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SECTION 17.
MEDICAL SCIENCES AND PUBLIC HEALTH

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ASSESSMENT OF ANXIETY LEVEL IN PREGNANT WOMEN WITH A HISTORY OF REPRODUCTIVE LOSS

Summary. Pregnancy loss of any type is considered a significant psychological stressor with a detrimental effect on maternal well-being, and women who have experienced reproductive loss are at increased risk of developing psychological and psychiatric disorders. The results of the anxiety assessment indicate that pregnant women with a history of reproductive loss had a statistically significant (p < 0.05) higher level of anxiety than women who had no such experience.

Pregnancy loss in all its forms (miscarriage, abortion and intrauterine death) is one of the most common adverse consequences of pregnancy, but the psychological impact of such loss is often underestimated [1]. Stress can inhibit progesterone synthesis and cause a defect in immune tolerance in the pregnant woman and, as a result, leads to rejection of the fetus from the uterine cavity [2]. The presence of one reproductive loss in a woman's history leads to impaired reproductive function, and affects the course of pregnancy and childbirth [3]. Previous pregnancy loss also increases the risk of repeated pregnancy loss, and the risk increases with each subsequent loss [4]. Each subsequent pregnancy after a previous loss is perceived by the woman as more stressful due to the fear of a repeat loss [5]. Women who have experienced reproductive loss are at increased risk of psychological and psychiatric disorders in the form of anxiety, depression, and post-traumatic stress disorder [6]. In the future, these conditions negatively affect the course of the next pregnancy, causing a recurrence of pregnancy loss [7]. From 10 to 50% of reproductive losses are accompanied by depressive disorders. In many countries of the world, a postpartum follow-up protocol has been developed, which allows not

only the woman, but also her partner to receive relevant information about the loss, including possible problems and the timing of the next pregnancy [8]. Therefore, the development of more effective methods of early diagnosis and prevention of complications of gestation in women with a history of reproductive loss has a direct impact on the consequences of this pregnancy, which will minimize obstetric and perinatal complications.

The aim of the study: to assess the level of anxiety in pregnant women with a history of reproductive loss.

Materials and methods

105 pregnant women who were registered in the antenatal clinic of maternity hospital №9 in Zaporizhzhia city were examined.The patients were divided into groups depending on the presence of a history of reproductive loss and the connection of pregnancy with the period of military operations in Ukraine: I (main) group – 38 pregnant women with a history of reproductive loss, who began their participation in the study after the start of the full-scale invasion of the territory of Ukraine; II group (comparison) – 37 women with a history of reproductive loss, who began their participation in the study before the start of the full-scale invasion; III (control) group – 30 pregnant women without a history of reproductive loss.

The examination was carried out in the I trimester of pregnancy when the woman was registered. The average gestational age at the time of the study was: in the main group 9.21 ± 2.64 weeks, in the comparison group – 10.73 ± 3 weeks, in the control group – 10.97 ± 4.85 weeks. The average age of the women involved in the study was 30.1 ± 5.86 years in the main group, 28.8 ± 6.07 years in the comparison group and 26.5 ± 4.95 years in the control group.

The level of anxiety and stress experience was assessed using a complex of psychodiagnostic methods. The study of the psychological state of pregnant women was carried out both on paper and using the diagnostic complex "ReoCom" Stress in the "Classic Test" mode ("KHAI-MEDIKA", Kharkiv). In order to assess anxiety as a property of the personality and its state at any given moment (present, past, future), the Spielberger scale of personality (PA) and reactive anxiety (RA) was used (C.D. Spielberger), where an indicator of up to 30 points corresponds to a low, from 31 to 45 points - to an average, and over 45 points - to a high level of anxiety. The Taylor anxiety level measurement method (J. Teylor) was applied, where the total score of 40-50 points is considered an indicator of a very high level of anxiety; 25-40 points indicate a high level of anxiety; 15-25 points indicate an average (with a tendency to high) level; 5-15 points indicate an average (with a tendency to low) level; 0-5 points indicate a low level of anxiety [9, 10].

The study was conducted in compliance with the principles of bioethics and ensuring the rights and freedoms of patients, as stipulated in the Declaration of Helsinki of the World Medical Association on the Ethical Principles of Conducting Scientific Medical Research Involving Human Subjects (1964-2000), the International Conference on Harmonization (ICH) and compliance with standards of good clinical practice (GCP), the Council of Europe Convention for the Protection of Human Rights and Dignity with regard to the Use of Achievements in Biology and Medicine and the Order of the Ministry of Health of Ukraine No. 281 dated 01.11.2000. The study was conducted only after obtaining informed consent from the study participants.

