

Neurological aspects of dyslexia

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Dyslexia represents specific difficulties in mastering the skills of reading, due to the underdevelopment of the higher physical functions taking part in the implementation of the reading process. Despite the fact that dyslexia today is often characterized as the "problem of geniuses", which many famous persons (G. Christian Andersen, Leonardo da Vinci, Albert Einstein, etc.) suffered in due time, it needs a thorough correction. The prevalence of dyslexia among children with normal intelligence is about 4.8%. Children with severe speech disorders and mental retardation suffer dyslexia in 20-50% of cases. The ratio of the incidence of dyslexia in boys and girls is 4.5: 1. There is a genetic predisposition for this disorder.

We aimed to provide an overview of dyslexia, to identify its neurological aspects and consider the specifics, to find out the causes of this disease, to determine the essence of the problem, diagnostic features, methods of detecting disabilities in reading and ways to overcome them in people's life.

To examine this issue we searched on a lot of scientific reports, we studied the etymology, development and course of this disease in the Internet. We investigated various documentary sources reflecting the mechanisms of dyslexia, diagnostic methods and efficacy of treatment at early stages, prognosis and prevention of it.

The latest scientific publications have been analyzed and according to statistics, the number of dyslexic people in the worldwide is about 12%. This disease has a huge impact on the quality of life of dyslexic people. So this report highlights the alarming and significant damage caused by dyslexia, and represents plenty of initiatives which have been created to transfer this problem to the next strategic level, improving outcomes for children with dyslexia worldwide.

Neurological factors play the main role in the development of dyslexia in children. More often there is a combination of early organic damage to the Central nervous system and genetic factors (68% of cases); less frequently there is only the influence of early organic damage to the Central nervous system (18%) or heredity (7%). For the treatment of dyslexia, special correction programs are used, which are selected individually for each patient. The patients with dyslexia will overcome the difficulties in reading, recognition of numbers and words with the help of dyslexia correction like oral work, the use of various technical means and alternative teaching methods.