

# Psychological aspects of women with premenstrual syndrome

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**The objective:** of research is to evaluate psychoemotional state of persons with premenstrual syndrome (PMS).

**Patients and methods.** The research included 200 women of reproductive age with diagnosis of PMS and 50 women without diagnosis of PMS. For study of psychoemotional state we used Zung Self-Rating Anxiety Scale, Zung Self-Rating Depression Scale and test SAN.

**Results.** We determined that level of anxiety in patients with PMS was on 13,28% ( $p < 0,001$ ) above indices of controls and depended on severity of syndrome. These women often have «mild to moderate anxiety levels» ( $\chi^2=14,49$ ;  $p < 0,001$ ). All the parameters of test SAN were reduced in persons with PMS.

**Conclusion.** Psychofunctional disorders in women with PMS are common. However, their intensity correlates with form and severity of syndrome. Special attention should be paid to women with neuropsychical, cephalgic and crisis forms of syndrome.

**Key words:** premenstrual syndrome, psychofunctional disorders.

Premenstrual syndrome (PMS) includes psychological and physical symptoms that occur cyclically during the second phase of menstrual cycle. There is significant prevalence of PMS among women of reproductive age in different continents [3]. According to some literature data, about 90% of women reported having at least one premenstrual symptom, and severe form of the syndrome was set in 5% [4]. Psychological and physical components are the main clinical manifestations of the disease. Mood changes throughout the menstrual cycle still raises a lot of questions and discussions [6]. Emotional lability, irritability, nervousness or apathy, fatigue, feelings of anxiety, stress, decreased concentration, self-isolation – this is an incomplete list of psychological symptoms that can occur in luteal phase of menstrual cycle. The leading feature of all clinical manifestations of PMS is that they impair normal life of woman, impede her everyday professional, family and social activities. Also special attention is paid to psycho-emotional state of the person, her comfortable communication with other

people, emotional tranquility and stability, self-confidence, the ability to conduct various kinds of activities. Not only the presence of psychopathology, but also the presence of physical symptoms of PMS affects the psychoemotional sphere of women. Biosocial complex of factors in patients with this syndrome is needed to be studied more [5].

**The objective:** to evaluate psychoemotional state of women with PMS.

## MATERIALS AND METHODS

The research included 200 women with diagnosis of PMS who formed basic group. The control group consisted of 50 women without diagnosis of PMS. Verification of diagnosis was performed in accordance with Order № 676 of Ministry of Health of Ukraine from 31.12.2004 [1]. The diagnosis of PMS was exhibited by presence of cyclical manifestations of disease in luteal phase of menstrual cycle on the basis of history taking and keeping patient's self-observation diary for 2–3 menstrual cycles (R. Moos' Menstrual Distress Questionnaire). Form of PMS (edematous, neuropsychical, cephalgic, crisis) was determined according to V.P. Smetnik's classification [2].

Inclusion criteria: reproductive age (18–44 years), regular menstrual cycle, presence of PMS, written consent of the patient.

Exclusion criteria: pregnancy, lactation, disorders of menstrual cycle, focal lesions of breast, abnormal uterine bleeding of unknown etiology, acute inflammation of pelvic organs, tumors of uterus and ovaries of unknown etiology, hyperplastic processes of endometrium, genital endometriosis, severe somatic pathology in the history (cardiovascular, urinary, digestive, respiratory diseases, blood disorders), organic pathology of central nervous system, mental illness, hormonal tumors, diabetes, adrenal diseases, malignant tumors in the present or in anamnesis, premenstrual dysphoric disorder, women who took psychotropic medications or hormonal therapy within the last three months.

