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Asthenia as a pressing health issue for women with non-psychotic mental disorders: age perspective

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ABSTRACT

The aim of the study was to investigate the clinical phenomena of asthenia and subjective well-being of women aged 40-65 with non-psychotic mental disorders.

Materials and methods. A complete examination of 204 women aged 40–65 who received treatment for non-psychotic mental disorders within 1 year has been conducted. The data on the clinical phenomena of asthenia were supplemented by patients' rank assessment of fatigue and mood, determination of asthenia severity using the Multidimensional Fatigue Inventory (MFI-20), a calculation of the Kupperman menopausal index, and an assessment of the emotional component of well-being on the subjective well-being scale. For statistical processing, the methods of descriptive statistics and non-parametric statistics were used (for comparing independent samples – the Kruskal – Wallis criterion and Mann – Whitney U-criterion were applied; for identifying the connection of signs – Spearman rank correlation was used).

Results. The profile of the identified disorders included neurotic, stress-related and somatoform disorders (F40-49) – 67.7%, organic non-psychotic disorders (F06.4; F06.6) – 27.0%, and affective disorders (F34.1) – 5.4%. The organic asthenic disorder was also the second most frequent diagnosis among 69 patients. 196 women complained of fatigue. Patients with complaints of constant fatigue were significantly more likely to report headache, irritability, low mood, pessimistic thoughts, drowsiness, and asthma attacks. Their low level of subjective well-being correlated with higher rates of asthenia on MFI-20 subscales, except for the "Reduced Motivation" subscale.

The rates for all MFI-20 subscales among women with asthenic syndrome were lower than for patients with the depressive syndrome. A lower level of subjective well-being was revealed in patients with depressive, anxiety-depressive and anxiety-phobic syndromes, which differed by more pronounced manifestations of asthenia.

Conclusion. The conjugation and complementarity of the scales used in the study made it possible to measure both asthenia and the emotional state and subjective well-being of women with non-psychotic mental disorders associated with it.

Key words: asthenia, non-psychotic mental disorders, menopause, women.

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Астения как актуальная проблема здоровья женщин с непсихотическими психическими расстройствами: возрастной аспект

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РЕЗЮМЕ

Цель исследования – изучение клинических проявлений астении и субъективного благополучия у женщин с непсихотическими психическими расстройствами в возрасте 40–65 лет.

Материалы и методы. Проведено сплошное обследование 204 женщин в возрасте 40–65 лет, поступивших в течение 1 года на лечение по поводу непсихотических психических расстройств. Данные о клинических проявлениях астении дополнялись ранговой оценкой пациентами утомляемости и настроения, определением выраженности астении с помощью субъективной Шкалы оценки астении MFI-20; расчетом менопаузального индекса Купермана; оценкой эмоционального компонента благополучия по Шкале субъективного благополучия. При статистической обработке использовались методы описательной статистики, непараметрической статистики (для сравнения независимых выборок – критерий Краскела – Уоллиса, *U*-критерий Манна – Уитни; для выявления взаимосвязи признаков – корреляционный анализ по Спирмену).

Результаты. Структура выявленных расстройств включала невротические, связанные со стрессом и соматоформные расстройства (F40-49) – 67,6%; 27,0% – Органические непсихотические расстройства (F06.4; F06.6); 5,4 % – Аффективные расстройства (F34.1). Органическое астеническое расстройство было также вторым диагнозом у 69 пациенток. Жалобы на утомляемость предъявили 196 женщин. Пациентки с жалобами на постоянную утомляемость значимо чаще отмечали головную боль, раздражительность, сниженное настроение, пессимистические мысли, сонливость, приступы удушья. Выявленный у них низкий уровень субъективного благополучия коррелировал с более высокими показателями астении по субшкалам MFI-20, кроме субшкалы «Снижение мотивации».

У женщин с астеническим синдромом показатели по всем субшкалам MFI-20 были ниже, чем у пациентов с депрессивным синдромом. Выявлен меньший уровень субъективного благополучия у пациенток с депрессивным, тревожно-депрессивным и тревожно-фобическим синдромами, которые отличались и более выраженными проявлениями астении.

