



Origin Of Myopia in Children And Measures for Its Prevention

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ABSTRACT

The work examines a disease such as myopia, which is a common disease. In childhood, especially during school years, myopia (myopia) is most common, which can be congenital or acquired. Features of the occurrence and progression of myopia in childhood and its prevention

Keywords:

Preventive Ophthalmology, Myopia, Accommodation, Prevention, Myopia

One of the common eye diseases is myopia (myopia). The problem of decreased quality of vision and its complete loss has long reached global proportions. According to WHO, more than 4.5 billion people on the planet need professional vision correction, and over 2.5 billion people do not receive the necessary help.

According to WHO statistics, approximately 290 million people in the world have vision problems (myopia), of which 19 million are children under 18 years of age. 40 million people on Earth are completely blind. And these are just the official numbers. Many people are simply unaware of the ophthalmic diseases they are developing. But in 80% of cases, eye problems could be avoided or cured, experts say.

Every 3-4 adult residents of Russia suffers from myopia. The incidence of myopia in elementary school is 6-8%, and by the end of school it is almost 50%.

In 2015, experts first started talking about the fact that myopia was reaching epidemic proportions, as the number of cases was rapidly increasing in all corners of the

globe. It is predicted that by 2050, there will be approximately 4.5 billion people who are nearsighted—that’s half the world’s population.

Considering the issue of myopia “growing” annually in children, it should be noted that it mainly progresses in preschool and school age.

Myopia is a disease of complex multifactorial origin, which is a set of clinical and pathogenetic forms, united by a common refractive factor and having qualitatively significant differences in the mechanisms of pathogenesis and clinical picture.

In an unfavorable course, myopia becomes the cause of the development of retinal pathology, which in severe cases leads to an irreversible decrease in corrected visual acuity and to visual disability that occurs in working age. Early acquired myopia, which occurs in preschool children, most often has a poor prognosis.

Since the disabling complications of progressive myopia are irreversible, reducing their frequency can only be achieved through preventive measures aimed either at preventing

the onset of myopia or at inhibiting an already existing myopic process. To achieve this goal, it is necessary to rely on reliable and objective diagnostic criteria that allow one to assess the risk of myopia or the likelihood of its progression, which will make it possible to choose the necessary treatment tactics.

However, at present, the diagnosis of progressive myopia in children and the identification of groups at risk for its development is based on dynamic observation and assessment of clinical symptoms. In this regard, the opportunity to timely influence refractogenesis is often missed, and therapeutic measures do not provide a significant effect.

In the mechanism of origin of myopia, three main links can be distinguished:

- 1) visual work at close range – weakened accommodation;
- 2) hereditary conditioning;
- 3) Weakened sclera – intraocular pressure.

Ocular manifestations of myopia are characterized by the presence of changes in both the anterior and posterior parts of the eyeball. However, they are ambiguous in their clinical significance and impact on the level of visual functions.

The myopic eye has some features that, by its structure, make it possible to determine the presence of this type of refraction. This is an increased size of the eyeball from front to back, greater depth of the anterior chamber, and a wider pupil. Uncorrected myopia often leads to conjunctivitis and blepharitis, since due to chronic muscle tension during squinting and accommodation, conditions are created that support hyperemia and the ground for inflammation of the eyelids. The position of the clinical focus in front of the retina forms light scattering circles in the fundus. Therefore, the first sign of myopia is a decrease in distance visual acuity, which, as a rule, increases to a normal level when negative lenses are applied to the eyes.

Early detection of myopia also prevents exacerbation of the disease, so it is necessary to use various diagnostic methods.

Modern eye diseases are mainly associated with refractive errors.

They can be hereditary, congenital or acquired: astigmatism, farsightedness (hyperopia), myopia.

When examining children with myopia, it is important to obtain a detailed understanding of the clinical features and course of myopia.

Thus, when collecting anamnestic information, it is necessary to find out at what age the first signs of vision loss appeared, what they were, to clarify subjective sensations at the present time, and also to obtain detailed information about the mode of visual functioning, general health and previous diseases, to find out whether there are myopia in other family members.

Prevention is more important than treating myopia in children because prevention requires less time and money than treatment. In addition, it ensures that the children's quality of life is preserved.

Prevention is a system of government, social, hygienic and medical measures aimed at ensuring a high level of health and preventing diseases. There are primary, secondary and tertiary prevention.

- Primary prevention is a system of measures aimed at preventing diseases by eliminating the causes and conditions of their occurrence and development, as well as increasing the body's resistance to the effects of adverse environmental factors.

- Secondary prevention is aimed at early detection of a developing disease, i.e. preventing the development and occurrence of relapses after treatment.

- Tertiary prevention consists of adequate treatment of the disease and prevention of its possible complications.

An acceptable and effective system for preventing myopia is the formation of risk groups for eye pathology.

In most cases, the organizers of the educational process ignore hygienic standards for equipment and lighting of classrooms and rooms. The rules of personal hygiene for visual work at close range are practically not observed by the students themselves.

The correct daily routine plays a big role in preserving the vision of a preschool child. A chaotic lifestyle, systematic lack of sleep, and

abuse of television programs negatively affect health, and, consequently, vision. You must be able to distribute time in such a way that work alternates with rest, so that sleep is deep enough, and nutrition is nutritious and regular.

Limiting the physical activity of people suffering from myopia, as was recommended until recently, is recognized as incorrect. On the contrary, the important role of physical education in the prevention of myopia and its progression is shown, since physical exercise contributes to both the general strengthening of the body, the activation of its functions, and the increase in the performance of the ciliary muscle and strengthening of the scleral membrane of the eye. Based on the results of the research, a method of physical therapy for schoolchildren with myopia was developed, and its effectiveness was shown when used as part of a set of measures to prevent myopia and its progression. Special exercises are alternated with exercises to strengthen the muscles of the back and neck, the anterior abdominal wall, as well as breathing exercises.

Fresh air is especially beneficial for vision. Walking in the fresh air, running, playing ball contributes to better blood supply to the eyes and a constant flow of oxygen-enriched blood to them.

The most complete rest is sleep. During sleep, all organs and tissues of the body rest, including the eyes.

Regular and nutritious nutrition is important for maintaining vision. For normal functioning of the body, it is necessary that food contain sufficient amounts of proteins, fats, carbohydrates, minerals and vitamins. Vitamin A is especially necessary for vision. Its absence or deficiency in food leads to the eye disease xerophthalmia, in which photophobia and dry eyes are observed. This disease is dangerous because it can lead to blindness. Another disease associated with vitamin A deficiency is hemeralopia, or "night blindness." Vitamin A helps restore visual pigment.

Unfortunately, no one is immune from these diseases. Factors

- provoking the development of ophthalmological diseases can become

- endocrine disorders, metabolic disorders. Prevention of myopia may include compliance with the following points:

- monitoring the condition of your body, making sure to pay attention

- prevention of adequate sleep (lack of it is the root cause of chronic fatigue syndrome), mental health (ability to switch gears and having a hobby);

- inclusion in the menu of foods rich in vitamins and microelements that are beneficial for vision;

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microelements beneficial for vision;

- annual examination by an ophthalmologist and wearing the correct correction.

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