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CLINICAL FEATURES OF SLEEP DISTURBANCES IN ANXIETY DISORDERS OF NEUROTIC AND ORGANIC GENESIS

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Ключевые слова: *компоненты тревоги, невротические расстройства, нарушения сна, органическое тревожное расстройство*

Abstract. Clinical features of sleep disturbances in anxiety disorders of neurotic and organic genesis. Liashchenko Yu.V., Yuryeva L.M. *There is a bi-directional link between dyssomnia and psychological diseases. Sleep disorders can influence the severity of the underlying disease, complicate the process of treatment, and increase the risk of the recurrence further. Besides, there is an obvious dependence of the sleep disorder severity from the pathological anxiety. The aim of the research: to study clinical features and relationship of sleep disorders and anxiety in patients with anxiety disorders of neurotic and organic genesis. To achieve the objective, 120 patients with anxiety-depressive disorders, who were divided into 2 groups depending on the genesis of the disease were studied. The first group included patients with anxiety-depressive disorders, anxiety phobic disorder and generalized anxiety disorder. The second group included patients with emotionally labile and organic anxiety disorders. The research was done with the help of clinical-psychopathological method added with psychometric scales and with the method of statistical processing. According to the results, it was detected that the level of insomnia was reliably higher in patients with anxiety disorders of organic genesis than in the group of patients with neurotic disorders. After the analysis of the components of the pathological anxiety it was determined that the components of emotional discomfort and the assessment of the prospects of anxiety dominated in the group of neurotic genesis, but the asthenic and phobic components were more expressed in the group of patients with anxiety disorders of organic level. In addition, according to the results of the correlation analyses, it was determined the link of the degree of expression and the severity of insomnia. Understanding of the semantic character of the pathological anxiety and clinical display of sleeping disorders will give the possibility to create the relevant differential rehabilitation programs of the treatment of the patients with anxiety-depressive disorders with sleep disorders.*

Реферат. Клінічні особливості порушень сну при тривожних розладах невротичного та органічного генезу. Лященко Ю.В., Юр'єва Л.М. *Між диссомнією та психічним захворюванням існує двоспрямований зв'язок. Розлади сну можуть впливати на тяжкість перебігу основного захворювання, ускладнювати процес лікування, а також підвищувати ризик рецидиву в подальшому. Крім того, існує чітка залежність тяжкості порушень сну від патологічної тривоги. Мета дослідження – вивчення клінічних особливостей і взаємозв'язку порушень сну і тривоги у хворих на тривожні розлади невротичного й органічного ґенезу. Для вирішення поставленої мети було проведено дослідження 120 хворих з тривожно-депресивними розладами, які були розподілені на дві групи залежно від генезу захворювання. У першу групу входили пацієнти з тривожно-депресивним розладом, тривожно-фобічним розладом та генералізованим тривожним розладом. Другу групу склали пацієнти з органічним емоційно-лабільним та органічним тривожним розладами. Дослідження проводилося за допомогою клініко-психопатологічного методу, доповненого психометричними шкалами, а також методу статистичної обробки. За результатами дослідження було виявлено, що в пацієнтів з тривожними розладами органічного рівня вираженість інсомнії достовірно вище порівняно з групою хворих з невротичними розладами. Після проведення аналізу компонентів патологічної тривоги було встановлено, що в групі хворих невротичного генезу переважали компоненти емоційного дискомфорту й тривожної оцінки перспектив, а в групі хворих з тривожними розладами органічного рівня найбільш вираженими були астенічний та фобічний компоненти тривоги. Також за результатами кореляційного аналізу був виявлений взаємозв'язок ступеня вираженості компонентів тривоги й тяжкості інсомнії. Розуміння змістового характеру патологічної тривоги і клінічних проявів розладів сну дасть можливість створити відповідні диференційовані реабілітаційні програми лікування хворих на тривожно-депресивні розлади з порушеннями сну.*

Dyssomnia is one of the most common clinical manifestations correlating with the phenomenon of anxiety in neurotic disorders [5]. Studies from around the world show prevalence of sleep disturbances ranging from 1.6% to 56.0% [11].

A number of studies have examined the relationship between anxiety disorders and sleep disturbances, and the two-way relationship between them has been identified [10].

