

5. It was established that after 10 days in the main group, the clinically significant number of mites was reduced by 44.5% of cases (in the control group-by 14.3% of cases); after 45 days in the main group, it reduced by 68.9% of cases (in the control group-by 37.1% of cases), which reliably indicates the positive dynamics of treatment in patients of the main group.

6. According to our data, the best effect was observed in patients of the main group for 45 days of treatment, therefore it is necessary to carry out the suggested combined treatment for 1.5 months.

References

1. Zheltikova TM. Demodekoz: mify i realnost'. Semeynaya meditsina. 2012; 1: 36-38. [in Russian]
2. Ivanova NV, Voronova NN, Anisova SYu, Ivanova MI. Klinicheskaya effektivnost sredstv «STOP DEMODEX» v kompleksnom lechenii bolnykh demodekoznym blefarokonyuktivitom. Krymskiy zhurnal ehksperimentalnoy i klinicheskoy meditsiny. 2012; 2(1-2): 42-45. [in Russian]
3. Petri A, Sebin K. Naglyadnaya meditsinskaya statistika. Ucheb. posobiye. Moskva: GEOTAR-Media. 2015. [in Russian]
4. Polunin GS, Makarov IA. Fizioterapevticheskie metody v oftalmologii. Moskva: Meditsinskoe informatsionnoe agenstvo. 2012. [in Russian]
5. Khilkevich ND, Kachuk MV, Muzychenko AP, Kruk NV, Vetohina EL. Demodekoz kak dermatologicheskaya problema. Voyennaya meditsina. 2012; 3: 151-155. [in Russian]
6. Chuprov AD, Malygina EK. Sovremenniy vzglyad zarubezhnykh avtorov na diagnostiku i lechenie blefaritov demodekoznoy etiologii. Prakticheskaya meditsina. 2018; 3(114): 200-203. [in Russian].
7. Yutskovskiy AD, Yutskovskaya AY, Kusaya NV. Osobennosti immunnogo statusa u patsiyentov s demodekozom kozhi. Dermatovenerologiya. 2011; 3: 33-36. [in Russian].
8. Koo H, Kim TH, Kim KW, Wee SW, Chun YS, Kim JC. Ocular surface discomfort and Demodex: effect of tea tree oil eyelid scrub in Demodex blepharitis. J. Korean Med. Sci. 2012; 27(12): 1574-1579.

Стаття надійшла 21.12.2019 р.

DOI 10.26724/2079-8334-2020-4-74-15-19

UDC 616.895.1-616.895.6, 618.175

O.O. Belov, A.L. Kostyuk, V.M. Andriichuk, I.Yu. Kostyuk
National Pirogov Memorial Medical University, Vinnytsya

FEATURES OF MENSTRUAL AND GENERATIVE FUNCTION DISORDERS IN DEPRESSIVE DISORDERS OF ENDOGENOUS NATURE

e-mail: oleksbelov@gmail.com

Menstrual and generative dysfunction in 104 women with depressive disorders was studied. Decreased generative function with small number of pregnancies and births, decreased number of sexual life; the simultaneous realization of generative function worsens with deepening of depression. Women with depressive disorders have a significant incidence of dysmenorrhea (83% in total), the prevalence of which also increases with the severity of depression. The most common disorders are opsomenorrhea (41%), amenorrhea (33%) and oligomenorrhea (20%). The prevalence of premenstrual syndrome among women with depression was 57%; it varies from 48% in mild depression to 90% in severe.

Key words: depressive disorders, dysmenorrhea, generative function

O.O. Белов, А.Л. Костюк, В.М. Андрійчук, І.Ю. Костюк

ДЕПРЕСИВНІ РОЗЛАДИ І ПОРУШЕННЯ МЕНСТРУАЛЬНО-ГЕНЕРАТИВНОЇ ФУНКЦІЇ

Досліджено порушення менструально-генеративної функції у 104 жінок, хворих на депресивні розлади. Встановлено зниження генеративної функції з малою кількістю вагітностей і пологів, зниженням або відсутністю лібідо і статевого життя; при цьому реалізація генеративної функції погіршується з поглибленням депресії. Жінкам, хворим на депресивні розлади, притаманна значна ураженість дисменореями (в цілому 83%), поширеність яких також зростає по мірі важкості депресії. Найбільш поширеними розладами при цьому є опсоменореї (41%), аменореї (33%) та олігоменореї (20%). Поширеність серед жінок, хворих на депресію, передменструального синдрому склала 57%; вона варіює від 48% при легкій депресії до 90% при важкій.

