MYOPIA: PREVALENCE, RISK FACTORS AND PREVENTION STRATEGIES IN MODERN STUDENTS

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***Abstract**: Myopia is one of the most common visual impairments in the world. The prevalence of this disease has increased significantly in recent decades, especially among children and young people. In addition to genetic factors, environmental factors also have a significant impact on the development of myopia. Among them, prolonged close-up work, excessive use of digital devices, and limited time spent outdoors are important. This article analyzes the prevalence of myopia, development mechanisms, main risk factors, and modern methods of prevention and treatment. Studies show that early diagnosis, adherence to visual hygiene, and the use of preventive measures help reduce the severe complications of myopia.*

***Keywords:** myopia, nearsightedness, refractive error, risk factors, prevention, ophthalmology*

Introduction

Myopia is a refractive error of the eye, in which light rays are focused not on the retina, but on its front part. As a result, a person sees objects that are close up well, but cannot clearly see objects that are far away.

Currently, myopia is considered one of the global health problems. According to epidemiological data, the incidence of myopia in the world has increased sharply in recent decades. According to some forecasts, by 2050, about one-third of the world's children and adolescences may suffer from myopia[1].

Myopia is especially common among schoolchildren and students. The main reasons for this are intensive learning, prolonged use of computers and smartphones, as well as a lack of time outdoors. Therefore, studying the causes of myopia, preventive measures and treatment methods is of great importance for modern medicine.

Literature Review

In recent years, many scientific studies have been conducted on the prevalence and development factors of myopia. Liang and other researchers emphasize that environmental factors, in particular, prolonged work at close range and excessive use of electronic devices, play an important role in the development of myopia, in addition to genetic factors [1]. According to studies by Singh and co-authors, by 2050, about half of the world's population may suffer from myopia [2]. Malik and co-authors have shown that modern preventive methods, including atropine drops and orthokeratological lenses, are effective in slowing the progression of myopia [5].

Main Body

Prevalence of myopia

Myopia is a common disease worldwide. According to studies, the prevalence of myopia among young people in some Asian countries reaches 70-90% [1]. Although this figure is lower in Europe and North America, it is increasing year by year.

The number of cases of high myopia is also increasing. High myopia can lead to many serious complications. These include retinal degeneration, glaucoma, and retinal detachment. These conditions can lead to a sharp decrease in vision and even permanent vision loss[2, 3, 4].

Factors affecting the development of myopia

Genetic and external factors play an important role in the development of myopia.

Genetic factors

Hereditary predisposition. If one or both parents have myopia, then the likelihood of developing this disease in children is also high.

Environmental factors

The following external factors influence the development of myopia:

- working or studying at close range for long periods of time;
- excessive use of computers, smartphones, and other digital devices;
- spending little time outdoors;
- high levels of academic workload.

Some scientific studies show that spending more time outdoors can reduce the risk of developing myopia in children[5].

Prevention and treatment of myopia

The most common methods of correcting myopia are the use of glasses and contact lenses. However, in recent years, new methods have been developed that aim to slow the progression of myopia[5].

Modern methods include:

- low-dose atropine drops;
- orthokeratological lenses;
- multifocal contact lenses;

- laser vision correction surgery.

Preventive measures are also important. These include practicing eye hygiene, limiting the time spent using electronic devices, taking breaks when working at close range, and spending more time outdoors[4].

Conclusion

Myopia is one of the urgent problems of modern ophthalmology. In recent years, its prevalence has increased significantly, especially among young people. Along with genetic factors, lifestyle also plays a significant role in the development of myopia.

Early diagnosis, strengthening preventive measures, and the use of modern treatment methods help prevent complications associated with myopia. Scientific research in this area is of great importance in maintaining visual health and improving the quality of life of the population.

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