

Neuropsychological Diagnostics in Epilepsy

Stepanenko V*

Research Center of Psychotherapy St. Petersburg, Russia.

***Correspondence:**

Stepanenko V, Research Center of Psychotherapy St. Petersburg, Russia.

Received: 20 Sep 2022; **Accepted:** 03 Nov 2022; **Published:** 08 Nov 2022

Citation: Stepanenko V. Neuropsychological Diagnostics in Epilepsy. Radiol Imaging J. 2022; 1(1): 1-4.

Keywords

Epilepsy, Cognitive deviation, Help, Diagnosis.

For many decades, epilepsy has been regarded as a very common brain disease, which poses a serious problem not only for health care, but also for society as a whole. Neuropsychological diagnostics is a clinical and psychological method that includes a conversation and examination of the patient with the help of special tests aimed at diagnosing VPF. These tests are neuropsychological tests – specific tasks and exercises. The study evaluates various types of gnosis, praxis, mnestic functions, visual-spatial functions, speech, writing, counting, attention, arbitrary regulation. Thus, neuropsychological research solves the issues of topical diagnosis of foci of brain damage, including in the preoperative study, evaluates the dynamics of recovery of VPF; allows you to identify the features of mental changes, as well as evaluate the effectiveness of therapy.

Psychodiagnostics is especially important at the early stages of the study of patients with epilepsy, when the main forms of their adaptive behavior are just being formed. It is obvious that studies of the personality of patients are aimed at substantiating psychotherapeutic work – an important component of rehabilitation.

So, for example, as psychotherapeutic sessions, it is necessary to adequately consider the types of personal response to the disease with different types of seizures. V.Stepanenko's research has shown that there are significant differences in the types of attitude to the disease, for example, in patients with temporal lobe epilepsy, the maladaptive nature of the attitude to the disease is clearly predominant, mainly in the form of anxiety and astheno-hypochondriac symptom complexes and exacerbation of pathoharacterological characteristics. Negative emotional and personal components of the attitude to the disease significantly increase and change their structure in the direction of an increase

in cognitive and emotional-affective disorders, with an increase in the duration of the disease and frequent attacks, a change in personality is revealed.

Methods of psychological diagnostics are practically indispensable for assessing the dynamics of the mental (functional) state of patients in the process of differentiated antiepileptic treatment, including correction. Experimental psychological studies of the specifics of patients' personal response to illness and treatment, changes in value consciousness, social positions, under the influence of treatment - all this is extremely important for targeted psychological correction at any stage of work with patients.

Tracing the formation of personality in conditions of pathological development, one can more clearly imagine the mechanisms of formation and the so-called "epileptic nature" of Epilepsy, as already mentioned, is an interdisciplinary problem; it is closely related to the functional anatomy of the brain, therefore, neuropsychological studies are so important in complex clinical diagnostics. Multidimensional neuropsychological diagnostics, especially the use of a standardized set of sensitized techniques with a system for evaluating experimental results, allow us to go beyond individual experience, to carry out broader comparative studies of VPF disorders and their systemic brain mechanisms. This methodology reflects the transition from descriptions of individual results of a neuropsychological experiment to the analysis of patterns, to greater rigor and generality of the analyzed concepts. It is known that neuropsychological diagnostics makes it possible to differentiate the general cerebral and focal symptoms of VPF disorders, their structure, identify weakly structured disorders and assess their topico-diagnostic significance.

With the frequency of seizures, the form of epilepsy, types of paroxysms and psychopathological post-paroxysmal disorders, they are also significantly more often correlated with a violation

of counting operations, constructive praxis, identification and reproduction of rhythmic structures. The same disorders are significantly more often correlated with focal paroxysmal EEG changes in the temporo-parietal region of the left hemisphere and the temporo-frontal-central region of the right hemisphere, which confirms the validity of neuropsychological diagnostics. The variety and severity of VPF disorders are most characteristic, as already mentioned, for temporal epilepsy and patients with clinically identified persistent personality changes in deep brain structures (modality-nonspecific memory, attention, mental activity and emotional and personal changes).

This is only a small fragment of my research, but it shows that multidimensional neuropsychological diagnostics for epilepsy is effective if sensitized techniques are used, a combination of qualitative and quantitative assessment of the success of their implementation with an analysis of the results based on a syndromic analysis of the entire set of VPF disorders and clinical and neuropsychological comparisons of personality changes, character, formation of accentuations, i.e. development pointed features that look like unusual human behavior from the outside. In some cases, there are psychoses, neuroses that occur acutely or chronically and are manifested by conditions such as anxiety, fear, melancholy, or vice versa, high spirits, as well as delirium, Foci of epi-activity or other paroxysmal disorders change the work of the brain, affecting the functioning of its various links, sometimes the loss of only one link of thinking, for example, the ability to simultaneously evaluate individual elements affects the analysis and general perception of the information received by a person. With temporal types of epilepsy, the emotional and speech spheres, thinking are severely affected, with violations of bioelectric activity in the middle parts of the brain, the adaptability and sociability of the patient decreases, the connection of these departments with the development of autism has been proven, but mainly the work of the first functional block of the brain, responsible for maintaining the optimal tone of the nervous system, for the balance between arousal and inhibition, is disrupted. in nerve cells, i.e. the basic level. The frontal parts of the brain are responsible for the order, sequence of actions and thinking, but they are especially important in the manifestation of self-control, will and motivation of a person. Generalized seizures, during which neural connections are severed, lead to serious consequences, all types of development are delayed in children, memory disorders are possible in adults, mental changes, and pathologies that occur with epilepsy are diverse.