Ключові слова: депресивні розлади, дисменорея, генеративна функція.

The work is a fragment of the research project "Research of reproductive potential and problems maintaining the health of women", state registration No. 0116U000258.

Depressive disorders are one of the most pressing medical and social problems. Depression is recognized by the WHO as the third leading cause of illness worldwide; it is predicted that by 2030 this disease will come to the fore, and the elimination of the effects of depression will be the main source of medical costs [6, 9]. Depressive disorders are accompanied by severe somatovegetative disorders, an important place among which is occupied by disorders of menstrual and generative function [2, 4, 10].

Women are particularly vulnerable to depression: the lifetime prevalence of depression is twice as high as that of men, ranging from 17% to 30%, according to various studies, due to hormonal factors, pregnancy and childbirth, and various psychosocial stressors in women. Women, and different behavioral patterns [5, 8, 12] both psychological and genetic determinants can have a higher frequency and severity of depressive disorders in women [13, 14]. A number of studies have found links between menstrual disorders and mental illness [15]. In 71.7% of women, the disease manifests itself in the period of hormonal adjustment (puberty, childbirth, menopause), in 65.0% of women suffering from recurrent depression, premenstrual syndrome, in the structure of which there are depressive symptoms; depression has a negative impact on generative function: women with depressive disorders are characterized by a later onset and irregularity of menstruation, earlier postpartum recovery of menstrual function and earlier onset of premenopause [2]. At the same time, there is a feedback: according to some studies, reproductive disorders may be one of the factors in the development of affective disorders [12].

At the same time, today there is no single clinical and pathogenetic model that would link menstrual dysfunction and depression. This updates research related to the relationship between the clinical and psychopathological phenomenology of depression and women's reproductive health disorders. The data of such studies can also be the basis for the development of comprehensive treatment, rehabilitation and prevention programs for both depressive disorders and menstrual disorders.

The purpose of the study was to study the features of menstrual and generative disorders in women with depressive disorders of endogenous nature and their relationship with clinical and psychopathological phenomenology.

Materials and methods. In accordance with the principles of biomedical ethics on the basis of informed consent, in accordance with the requirements of the Declaration of Helsinki in 2013, we clinically examined 104 women who undergone psychiatric care at the Vinnytsia Regional Psychoneurological Hospital named by O. Yushchenko and for consultative and medical assistance to clinical institutions of Vinnytsia National Pirogov Memorial Medical University during 2015–2019. The criteria for inclusion in the study was the diagnosis of depressive disorder in accordance with the criteria of ICD-10 (codes F 31.3, F 31.4, F 32.0, F 32.1, F 32.2, F 33.0, F 33.1, F 33.2). The average age of the examined patients was 27.9 ± 6.9 years (median 30.0 years, interquartile range 21.0–34.0 years, minimum value 19 years, maximum value 41 years), the average duration of the disease at the time of examination 3.2 ± 4.2 years (1.0 years; 0–6.0 years; 0 years, 18 years). Among the examined, 36 patients (34.6%) were diagnosed with mild depression, 37 (35.6%) – moderate (moderate), and 31 (29.8%) – severe.

Assessment of menstrual disorders was performed by questioning with verification of data by analyzing medical records (outpatient charts, medical histories, epicrisis). Statistical analysis of the data was performed using the licensed application package Statistica 13 (StatSoftInc., USA). The nature of the distribution of quantitative traits was assessed using the Shapiro-Wilk test. Intergroup analysis of differences was performed using a nonparametric Mann-Whitney test and Fisher's exact criteria. The level of statistical significance of differences $p < 0.05$ was considered acceptable.

Results of the study and their discussion. Data on the peculiarities of marital status and the implementation of the generative function of women with depressive disorders are given in table. 1.

As it can be seen from the table, among women with depression, the proportion of single and divorced (a total of 72%) is significant, and their proportion increases with increasing severity of depressive disorder. Among patients with major depression at the time of the survey, only 19% were married, among patients with moderate depression, the proportion of married people increases to 27%, and among patients with mild depression – up to 39%.