The chosen direction of the study is closely related to the plan of scientific and research work of the Department of Obstetrics and Gynecology of the Zaporizhzhia State Medical and Pharmaceutical University.

Statistical processing of the results was carried out using the licensed software package "STATISTICA® for Windows 6.0" and "Microsoft Excel".

Research results and discussion

Testing according to the Spielberger method allowed us to establish a statistically significant ($p < 0.05$) higher level of anxiety in pregnant women with a history of reproductive loss compared to women who did not have such experience (picture 1).
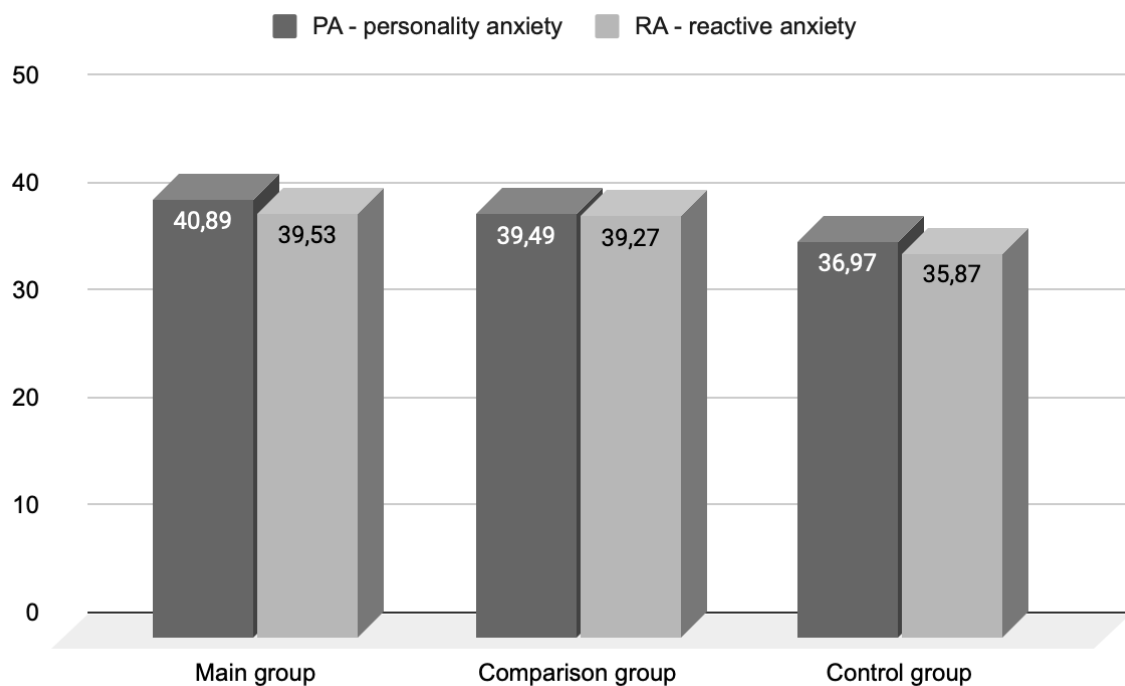

Pic.1. **Average indicators of personal and reactive anxiety in women of the studied groups**

The average PA score in group I was 40.89 $\pm$ 0.89 points, in group II – 39.49 $\pm$ 1.02 points, in group III – 36.97 $\pm$ 1.14 points. The average RA score in group I was 39.53 + 1.11 points, in group II – 39.27 $\pm$ 1.05 points, in group III – 35.87 $\pm$ 0.93 points.

PA is understood as a relatively stable individual characteristic, a trait that gives an idea of a person's tendency to anxiety, as well as his tendency to perceive a fairly wide range of situations as threatening and to react to them with a state of anxiety of varying levels. RA as a state is characterized by subjectively experienced emotions: tension, anxiety, worry, "nervousness", accompanied by activation of the autonomic nervous system [10].