Заключение. Сопряженность и взаимодополняемость использованных в исследовании шкал позволяют измерить как астению, так и ассоциированные с ней эмоциональное состояние и субъективное благополучие женщин с непсихотическими психическими расстройствами.

Ключевые слова: астения, непсихотические психические расстройства, менопауза, женщины.

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INTRODUCTION

Asthenia is a non-specific condition widespread both in psychiatric practice and in a clinical picture of internal diseases, which incidence rates in the population are from 12 to 18%, at the reception of general practitioners – in 20–25% of patients [1]. Elevated fatigue is observed in many mental disorders and somatic diseases revealed in women in the period of perimenopause and postmenopause. In the age range of 40–65 years, it is important to estimate the absolute total cardiovascular risk on the European SCORE scale, and to identify diseases and conditions that increase the risk of cardiovascular complications. Russian researchers are studying the risk factors of development of cardiovascular diseases such as obesity, arterial hypertension, dyslipidemia, insulin resistance, diabetes, etc. [2]; biomarkers of cardiovascular diseases [3], and the influence of thyroid hormones [4]. Domestic cardiologists state significant limitations of ability to work due to "combined cardiometabolic problems" of women up to age 60, which become the cause of termination of working activity [5]. The most frequent problems for Russian women aged 45–60 are depressive mood, physical and mental fatigue, and discomfort associated with pains in muscles and joints [6]; while in China women aged 40–60 have physical and mental exhaustion (90.3%), discomfort in joints and muscles (88.5%), irritability (78.1%) and sleep disorders (77.1%) [7]. Polish investigators found depressive symptoms in 25.5% of 815 healthy women aged 45–60 using the Beck Depression Inventory (BDI), in 40.6% – anxiety was identified (according to data of the State-Trait Anxiety Inventory (STAI)). Researchers also determined their interrelationship with insomnia, problems with concentration, fatigue and psychomotor "agitation" [8]. The literature covers multiple studies of prevalence and structure of depressive disorders of women in the perimenopause and postmenopause periods [9]; signs typical of climacteric depression are described [10].

Cross symptoms of asthenia and depression such as weakness, fatigue, sleep disorders often complicate the early diagnosis that is worsened in the presence of concurrent diseases of internal organs [11]. In most cases, psychoemotional disturbances found in women in the "period of menopausal transition" [12] and the postmenopause are associated with symptoms of comorbid diseases of internal organs [13] and psychopathologic disorders caused by coping with the influence of psychosocial factors. Research implemented in this direction is focused on recovery and/or support of women's energy resources, maintenance of their working efficiency and improvement of the quality of life.

The aim of the study was to investigate the clinical phenomena of asthenia and subjective well-being of women aged 40–65 with non-psychotic mental disorders.

MATERIALS AND METHODS

The study was performed at the 1st Clinical Psychiatric Unit of the Clinic of Mental Health Research Institute of Tomsk NRMC. A complete examination was conducted on 204 women aged 40–65, who received treatment for non-psychotic mental disorders and signed a written informed consent to participate in the study. The diagnosis verification of the current mental disorder was accomplished according to diagnostic criteria of ICD-10. In accordance with inclusion criteria, the study group included patients with "neurotic, stress-related, somatoform disorders, organic non-psychotic disorders, and affective disorders (dysthymia)." Exclusion criteria were cases of verified diagnosis of schizophrenia, presence of signs of dementia, and affective disorders (except for dysthymia).

Clinical psychopathologic, physical, psychological, clinical laboratory, and statistical methods were used in the study. For each patient, a "Score card of complex evaluation of the patient's mental and physical health" was completed.

The data on clinical phenomena of asthenia were supplemented by patients' rating of the fatigue and mood and identification of severity of asthenia with use of the MFI-20 subjective rating scale of asthenia (The Multidimensional Fatigue Inventory; Smets E.M.A., Garssen B.J., Bonke B., De Haes J.C., 1995) [14]. The results covered 5 components (subscales) of asthenia: "General Fatigue", "Physical Fatigue", "Reduced Activity", "Reduced Motivation", and "Mental Fatigue". Indexes higher than 12 points on any of the subscales confirmed the presence of asthenia, a total score on five subscales more than 60 confirmed clinically expressed asthenia.