The analysis of features of generative function allowed revealing its expressed disturbances at patients with depression; the degree of disturbance increases with increasing severity of depression.

The number of pregnancies decreases in parallel with the increase in the severity of depression: if in mild and moderate depression most patients had a history of at least one pregnancy, in severe depression the vast majority (71%) of those surveyed were not pregnant.

The number of children in depressed women also decreases as the severity of depression increases. Although the majority of sick women with all degrees of severity of depression are childless (a total of 67%), with mild depression, their proportion was 56%, and with severe – 87%.

Even more significant are the differences in the sexual life of patients. If in patients with major depression in the vast majority of cases there is no sexual life (84%), then in patients with moderate depression 81% of women have at least irregular sex life, and in patients with mild depression their proportion increases to 94%.

The vast majority of respondents noted a decrease in libido; the proportion of such women increases from 84% in mild depression to 97% in moderate and up to 100% in severe; in the latter group, almost all women reported a complete lack of libido (94%).

Table 1

Features of marital status and generative function of the subjects

Variations of the sign	The severity of depression								p		
	mild		moderate		severe		in all		p1	p2	p3
	abs.	%	abs.	%	abs.	%	abs.	%			
Relationship status											
Married	14	39	10	27	6	19	30	29	0.204	0.069	0.326
Not married	14	39	12	32	14	45	40	39	0.370	0.393	0.205
Divorced	8	22	15	41	11	35	34	33	0.238	0.177	0.431
Number of pregnancies											
0	10	28	14	38	22	71	46	44	0.253	0.000	0.006
1	14	39	10	27	3	10	27	26	0.204	0.006	0.065
2	8	22	10	27	4	13	22	21	0.419	0.252	0.128
3	3	8	1	3	2	7	6	6	0.297	0.572	0.433
4	1	3	1	3	0	0	2	2	0.747	0.537	0.544
5	0	0	1	3	0	0	1	1	0.507	1,000	0.544
Number of children											
Absent	20	56	23	62	27	87	70	67	0.369	0.005	0.019
1	15	42	12	32	3	10	30	29	0.283	0.003	0.023
2	1	3	2	5	1	3	4	4	0.510	0.715	0.567
Sex life											
Absent	2	6	7	19	26	84	35	34	0.082	0.000	0.000
Irregular	21	58	27	73	5	16	53	51	0.142	0.000	0.000
Regular	13	36	3	8	0	0.0	16	15	0.004	0.000	0.155
Libido											
Absent	1	3	11	30	29	94	41	39	0.002	0.000	0.000
Lowered	29	81	25	68	2	7	56	54	0.159	0.000	0.000
Normal	6	17	1	3	0	0	7	7	0.049	0.020	0.544

Notes: p1 – the level of statistical significance of differences when comparing groups of women with mild and moderate depression; p2 – the level of statistical significance of differences when comparing groups of women with mild and severe depression; p3 – the level of statistical significance of differences when comparing groups of women with moderate and severe depression.

Women with depressive disorders are characterized by a significant prevalence of complaints of menstrual irregularities (table 2).

In general, about a third of all depressed women noted the absence of menstruation; the absence of menstruation occurred in the majority (68%) of patients with major depression and only 8% of patients with mild depression.

Table 2

The structure of complaints about the menstrual cycle

Variations of the sign	The severity of depression								p		
	mild		moderate		severe		in all		p1	p2	p3
	abs.	%	abs.	%	abs.	%	abs.	%			
Absence of menstruation	3	8	10	27	21	68	34	33	0.036	0.000	0.001
Irregular menstruation	14	39/42*	17	46/63	10	32/100	41	39/59	0.355/0.093**	0.380/0.001	0.184/0.024
Discharge out of cycle	2	6/6	5	14/19	2	6/20	9	9/13	0.226/0.138	0.634/0.226	0.294/0.626
Pain before menstruation	3	8/9	12	32/4	9	29/90	24	23/34	0.011/0.002	0.029/0.000	0.486/0.015
Pain after	4	11/12	2	5/7	2	6/20	8	8/11	0.324/0.437	0.411/0.429	0.623/0.291

menstruation											
--------------	--	--	--	--	--	--	--	--	--	--	--

Note: * here and further: in the numerator the proportion of women with this feature among all respondents in this group/in the denominator the proportion of women with this feature among those surveyed with menstruation; ** here and further: in the numerator the statistical significance of differences when comparing groups with all women/in the denominator the statistical significance of differences when comparing groups of women with the presence of menstruation

Irregular menstruation was present in all women with severe depression who had menstruation, in most patients with moderate depression (63%) and in 42% of patients with mild depression.

