastern Europe [27], primarily paid attention to the contraceptive effectiveness of the product (I Group – 62 (34.6%), II Group – 49 (40.5%); $p > 0.05$), simplicity (I Group – 19 (10.6%), II Group – 20 (16.5%); $p > 0.05$) and ease of use (I Group – 13 (7.3%), II Group – 11 (9.1%); $p > 0.05$). I Group respondents paid special attention to the possibility of simultaneously preventing STIs (I Group – 51 (28.5%), II Group – 4 (3.3%); $p < 0.05$), while II Group respondents were more interested in the overall positive impact of the contraceptive on health (I Group – 15 (8.4%), II Group – 26 (21.5%); $p < 0.05$). For a certain number of women, the low price of the contraceptive was important (I Group – 19 (10.6%), II Group – 11 (9.1%); $p > 0.05$).

A modern young woman, despite the war that has been going on in Ukraine for more than 10 years, has opportunities to preserve her reproductive health, and she has access to many information channels around the world, which increases the possibility of awareness and knowledge. At the same time, the existing lack of knowledge about the possible side effects of COC plays a major role in limiting their use. Among the reasons for respondents' refusal to use COC, misconceptions about their poor tolerance and negative impact on overall health are the most common, as indicated by 41 (21.6%, II Group – 20 (16.5%); $p > 0.05$) and 32 respondents of I Group (16.8%, II Group – 6 (5.0%); $p < 0.05$), respectively. All contraceptive methods are considered equally effective by 18 respondents of I Group (9.5%; II Group – 8 (6.6%); $p > 0.05$); and 17 women of I Group (8.9%, II Group – 7 (5.8%); $p > 0.05$) consider a decrease in menstrual blood loss as a complication. Fears of weight gain are inherent in 13 (6.8%) respondents of the I Group versus 5 (4.1%; $p > 0.05$) respondents of the II Group. The proportion of women in the I Group who considered it harmful to take COC before childbirth was 10 (5.3%) versus 4 (3.3%) in the II Group ($p > 0.05$). Every fifth respondent mentioned the price of COC as a reason for refusing them (I Group – 29 (15.3%), II Group – 23 (19.0%); $p > 0.05$). One of the iatrogenic reasons for the refusal of respondents of both groups to use COC is the uncertainty of gynaecologists during counselling on

hormonal contraception (I Group – 18 (9.5%), II Group – 29 (24.0%); $p < 0.05$) or the negative attitude of doctors of related specialities to hormonal, in particular oral, contraceptives (I Group – 12 (6.3%), II Group – 19 (15.7%); $p < 0.05$). The results of the survey of young women confirm the opinion of modern scientists about the significant role of personalised, clear and accessible counselling of women by a knowledgeable gynaecologist on hormonal contraception, which is the most effective means of preventing unwanted pregnancy [28; 29; 30; 31]. Choosing a contraceptive method based on evidence-based medicine, i.e. taking into account additional benefits of the drug proven by scientific research, ensures high compliance and satisfaction of additional needs of women, creates conditions for long-term and continuous use of hormonal drugs until the desired pregnancy, reduces the number of induced abortions and helps improve women's health [32; 33; 35; 36; 37].

At present, the use of levonorgestrel intrauterine devices (LNG-IUDs) by young women is increasing worldwide, regardless of parity, because of their high contraceptive efficacy, which is not dependent on user error, and because of the additional therapeutic properties of the 52 mg course [38; 39; 40; 41; 42]. The results of the survey of young women on the likelihood of using IUDs are shown in Table 3.