In the course of study, the comparative analysis of psychopathologic symptoms was conducted in groups of women divided according to the criteria of age evaluation changes of the hypothalamic-pituitary-ovarian system functioning (Stages of ageing of the reproductive system of women according to criteria of Stages of Reproductive Aging Workshop (STRAW) +10 (2011)) [12].

For the quantitative evaluation of the severity of the climacteric syndrome, the Kupperman menopausal index (Kupperman H.S., 1953, modified by E.V. Uvarova, 1982) was measured. The body mass index was calculated from the formula: body weight (kg) / heightI(m).

For measuring the emotional component, the Scale of subjective well-being (Perrudet-Badoux A., Mendelssohn G., Chiche J. (1988), adjusted by M.V. Sokolova (1996)), was used. The mean value was 5.5 ± 2. The higher the index, the lower the subjective well-being of the subject.

The statistical processing was conducted with the use of Statistica 8.0 software. For evaluation of non-parametric data during comparison of independent samples, the Kruskal-Wallis and Mann – Whitney criteria were used. The data were presented as a median, upper and lower quartiles Me (Q_1–Q_3). To understand the connection of signs, the Spearmen's correlation analysis (Rs) was used. During contingency table analysis, the Fisher's exact test was applied. The critical level of significance during the testing of the hypotheses was accepted as $p = 0.05$.

RESULTS AND DISCUSSION

Currently, only 109 (53.43%) out of 204 examined women addressed the psychiatrist for the first time, 45 (22.05%) entered the treatment for the second time, and 50 (24.5%) had three and more hospitalizations in the medical history. More than a half of patients, 55.39% (113/204), noted stressful situations preceding to this hospitalization, including relations with spouses, parents, children or problems at work.

120 women (58.82%) had secondary vocational education, 75 women (36.6%) – higher education, 8 women (3.92%) – secondary education, 1 person – no higher education. There were 108 married women (52.94%), 88 single women (43.13%) and 8 women were in a relationship. 159 people (77.94%) continued their working activity. Among all 204 women, 48 women (57.14%) were postmenopausal. The structure of non-psychotic mental disorders in the total group included 47.5% (n = 97) of adjustment disorder (F43); 27.0% (55) of organic non-psychotic disorders (F06.4; F06.6); 18.6% (38) of other anxiety disorders (F41); 5.4% (11) of affective disorders (F34.1); and 1.5% (3) of somatoform disorders (F45). The second most frequent diagnosis in 49 women with adjustment disorder and 20 women with anxiety disorders was organic asthenic disorder. The total number of organic disorder cases was 60.8% (124 of 204 women). The concurrent diseases of internal organs were hypertensive illness (predominantly stage II) – 75.98% (155/204), thyroid diseases (more often chronic thyroiditis) – 48.5% (99), diseases of gall-bladder, bile ducts and pancreas – 39.7% (81), diseases of joints (osteoarthritis – 35.8% (73), diseases of esophagus, stomach and duodenum – 20.1% (41), irritable bowel syndrome – 14.7% (30), and liver diseases – 6.4% (13). High combinability of hypertensive illness with metabolic dysfunctions of carbohydrate and fatty metabolisms, type II diabetes mellitus – 5.4% (11), disturbance of glucose tolerance – 12.3% (25), obesity – 37.3% (76), etc. was found.

196 women (96.1%) made complaints of fatigue. Headaches were observed in 74.5% of cases (n = 152), dizziness – in 60.8% (124), sleep disorders – in 82.4% (168), drowsiness – in 48.0% (98), complaints of attention and memory distur-

bances constituted 51.0% (104), mood swings, low mood –74.5% (152), pessimistic thoughts – 41.2% (84), "hot flashes" – 43.6% (89), asthma attacks – 18.6% (38), increased excitability, irritability – 58.8% (120).

