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# Characteristics of psycho-emotional manifestations and evaluation of the quality of life indicators in women with ovarian endometrioma combined with pelvic inflammatory diseases

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***The objective:*** **an assessment of the psycho-emotional status and quality of life in women with endometrioid ovarian cysts combined with inflammatory diseases of the pelvic organs.**
***Materials and methods.*** **The study included 44 patients with endometrioid ovarian cysts combined with inflammatory processes of the pelvic organs (I group), and 46 women with isolated ovarian endometriosis (II group). The control group consisted of 30 patients without endometriosis and symptoms of chronic pelvic pain. The SF-36 questionnaire (The MOS 36-Item Short-Form Health Survey) was used to assess the quality of life, the level of depression and anxiety were determined by the Beck depression scale and the Spielberger–Khanin anxiety scale. Pain was assessed using a visual analogue scale.**
***Results.*** **The reasons for doctor's visit were: menstrual irregularities (43.2% of patients in the I group and 34.8% – II group II), infertility (77.3% and 63.0%, respectively), miscarriage (13.6% and 8.7%), pain syndrome (up to 61.1% in general), as well as psycho-emotional and neurological conditions, urogenital disorders – cystalgia, irritable bowel syndrome, dysuria, frequent urination during menstruation, hematuria, dryness of the mucous membrane and dyspareunia. More than half of the women in the I group (56.8%) had severe pain combined with an expressed decrease in activity and transient disability, while in the II group only a quarter of the surveyed persons (23.9%) had pronounced manifestations of pelvic pain. The average level of depression in the II group was mild, while in the I group the parameters of moderate and mild depressive disorders were found in equal proportions. In the control group there were no manifestations of a depressive state. The indicators of trait anxiety and state anxiety scores in women in the I group were 52.12±12.26 and 49.84±8.29 points, respectively, in the II group – 40.12±10.22 and 44.26±6.24 points versus the data of the control group – 31.14±8.12 and 31.16±4.22 points (p<0.05).**
**The results of the SF-36 questionnaire presented that the patients in the I group had lower quality of life parameters on the following scales: general health, physical functioning, the pain, dissatisfaction with the emotional state.**
***Conclusions.*** **In women with ovarian endometriosis combined with chronic pelvic inflammatory processes an increased level of anxiety and depression and significantly low indicators of all scales of the SF-36 questionnaire were determined.**
***Keywords:*** *ovarian endometriosis, pelvic inflammatory diseases, quality of life.*

### Характеристика психоемоційних проявів та оцінка параметрів якості життя у жінок з ендометріомою яєчників, поєднаною із запальними захворюваннями органів малого таза

***Р.В. Бігун***

***Мета дослідження:*** оцінювання психоемоційного статусу та якості життя у жінок з ендометріоїдними кістами яєчників, поєднаними із запальними захворюваннями органів малого таза.
***Матеріали та методи.*** У дослідження увійшли 44 пацієнтки з ендометріоїдними кістами яєчника (I група), поєднаними із запальними процесами органів малого таза, та 46 жінок з ізольованим ендометріозом яєчника (II група). Контрольну групу сформували з 30 пацієнток без ендометріозу та симптомів хронічного тазового болю.
З метою оцінювання якості життя застосовували опитувальник SF-36 (The MOS 36-Item Short-Form Health Survey), рівня депресії та тривожності – шкали депресії Бека та тривожності Спілбергера–Ханіна. Оцінювання болю проводили за візуально-аналоговою шкалою.
***Результати.*** Причинами звертання жінок до лікаря стали: порушення менструального циклу (43,2% пацієнток у I групі та 34,8% – у II групі), інфертильність (77,3% та 63,0% відповідно), невиношування вагітності (13,6% та 8,7%), больовий синдром (до 61,1% загалом), а також психоемоційний та неврологічні стани, урогенітальні розлади – циталгії, синдром подразненого кишечника, дизурія, часте сечовипускання під час менструації, гематурія, сухість слизової оболонки та диспареунія.
Більше половини жінок I групи (56,8%) відзначали сильний біль, поєднаний з вираженим зниженням активності та транзиторною втратою працездатності, тоді як у II групі виражені прояви тазового болю констатовано у чверті обстежених (23,9%). Середній показник рівня депресії у II групі відповідав легкому, тоді як у пацієнток I групи параметри депресивних розладів середнього та легкого ступеня відзначено у рівних частках. У контрольній групі прояви депресивного стану були відсутні. Показники ситуативної та особистісної тривожності у жінок I групи становили 52,12±12,26 та 49,84±8,29 бала відповідно, у II групі – 40,12±10,22 та 44,26±6,24 бала проти даних контрольної групи – 31,14±8,12 та 31,16±4,22 бала (p<0,05).