Estimation of level of anxiety and depression was set by Zung Self-Rating Anxiety Scale and Zung Self-Rating

Table 1

Levels of anxiety and depression in women with premenstrual syndrome

Groups	Anxiety	Depression
Control group, n=50	33,96±1,08	35,84±1,27
Basic group, n=200	38,47±0,59 <sup>^</sup>	40,69±0,63 <sup>^</sup>
Mild PMS, n=119	37,07±0,71 <sup>*</sup>	39,32±0,79 <sup>*</sup>
Severe PMS, n=81	40,53±0,97 <sup>^</sup>	42,69±1,02 <sup>^</sup>
Neuropsychical form of PMS, n=72	38,25±1,10 <sup>°</sup>	42,07±1,04 <sup>^</sup>
Edematous form of PMS, n=70	36,63±0,89	38,76±1,08 <sup>*</sup>
Cephalgic form of PMS, n=33	40,48±1,32 <sup>^</sup>	41,82±1,60 <sup>°</sup>
Crisis form of PMS, n=25	41,60±1,50 <sup>^</sup>	40,60±1,65 <sup>*</sup>

Notes: \* – probability of the difference of indicator relative to control group ( $p \leq 0,05$ ); ° – probability of the difference of indicator relative to control group ( $p \leq 0,01$ ); ^ – probability of the difference of indicator relative to control group ( $p \leq 0,001$ ).

Psychoemotional state of women with premenstrual syndrome

Groups	Well-being	Activity	Mood
Control group, n=50	5,52±0,20	5,25±0,19	5,42±0,20
Basic group, n=200	4,41±0,10 <sup>^</sup>	4,27±0,10 <sup>^</sup>	4,54±0,10 <sup>^</sup>
Mild PMS, n=119	4,67±0,12 <sup>^</sup>	4,46±0,12 <sup>^</sup>	4,69±0,12 <sup>°</sup>
Severe PMS, n=81	4,04±0,14 <sup>^</sup>	4,03±0,16 <sup>^</sup>	4,31±0,15 <sup>^</sup>
Neuropsychical form of PMS, n=72	4,27±0,18 <sup>^</sup>	4,43±0,15 <sup>^</sup>	4,49±0,16 <sup>^</sup>
Edematous form of PMS, n=70	4,62±0,15 <sup>^</sup>	4,24±0,18 <sup>^</sup>	4,63±0,16 <sup>°</sup>
Cephalgic form of PMS, n=33	4,33±0,24 <sup>^</sup>	4,07±0,21 <sup>^</sup>	4,51±0,24 <sup>°</sup>
Crisis form of PMS, n=25	4,38±0,25 <sup>^</sup>	4,19±0,28 <sup>°</sup>	4,48±0,27 <sup>°</sup>

Notes: ° – probability of the difference of indicator relative to control group (p<0,01); ^ – probability of the difference of indicator relative to control group (p<0,001).

Depression Scale. Also test SAN («S» – well-being, «A» – activity, «N» – mood) for emotional state was used.

For statistical analysis we used program Statistica 6.0. To compare two independent groups by single feature we used the nonparametric Mann–Whitney test. We also calculated criterion  $\chi^2$ . The difference between the values comparing considered reliable at p<0,05.

**RESULTS OF RESEARCH AND DISCUSSION**

In basic group 72 patients had neuropsychical form of PMS, 70 persons – edematous form, 33 – cephalgic and 25 – crisis one. Average age of women in control group was 28,82±0,76 years, in basic one – 30,13±0,36 years (p=0,08).

Level of anxiety in women of basic group was on 13,28% (p<0,001) above indices of controls and depended on severity of syndrome (table 1). In persons with mild PMS it was slightly more on 9,16% (p=0,023), in persons with severe PMS – on 19,35% (p<0,001). In women with all clinical forms of PMS, the figure was significantly higher over values of healthy individuals, except patients with edematous form of syndrome. Anxiety level in patients with cephalgic and crisis forms of PMS moderately increased respectively on 19,20% (p=0,001) and 22,50% (p<0,001).

