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THE IMPORTANCE OF NEUROPSYCHOLOGY IN CLINICAL PRACTICE

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Abstract: *Experimental neuropsychology is an approach which uses methods from experimental psychology to uncover the relationship between the nervous system and cognitive function. The paper work aims to emphasize the importance of neuropsychology in the clinical practice. Mental health practitioner's need working tools. Facilitates the clinicians work. In practice neuropsychologists tend to work in research settings (universities, laboratories or research institutions), clinical settings (involved in assessing or treating patients with neuropsychological problems), forensic settings or industry (often as consultants where neuropsychological knowledge is applied to product design or in the management of pharmaceutical clinical-trials research for drugs that might have a potential impact on CNS functioning).*

Keywords: *neuropsychology, central nervous system, brain, behavior, symptom*

1. INTRODUCTION

Neuropsychology, called by some authors Neurophysiology, terms that do not overlap completely, study the relation between the central nervous system structure and implementation of various functions, processes and mental activities. Neuropsychology arose from the necessity to understand the relationship between the structure of the nervous system and mental activity in order of deciphering physiological mechanisms of human and animal behavior. One must know the structure and physiology of the nervous system.

By function we mean the embodiment of the activity of various structures. So the structure is the material support of the

function, and the function is the manifestation of the structure. Each structure belongs to a certain, or certain functions and determine the structure's changing function and vice versa, appropriate structural changes induced functional changes. Neuropsychology is a core discipline of psychology. However it is not a separate science in the traditional sense, but only in the field of research at the confluence of numerous biological sciences as neuroanatomy, neurophysiology, endocrinology, pharmacology, physiology, cell biochemistry, genetics.

2. THE TEXT OF THE PAPER

2.1 Methods and techniques of investigation in neuropsychology

To investigate the relationship between the psyche and brain, there are three major categories of methods: physiological, anatomical and psychological. In this context we are interested basically in psychological methods. Neuropsychological investigation should not be limited to neurological investigation methods, but must involve psychological ones.

The great complexity of human psychic system required the development of a wide variety of research methods and procedures. Among these, four appear to be essential for neuropsychological investigation: activity products analysis method, the method tests and laboratory experimental methods, genetic and comparative method.

Activity products analysis method is used for knowing the motivations, interests and creative availability of the person. The method has been introduced in neuropsychological to determine the general mental development, in order to distinguish between abnormality and normality and a more efficient professional and orientational selection. The test can be used both as a diagnostic tool and as a research tool . A problem with the tests is their huge number (estimated 10,000), which leads to difficulties in the selection and interpretation (eg, general intelligence test Binet-Simon test aperceptiv theme (TAT) Rorsarch, 16-PF (Cattell) Eysenck test, etc.). Laboratory and experimental method involves a rigorous control of the independent variable and the conditions for the experiment (method widely studied during experimental psychology).

Important is that the transition from one stage to another in terms of psycho-behavioral development is supported and linked to the transition from a lower to a higher level in the structural-functional organization of the brain (eg, myelination).

The logical-mathematical method, the logical-formal method and Cybernetics are used in situations where we intend to shape a particular psychological process.

We can say that it is well known that psychological determinism of diseases can reach up to a 50%. On the other hand, it is believed that about 65% of diseases have a purely psychosomatic basis.

It is also known that there is a close relationship between the immune system and mental health. The effect of positive or negative emotions on the body's resistance to disease is known from ancient times. In a different compartment of the hormone and neurotransmitter research brought new data regarding the role of these substances in behavioral adjustment. It is known that different brain regions deliver substances that annihilate pain, substances that are often more effective than morphine.

2.2 Cerebral hemispheres

Are directly involved in the construction of psychological mechanisms and processes.

The frontal lobe is involved directly in the mechanisms of affective behaviors. Affective disorders are known in frontal lobe lesions. Also in the same injury can occur irritability, drowsiness, lack of initiative, along discrete personality disorder. We are talking also of mood and character disorders consisting in increasing affective tone with euphoria and eroticism, alternating with phases of melancholy not least with psychopathic type reactions. Disorders relates activity the external physical activities and mental manifestations. There is a gap between the patient and the outside world, the poverty of relationships and the absence of reactions to external events. Add apathy, indifference to pain, akinetic mutism and can lead to coma



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and death. Intellectual Disorders relates, involving attention and memory. Can range from confusion, disorientation temporo-spatial state of perplexity to dementia.

The parietal lobe is in relation to the functions of proximity and gnosis, the body schema and language. In parietal lobe lesions appear three types of disorders: praxis disorders, ideomotor apraxia, dressing apraxia. Perception disorders of own body size and posture. Language disorders - leading to sensory aphasia.

The temporal lobe is in relation to memory, consciousness and emotional-affective life. Can be observed feelings of sadness, fear of death, feeling of loneliness, anger and violence, personality changes, somnolence, catalepsy, amnesia and partial breaking of reality.

The occipital lobe is in functional relationship with the perception of time and movements, the visual space, memory and mood disorders.

2.3 Adjusting emotionally affective behavior

It is known that physiological expression of emotion depends in part by the sympathetic and parasympathetic autonomic nervous system and that the hypothalamus is one of the main centers that integrates the peripheral autonomic system in the complex activity accompanying somatic emotional expression. Anger and fear is the most common behavioral disorders in adults and

caused by various diseases of the hypothalamus. Anger is emotional-behavioral expression, caused by the damage of ventromedial hypothalamus. By contrast, the stimulation of the posterior region of the hypothalamus cause reactions of fear and horror. The hypothalamus adjusts the behavior in three ways: coordinates the autonomic and affects endocrine and motor behavior component, generate appropriate behavior to affective state the intensity of each behavioral act.

These conclusions were drawn from experiments on animals. Inhibitory mechanism of behavior is related to the frontal lobes cortex, but the exact pathways are not well established. It is assumed that the hippocampus integrates all motor and endocrine responses involved in emotional behavior, while the telencephalon suppressing emotional responses to inconsistent and insignificant stimuli .Telencephalon is the connection of the hypothalamus with the external world, which allows manipulation of autonomic and endocrine system and appearance of appropriate emotional expressions in response to external conditions.

Excessive or uncontrolled sexual behavior is a rare manifestation, which puts many questions and that may occur in relation to damage of the hypothalamus, limbic system, and the telencephalon. It appears that hypothalamic lesions produce hipersexual behavior associated with excessive anger and desire. Decreased libido is also a common symptom found in the hypothalamus diseases,

especially in males. In conclusion, the hypothalamus is not only a core engine for autonomic nervous system, but is an important integration of various information necessary to ensure appropriate responses, consistent and well organized, both autonomous and somatic.

3. CONCLUSIONS & ACKNOWLEDGMENT

Test results will establish a baseline of current functioning that can be used as a marker to assess the progress of pharmacological, surgical, and rehabilitation efforts as well as determine the course of cerebral dysfunction and recovery.

Neuropsychological testing can help in planning and developing remedial education, rehabilitation and vocational programs for

individuals with neurological or developmental problems.

A neuropsychological evaluation is essential for obtaining school-based services, testing accommodations for college entrance examinations and accommodations in one's place of employment.

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