The onset of the disease in a significant part of patients manifests itself at the age of 20 years, therefore, early diagnosis of epilepsy, qualification of cognitive disorders and personality of patients is a complex interdisciplinary problem in which neuropsychological diagnosis is important.

Example

Saint Petersburg 09.06.2017

Conclusion based on the results of psychological research D. 07.07.1998 year of birth.

The purpose of the psychological study was to determine the flow of thought processes, the main personality traits and features of interpersonal interaction.

When conducting psychological research, D. was reluctant to cooperate, establishing formal contact. The motive was not formed immediately, but remained until the end of the study. He did not refuse to perform the techniques; he did not perform the tasks according to the instructions. The mood background is not quite even with a downward trend. The movements are numerous, constrained. The facial expressions are uncertain. A voice of moderate volume, turning into a loud one. Insufficient vocabulary, and hardly verbalized the thought, there was an increase in latent time during responses. Emotional reactions are not adequate, low intensity.

During the study, D. was somewhat inhibited. The pace of work is slow. Latent time intervals throughout the study are quite long. In the process of completing tasks, he quickly got tired.

To solve the tasks, the following methods were used:

For the study of thought processes: the technique of constructing simple analogies, the exclusion of superfluous in the verbal version, the identification of essential features, the formation of simple analogies, and the technique of pictograms. For personality research: MMPI Multidisciplinary personality Questionnaire, Rosenzweig frustration reaction test, Dembo -Rubinstein test, A. Beck Depression scale, Interpersonal Relations methodology.

Experimental Psychological Research and Psychodiagnostic Conclusion in the Activities of a Forensic and Psychological-Pedagogical Expert

There are 4 forms of psychodiagnostic conclusions:

Form 1:

1. Conclusion according to neuropsychological research, as an examination of increased complexity, requiring a highly qualified clinical psychologist.
2. Conclusion for complex forensic and psychological-pedagogical expertise, which is a complete psychodiagnostic study and answers of an expert psychologist to the questions posed.

Form 2:

Conclusion based on the data of a complete psychodiagnostic study. As a rule, it is carried out in connection with the tasks of differential diagnosis, clarification of the degree and depth of disorders of mental activity, identification of preserved and disturbed links of the psyche, when solving expert questions.

Form 3:

Conclusion according to the data of a partial study - sensorimotor, cognitive, or emotional-volitional and personal spheres. (Clarification of personal characteristics, characteristics).

Form 4:

Conclusion according to the research data using the MMRI questionnaire with a detailed analysis of the personal profile of

the subject. It is shown to identify the personal characteristics of the subject, to assess the effectiveness of psychotherapy, both individual and group.

A set of necessary techniques that should be used in research (basic techniques) and a set of additional techniques that may vary at the discretion of a clinical psychologist are proposed.

Research of the sensorimotor sphere and attention	
Basic techniques:	Additional techniques:
Schulte tables and their modifications	Kraepelin Invoice Proof - reading test Koos Methodology Neuropsychological tests Counting down Mr. Kogan
Research of the cognitive sphere (memory, thinking, intelligence, associative processes)	
Memorizing 10 words Indirect memorization (according to Leontiev or pictogram) Verbal associations Essential features 4th extra (exclusion of items) Comparison of concepts	Memorization taking into account interference Visual memorization (plot pictures) Classification of objects Interpretation of proverbs and metaphors Establishing the sequence of events Simple and complex analogies Explanation of the meaning and content of the plot paintings Counting down Koos Methodology Raven 's Test Wexler Test (subtests) The Ebbinghouse Trial Ridiculous pictures Neuropsychological subtests
Research of the emotional-volitional sphere and the personal sphere	
Self-esteem research + conversation Lusher Test A variant of the projective drawing (drawing of a person, house-tree-person, non-existent animal, etc.)	MMRI Rosenzweig Test M-ka unfinished sentences Ica diagnostics of value orientations M-ka assessment of the level of claims Thematic associations The Kettell Test The Sondi Test Test "Hand" TAT Rorschach Test M-Hummingbird USK Relationship Color Test

Note:

1. When researching clients: with reduced intelligence; hearing, vision defects; with a general poor somatic condition, a decrease in the number of presented techniques is allowed.
2. The list of additional techniques cannot be given in full due to their large number.