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Міжгрупове порівняння результатів тесту SF-36 продемонструвало, що пацієнтки I групи мали більш низькі параметри якості життя за такими шкалами: загальний стан здоров'я, фізичне функціонування, наявність болю як перешкоди у фізичній активності, незадоволення своїм емоційним станом.
**Заключення.** У жінок з ендометріозом яєчників, поєднаним із хронічними запальними процесами статевих органів, встановлено значуще низькі показники за всіма шкалами опитувальника SF-36 та підвищений рівень тривожності та депресії.
**Ключові слова:** *ендометріоз яєчника, запальні процеси органів малого таза, якість життя.*

## Характеристика психоэмоциональных проявлений и оценка параметров качества жизни у женщин с эндометриомой яичников, совмещенной с воспалительными заболеваниями органов малого таза

***Р.В. Бигун***

**Цель исследования:** оценка психоэмоционального статуса и качества жизни у женщин с эндометриоидными кистами яичников, сочетанными с воспалительными заболеваниями органов малого таза.
**Материалы и методы.** В исследование вошли 44 пациентки с эндометриоидными кистами яичника (I группа), сочетанными с воспалительными процессами органов малого таза, и 46 женщин с изолированным эндометриозом яичника (II группа). Контрольную группу сформировали из 30 пациенток без эндометриоза и симптомов хронической тазовой боли. С целью оценки качества жизни применяли опросник SF-36 (The MOS 36-Item Short-Form Health Survey), уровня депрессии и тревожности – шкалы депрессии Бека и тревожности Спилбергера–Ханина. Оценку боли проводили по визуально-аналоговой шкале.
**Результаты.** Причинами обращения женщин к врачу стали: нарушение менструального цикла (43,2% пациенток в I группе и 34,8% – во II группе), бесплодие (77,3% и 63,0% соответственно), невынашивание беременности (13,6% и 8,7%), болевой синдром (до 61,1% в целом), а также психоэмоциональные и неврологические состояния, урогенитальные расстройства – циталгии, синдром раздраженного кишечника, дизурия, частое мочеиспускание во время менструации, гематурия, сухость слизистой оболочки и диспареуния.
Более половины женщин в I группе (56,8%) отмечали сильную боль, совмещенную с выраженным снижением активности и транзиторной потерей трудоспособности, тогда как во II группе выраженные проявления тазовой боли констатировано у четверти обследованных (23,9%). Средний показатель уровня депрессии во II группе отвечал легкому, тогда как у пациенток I группы параметры депрессивных расстройств средней и легкой степени отмечены в равных долях. В контрольной группе проявления депрессивного состояния отсутствовали. Показатели ситуативной и личностной тревожности у женщин I группы составили 52,12±12,26 и 49,84±8,29 балла соответственно, во II группе – 40,12±10,22 и 44,26±6,24 балла против данных контрольной группы – 31,14±8,12 и 31,16±4,22 балла ($p<0,05$).
Межгрупповое сравнение результатов теста SF-36 показало, что пациентки I группы имели более низкие параметры качества жизни по следующим шкалам: общее состояние здоровья, физическое функционирование, наличие боли как препятствия в физической активности, неудовлетворенность своим эмоциональным состоянием.
**Заключение.** У женщин с эндометриозом яичников, сочетанным с хроническими воспалительными процессами половых органов, установлено значимо низкие показатели по всем шкалам опросника SF-36 и повышенный уровень тревожности и депрессии.
**Ключевые слова**: *эндометриоз яичника, воспалительные процессы органов малого таза, качество жизни.*

Insufficient information on the leading pathogenetic mechanisms of the most mysterious disease of modern times – genital endometriosis [2, 3, 7, 11, 12] – attracts particular attention of domestic and foreign scientists. According to the literature, the prevalence of endometriosis among women of reproductive age is up to 20%, and among women with algodysmenorrhea – 40-60%. One in three infertile women suffers from endometriosis, and there are about 300 million women in the world with this diagnosis [1-3, 7, 11].