A high level of RA in the study groups was found in 42.11 % of women in the main group, 27.03 % in the comparison group, 6.67 % in the control group (picture 2). A low level of RA was found in 15.79 % in the main group, 10.81 % in the comparison group, 20 % in the control group.
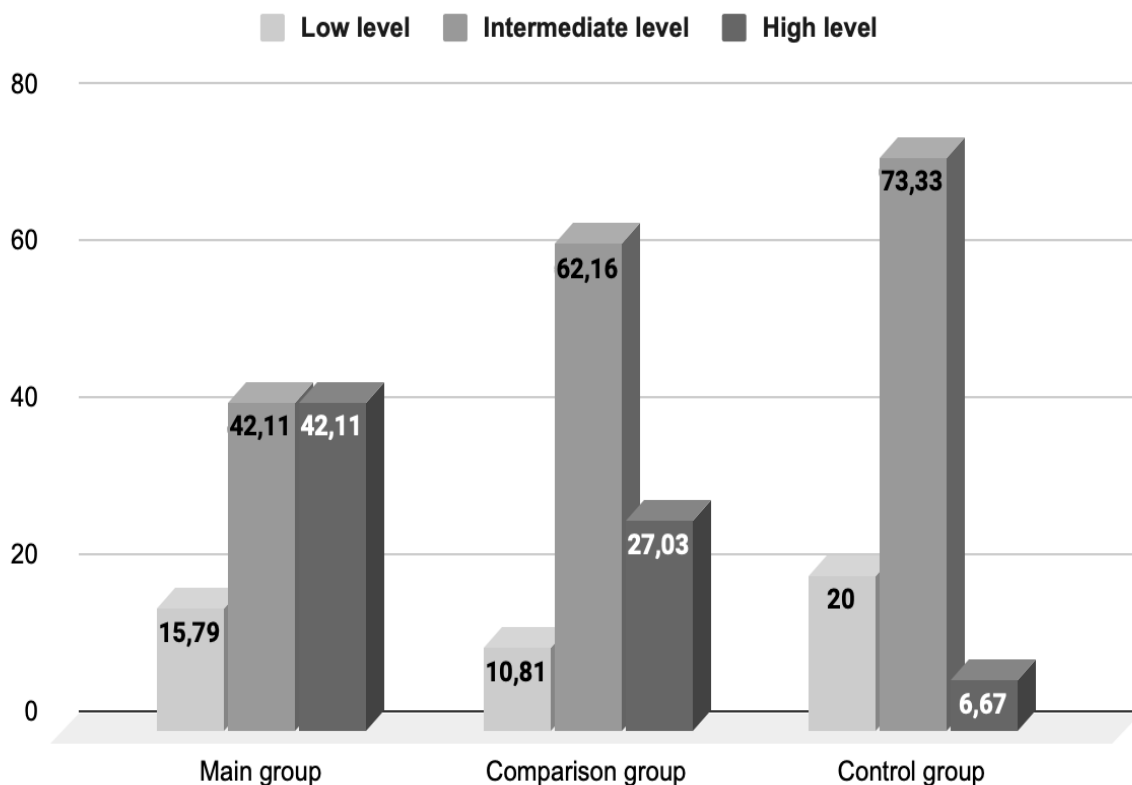

Pic.2. **Level of reactive anxiety in women of the studied groups**

Analyzing the level of PA, it was found that its high level in the main group occurred in 34.21 % and in 27.03 % in the comparison group, and in the control group - 10 %, respectively (picture 3).
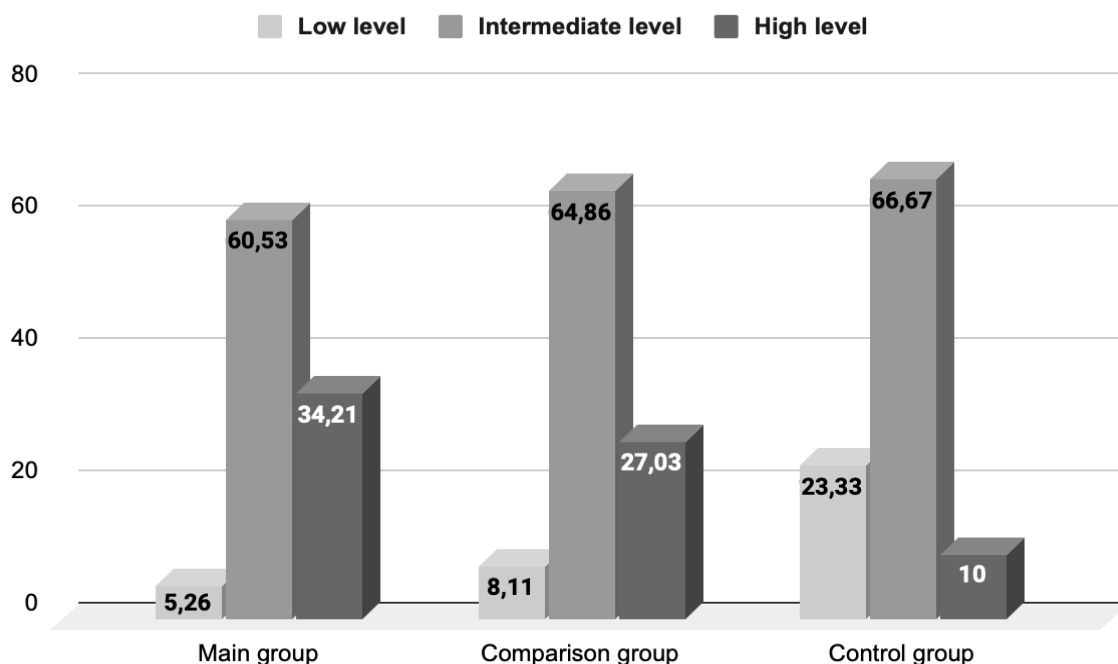
Pic.3. **Level of personal anxiety in women of the studied groups**

