

EMOTIONAL AND BEHAVIORAL DISORDERS IN PATIENTS WITH EPILEPSY: AN INTERDISCIPLINARY APPROACH

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Abstract.

Epilepsy is a chronic neurological disorder characterized by recurrent seizures, which is often accompanied by a wide range of emotional and behavioral disorders. Due to the long-term course of the disease, social stigmatization, side effects of medication, and neurophysiological changes, patients develop persistent psycho-emotional disorders such as anxiety, depression, aggression, and adaptive behavior disorders.

Taking into account the complexity of the interaction between neurobiological and psychosocial factors, the study of these disorders requires an interdisciplinary approach that integrates the achievements of neurology, psychiatry, psychology, and social medicine.

The purpose of this work is to analyze the emotional and behavioral functioning of patients with epilepsy, as well as to justify the need for a multidisciplinary model for assessing and correcting these disorders.

The article presents the results of a clinical, psychological, and psychophysiological study conducted on a sample of adult patients with epilepsy of various etiologies and durations.

The obtained data confirm the close relationship between the characteristics of the disease and the severity of behavioral and affective disorders, as well as demonstrate the high importance of psychotherapeutic and social support in the complex of medical measures.

Keywords: epilepsy, emotional disorders, behavioral disorders, anxiety, depression, psychopathology, interdisciplinary approach, psychotherapy, clinical psychology, neuropsychiatry.

INTRODUCTION

Epilepsy remains one of the most common chronic neurological diseases affecting people of various age categories, with a global prevalence reaching more than 50 million cases according to the World Health Organization. Despite significant advances in diagnosis and pharmacotherapy, the clinical picture of the disease is often complicated by

the presence of persistent emotional and behavioral disorders, which are formed both against the background of organic damage to the brain and as a result of prolonged exposure to psychosocial stressors.

Psycho-emotional disorders in epilepsy are not secondary manifestations, but are often integrated into the clinical picture as equally significant components that determine the level of social adaptation, quality of life, and overall treatment effectiveness [2]. Modern studies emphasize the high level of anxiety and depressive disorders in patients with epilepsy, as well as the presence of behavioral disorganization, aggressive reactions, emotional lability, and cognitive deficits, which require separate clinical and psychological analysis. In addition, the increased risk of social and self-stigma exacerbates patients' maladjustment, contributing to the chronicity of emotional disorders and reducing their motivation for treatment [6].

The current practice of managing patients with epilepsy demonstrates the need to expand the purely neurological approach by involving specialists from related fields, such as psychiatrists, clinical psychologists, psychotherapists, and social workers, in the therapeutic process. This model involves a comprehensive assessment of the patient's condition, focusing not only on controlling seizures but also on restoring their emotional balance and social functioning. Numerous studies confirm the effectiveness of interdisciplinary approaches, but such models are limited in Russian practice and require further scientific justification and clinical adaptation [7].

This study aims to investigate emotional and behavioral disorders in patients with epilepsy by analyzing clinical, psychological, and psychometric data obtained through interdisciplinary observation. The study examines the characteristics of emotional responses based on the type and duration of the disease, as well as the impact of medication and cognitive status on the severity of psychopathological symptoms. The rationale for an interdisciplinary approach is particularly relevant in the context of finding effective strategies for medical and psychological support for patients with epilepsy, which can improve the effectiveness of treatment and enhance their quality of life.

MATERIALS AND METHODS OF THE STUDY.

The present study was conducted on the basis of the neurological department of a multidisciplinary clinic, where patients with a confirmed diagnosis of epilepsy were observed and treated during 2022–2024. The study included 96 patients aged 18 to 55 years, among whom 52 were women and 44 were men.

The study took into account parameters such as the age of disease onset, the frequency and type of seizures, the characteristics of drug therapy, and the presence of concomitant somatic and mental diseases. The following methods were used to assess the emotional state: the Hamilton Anxiety Scale (HAM-A), the Beck Depression Scale (BDI-II), the Hospital Anxiety and Depression Scale (HADS) emotional distress Questionnaire, and the Buss–Durkee Aggression Inventory. The behavioral characteristics of the patients were analyzed using semi-structured interviews, inpatient follow-up, and the Social Adaptation Self-Evaluation Scale (SASS).