Significant differences in the severity of fatigue between groups of working and not working women, married and single women, women with the first or repeated hospitalizations, and women with the presence or absence of menopause were not revealed. Severity of fatigue did not depend on the presence or absence of hypertensive illness. Correlations between the degree of severity of the reported fatigue and age at the moment of evaluation, age of menopause, duration of menopause and the body mass index were not revealed.

During severity ranking of fatigue, 8 patients (average age 55.0 (48.5 to 58.0 years)) denied the presence of the symptom (group 0). 32 patients (average age 53.0 (48.0 to 56.5 years)) noted periodically an arising state of fatigue (group 1); 80 patients (average age 52.0 (45.5 to 57.0 years)) often experienced increased fatigue (group 2); 84 patients (average age 52.0 (45.5 to 57.0 years)) complained of constant severe fatigue (group 3).

Among multiple symptoms in the clinical picture of the patients' current syndrome, intergroup differences on fatigue severity were found depending on the presence/absence of headache (χ^I = 13.98; p = 0.002932). The patients with headache more often complained about constant fatigue (F = 3.245; p = 0.000). In Group 1 complaints of headache were less common (differences with Group 2 were confirmed χ^2=5.78; p = 0.016204; with Group 3 – χ^2=7.37; p = 0.006615) along with pessimistic thoughts (χ^2=6.34; p = 0.042084; and χ^2 = 11.49; p = 0.003204, respectively). Significant differences were revealed between Groups 1 and 3 in frequency of complaints of asthma attacks (χ^2 = 5.26; p = 0.021827; F = 6.555; p = 0.000), drowsiness (χ^2 = 18.33; p = 0.000019, F = 19.378; p = 0.000), low mood (χ^2 = 11.38; p = 0.009859), which also were less common in Group 1. No difference in the frequency of sleep disorders between the groups were found. In Groups 2 and 3, the frequency of headache complaints, low mood, pessimistic thoughts, "hot flashes" and a number of other symptoms did not differ. However, there were differences in the frequency of asthma attacks (χ^2 = 7.27; p = 0.006999; F = 7.622; p = 0.000), elevated excitability and irritability (χ^2 = 6.18; p = 0.012906; F = 6.260; p = 0.000), and drowsiness (χ^2 = 13.96; p = 0.000187; F = 14.372; p = 0.000), which were observed more often in Group 3.

Thus, patients with complaints of constant fatigue (Group 3) were more likely to have such symptoms as irritability, elevated excitability, low mood, pessimistic reflections, drowsiness and asthma attacks.

The comparative analysis of indexes of subjective well-being revealed significant differences between Group 0 (3.5 (2.0–5.0) points) and Group 1 (6.0 (4.0–7.5) points), Group 2 (6.0 (5.0–7.0) points) and Group 3 (7.0 (6.0–8.0) points), that confirmed emotional well-being of patients who did not experience fatigue ($p_{0\text{-}1}$ = 0.019645; $p_{0\text{-}2}$=0.004650; $p_{0\text{-}3}$= 0.000222). Significant differences were also found between Groups 1 and 3 (p = 0.007481) Groups 2 and 3 (p = 0.009579) in the absence of differences between Groups 1 and 2. It indirectly indicates similar effects of "occasionally" and "often" arising states of tiredness (likely, not sufficiently differentiated by patients linguistically during completion of the questionnaire) on the level of subjective well-being. According to the results interpretation on the Scale of subjective well-being, higher indexes in Group 3 confirmed a low level of subjective well-being in patients with complaints of constant fatigue.

A positive correlation of the indexes on the Scale of subjective well-being and the value of the menopausal index (Rs = 0.37; p = 0.000000) were calculated, reflecting a decrease in subjective well-being of women as the menopausal index increased. The differences between Groups 0, 1, 2 and 3 were found. Table 1 shows the values of the menopausal index in groups of patients aged 40–65 with non-psychotic mental disorders with different severity of fatigue.