Insomnia is defined as a clinical syndrome that is characterised, on the one hand, by the presence of sleep disturbances in the form of problems with its onset, consolidation or quality, provided that these problems occur when a person has sufficient time for sleeping and that they cause negative effects in the form of disturbances of daily activities of various kind [6].

In their turn, primary and secondary forms can also be highlighted in the group of psychogenic sleep disturbances. Insomnia, which occurs at the very beginning of neurotic decompensation, is considered to be primary, and insomnia, which is added to the already existing complex of neurotic disorders, is considered to be secondary. According to most authors, the disorders of the secondary psychogenic insomnia group are most widespread [7].

Collectively, present data demonstrate that insomnia is often a comorbid condition with anxiety

and depression, and that sleep disturbances are more severe when such comorbidities are present [3, 9].

However, though many studies have been conducted in this area, most of them examined sleep disturbances in neurotic anxiety disorders. At the same time, in our opinion, dyssomnia in patients with anxiety disorders of organic genesis have not been sufficiently studied.

The aim of the study – examine the clinical features and the relationship between sleep disturbances and anxiety in patients with anxiety disorders of neurotic and organic genesis.

MATERIALS AND METHODS OF RESEARCH

To achieve the goal, 120 patients with anxiety disorders of various origins have been selected and divided into 2 groups depending on the level of the disease. The first group consisted of 38 (63.3%) patients with mixed anxiety-depressive disorder, 10 patients (16.7%) with phobic anxiety disorder, and 12 patients (20.0%) with generalised anxiety disorder. The second group consisted of 32 patients (53.3%) with organic emotionally labile disorder and 28 (46.7%) patients with organic anxiety disorder. The diagnosis has been determined in accordance with the ICD-10 criteria.

The research was conducted in accordance with the principles of bioethics set out in the WMA Declaration of Helsinki – "Ethical principles for medical research involving human subjects" and "Universal Declaration on Bioethics and Human Rights" (UNESCO).

The study has been conducted using clinical-psychopathological method, supplemented by the Insomnia Severity Index by Ch. Morin and the Integrative Anxiety Test (A.P. Bizyuk).

The Insomnia Severity Index makes it possible to determine the degree of insomnia intensity and to assess the intensity degree of its individual components [8].

Using Integrative Anxiety Test, the rate of trait and state anxiety can be estimated; also, its individual components can be analyzed, such as: emotional discomfort (ED), asthenic (AST) and phobic (PHOB) components, anxious evaluation of outcomes (EO) and social defense reactions (SD) [2].

The methods of descriptive and analytical biostatistics have been used for statistical processing of research material. Verification of compliance of the distribution of quantitative features with the normal law has been conducted using the Shapiro-Wilk test (SW-W). Considering mainly abnormal distribution of traits, non-parametric characteristics and criteria have been used: median (Me), interquartile range (25%; 75%) – 25 and 75 percentiles respectively, Q1 and Q3 – the first and the third quartiles, respectively, to compare two independent samples – Mann-Whitney U test. The arithmetic mean and standard deviation – M (SD) have been used for normal distribution to describe the groups; and the Student's t test has been used to compare them. The assessment of statistical significance of relative indicators has been performed using the Pearson's chi-squared (χ^2) test. Spearman's rank correlation coefficient (r_s) has been used to assess the relationship between traits. The critical value of the statistical significance level (p) for all kinds of analysis has been taken as <5% ($p<0.05$) [1, 4].

Statistical processing of the study results has been performed with the help of a personal computer using Microsoft Excel software (Microsoft Office 2016 Professional Plus, Open License 67528927), STATISTICA 6.1 (StatSoftInc., Serial No. AGAR909E415822FA).

RESULTS AND DISCUSSION

Among patients under study, women prevailed – 101 female patients (84.2%) and 19 male patients (15.8%). This trend can be observed in both groups (*p=0.803*).

The age of patients ranges from 23 to 65 years and averaged 44.3 (12.4) years – M (SD). At the same time, in the group of patients with anxiety disorders of neurotic genesis (G1), young and middle aged persons predominated, the average age was 36.76 (9.95) years – M (SD), and in the group of patients with anxiety disorders of the organic genesis (G2) older patients predominated, the average age was 51.9 (9.73) years – M (SD).

When analyzing the features of sleep disturbances in both groups, the following results have been obtained (Insomnia Severity Index by Ch. Morin).