The results of measuring the level of anxiety, obtained according to the Taylor method, are presented in picture 4 and indicate the prevalence of an average level of anxiety with a tendency to high among pregnant women of the studied groups. However, the lowest overall indicator was found in the control group (18.87 ± 1.28 points), the level of which was statistically significantly ($p<0.05$) lower than the corresponding indicator in both the main group (21.5 ± 0.91 points) and the comparison group (21.24 ± 0.77 points).
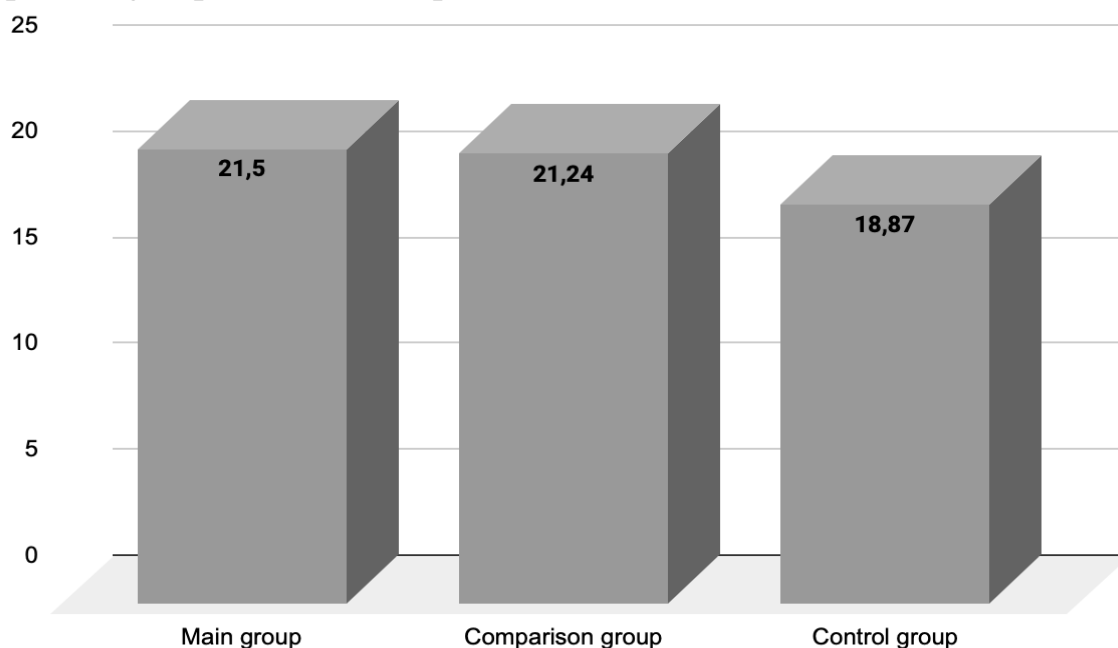
Pic.4. **Results of the study of the level of anxiety, according to the Taylor method, among women in the study group**

Further correlation analysis allows us to establish a positive relationship between RA and anxiety level indicators, according to the Taylor method, both in the main (r = +0.489, p < 0.05) and group comparison (r = +0.506, p < 0.05), as well as in the control group (r = +0.620, p < 0.05).

Conclusions

The results of the study indicate that pregnant women with a history of reproductive loss had a statistically significant (p < 0.05) higher level of anxiety than women who did not have such experience. In addition, correlation analysis showed a positive relationship between RA and anxiety levels, according to the Taylor method, in the study groups, namely in the main (r = +0.489, p < 0.05), comparison (r = +0.506, p < 0.05) and control (r = +0.620, p < 0.05) groups, respectively.

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