With menopausal index values from 35 to 58 points, which were noted in women in Groups 2 and 3, it was possible to conclude that moderate severity of the climacteric syndrome and vegetative disturbances were predominant.

A direct correlation between indexes on the subjective Scale of asthenia evaluation MFI-20 and on the Scale of subjective well-being in the group of 204 women was found: the more the asthenia was expressed, the lower subjective well-being of the patient was.

Table

Menopausal index values in groups of women aged 40–65 years with different severity of fatigue

Groups	Number of patients	Menopausal Index, Me (Q_1–Q_3)	p	U	Z
0	8	16.0 (13.0–25.0)	(0–1) 0.067869	74.00000	–1.82588
			(0–2) 0.005692	129.500	–2.76503
			(0–3) 0.000432	82.00000	–3.51964
1	32	23.5 (21.0–29.0)	(1–2) 0.000134	687.0000	–3.81932
			(1–3) 0.000000	334.5000	–6.23576
2	80	31.0 (25.0–37.0)	(2–3) 0.000004	1957.500	–4.61389
3	84	38.0 (31.5–44.0)			

Note: p – level of statistical significance of differences between the menopausal indexes in groups.

The indexes of subscales of MFI-20 were compared with the presented complaints of fatigue. Statistically significant correlations were obtained depending on the severity of fatigue on all subscales, that were the most significant for the total indicator of asthenia ($Rs = 0.47$; $p < 0.001$) and General Fatigue subscale ($Rs = 0.53$; $p < 0.001$). In particular, the average total scores of asthenia on MFI-20 were identified, which made 36.5 (31.0–41.5) points for Group 0, 54.0 (48.0–62.0) points for Group 1, 57.0 (49.0–65.0) points for Group 2 and 66.0 (59.0–72.0) points for Group 3. The obtained quantitative indexes of asthenia confirmed the absence of asthenia in patients in Group 0. In Group 1, the highest severity of asthenia was observed on the subscale "General Fatigue" (tiredness). In Group 2, indexes higher than 12 points were noted on the subscales "General Fatigue", "Physical Fatigue" (flabbiness in muscles and limbs, tiredness, willingness to have a rest), and "Reduced Activity". In Group 3 – along with the indexes listed above, high indexes on the subscale "Mental Asthenia" were obtained (difficulty of keeping attention, worsening of the acumen and memory). In all groups there was no increase in the indexes on the "Reduced Motivation" subscale, that indirectly testified to presence in patients of plans, willingness to implement them and to obtain pleasure from fulfilled businesses.

The subjectively evaluated mood, from mood swings to low mood, apparently correlated with all subscales of MFI-20. Patients not presenting mood complaints ($n = 52$) had low indexes on the subscales in comparison with the rest of the women. Significant differences were revealed between indexes in patients noting instability, variability of mood during the day ($n = 77$), and women with complaints of low mood ($n = 64$) in the total level of asthenia, on the subscales "Reduced Activity" and "Reduced Motivation" as well as patients rating their mood as "full apathy" ($n = 11$), on the subscales "Physical Fatigue" and "Reduced Motivation". In the meantime, the maximum severity of general, physical and total asthenia on the MFI-20 scale and reduced activity in women with complaints of low mood and apathy was identified. They also had more than 12 points on the "Reduced Motivation" subscale, higher frequency of elevated excitability, irritability and drowsiness during the day in spite of the absence of differences in the frequency of sleep disorders. The peculiarity of mental state of patients with complaints of low mood, in contrast with women without such complaints, was predominantly anxiety-depressive (44.0% vs. 15.4%) and depressive (13.3% vs. 3.9%) syndromes ($\chi^2 = 21.72$; $p = 0.000228$), which were within adjustment disorder.