The Weschler test, the Luria frontal test battery, the Rosenzweig drawing test, and the Quality of Life in Epilepsy (QOLIE-31) scale were used to assess cognitive and neuropsychological parameters. All assessments were conducted by a clinical psychologist and a neurologist in collaboration with a psychotherapist. Statistical data processing was performed using variational analysis, correlation analysis (Spearman), and multivariate regression using SPSS Statistics 27.0 software. The statistical significance level was set at $p < 0.05$.

RESEARCH RESULTS AND DISCUSSIONS.

To clarify the relationship between the type of epileptic activity and the severity of psycho-emotional disorders, a comparative assessment of clinical indicators on a number of psychometric scales in patients with different forms of epilepsy was carried out. Table 1 below reflects the distribution of the studied patients by type of epilepsy and the presence of behavioral and emotional disorders.

Table 1. Distribution of patients by type of epilepsy and severity of psychopathological symptoms.

Type of epilepsy	Number of patients	Average score on the HAM-A scale	Average score on the BDI-II scale	Aggression Index (Buss-Durkee)
Focal (temporal)	41	23,6	19,2	17,8
Focal (frontal)	22	18,3	14,7	21,4
Generalized (idiopathic)	33	15,5	11,6	13,2
Total	96	–	–	–

The analysis revealed pronounced emotional and behavioral disorders in a significant number of patients with epilepsy. The most common symptoms were anxiety, depressive spectrum, social maladjustment, and increased aggression. The observed correlation between the nature of epileptic activity and the specific emotional response deserves special attention.

Thus, patients with temporal form of focal epilepsy had a higher level of anxiety and depressive symptoms, which is likely due to the lesion of the limbic structures of the brain, in particular, the hippocampus and the amygdala, which play a key role in the regulation of the emotional background. The data of patients in this group

demonstrate a stable clinical picture with a predominance of asthenic-depressive affect, pronounced anxious rumination and sleep disorders. At the same time, the HADS and HAM-A scores consistently exceeded the diagnostic thresholds, indicating clinically significant anxiety and depression symptoms.

In patients with frontal epilepsy, there was a predominance of impulsive behavior, reduced frustration tolerance, and episodes of sudden irritability. These manifestations correlated with the results of the Rosenzweig test, where the patients demonstrated a high level of external aggression and external attribution of responsibility for failures. This phenomenon can be explained by the specific damage to the prefrontal cortex, which is involved in the control of volitional behavior and the inhibition of impulses.

Generalized forms of epilepsy demonstrated less pronounced emotional symptoms, but this group also showed symptoms of social anxiety, low self-esteem, and avoidance behavior, especially in situations of collective or public activity. In these patients, the most noticeable decrease in quality of life was not related to the intensity of seizures, but rather to the constant feeling of threat and limited social activity.

The results of neuropsychological testing confirmed the presence of deficient cognitive functions, mainly in the areas of attention, working memory, and speech control. Statistically significant correlations were found between the severity of cognitive impairments and the intensity of anxiety-depressive symptoms. Patients with low scores on the Wechsler scale and the Luria battery of tests exhibited more pronounced emotional disturbances, which may indicate a pathogenetic relationship between organic impairments and affective symptoms.

An important finding of the study was the identification of differences in emotional response patterns depending on the duration of the disease. Patients with a long history (more than 10 years) tended to develop persistent avoidance behaviors, pronounced rigidity, and reduced social initiative. At the same time, patients with recently diagnosed epilepsy were more likely to exhibit situational anxiety and hyper compensatory behavior, which manifested in their desire to conceal the disease and actively control social interactions.

It should be noted that the prescribed antiepileptic therapy also has an impact on the emotional sphere. In particular, the use of carbamazepine and valproic acid was associated with a moderate increase in anxiety, while newer generation drugs, including levetiracetam and lamotrigine, had a less pronounced effect on the psycho-emotional state. However, in some cases, individual reactions were observed, leading to the development of medication-induced depressive states, especially with long-term monotherapy [5].

In collaboration with a psychiatrist and a clinical psychologist, a high need for psychotherapeutic support was identified during the diagnostic process. A significant portion of the patients demonstrated a low level of awareness regarding their illness, an ambivalent attitude towards treatment, and an internal denial of the significance of psychological factors in exacerbating their symptoms. This highlights the need for educational and motivational programs aimed at enhancing compliance and integration into the therapeutic process.