The women surveyed (I Group – 82 (43.2%), II Group – 14 (11.6%); $p < 0.05$) were confident that they had a negative attitude towards long-term reversible contraception with LNG IUDs. At the same time, 39 (20.5%) respondents in I Group and 30 (24.8%; $p > 0.05$) in the II Group were undecided about their attitude to this type of contraception, mainly due to a lack of sufficient knowledge about the mechanism of action, positive additional effects and side effects of LNG IUDs. All respondents reported complete (I Group – 156 (82.1%), II Group – 97 (80.2%); $p > 0.05$) or partial (I Group – 34 (17.9%), II Group – 24 (19.8%); $p > 0.05$) ignorance of the contraceptive and additional effects of LNG IUDs. Merki-Feld GS et al (2018), in a survey of doctors and women to identify unmet needs for contraceptive counselling and choice, showed that 73% of women who do not plan to become pregnant in the next 3–5 years would consider long-acting reversible contraception if their doctor provided them with relevant information [43]. Despite this, doctors believe that only 38% of women would find such information interesting and useful. No doubt providing women with clear, personalised advice, and listening carefully to their views about their contraceptive problems and expectations, can increase their level of knowledge, leading to productive discussions with their primary care physician and a greater likelihood of an informed choice of contraceptive [28]. According to the survey results, one in three young women in the I Group – 69 (36.3%) and one in two in the II Group – 77 (63.6%) ($p < 0.05$) considered postpartum contraception with intrauterine hormonal systems.

However, in Ukraine, contraceptive users still face difficulties in obtaining information about the real possibilities and effects of hormonal contraception on their overall health. This was reported by 46 (24.2%) of I Group and 10 (7.6%) of II Group respondents ($p < 0.05$) (Table 4).

Analysing the possibilities of prevention of unwanted pregnancy, abortion and

Table 4

The role of sex education in shaping knowledge about modern hormonal contraceptives

SECTION VI. The role of sexuality education in shaping knowledge about modern HC					
Questions of the questionnaire	Answers of the respondents	I Group (N = 190)		II Group (N = 121)	
		Abs. number	%	Abs. number	%
Do you experience difficulties in obtaining information about modern contraceptives?	Yes	46	24.2	10	8.3*
	No	144	75.8	111	91.7*
Do you think it is promising to introduce sexuality education and training into the curriculum of secondary schools?	Yes	137	77.1	114	94.2*
	No	53	28.9	7	5.8*

*Note: * – reliability between groups $p < 0.05$.*

sex diseases, 137 (77.1%) respondents of I Group and 114 (94.2%) respondents of II Group ($p < 0.05$) consider it promising to include sex education in the curriculum of secondary schools, which will ensure the necessary level of awareness of young people's sexual health and will be a prerequisite for preserving the reproductive health of the nation.

Conclusions

1. The leading means of preventing unwanted pregnancy among modern young, socially active Ukrainian women are barrier agents (41.9%), hormonal contraceptives (17.4%), spermicides (9.9%), and among Israeli women – hormonal contraceptives (67.8%) and barrier agents (10.7%). The proportion of female respondents in both countries who support interruption of intercourse is 15.1% (Ukraine) and 9.9% (Israel).

2. The most important reasons for limited use of combined oral contraceptives by young women in Ukraine are poor tolerance (21.6%; Israel – 16.5%), stigma about the negative impact of COCs on health (16.8%; Israel – 5.0%), high price (15.3%; Israel – 19.0%) and lack of confidence of gynaecologists in prescribing hormonal drugs (9.5%, Israel – 24.0%).

3. Social media and the Internet remain the main source of primary information about contraception for interested Ukrainian youth (52.1%); The role of family (17.4%), gynaecologists (17.9%) and first contact doctors (4.2%) in promoting knowledge about the positive impact of rational prevention of unplanned pregnancy on a woman's reproductive health is unreasonably low, while 66.1% of female respondents – citizens of Israel – receive primary information about the possibilities of modern contraceptives from a gynaecologist.

4. Among the surveyed Ukrainian women, 24.2% still experience difficulties

in obtaining information about the real possibilities and impact of contraception on the overall state of their reproductive health, which is 3 times more often than among Israeli women.

5. 71.1% of Ukrainian women and 94.3% of Israeli women who participated in the survey consider it promising to introduce sexual education and training into the curriculum of secondary education institutions to ensure the necessary and sufficient level of youth sexual health awareness, which will be a prerequisite for maintaining the nation's reproductive health.

