THE EFFECT OF MYOPIA ON THE QUALITY OF LIFE OF MEDICAL STUDENTS

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Abstract. The effect of myopia on the quality of life of medical students is analyzed in the article. General questionnaire “SF-36” (Health Status Survey—36) was used for study quality of life. Us a result, we noted a decrease in the quality of life for all indicators of students with myopia.
Keywords: myopia, quality of life, refractive error, medical students.

ВЛИЯНИЕ МИОПИИ НА КАЧЕСТВО ЖИЗНИ СТУДЕНТОВ-МЕДИКОВ

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Аннотация. В работе анализируется влияние миопии на качество жизни студентов-медиков. Для оценки качества жизни используется адаптированный и валидизированный вариант общего опросника «SF-36» (Health Status Survey—36). В результате выявлено снижение качества жизни по всем показателям у студентов, страдающих миопией.
Ключевые слова: миопия, качество жизни, аномалии рефракции, студенты-медики.

Current relevance. A refractive error is a very common eye disorder. It occurs when the eye cannot clearly focus the images from the outside world. The result of refractive errors is blurred vision, which is sometimes so severe that it causes visual impairment.

The four most common refractive errors are:

— myopia (nearsightedness): difficulty in seeing distant objects clearly;

— hyperopia (farsightedness): difficulty in seeing close objects clearly;

— astigmatism: distorted vision resulting from an irregularly curved cornea, the clear covering of the eyeball.

— presbyopia: which leads to difficulty in reading or seeing at arm's length, it is linked to ageing and occurs almost universally.

Refractive errors cannot be prevented, but they can be diagnosed by an eye examination and treated with corrective glasses, contact lenses or refractive surgery. If corrected in time and by eyecare professionals, they do not impede the full development of good visual function. Correction

is provided in different forms according to the defect, the age f the person, the requirements in terms of work of activity performed.

It is estimated that over 285 million people in the world have vision impairment and that 42% of this is due to uncorrected refractive errors (2). Published estimates based on epidemiological studies indicate that myopia affects 1.89 billion people worldwide, and, if the current prevalence rates do not change, projections show that it will affect 2.56 billion people by 2020 (7).

Uncorrected myopia is the leading cause of vision impairment, and myopic macular degeneration (MMD) in higher myopia was reported as the major cause of new cases of blindness in Tajimi, Japan (8) and in Shanghai, China (12, 13). In the Beijing Eye Study, it was found that the major cause of vision impairment is cataract in older adults but pathologic myopia in the younger cohort (14). Myopia causes vision impairment not only by direct retinal damage (5) but also by increasing the risks for cataract (15) and the onset of glaucoma (10).

Myopia and high myopia were estimated to affect 27% (1893 million) and 2.8% (170 million) of the world population, respectively, in 2010. According to published studies, the prevalence of

myopia is highest in East Asia, where China, Japan, the Republic of Korea and Singapore have a prevalence of approximately 50%, and lower in Australia, Europe and North and South America (7).
Main body. In the medical practice was introduced the concept of «quality of life associated with health.» In 1947, American scientist D. Kamofsky proposed non-physiological methods for assessing cancer parameters (9). This work initiated research on a comprehensive study of an individual suffering from a physical illness (18). The result of the active interest in the psychosocial aspects of medicine was the science of the quality of life (QL). Some authors consider health as an indicator of the quality of life (1).
QL is an integral characteristic of the physical, psychological and social functioning of a person, based on his subjective perception. QL is also considered as an integral characteristic, which should be guided in assessing the effectiveness of care for patients (4,16).
It should be noted that the question of the QL criteria remains controversial. R. Zittoun (1984) emphasizes the complexity of the precise definition of the term «quality of life», as well as the possibility of its objective comprehension, and includes in this concept the following aspects: physical (pain, vomiting, limitation of mobility), toxic (effects of medication treatment), personal (individual qualities), a sense of happiness (joy, sexuality), the perception of relationships (with family members, friends, co-workers, service personnel, etc.), psychosocial, attitudes (obesity), financial, religious, cultural, political. H. Schipper, M. Levitt (1982) concretize the concept of «quality of life» and suggest to consider it as a set of four components: the preservation of physical functions and the possibility of professional activity, the psychological state, the quality of social contacts, the level of physical suffering (6).
In recent decades, the interest of clinicians in QL questions has increased, since existing methods of assessing the effectiveness of therapeutic interventions tend to reflect a purely biological approach and do not take into account the diversity of human life (3). Interesting are the methods of assessing QL, in this case, various questionnaires are popular. Health Status Survey — 36 and its abbreviated version (SF-36) are considered common. The SF-36 questionnaire is most often used in population studies and meets the following requirements: multidimensionality, ease of filling, availability of necessary psychometric properties, russian version, validation and adaptation (11).
The SF-36 questionnaire is aimed at identifying 8 complex parameters of QL, which are very sensitive to changes in health status. It consists of 36 questions, 8 scales, 2 total measurements.
The questionnaire has the following scales:
— Physical functioning,
— Role-physical functioning,
— Bodily pain,
— Vitality,
— Role-emotional functioning,
— Social functioning,
— Mental health,
— General health.
The first three correspond to the physical component of health, the next three characterize the psychological component, the last two variables correlate with both components. The SF-36 questionnaire provides quantitative determination of QoL on the indicated scales. At the same time, indicators can range from 0 to 100 points. A high value is a good indicator for the selected scale. The SF-36 questionnaire is removed using the standardized interview method.
Physical functioning or physical activity is a subjective assessment of the respondent's daily physical activity, not limited by the state of health at present, or the degree of restriction of the