Below are the aggregated data on the prevalence of key symptom complexes in the sample.

Table 2. The frequency of emotional and behavioral disorders in the study sample (n = 96)

Complex of symptoms	Number of patients	Percentage of the sample (%)
Anxiety disorders	68	70,8
Depressive symptoms	57	59,4
Aggressive behavior	39	40,6
Social maladjustment	63	65,6
Cognitive deficit (moderate and above)	46	47,9
Suicidal thoughts/intentions	12	12,5

The discussion of the results suggests that epilepsy is not only a neurological disorder, but also a factor that significantly affects a patient's personality, emotional responses, and social functioning. These findings highlight the need for a shift from a purely biomedical model of diagnosis and treatment to an interdisciplinary approach that integrates neuropsychological, psychotherapeutic, and social components.

The combined efforts of specialists, including neurologists, psychiatrists, psychologists, and social workers, allow for a more accurate identification of patient needs and the development of personalized treatment strategies.

Based on the conducted clinical and psychological research, it seems reasonable to develop a comprehensive model for managing patients with epilepsy, which involves a systematic approach to identifying and correcting psycho-emotional disorders [4]. Given the high prevalence of anxiety, depression, and behavioral disorders, the diagnosis of these conditions should be carried out in parallel with a neurological examination, starting from the initial patient visit. To do this, it is necessary to integrate standardized psychometric tools (HAM-A, BDI-II, HADS, etc.) into the structure of standard diagnostic protocols used in neurological departments. An important element of early detection of maladaptive conditions is the creation of screening algorithms that are adapted to the type of epilepsy, age, clinical history, and social status of the patient [9].

It is recommended to create multidisciplinary teams that will include neurologists, psychiatrists, clinical psychologists, neuropsychologists, as well as specialists in the field of social work on a permanent basis. This form of interaction organization allows for taking into account both neurophysiological and behavioral characteristics of the patient, ensuring the individualization of the treatment route [2].

The most important element of this approach should be the development of unified protocols for interaction between specialists, including the determination of intervention priorities based on the nature and severity of the disorders.

Figure 1 shows the key areas of the interdisciplinary model for helping patients with epilepsy.