Level of anxiety was assessed as «normal range» in 100,00% of healthy women. It should be noted that despite of that elevated indices in patients with PMS over controls, the average of anxiety value is also consistent with the assessment as «normal range». However, only 74,50% of the women in basic group had «normal range» level of anxiety, 25,50% of them had «mild to moderate anxiety levels» ( $\chi^2=14,49$ ; p<0,001). Last parameter was found in 38,27% of patients with severe PMS ( $\chi^2=22,99$ ; p<0,001). Persons with «mild to moderate anxiety levels» were determined only in 10,00% ( $\chi^2=3,65$ ; p=0,056) of patients with edematous form of PMS, in 29,17% ( $\chi^2=15,63$ ; p<0,001) of women with neuropsychical form and on more than in one third of persons with cephalgic and crisis forms of PMS – respectively in 36,36% ( $\chi^2=18,42$ ; p<0,001) and 44,00% ( $\chi^2=22,39$ ; p<0,001).

The level of depression in women in basic group was on 13,53% higher than in controls (p<0,001), in patients with mild PMS – on 9,71% (p=0,02), severe form – on 19,11% (p<0,001). This parameter increased equally in patients with all clinical forms of the syndrome. On average, the overall assessment of the level of depression in women of basic group was measured as «normal range». In 96,00% of women in control group state of depression was not established, 4,00% stated as «mildly depressed». However, it should be noted that the number of persons in basic group, which were «mildly depressed» was in 3,00 times higher compared to healthy individuals – 12,00% ( $\chi^2=1,96$ ; p=0,16) and over half of them had severe PMS. While

in all clinical groups upward trend of such state was set, the difference was not statistically significant compared to healthy women. We explain this fact that persons with depressive state, which is diagnostic criterion for the diagnosis of premenstrual dysphoric disorder, were excluded from our research.

Analysis of the results of test SAN (well-being, activity, mood) demonstrated moderate reduction in all its parameters in women of basic group compared with control group (table 2). The intensity of the decrease was similar among patients with different clinical forms of PMS and depended on the severity of syndrome.

Thus, the reduction of parameter «well-being» in patients with PMS was on 20,11% (p<0,001) less compared to healthy individuals, with mild PMS – on 15,40% (p<0,001), severe form – on 26,81% (p<0,001). When evaluating the parameter «activity» results were lower respectively on 18,67% (p<0,001), 15,05% (p<0,001) and 23,24% (p<0,001), the parameter «mood» – on 16,24% (p<0,001), 13,47% (p<0,001) and 20,48% (p<0,001) compared to controls.

We found that among patients with different clinical forms of PMS parameter «well-being» was mostly decreased in persons with neuropsychical form of syndrome – up to 77,36% of level of healthy individuals (p<0,001), in women with edematous form it was the highest – 83,69% of controls (p=0,005). Level of «activity» was the lowest in patients with cephalgic and crisis forms of PMS – 77,52% (p<0,001) and 79,81% (p<0,001) relative to rate of women in control group respectively. But in patients with neuropsychical form it was higher compared with other clinical forms of – 84,38% (p=0,001) of healthy individuals.

Evaluating parameter «mood» of women with all clinical forms of PMS we found its similar moderate decline on 15–18% compared to healthy individuals. In basic group it level was 83,77% (p<0,001) of women in control group, in patients with severe PMS – 79,52% (p<0,001), mild form – 86,53% (p=0,002).

**CONCLUSIONS**

Psychofunctional disorders in women with PMS are common. However, its intensity correlates with form and severity of syndrome.

Levels of anxiety and depression in patients with PMS although correspondent with normal ranges, were significantly elevated relative indicators of healthy women. These patients often have «mild to moderate anxiety levels» ( $\chi^2=14,49$ ; p<0,001). High indices of parameters of anxiety, depression and psychoemotional state are most typical for women with neuropsychical, cephalgic and crisis forms of PMS. In turn, these indices in women with edematous form are fewer differ from healthy women.