Despite numerous literature reports, the main questions in the pathogenesis of this multi-component and complex disease, which occupies a dominant third place in the structure of gynecological conditions after uterine fibroids and genital inflammation, and affects women not only of reproductive age but also adolescent girls, and postmenopausal women, remain unresolved [4, 8, 9, 13]. Variety of factors, clinical manifestations and localization, atypical forms, ambiguous risks factors for cancer, contradictory diagnostic issues, and insufficient effectiveness of existing treatments are the main directions of scientific research in solving such a complex clinical problem [1, 4-6, 10, 13].

It should be emphasized that the occurrence and development of endometriosis are accompanied by disorders of the autonomic nervous system and sexual dysfunction (in addition to disorders of menstrual and generative functions). This, in turn, leads to the development of social and personal maladaptation which dramatically deteriorates the quality of life. Thus, according to Vdovychenko Yu. et al., the frequency of various manifestations of endometriosis in the general population of women of reproductive age ranges from 3.0% to 30.0%, and the problem of psycho-autonomic and sexual disorders in such patients is diagnosed in every second case, and characterized by reduced quality of life, relationship breakdown and unstable psychological state [10].

Decrease in quality of life, low self-esteem, impaired self-perception, emotional lability, anxiety, and depression, along with severe clinical symptoms of pelvic pain, dysmenorrhea, and sexual disorders are important components of this problem both in medical and social aspects [1, 5, 10]. Modern domestic and foreign scientific sources present quite contradictory data on psycho-emotional disorders and changes in quality of life indicators in patients with chronic pelvic pain associated with endometrial disease [4, 8, 9, 11, 13]. Considering various manifestations of endometriosis and the number of options for localization of endometrial foci, there are still unresolved issues regarding the pathogenesis of ovarian endometrioma, close relationship with the mechanisms of the systemic inflammatory response, orientation of treatment tactics mainly based on the restoration of reproductive function, and monitoring and tactics of patients with ovarian endometrial cysts (OEC) combined with pelvic inflammatory disease, approaches to


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the prevention of common chronic inflammatory conditions are rather ambiguous [3, 4, 8, 13].

Some reports indicate a close relationship between the intensity of pain in endometriosis with the level of socio-economic status and education, age, history of physical or sexual violence, and infertility. It should be noted that inhabitants of large cities, who in modern conditions are active members of society and carry a significant burden in its various spheres, are characterized by greater tendency to the manifestation of psychopathological symptoms [1, 5, 6, 10]. Numerous studies show a decrease in quality of life and a high level of psycho-emotional disorders, anxiety, and depression in patients with pelvic pain in genital endometriosis [1, 5, 6, 10], but pathogenetic mechanisms and initiating factors remain unclear. Thus, the study of various quality of life indicators of patients with pelvic pain associated with genital endometriosis, such as physical and sexual activity, family and social functioning, ability to work, in the context of "progressive" urbanization in recent years, has become increasingly relevant and important.

***The objective:*** was to evaluate the psycho-emotional status and quality of life indicators in women with ovarian endometrial cysts combined with the pelvic inflammatory disease to develop an optimal treatment and rehabilitation program.

## MATERIALS AND METHODS

In order to assess pain severity and comparative analysis of the psycho-emotional state of women with ovarian endometrioma, the main quality of life indicators, assessment of psycho-emotional disorders, manifestations of depression, and anxiety were studied.

The research included 44 patients with ovarian endometrial cysts combined with pelvic inflammatory disease (Group 1) and 46 patients with isolated ovarian endometrial cysts (Group 2). Chronic salpingo-oophoritis (54.5%), chronic endometritis (22.7%), and tuboovarian tumors (22.7%) were the most common clinical disorders among women. The control group consisted of 30 patients without endometriosis and symptoms of chronic pelvic pain.

Inclusion criteria were: women aged 18-45 years with a diagnosed endometrial cyst (unilateral or multiple cysts); pelvic inflammatory disease. Exclusion criteria were: patients under 18 years of age and older than 45 years, ovarian tumors of another genesis, suspected malignancy; hereditary burden; severe somatic pathology. All patients signed a voluntary consent for the proposed research.

In order to assess the severity of pain and comparative analysis of the psycho-emotional status of women with ovarian endometrioma, we studied the main parameters of quality of life, assessment of psycho-emotional disorders, depression, and anxiety using non-specific questionnaires, where the analytical assessment of questionnaires combined with other methods of psychodiagnostic and clinical and psychological research allow to determine the priorities of treatment tactics.