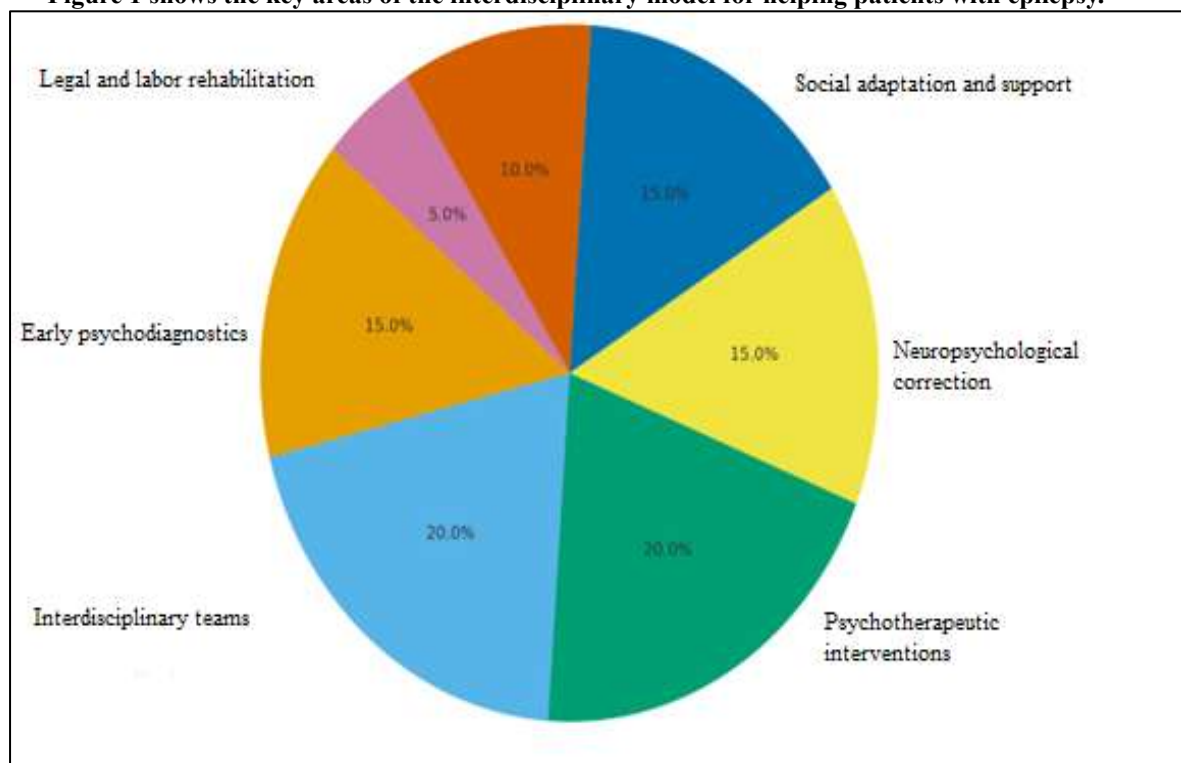


Figure 1 - Structure of an interdisciplinary model for helping patients with epilepsy

The inclusion of targeted psychotherapeutic programs in the structure of medical care should be recognized as a key area for improving therapy. Cognitive-behavioral therapy, methods of emotional self-regulation, psychoeducational training, and neuropsychological correction are particularly important, as they focus on increasing patients' awareness of their condition, developing appropriate coping strategies, and reducing social anxiety. The organization of self-help groups can also serve as an effective tool for supporting patients, especially in the youth and adolescent population, where the risk of social isolation is highest [10].

Systemic measures should include the development of institutional standards that require medical institutions to take into account the patient's psychoemotional state when choosing pharmacotherapy tactics. Antiepileptic drugs with a high risk of inducing affective disorders should be prescribed with mandatory monitoring of the patient's mental status, especially in the presence of previous mental disorders [8]. In addition, it is necessary to expand information and educational programs for medical personnel aimed at developing doctors' competencies in the field of neuropsychological interactions.

In the long term, it is advisable to integrate the principles of restorative medicine and psychosocial rehabilitation into post-hospital care for patients with epilepsy. At the regional level, centers of medical and psychological support can be organized, providing opportunities for repeated diagnostics, individual or group therapy, as well as legal and social counseling [3].

Special attention should be paid to the development of clinical pathways for adolescents and young adults with epilepsy, taking into account their vulnerability to emotional instability and the high frequency of chronic behavioral disorders. For this category, it is recommended to develop special adaptation modules aimed at support in the educational, labor, and interpersonal spheres.

CONCLUSION.

Analysis of the clinical and psychological condition of patients with epilepsy revealed a wide prevalence of emotional and behavioral disorders, which significantly complicate the course of the underlying disease and affect the quality of life. Anxiety and depressive disorders, as well as behavioral maladjustment, found in the majority of the examined patients, are caused not only by neurophysiological changes associated with epileptic activity, but also by social stigmatization, long-term course of the disease, side effects of drug therapy, and impaired cognitive regulation. The data obtained indicate that the nature of psycho-emotional disorders depends on the form of epilepsy, the affected brain area, the duration of the disease, and the psychosocial context.

Focal forms of epilepsy, especially those with temporal and frontal localization, were more often accompanied by persistent emotional disorders and maladaptive behavior, while generalized forms were characterized by less

pronounced disorders, but also accompanied by a decrease in social activity and quality of life. Statistically significant correlations between cognitive deficit and the level of anxiety-depressive manifestations indicate the need for a comprehensive assessment of the patient's neuropsychological status when making a diagnosis and prescribing therapy.

The results obtained confirmed the expediency of applying an interdisciplinary model of managing patients with epilepsy. The inclusion of specialists in clinical psychology, psychotherapy, and social medicine in the therapeutic process allows for a more accurate identification and compensation of emotional and behavioral disorders, increasing the level of compliance and improving the results of treatment. Particular importance is given to the individualization of therapeutic strategies, taking into account the neuropsychological profile, personality characteristics, and the level of social support of the patient.

Thus, the modern approach to the treatment of epilepsy requires not only the pharmacological control of convulsive activity, but also the systemic work aimed at restoring the emotional and social well-being of the patient. In the future, it is advisable to expand the screening programs of psycho-emotional disorders among this category of patients, the implementation of multidisciplinary rehabilitation protocols, as well as further study of the mechanisms of interaction of neurophysiological and psychosocial factors, which cause emotional and behavioral disorders in patients with epilepsy.

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