When assessing the indicators of difficulties with falling asleep, frequent and/or long awakening and performance decrement due to sleep deficit, no significant differences between the groups have been observed, and, in general, the indicators have been of a high level of severity.

The group of patients with anxiety disorders of organic genesis, has demonstrated the indicator of early morning awakening to be significantly ($p<0.001$) higher (Me – 3.0 points, interquartile range 2.5 – 3.0 points) and correspond to the high level of severity in comparison with the group of neurotic patients (Me – 2.0 points, interquartile range 2.0 – 3.0 points), where this indicator have reached an average level.

The indicators of satisfaction with sleep in G2 patients (Me – 3.0 points, interquartile range 3.0 – 3.0 points) and concern with poor sleep quality

(Me – 3.0 points, interquartile range 3.0 – 3.0 points) have been statistically significantly (p<0.001) higher than in G1 patients, whose satisfaction with sleep has been as follows: Me – 2.7 points, interquartile range 2.5 – 3.0 points, and concern with poor sleep quality, as follows: Me – 2.0 points, interquartile range 2,0 – 3.0 points. At the same time, in general, these indicators in G2 patients has corresponded to the high severity degree, and in G1 patients, they have reached the average level.

The indicator of the decrease in the quality of life due to sleep deficit in G1 patients has been assessed as average (Me – 2.0 points, interquartile range 2.0 – 3.0 points), and in G2 patients, it has been high (Me – 3.0 points, interquartile range 3.0 – 3.0 points). In this case, the differences between the groups are statistically significant (p<0.05).

In general, in both groups the indicators of the insomnia severity corresponded to the average severity. At the same time, the group of patients with anxiety disorders of organic genesis has demonstrated the indicator (Me – 20.0 points, interquartile range 18.0 – 21.0 points) to be significantly (p<0.001) higher than in the group with neurotic disorders (Me – 18.0 points, interquartile range 16.0 – 20.0 points).

As a result of our research, it was identified that in patients with anxiety disorders of organic genesis the indicator of insomnia severity was higher than in patients with neurotic disorders. Meanwhile the indicators of the early morning awakening, concern with bad dream and a decline of the quality of life in relation to bad dream were statistically significantly higher. We consider that these differences can be related to the duration of disease and the existence of the accompanying pathologies in a group of patients with anxiety disorders of organic genesis.

When studying the severity of anxiety and its individual components in both groups, the following results have been obtained (Integrative Anxiety Test A.P. Bizyuk).

The general indicator of state anxiety in G2 patients has been significantly (p – 0.014) higher than in G1 patients and has amounted to Me – 9.0 stanine, interquartile range 8.0 – 9.0 stanine. G1 patients have demonstrated the indicator to be as such: Me – 8.0 stanine with interquartile range 8.0 – 9.0 stanine. In general, both groups have demonstrated the component to be at a high level.

When assessing the individual components of state anxiety, it has been found that emotional discomfort in the group of neurotic patients is statistically significantly (p<0.001) higher (Me – 8.0 stanine, interquartile range 8.0 – 9.0 stanine) than in the group of patients with anxiety disorders of organic genesis (Me – 8.0 stanine, interquartile range 7.5 – 8.0 stanine). Moreover, both groups have demonstrated the component to be at a high level.

It should be noted that the group of patients with anxiety disorders of organic genesis has demonstrated the phobic component to be significantly (p – 0.001) higher than in the group of patients with neurotic anxiety disorders and amounted to Me – 8.0 stanine, interquartile range 7.0 – 9.0 stanine, and in G1 patients – to Me – 7.0 stanine, interquartile range 7.0 – 9.0 stanine. The phobic component of state anxiety has had a high degree of intensity in both groups.

The asthenic component in G2 patients (Me – 9.0 stanine, interquartile range 8.0 – 9.0 stanine) is higher in comparison with G1 patients (Me – 8.0 stanine, interquartile range 8.0 – 9.0 stanine) and is assessed as high. These differences tend to be statistically significant (p – 0.052).

The component of anxious evaluation of outcomes in both groups has been high, and social defense reactions have reached an average level. In addition, both indicators in the groups have been approximately the same.