### Психологічні особливості жінок з передменструальним синдромом Л.В. Пахаренко

**Мета дослідження:** оцінити психоемоційний стан хворих з передменструальним синдромом (ПМС).

**Матеріали та методи.** У дослідження були включені 200 жінок репродуктивного віку з діагнозом ПМС і 50 жінок без діагнозу ПМС. Психоемоційний стан вивчали за допомогою опитувальників В. Зунга для самооцінки тривоги та депресії та тесту «Самопочуття–активність–настрій» (САН).

**Результати.** Було встановлено, що рівень тривожності в осіб із ПМС є на 13,28% ( $p < 0,001$ ) вище показника контролю і залежить від тяжкості синдрому. Такі хворі часто мають «легкий тривожний стан або середнього ступеня» ( $\chi^2 = 14,49$ ;  $p < 0,001$ ). Усі параметри тесту САН були знижені у жінок з ПМС.

**Заключення.** Для хворих з ПМС психофункціональні порушення є типовими. Проте їхня інтенсивність корелює з формою і тяжкістю синдрому. Особливу увагу слід приділяти жінкам з нейроросихічною, цефалгічною і кризовою формами синдрому.

**Ключові слова:** передменструальний синдром, психофункціональні порушення.

### Психологические особенности женщин с предменструальным синдромом Л.В. Пахаренко

**Цель исследования:** оценить психоэмоциональное состояние больных с предменструальным синдромом (ПМС).

**Материалы и методы.** В исследование были включены 200 женщин репродуктивного возраста с диагнозом ПМС и 50 женщин без диагноза ПМС. Психоэмоциональное состояние изучали с помощью опросников В. Зунга для самооценки тревоги и депрессии и теста «Самоочувствие–активность–настроение» (САН).

**Результаты.** Было установлено, что уровень тревожности у лиц с ПМС на 13,28% ( $p < 0,001$ ) выше показателя контроля и зависит от тяжести синдрома. Такие больные часто имеют «легкое тревожное состояние или средней степени» ( $\chi^2 = 14,49$ ;  $p < 0,001$ ). Все параметры теста САН были снижены у женщин с ПМС.

**Заключение.** Для больных с ПМС психофункциональные нарушения являются типичными. Однако их интенсивность коррелирует с формой и тяжестью синдрома. Особое внимание следует уделять женщинам с нейроросихической, цефалгической и кризовой формами синдрома.

**Ключевые слова:** предменструальный синдром, психофункциональные нарушения.

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## НОВОСТИ МЕДИЦИНЫ

### ВРАЧИ: ОБЩИЙ НАРКОЗ НЕ ВРЕДИТ МЛАДЕНЦАМ

В ходе научной работы, проведенной сотрудниками медицинского центра при Колумбийском университете, выяснилось, что однократный общий наркоз не наносит вреда когнитивной системе детей в возрасте до трех лет.

Результаты новых исследований опровергают ранее полученные сведения, согласно которым анестезия в младенческом возрасте негативно сказывается на памяти, внимании и способности к обучению. Полный текст научной работы опубликован в Journal of the American Medical Association.

"Потенциальная нейротоксичность анестетиков - одна из наиболее обсуждаемых проблем в педиатрии. Сегодня мы можем оснастить миллионы родителей во всем мире, чьим детям предстоит хирургическое вмешательство под общим наркозом", - прокомментировал результаты научной работы Гоха Ли, профессор Колумбийского университета.

В исследовании принимали участие 105 детей в возрасте от 8 до 15 лет, которым были сделаны операции в раннем детстве. Уровень их IQ, а также память, скорость реакции

и внимание сравнивали с показателями сверстников, не испытавших хирургического вмешательства. Ученые не заметили существенной разницы между данными.

Исследователи планируют и дальше продолжать исследования в этой области, в частности выяснить, как анестезия в младенчестве влияет на девочек, так как в текущей работе большую часть обследуемых составили мальчики. Кроме того, необходимо определить, как наркоз влияет на детей с имеющимися врожденными заболеваниями.

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