DIFFERENT APPROACHES TO COMPUTER COGNITIVE TRAINING

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Introduction: Cognitive impairments are observed up to 90% of post stroke patients. Along with drug therapy, there is active search for effective methods of rehabilitation of cognitive disorders worldwide. Usually cognitive training is performed by a neuropsychologist. As a rule, this process is labour-intensive and expensive.

Purpose: Elaborate the different methods of computer neuropsychological rehabilitation.

Method, results and Conclusion: The original complex of computer neuropsychological programs was elaborated. This complex was developed basing on classic neuropsychological approach of Alexander Luria. It consists of some computer programs modules, which are focused on training of different cognitive domains such as memory, attention, counting, etc. Each of these programs contains tasks that involve mainly one cognitive function. Nevertheless, the majority of tasks inevitably effects all spheres of psychic activities simultaneously. This approach proved effectiveness of restoration mild cognitive impairments in acute and recovery periods of stroke. Probably improvements were achieved because of stimulation of the functions which were connected with activity of nonspecific structures of brain and subcortical structures, so-called "neurodynamic components of the higher mental function" (A.R. Luria).Another approach for computer cognitive training was based on the new method of activation of optical-spatial gnosis. This software stimulates three-dimensional recognition of rotating objects. The speed of the object recognition and an angle of the object location in the axes X, Y, Z were measured. During the test a subject is given the tasks to recognize both two- and three-dimensional objects frequently encountered in daily life. It was found improvements of both directly visual-spatial gnosis and neurodynamic components. Thus activation nonspecific subcortical brain structures can be done through stimulation parietal and occipital lobes.