Intermenstrual (acyclic) bleeding was present in 13% of all depressed patients; the largest proportion of such women is among patients with moderate and severe depression.

Unpleasant pain before menstruation occurred in 34% of patients; among patients with severe depression, this symptom was found in almost all subjects (90%), among patients with moderate depression - in 44%, and in patients with mild depression - in 9%. Pain after menstruation was found in 11% of subjects, their prevalence is also the highest among patients with major depression.

A wide range of menstrual disorders was found in depressed women (table 3).

Table 3

The structure of the detected disorders of the menstrual cycle

Variations of the sign	The severity of depression								p		
	mild		moderate		severe		in all		p1	p2	p3
	abs.	%	abs.	%	abs.	%	abs.	%			
Amenorrhea	3	8	10	27	21	68	34	33	0.036	0.000	0.001
Menorrhagia	3	8/9*	3	8/11	0	0/0	6	6/9	0.650/0.563	0.149/0.442	0.155/0.376
Metrorrhagia	2	6/6	5	14/19	2	6/20	9	9/13	0.226/0.138	0.634/226	0.294/0.626
Polymenorrhea	1	3/3	4	11/15	3	10/30	8	8/11	0.187/0.121	0.252/0.034	0.600/0.273
Hypermenorrhea	6	17/18	0	0/0	0	0/0	6	6/9	0.011/0.022	0.020/0.182	1,000/1,000
Menometrorrhagia	0	0/0	2	5/7	0	0/0	2	2/3	0.253/0.198	1,000/1,000	0.292/0.527
Oligomenorrhea	3	8/9	5	14/19	6	19/60	14	13/20	0.371/0.246	0.169/0.002	0.373/0.022
Opsomenorrhea	13	36/39	9	24/33	7	23/70	29	28/41	0.200/0.416	0.174/0.090	0.549/0.052
PMS	16	44/48	15	41/56	9	29/90	40	38/57	0.460/0.388	0.148/0.021	0.232/0.054

Amenorrhea is one of the most common menstrual disorders in patients with major depression, it is present in about a third of patients with moderate depression, and less than a tenth of those surveyed with mild depression.

The presence of prolonged and heavy menstruation (menorrhagia) in general was not typical for patients with depression: in women with severe depressive disorders they are not detected, in patients with moderate depression such 11%, and mild - 9%.

Metrorrhagia (irregular intermenstrual bleeding from the genital tract) was more common in patients with moderate to severe depression, with one in five women experiencing this symptom.

Polymenorrhea (frequent menstruation with an interval of less than 21 days) is more typical for patients with major depression, although this group is dominated by manifestations of amenorrhea; half the proportion of patients with polymenorrhea is less moderately depressed, and the lowest - in patients with mild depression.

In contrast, hypermenorrhea (heavy regular menstruation) was more common in patients with mild depression (in this group they are found in almost one-fifth of patients) and is not characteristic of patients with moderate and severe depression.

Menometrorrhagia (prolonged menstruation in combination with intermenstrual bleeding) is found in isolated cases in patients with moderate depression.

Oligomenorrhea (infrequent menstruation with intervals exceeding 35 days) was common among patients with major depression (60%), less common in patients with moderate depression (19%), and least common in patients with mild depression (9%).

The most common menstrual disorders in patients with depression were scanty menstruation (opsomenorrhea): they were found in 41% of all women with depression; the most common manifestations of

opsomenorrhoea were in patients with major depression (70%), and the least typical – in patients with moderate depression (33%).

Manifestations of premenstrual syndrome (PMS) were present in 57% of all examined patients; the incidence of PMS differed significantly in patients with varying severity of depression: in mild depression, the manifestations of PMS occurred in 48%, in moderate in 56%, and in severe – in 57%.

Our results are generally consistent with the data of other studies that have shown a close association of depressive disorders and menstrual disorders [1, 3, 7, 15]. Thus, the overall incidence of menstrual disorders, found in our study, was close to the data provided by Pakpour A.H. et al. [11], summarizing the data of various studies; at the same time, we should keep in mind the nosospecificity of most studies, in contrast to our study, which examined the features of dysmenorrhoea in depressions of different nosological affiliation. The data obtained in our study on the incidence of women with PMS depression in 57% are slightly less than according to Tyuvina NA et al. [2].