Prospects for further research. The published material is the final stage of the research.

Conflict of interest. The authors declare that there is no conflict of interest.

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Корнієць Н. Г., Тертична-Телюк С. В., Гришина О. С., Кулик С. В., Краснопольська Є. В., Прядко Р. М. Контрацепція як фактор збереження репродуктивного здоров'я жінки під час війни

Анотація. *Під час війни репродуктивне здоров'я (РЗ) жінок стає однією з найбільш вразливих ланок: «омолодження» цілої низки передпухлинних і пухлинних гінекологічних захворювань, зростання кількості жінок із передчасною недостатністю яєчників, збільшення ризику інфекцій, що передаються статевим шляхом (ІПСШ), а регулювання народжуваності відбувається шляхом переривання небажаної вагітності.*

Мета дослідження *− вивчити ступінь обізнаності жінок молодого віку про сучасні гормональні контрацептиви (ГК) та поширеність їхнього використання під час війни.*

Матеріали та методи. *Для досягнення поставленої мети з 12 листопада 2023 року до 20 березня 2024 року за авторською анкетою, що містила 25 питань українською мовою та івритом, була розміщена на вебсторінці кафедри акушерства та гінекології Державного закладу «Луганський державний медичний університет» і в соціальній мережі «Інстаграм», проведено добровільне інтернет-опитування 311 жінок віком від 14 до 35 років, які законодавчо вважаються молоддю. Проанкетовані жінки за громадянством і країною проживання розділені на дві групи: I сформували 190 громадянок України, II − 121 громадянка Ізраїлю.*

Результати. *Найбільший інтерес до опитування виказали респондентки віком від 18 до 27 років. Серед молодих жінок переважали здобувачки вищої освіти. Про статевий дебют у підлітковому віці заявила третина респонденток. Також третина опитаних мала незахищений перший статевий акт. Кожна четверта респондентка I групи та кожна п'ята респондентка II групи на момент першого статевого акту не мали жодного уявлення про наявні засоби попередження непланованої вагітності та ІПСШ. Результати опитування доводять, що сьогодні існують реальні труднощі у здобутті молоддю сексуальних знань: переважна більшість молодих жінок основним джерелом інформації називають суто соціальні мережі; лише кожна друга респондентка вважає себе цілком обізнаною щодо сучасних засобів контрацепції − вочевидь необґрунтовано; низька роль лікарів-гінекологів, лікарів сімейної медицини, родини в сексуальній освіті молоді. Виходячи з отриманих результатів, найбільш затребуваним засобом попередження небажаної вагітності респондентки I групи називають чоловічий презерватив (41,9 %), гормональні контрацептиви (ГК) застосовують лише 17,4 % опитаних жінок, частина надає перевагу сперміцидам (9,9 %) і перерваному статевому акту (15,1 %), щодо респонденток II групи після аналізу маємо: 10,7 %, 67,8 %, 1,7 %,*

9,9 % відповідно; 24,2 % опитаних жінок I групи та 8,3 % II групи досі зазнають труднощів в отриманні інформації про вплив ГК на загальний стан РЗ; низький рівень застосування комбінованої оральної контрацепції (КОК) переважна більшість респонденток I групи пов'язують із дефіцитом знань про її реальні можливості та можливі ризики, відсутність впевненості лікарів-гінекологів під час призначень і негативне ставлення лікарів суміжних спеціальностей.

***Висновки.** Для забезпечення передумов збереження РЗ нації в умовах війни варто змінити парадигму регулювання народжуваності в бік безпечної та ефективної профілактики непланованої вагітності. Підвищення обізнаності молоді про реальні переваги контрацепції можливе завдяки впровадженню сексуальної освіти й виховання в програму закладів середньої освіти, підвищення ролі лікарів-гінекологів і сімейних лікарів у просвітницькій роботі з підлітками.*

***Ключові слова:** контрацепція, консультування, репродуктивне здоров'я, молодь, сексуальна освіта, профілактика інфекцій, що передаються статевим шляхом.*

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