performance of various physical activities. A high indicator determines a greater physical load, according to the respondent's opinion, he can fulfill.
Role-physical functioning or the role of physical problems in limiting life is a subjective assessment of the degree of restriction of one's daily activities, conditioned by health problems (over the last 4 weeks). A high indicator determines the smaller limitations of everyday activities with health problems.
The pain indicator (bodily pain) characterizes the subjective pain sensations of the respondent in limiting his daily activities (over the past 4 weeks). A high indicator determines less impact of pain on everyday activities.
Social functioning or social activity is a subjective assessment of the level of relationships with friends, relatives, work colleagues and other groups over the past 4 weeks. A high indicator determines a high level of social ties.
Role emotional functioning is a subjective assessment of the degree of restriction of one's daily activities, caused by emotional problems (over the last 4 weeks). A high indicator defines a lesser amount of emotional state for everyday activities.
Mental health is an indicator of a subjective assessment of mood (happiness, tranquility, tranquility, etc.) over the past 4 weeks. A high indicator determines the respondent's good mood, he felt more calm and pacified for the last 4 weeks.
General health is an indicator of a subjective assessment of the general state of health at a given time and prospects for the future. A high indicator determines a good health perception in general.
Vitality is a subjective assessment of vitality (vigor, energy) in the last 4 weeks. A high index determines a good vitality, for the last 4 weeks he often felt himself vigorous and full of energy (17, 19).

The aim of the study is the quality of life of medical students.
Methods. The study included 98 students of 2-3 courses of the Dnepropetrovsk medical academy, of which -83 (80,6%) women and 20 (19.4%) men. 24 (23,3%) of them had myopia of 1-2 degrees according to medical records, they had formed a main group. The control group consisted of 79 healthy students. The average age was 20.1±1.8 years. General questionnaire «SF-36» (Health Status Survey—36) was used for study quality of life.
Results. Medical students with myopia showed a reduction in the quality of life for all indicators. Role emotional functioning was reduced the most (20,27±5.16 points) in contrast to healthy classmates (92,67±4,20 points, p≤0.05). Also vitality is reduced (36,54±6.23 points) in comparison with healthy persons (72,22±4.24 points, p≤0.05). Indicator of mental health in healthy persons is — 79,51±10.43 points, and students with myopia were evaluated — 42,43±6.16 points (p≤0.05).
The physical and role-physical functioning in healthy persons is —97.78±2.11 and 98.67±1,13 points, and students with myopia were evaluated — 65,54±4,87 and 50,34±10.25 points, respectively (p≤0.05). It should be noted the decline in social functioning and general health. The main group of students is — 49,18±8,27 and 51,36±10.16 points, the students from the control group were evaluated -80,15±10,11 and 82,67±9.15 points, respectively (p≤0.05).
Conclusion. Documented increases in the prevalence of myopia and high myopia worldwide are a serious public health concern. Students with myopia have a lower quality of life, especially in the areas of role emotional, social functioning. Also vitality and mental health are reduced that requires correction, prevention and individual approach to these students to improve the quality of training in medical school and the quality of life.