The following methods were used in this study: analysis of data from adapted questionnaires, somatic and gynecological anamnesis, objective and gynecological examination, assessment of pain according to the visual-analog scale (VAS), sonographic examination of the pelvic organs on an ultrasound machine "ALOKA-SS" (Japan) using a vaginal probe (7.5 MHz), assessment of magnetic resonance imaging data, endoscopic and histological methods of investigation, psychologically experimental studies using Beck Depression Inventory and Spielberger-Khanin Anxiety Inventory (SKAI).

The standard questionnaire SF-36 (The MOS 36- Item Short-Form Health Survey), which is widely used in most medical fields for different nosologies, was used to survey patients, allowing to compare parameters in a healthy population. The criteria for quality of life according to the SF-36 are Physical Functioning (PF), Role-Physical Functioning (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental Health (MH). Statistical processing of the material was performed by means of the Microsoft Excel application program using the package "STATISTICA-6.0".

## RESULTS

The major women's complaints were: menstrual disorders (43.2% and 34.8%, respectively, in groups), infertility (77.3% and 63.0%, respectively), miscarriage (13.6% and 8.7%, respectively), pain syndrome (up to 61.1% in total), psycho-emotional and neurological conditions, urogenital disorders – cystalgia, irritable bowel syndrome, dysuria, frequent urination during menstruation, hematuria, dry mucous membranes, and dyspareunia. A comparative analysis of socio-demographic indicators of women with ovarian endometriosis and patients of the control group was carried out. It revealed unrealized reproductive function in two-thirds of observations without statistical differences between the main study groups.

In 38.6% of cases in Group 1 and 26.1% of cases in Group 2, patients were not satisfied with their family relationships; they had difficulties in communicating with their family members and were not able to cope with family responsibilities. In the control group - all patients realized their reproductive function, were married, dissatisfaction with social and family relations was demonstrated in single questionnaires.

In both groups, the visual analog scale (VAS) was used to assess the intensity of pain, and it was found that mild pain was noted by 9 people (10.5%) in Group 1, 10 women (22.7 %) had moderate pain, discomfort and decreased daily activity, and in more than half of the cases (25-56.8%) severe pain combined with a pronounced decrease in activity and transient disability was observed; in Group 2, only 11 patients (23.9%) noted severe manifestations of pelvic pain ($p<0.05$), in the control group - patients did not provide data on pain.

The emotional state of patients with OEC and PID was characterized by a low mood background significantly more often than in patients of the control group ($p<0.05$). The analysis of questionnaires revealed that women in Group 1 had 1.6 times more often deterioration in their sense of bodily well-being, decreased activity, the bad mood than patients of Group 2, where two-thirds of women showed positive indicators in the control ($p<0.05$). The average level of depression in Group 2 corresponded to mild – 12.2±6.12 points; in the control group, according to the average values, there was no depression (7.32±6.24 points); while in patients with OEC combined with PID, indicators of moderate and mild depression were in equal proportions.

According to the results of the comparative analysis of SKAI, patients from Group 1 and Group 2 also had high indicators of situational and personal anxiety. The average data of SKAI in Group 1 were 52.12±12.26 points and 49.84±8.29 points, respectively; in Group 2 – 40.12±10.22 points and 44.26±6.24 points against a control group – 31.14±8.12 points and 31.16±4.22 points ($p<0.05$).

A comparative analysis of quality of life indicators in women with ovarian endometrioma and patients in the control group


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showed statistically significant differences in most categories of the SF-36 questionnaire. Patients with ovarian endometriosis, primarily on the background of pelvic inflammatory disease, had lower scores on the scale of role functioning associated with physical functioning, which correlated with high rates of pain on the scale of VAS (8.6±1.2 points) and indicated a significant limitation of vital functions and social and role activity of patients in the case of severe pelvic pain syndrome in Group 1 ($p<0.05$). Special attention should be paid to health self-assessment: patients in Group 1 gave lower scores (2.0 and 1.4 times, respectively) than women in the control group and Group 2; they felt exhausted, tired, and depressed, had low levels of vital energy, and limited social contacts.