In our opinion, this can be explained by a significant proportion in the study group of women with mild depression, in which the prevalence of PMS was 48%, while in women with severe depression it reaches 90%. At the same time, it should be noted the lack of research on the features of menstrual disorders in women suffering from depressive disorders of endogenous nature.

Conclusions

1. Women with depressive disorders are characterized by a significant incidence of menstrual disorders.
2. The incidence of menstrual disorders is highest in women with severe depression, and lowest – with mild.
3. In the structure of menstrual disorders in women suffering from depressive disorders, the manifestations of premenstrual syndrome, opsomenorrhoea, amenorrhoea and oligomenorrhoea predominate.

References

1. Tyuvina NA, Balabanova VV, Voronina EO. Gendernye osobennosti depressivnykh rasstroystv u zhenschin. *Nevrologiya, neyropsikhiatriya, psikhosomatika*. 2015; 2:75–79. [in Russian]
2. Tyuvina NA, Voronina EO, Balabanova VV, Goncharova EM. Vzaimosvyaz i vzaimovliyanie menstrualno-generativnoy funktsii i depressivnykh rasstroystv u zhenschin. *Nevrologiya, neyropsikhiatriya, psikhosomatika*. 2018; 2:45–51. [in Russian]
3. Ivanets NN, Tyuvina NA, Voronina EO, Balabanova VV. Kharakteristika reproduktivnoy funktsii u zhenschin, stradayushchikh rekurrentnym depressivnym rasstroystvom. *Akusherstvo i ginekologiya*. 2019; 3:9–27. [in Russian]
4. Albert U, Brugnoti R, Caraci F, Dell’Osso B, Di Sciascio G, Tortorella A, et al. Italian psychiatrists perception on cognitive symptoms in major depressive disorder. *Int J Psychiatry Clin Pract*. 2016; 20(1):2–9.
5. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet Journal*. 2015; 386:743–800.
6. Hockenberry JM, Joski P, Yarbrough C, Druss BG. Trends in treatment and spending for patients receiving outpatient treatment of depression in the United States, 1998–2015. *JAMA Psychiatry*. 2019; 76:810–817.
7. Kang HJ, Park Y, Yoo KH. et al. Sex differences in the genetic architecture of depression. *Scientific Reports*. 2020; 10:2–12.
8. Kessler RC, Petukhova M, Sampson NA, Zaslavsky AM, Wittchen H-U. TWelvemonth and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *Int J Methods Psychiatr Res* 2012; 21:169–84.
9. Malhi GS, Mann JJ. Depression. *Lancet Journal*. 2018 Nov 24; 392(10161):2299–2312.
10. Ormel J, Kessler RC, Schoevers R. Depression: more treatment but no drop in prevalence: how effective is treatment? And can we do better? *Curr Opin Psychiatry*. 2019 Jul;32(4):348–354.
11. Pakpour AH, Kazemi F, Alimoradi Z, Griffiths MD. Depression, anxiety, stress, and dysmenorrhoea: a protocol for a systematic review. *Syst Rev*. 2020; 9:65.
12. Pedersen CB, Mors O, Bertelsen A, Waltoft BL, Agerbo E, McGrath JJ, Mortensen PB, Eaton WW. A comprehensive nationwide study of the incidence rate and lifetime risk for treated mental disorders. *JAMA Psychiatry*. 2014 May; 71(5):573–81.
13. Qin X, Sun J, Wang M et al. Gender Differences in Dysfunctional Attitudes in Major Depressive Disorder. *Front. Psychiatry*. 2020; 11:86.
14. Rosso G, Aragno E, Mehanovic E, Di Salvo G, Maina G. Age at Menarche in Women With Bipolar Disorder: Correlation With Clinical Features and Peripartum Episodes. *Front. Psychiatry*. 2020;11:851.
15. Yen JY, Lin PC, Huang MF, Chou WP, Long CY, Ko CH. Association between Generalized Anxiety Disorder and Premenstrual Dysphoric Disorder in a Diagnostic Interviewing Study. *Int J Environ Res Public Health*. 2020; 17(3):988.

Стаття надійшла 12.12.2019 р.