In conducting the comparative analysis of the level of asthenia on the subscales of MFI-20 in patients with different psychopathologic syndromes at the moment of the survey, a number of significant differences was revealed. The highest total scores of asthenia were noted in patients with the leading depressive (66.0 (61.0–74.0) points), anxiety-depressive (61.0 (53.0–68.0) points) (which differed them significantly from patients with asthenic syndrome – 55.5 (48.0–65.0) points) and anxiety-phobic (63.0 (53.0–70.0) points) syndromes. This indicator also indicated the significant differences between patients with anxiety and depressive syndrome ($p = 0.009441$), and depressive and anxiety-depressive syndrome ($p = 0.039813$). "General Fatigue" reached a higher level than other characteristics of asthenia, irrespective from the leading psychopathologic syndrome.

In women with asthenic syndrome, indexes on all the subscales of MFI-20 were lower than in patients with depressive syndrome (in all cases $p < 0.05$); and the indexes on the subscale "Reduced Activity" were lower than in patients with anxiety-depressive and anxiety-phobic syndromes. Between patients with anxiety and depressive syndromes the significant differences on all the subscales of MFI-20 were found ($p < 0.05$), except on the subscale "Mental Fatigue". Patients with anxiety-depressive and anxiety-phobic syndromes had higher indexes on the scale "Reduced Activity" than patients with anxiety syndrome. "Physical Fatigue" was more severe in patients with depressive syndrome (14.0 (13.0–16.0) points) in comparison with patients with anxiety-depressive syndrome (12.0 (11.0–15.0) points; $p = 0.008555$).

During evaluation of subjective well-being in patients with different psychopathologic syndromes at the moment of the survey, a lower level of well-being was revealed in patients with depressive, anxiety-depressive and anxiety-phobic syndromes which were also notable by more severe manifestations of asthenia.

Thus, elevated fatigue in the overwhelming majority of cases is included in the symptom complex of the current state of women with non-psychotic mental disorders. As a main symptom, asthenia is often observed in adjustment disorder, neurotic and affective disorders, an is an integral sign of organic asthenic disorder. A big number of concurrent diseases of internal organs, that add asthenic manifestations in women in the period of peri- and postmenopause, make the issues of differential diagnosis and appropriate therapeutic strategies topical.

The findings show additional possibilities of use of the subjective Scale of asthenia evaluation MFI-20 in the survey of patients with non-psychotic mental disorders. The subscale "Reduced Motivation", intact in evaluation of different severity of asthenia in subjective complaints of patients, represents a differential sign indicating the presence of low mood. The sensitivity of the MFI-20 subscales to the patient's subjective perception of the variability of their own mood and the revealed differences of asthenia indexes depending on the leading psychopathologic syndrome expand the range of psychometric use of the Scale of evaluation of asthenia MFI-20 and are useful when differential diagnostic difficulties in differentiation of fatigue as a manifestation of asthenia or resource exhaustion arise.

CONCLUSION

The conducted analysis in the group of women with non-psychotic mental disorders allows recommendation of the use of the subjective evaluation scale of asthenia MFI-20, and the Scale of subjective well-being for quantitative confirmation of the dynamics of available symptoms in the mental state of patients along with the use of conventional psychometric scales of rank evaluation of fatigue and mood. The findings show conjugation and complementarity of these scales measuring not only asthenia, but also related emotional state and subjective well-being of the patient.

Early detection of asthenia in women aged 40-65 in view of the risk of cardiovascular complications and interrelationship with depressive and anxiety disorders is aimed at preventing later manifestations and formation of cognitive disorders and senile asthenia. This is the list of the main targets of the current preventive direction and medical examination of the population in primary health care.