3. In the psychological study of children, methods specific to this contingent of subjects are included.

This platform was created by Professor V. Stepanenko

As a result of the application of these methods, the following data were obtained:

Mind. In the proposed methods, he gave a significant number of incorrect answers by the type of reduction in the level of generalization, direct ideas about objects and phenomena dominate in judgments, operating with general signs is often replaced by establishing purely specific connections between objects. The concrete-effective type of thinking prevails. The speed and pace of the associative process is somewhat slowed down, i.e. the dynamics of mental activity is slightly disrupted. The motivational and personal components of thinking are preserved.

Because of personal and projective-personal techniques, the following data were obtained:

An uneven level of self-esteem was diagnosed, which is a sign of emotional instability. Current self-esteem is of a low level. The features of interpersonal interactions on the scales of "Self-satisfaction", "Openness" and "Confidence" indicate problems in these areas. There is low self-satisfaction and a low degree of optimism, a low level of claims. It should be noted that there is a discrepancy between the direct assessment of one's optimism in comparison with indirect indicators, which may indicate an insufficient level of reflection, insufficient understanding of oneself, one's experiences and actions. I draw attention to the compensatory decrease in the level of ideal self-esteem in order to increase self-satisfaction on the scales of "Character", "Happiness" and "Mind". According to the symptomatic questionnaire CSL-90, the indicators of interpersonal anxiety and phobia are increased, which may indicate in favor of an anxiety-phobic disorder.

The indicator of one of the evaluation scales has been lowered (the lie scale L), which reflects the tendency to deny psychological conflict and the desire to show oneself in the "best light". Profile Code 7 8 2 6 1/L. The leading peak on the anxiety scale (7) indicates that psychasthenic traits prevail in the personality structure: self-doubt, indecision. Constant tension in dissatisfaction, which manifest themselves in obsession, excessive actions necessary for them as if for complacency. All these traits are combined with a tendency to focus on internal criteria (peak on the autism scale of 8), which can lead to communication difficulties and expressed anxiety about these difficulties. This combination of scales also reflects a sense of the specialness or uniqueness of one's personality and anxiety about the lack of recognition of the personality by the environment. Such feelings, usually unconscious, can be the cause of depressive tendencies, which often occur in combination with irritability and apathy. The profile, which has high indicators of these two scales (anxiety scale 7 and autism scale 8), allows us to talk about infantilism. The following combination of peaks on the anxiety scale 7 and depression scale 2 indicates that low self-esteem, pessimistic assessment of prospects, intrapunitiveness are pronounced and stable and are combined with constant internal tension, anxiety and fears. This can lead to a decrease in productivity,

initiative and a feeling of depression. On the depression scale A. Beck's condition of objective signs of depression is noted, while a subjective feeling of unhappiness and discomfort is expressed (for example, "I hate my mother, she (?) it doesn't exist for me." The purpose of the psychological study was to determine the flow of thought processes, the main personality traits and features of interpersonal interaction. Any situations with an unpredictable outcome, a rapid change of acting factors, disordered and not amenable to planning are stressful. The structure vividly presents such features as sensitivity (hypersensitivity to real or imaginary injustices, concern for one's prestige, a tendency to self-assertion) and hypochondriac tendency (anxiety and a sense of threat that are associated with interpersonal relationships, transferred to the processes occurring in one's own body).

The presence in the personality structure of a combination of such traits as anxious suspiciousness, sensitivity, a sense of "incomprehensibility" and hypochondriac tendencies can disrupt social adaptation. According to the results of the "Interpersonal relations" methodology, a high score of the severity of personal problems is revealed. According to the Rosenzweig methodology, in a situation of frustration, an increased tendency to "egocentrism" is revealed. The perception of the world as frightening is determined by a low level of frustration tolerance (stress tolerance), general inability to resist difficulties, self-doubt. In a situation of frustration, the proportion of reactions aimed at meeting situationally emerging needs in the form of taking responsibility for meeting a need or solving a problem is increased and has the skills to resolve problematic situations (the

degree of independence in resolving conflicts or meeting needs is high). Intropunitive reactions, increased self-demanding are characteristic. Frequent aggression, originally intended to react externally, due to the inability to respond directly due to external or internal reasons, to turn on oneself. In a situation of open accusation, the tendency to self-justification reactions is increased.

Based on the results of the entire study, it is possible to distinguish the following:

There are violations of the operational side of thinking in the form of a decrease in the level of generalizations, a violation of the dynamics of mental activity in the form of some inertia and a decrease in the pace of the associative process. There is a tendency to a depressive mood background in combination with anxiety - phobic disorders, decreased intelligence, lack of criticism. Uneven self-esteem, high anxiety, intropunitive reactions, hypochondriac traits, infantilism.

D. has reduced self-criticism and an adequate assessment of what is happening around, the ability to acquire new skills and knowledge is lost, the amount of previously acquired knowledge is lost, mental abilities and IQ coefficient are reduced (95). Thinking becomes primitive and one-sided; it cannot cover the whole essence of the phenomenon, but only its individual details, the vocabulary decreases. When talking, he cannot highlight the main topic, he easily switches to others. Extremely changeable mood. He tries to stand out in the most extravagant way, often lies, fantasizes, invents a variety of stories about himself in order to achieve more significance in society. He behaves openly and friendly in public.