Intergroup comparison of SF-36 test results showed that Group 1 had not only a more severe clinical picture of the disease with clear symptoms, especially in terms of the severity of pain and menstrual disorders, compared to Group 2, but also a lower degree of life satisfaction in general, according to the following scales: general health (56.2±4.2 points), physical functioning (52.8±1.8 points), pain as a barrier to physical activity (49.6±3.8 points), dissatisfaction with own emotional state (42.2±2.4 points). Indicators of mental health and the role of emotional problems in limiting vital functions were also significantly lower than in women of Group 2 (64.1±2.1 points and 52.4±1.6 points and 42.8±2.0 points and 46.2±1.6 points, respectively). These rates were particularly low in women with ovarian endometriosis combined with adnexal affection and external genital endometriosis.

Thus, the psycho-emotional state of women (level of depression, anxiety, general well-being, activity, and mood) in the case of ovarian endometriosis combined with PID, was significantly worse against the data of the group of patients with isolated endometriomas and the control group.

## CONCLUSION

The obtained results show that patients with OEC on the background of the pelvic inflammatory disease have higher levels of depression, situational and personal anxiety, lower level of well-being, activity, and mood. Psychological reactions in such women are mainly illustrated by psycho-emotional disorders in the form of anxiety, anxiety-depressive, depressive, and neurotic reactions.

Patients in this group underestimated their emotional background, had a lower level of mental health and felt severe pain in half of the observations. Even moderate external genital endometriosis combined with ovarian endometrioma can be accompanied by severe pain and affect performance. Besides, mental health indicator is much lower in women whose disorder is associated with chronic pelvic inflammatory disease.

Significantly low scores on all scales of the SF-36 questionnaire in the group of women with ovarian endometriosis combined with chronic pelvic inflammatory diseases indicate that physical activity, daily activities, and physical capabilities are notably limited by the state of physical and emotional health, which violates social contacts and level of communication, promotes the development of neurotic states, anxiety and anxiety-depressive disorders of a neurotic nature, generating pathogenetic aspects of chronic stress.

**Conflict of interest:** No conflict of interest to declare.

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## REFERENCES

1. Boichuk AV, Kurylo OYu. Quality of life of women with endometriosis and thyroid dysfunction. Zdobutky klinichnoi i eksperymentalnoi medytsyny. 2017;3:29-35.
2. Evans MB, Decherney AH. Fertility and Endometriosis. Clin Obstet Gynecol. 2017;60(3):497-502. DOI:10.1097/GRF.0000000000000295
3. Hickey M, Ballard K, Farquhar C. Endometriosis. BMJ. 2014;348:g1752. DOI:10.1136/bmj.g1752
4. Hrek LP. Pathophysiological role of interleukins in the genesis of chronic pelvic pain syndrome in various gynecological disorders. Sciences of Europe. 2018;23:9-16.
5. Nochvina EA. Quality of life in women of reproductive age with chronic pelvic pain syndrome. Wschodnioeuropejskie Czasopismo Naukowe (East European Scientific Journal). 2015;4(4):124-9.
6. Semenyuk LN, Demyanenko LV, Chernukha LS, et al. Sexual dysfunction as an early marker of endometriosis. Klinichna endokrynologhija ta endokrynna khirurghija. 2020;2(70):86-91.
7. Shcherbyna MO, Potapova LV. Genital endometriosis. Navch. posibnyk. Kharkiv: KhNMU; 2020. 40 p.
8. Orazov MR, Radzinskiy VE, Nosenko EN. The role of inflammatory and immune reactivity in developing pain in adenomyosis. Patologycheskaya physiologiya i eksperimentalnaya terapiya. 2016;60(1):40-4.
9. Ross J, Guaschino S, Cusini M, Jensen J. 2017 European guideline for the management of pelvic inflammatory disease. Int J STD AIDS. 2018;29(2):108-14. DOI:10.1177/0956462417744099
10. Vdovychenko YuP, Abugali Alaa. Algorithm for diagnosis, prevention and treatment of psycho-autonomic and sexual dysfunctions in women with endometriosis. Zdorov'ye zhenshchiny. 2015;5:67-9.
11. Yarmolinskaya MI, Ailamazyan EK. Genital endometriosis. Various facets of the problem. SPb: Eco-Vector; 2017. 615 p.
12. Zaporozhan VM, Tatarchuk TF, Kaminskiy W. National consensus on the management of patients with endometriosis. Reproduktivnaya endokrinologiya. 2015;4:7-12.
13. Zhuk SI, Nochvina OA, Chechuha SB. Role of sex hormones and growth factors in the genesis of the formation of chronic pain in women of reproductive age. Reproduktivnoye zdorov'ye. Vostochnaya Yevropa. 2016;3(6):341-5.

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