REFERENCES

1. Shakirova I.N., Dyukova G.M. Asthenia – an interdisciplinary problem. *Difficult Patient*. 2012; 10 (5): 14–16 (in Russ.).
2. Lopatina O.V., Balan V.E., Tkacheva O.N., Sharashkina N.V., Zhuravel A.S. Factors of women's health from the perspective of reproductive ageing and risk of cardiovascular disorders. *Almanac of Clinical Medicine*. 2015; 37: 111–117(in Russ.).
3. Ostapko V.L., Kalacheva T.P., Kalyuzhina E.V., Livshits I.K., Shalovay A.A., Chernogoryuk G.E., Bespalova I.D., Yunusov R.Sh., Lukashova L.V., Pomogayeva A.P., Teplyakov A.T., Kalyuzhin V.V. Biological markers in risk stratification and progression of cardiovascular disease: present and future. *Bulletin of Siberian Medicine*. 2018; 17 (4): 264–280 (in Russ.). DOI: 10.20538/1682-0363-2018-4-264-280.
4. Aliev B.N. The relationship between thyroid hormone level and the cardiovascular risk factors. *Medical News*. 2018; 11(290): 51–54 (in Russ.).
5. Ilyina L.M., Yureneva S.V., Dubrovina A.V., Ebzieva Z.Kh. The influence of menopause on life of working women: the problem without necessary attention. *Problems of Reproduction*. 2016; 22 (1): 87–94 (in Russ.).
6. Makara-Studzińska M., Kryś-Noszczyka K., Jakiel G. The influence of selected socio-demographic variables on symptoms occurring during the menopause. *Prz Menopauzalny*. 2015; 14 (1): 20–26. DOI: 10.5114/pm.2015.48637.

7. Chou M.F., Wun Y.T., Pang S.M. Menopausal symptoms and the menopausal rating scale among midlife chinese women in Macau, China. *Women Health*. 2014; 54 (2): 115–126. DOI: 10.1080/03630242.2013.871767.
8. Grochans E., Szkup M., Kotwas A., Kopeć J, Karakiewicz B., Jurczak A. Analysis of Sociodemographic, Psychological, and Genetic Factors Contributing to Depressive symptoms in Pre-, Peri- and Postmenopausal Women. *Int. J. Environ. Res. Public Health*. 2018; 15 (4): pii E712. DOI: 10.3390/ijerph15040712.
9. Mazo G.E., Ganzenko M.A. Depression in women during the menopausal transition. *Psychiatry and Psychopharmacotherapy*. 2016; 18 (6): 30–36 (in Russ.).
10. Bokhan N.A., Lukiyanova E.V., Simutkin G.G. Depressive disorders in women of climacteric age (review of foreign literature for 2012-2016). *Bulletin of Siberian Medicine*. 2018; 17 (2): 100–113 (in Russ.). DOI: 10.20538/1682-0363-2018-2-100-113.
11. Garganeeva N.P., Belokrylova M.F., Kostin A.K., Koshel A.P., Epanchintseva E.M., Lebedeva V.F., Aksenov M.M., Perchatkina O.E., Kartashova I.G., Rudnitsky V.A., Gorbatsevich Yu.N., Tsybulskaya E.V., Alexeeev V.A. Comorbidity of esophageal achalasia, mixed anxiety and depressive reaction in a young female patient: problems of diagnosis and treatment. *Bulletin of Siberian Medicine*. 2019; 18 (2): 290–298 (in Russ.). DOI:10.20538/1682-0363-2019-2-290–298.
12. Borovkova E.I. Clinical manifestations, diagnosis, and management of perimenopausal patients. *Russian Bulletin of the Obstetrician-Gynecologist*. 2017; 17 (3): 112–117 (in Russ.). DOI:10.17116/rosakush2017173112-117.
13. Tabolina A.A. Peculiarities of psychopathological violations in women in perimenopause. *Medical News*. 2017; 8: 60–65 (in Russ.).
14. Smets E.M., Garssen B., Bonke B., De Haes J.C. The multidimensional fatigue inventory (MFI) psychometric qualities of an instrument to assess fatigue. *J. Psychosom. Res*. 1995: 39 (3): 315–325. DOI: 10.1016/0022-3999(94)00125-o.

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Belokrylova M.F. – conception and design, carrying out of the practical part of the study, analysis and interpretation of data, critical revision for important intellectual content, final approval of the manuscript for publication. Garganeeva N.P. – conception and design, carrying out of the practical part of the study, analysis and interpretation of data, critical revision for important intellectual content, final approval of the manuscript for publication. Nikitina V.B. – conception and design, carrying out of the practical part of the study, analysis and interpretation of data, critical revision for important intellectual content, final approval of the manuscript for publication. Epanchintseva E.M. – carrying out of the practical part of the study.

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