List of literature:

1. Bagger H. Gesundheit als Lebensqualitat:Folgen fur Staat, Markt und Medizin. Zurichs: Ed. interfrom, 1997-148 p.
2. Bourne RR, Stevens GA, White RA, Smith JL, Flaxman SR, Price H et al. Causes of vision loss worldwide, 1990-2010: a systematic analysis. Lancet Global Health. 2013;1:e339–e349.
3. Cella, D. F. Quality of Life: concepts and definition / D. F. Cella. — J. Pain and Symptom Manag. — 1994. — Vol. 9, № 3. — P. 186-192.
4. Engel G E. I/ Amer. J. Psechiat. — 1980. -Vol. 137.-P. 535-543.
5. Group TEDC-CS. Risk factors for idiopathic rhegmatogenous retinal detachment. The Eye Disease Casecontrol Study Group. Am J Epidemiol. 1993;137:749–57.
6. Hays, R. D. Sherbourne C. D., Mazel R. M. The RAND-36 Item Health Survey questionnaire (Version 1.0) // R.D Hays [et al.] — Health Economics — 1993. — Vol. 2. — P. 217-227.

7. Holden B, Fricke TR, Wilson DA, Jong M, Naidoo KS, Sankaridurg P et al. Global prevalence of myopia, high myopia, and temporal trends from 2000 to 2050 (in preparation).
8. Iwase A, Araie M, Tomidokoro A, Yamamoto T, Shimizu H, Kitazawa Y. Prevalence and causes of low vision and blindness in a Japanese adult population: the Tajimi study. Ophthalmology. 2006;113:1354–62.
9. Karnofsky D A, Burchenal J. R // Evaluation of Chemotherapiutic Agents / Ed. C M. Maclead. — Columbia, USA, 1947. — P. 67-82
10. Qiu M, Wang SY, Singh K, Lin SC. Association between myopia and glaucoma in the United States population. Invest Ophthal Vis Sci. 2013;54:830–35.
11. The PADQOL: development and validation of a PAD-specific quality of life questionnaire / D. TreatJacobson, R. A. Lindquist, D. R. Witt, et al. // Vasc. Med. — 2012. — Vol. 17,6. — P. 405–415.
12. Wu L, Sun X, Zhou X, Weng C. Causes and 3-year-incidence of blindness in Jing-An district, Shanghai, China 2001–2009. BMC Ophthalmol. 2011;11:10.
13. Wong TY, Ferreira A, Hughes R, Carter G, Mitchell P. Epidemiology and disease burden of pathologic myopia and myopic choroidal neovascularization: an evidence-based systematic review. Am J Ophthalmol. 2014;157:9–25.
14. Xu L, Wang Y, Li Y, Cui T, Li J, Jonas JB. Causes of blindness and visual impairment in urban and rural areas in Beijing: the Beijing Eye Study. Ophthalmology. 2006;113:1134–41.
15. Younan C, Mitchell P, Cumming RG, Rochtchina E, Wang JJ. Myopia and incident cataract and cataract surgery: The Blue Mountains eye study. Invest Ophthal Vis Sci. 2002;43:3625–32.
16. Гельцер Б. И., Фрисмая М. В. Современные подходы к оценке качества жизни кардиологических больных // Кардиология. 2002. — № 9. — С. 4-9.
17. Оценка качества жизни больного в медицине / А. А. Новик, С. А. Матвеев, Т. И. Ионова и др. // Клин.мед. — 2000. — Т. 78,№ 2. -С. 10-13.
18. Попова Т. И. Новик А. Л., Сухонос Ю. А. Понятие качества жизни больных онкологического профиля // Онкология. — 2000. -Т. 2, №1-2.-С. 25-28.
19. Сенкевич Я. Ю., Белевский А. С. Качество жизни — предмет научных исследований в пульмонологии (По мат. Междунар. конгресса ИНТЕРАСТМА'98 и 8-го Нац. конгресса по болезням органов дыхания) // Тер.архив. — 2000. — Т. 72, № 3. — С. 36-41.