When analysing trait anxiety, it has been found that this indicator is significantly (p<0.001) higher in G2 patients (Me – 7.0 stanine, interquartile range 5.0 – 7.0 stanine) than in G2 patients (Me – 5.0 stanine, interquartile range 5.0 – 6.0 stanine) and has been assessed as average in both groups.

Statistically significant differences (p<0.001) were revealed between the groups in the following components: asthenic and phobic components, social defense reactions.

The asthenic component in G1 patients has been lower (Me – 7.0 stanine, interquartile range 6.0 – 7.0 stanine) and assessed as a tendency to the high level of severity, in comparison with G2 patients, where it has made up Me – 7.5 stanine and interquartile range 7.0 – 8.0 stanine and pointed to a high level of severity.

In the group of patients with anxiety disorders of organic genesis, the phobic component has made up Me – 7.0 stanine and the interquartile range of 7.0 – 7.0 stanine and has been assessed as average, and in the group of neurotic patients, the indicator has been lower and has made up Me – 4.0 stanine and the interquartile range 1.0 – 6.0 stanine, which corresponds to a low level of severity.

The values of social defense reactions in G1 patients have been lower (Me – 2.0 stanine, the interquartile range 1.0 – 4.0 stanine) than in G2 patients – Me – 4.0 stanine, the interquartile range

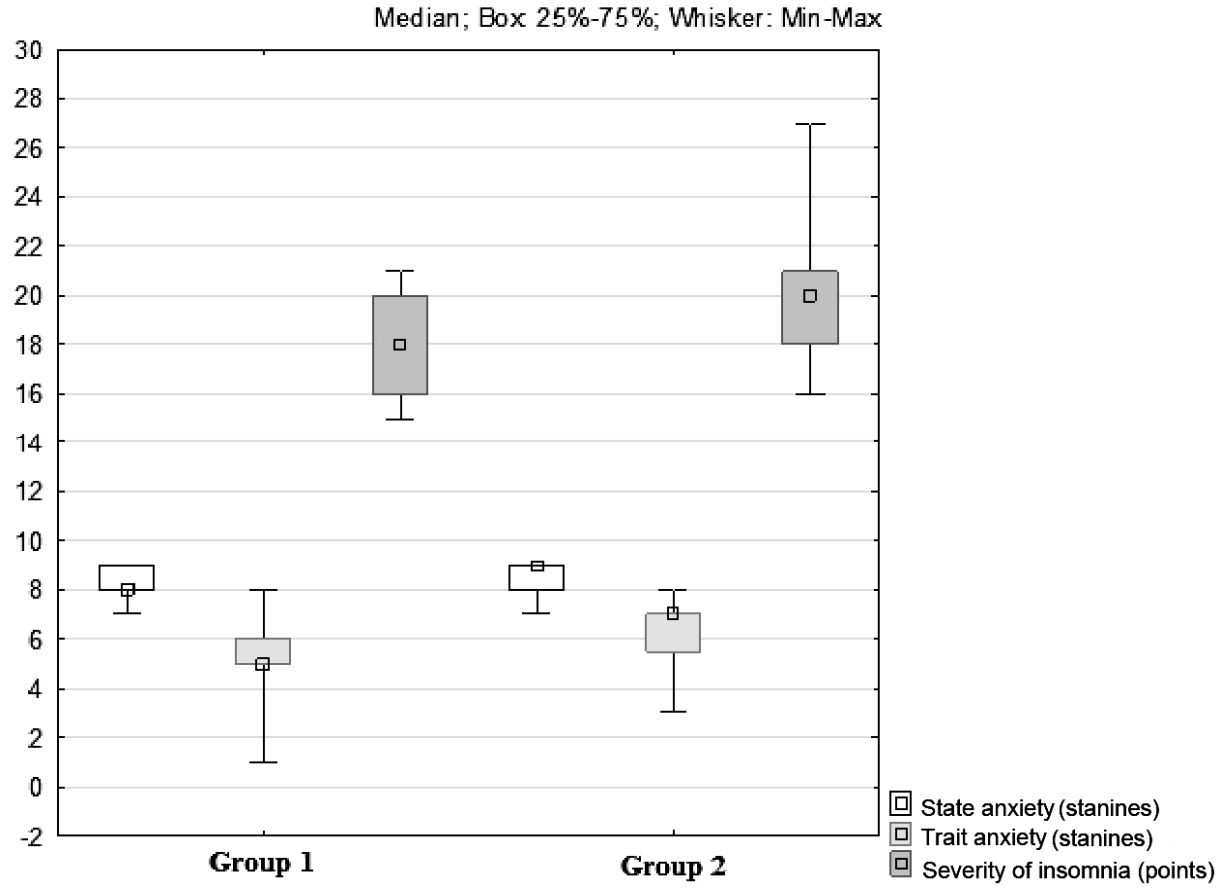
4.0 – 4.0 stanine. In general, in both groups the indicator has been assessed as low.

Components of anxious evaluation of outcomes assessment and emotional discomfort of the indicator of trait anxiety in both groups have been approximately the same, and no statistically significant differences have been found.

Thus, it was determined that a higher degree of expression of the indicators of state and trait anxiety was noted in a group of patients with anxiety disorders of organic genesis. All differences were statistically significant. In this group of patients, the asthenic and phobia components dominated as in a structure of state and trait anxiety in comparison with the group of neurological genesis.

The results give the understanding of informative manner of pathological anxiety in patients with anxiety disorders of different genesis, and the possibility of more differential approach in the treatment of these disorders.

The quantitative average indicators of the insomnia severity, state and trait anxiety are shown in Figure.



Quantitative average indicators of insomnia severity the Insomnia Severity Index by Ch. Morin (in points), state and trait anxiety ITT by A.P. Bizyuk (in stanines) in the groups

The relationship between the indicators of the severity of the components of state and trait anxiety and indicators of the severity of insomnia has been established based on the correlation analysis results (Table).

The indicators of state and trait anxiety correlate with the severity of insomnia; the statistically significant relationships have been identified, most of them are of average level. Therefore, when the level of anxiety increases, the severity of insomnia increases as well, and vice versa.

According to the results obtained, we can say that the sleep disorders and pathological anxiety can mutually complicate the course of each other and deteriorate the quality of patient's life. Consequently it is very important to pay a special attention to the correlation of the sleep disorders during the treatment of anxiety disorders of different genesis.

Correlation between the indicators of the severity of the components of state and trait anxiety and indicators of the severity of insomnia (Spearman's rank correlation coefficient r_s)

Indicator	Difficulties with falling asleep	Frequent and/or long awakening	Early morning awakening	Satisfaction with sleep	Performance decrement due to sleep deficit	Decrease in the quality of life due to sleep deficit	Preoccupation with poor sleep quality	Severity of insomnia
IAT ED	0.042	0.007	-0.09	-0.053	0.202*	-0.009	-0.212*	-0.026
IAT AST	0.143	0.054	0.294*	0.215*	0.29*	0.291*	0.214*	0.324*
IAT PHOB	0.008	0.195*	0.279*	0.324*	0.238*	0.257*	0.291*	0.341*
IAT EO	0.027	0.096	0.135	0.195*	0.258*	0.212*	0.178	0.223*
IAT SD	-0.037	0.083	0.253*	0.27*	0.173	0.179	0.20*	0.225*
IAT S-Anxiety	0.135	0.134	0.323*	0.329*	0.349*	0.413*	0.343*	0.433*
IAT ED	-0.031	0.226*	0.176	0.162	0.326*	0.191*	0.083	0.249*
IAT AST	0.157	-0.045	0.384*	0.401*	0.232*	0.300*	0.359*	0.381*
IAT PHOB	0.174	0.139	0.406*	0.434*	0.208*	0.339*	0.512*	0.459*
IAT EO	0.061	0.213*	0.119	0.284*	0.277*	0.254*	0.154	0.262*
IAT SD	0.229*	0.135	0.274*	0.356*	0.247*	0.331*	0.463*	0.42*
IAT S-Anxiety	0.209*	0.159	0.359*	0.450*	0.390*	0.411*	0.437*	0.497*

Note. * – statistically significant correlation coefficients at the level of $p<0.05$.

CONCLUSIONS

1. As a result of our research, clinical features of the sleep disorders and pathological anxiety in patients with anxiety disorders of organic genesis and neurological genesis were detected. The bi-directional relationship between the sleep disorder and anxiety was also researched and approved.

2. The results on the clinical features of the sleep disorders, state and trait anxiety can be the basis for the creation of differential selection of psychopharmacological and psychotherapy strategy of the treatment.

Conflict of interests. The authors declare no conflict of interest.

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