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# OF THE COURSE OF GENERAL SOMATIC PATHOLOGY AND RISK FACTORS OF DISEASES OF THE ORGAN OF VISION IN LONG-LIVERS LIVING IN DIFFERENT CLIMATE AND GEOGRAPHICAL ZONES OF UZBEKISTAN

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*Abstract. According to WHO forecasts, in 2050 in 65 countries of the world the share of the lderly population will be more than 30%. The demographic indicators of the Republic of Uzbekistan over the past decades indicate a progressive increase in the number of centenarians. In the Ferghana Valley, the population aged 90 years and older is 4,118 in 2021, in the Jizzakh region, the population aged 90 years and older is 464 in 2021, and 1,748 long-livers live in the Kashkadarya region in 2021. Centenarians living in different climatic and geographical zones are characterized by the presence of several chronic general somatic diseases, which increases the risk of morbidity of the organ of vision. The authors studied the features of the course of general somatic pathology and risk factors for diseases of the organ of vision in centenarians living in various climatic and geographical zones of Uzbekistan.*

*Keywords: centenarians, climatic and geographical zones, general somatic pathology, risk factors, diseases of the organ of vision.*

**Relevance:** In 2050, the global population aged 60 and over is projected to total 2 billion (20.4%) out of an estimated 9.8 billion population. All over the world, people are living longer. It is known that life expectancy is 50% dependent on the lifestyle that a person forms himself [11]. Therefore, studies devoted to the study of the quality and lifestyle of the elderly are so important. Of particular importance are studies on the role of medical services in the process of shaping the quality of life, because. human health is the most important component in ensuring the quality of life [1, 3, 5, 10]. Along with various general diseases, diseases of the organ of vision in centenarians are one of the most widespread pathological conditions that lead to a decrease in the quality of life [1, 7]. A number of general therapeutic diseases such as hypertension, atherosclerosis, cardiovascular, oncological, brain diseases and diabetes mellitus are the prevailing risk factors for the development of eye pathology and blindness in centenarians [4, 6, 11]. An analysis of the literature available to us showed that scientifically based information on the incidence of centenarians of the Republic of Uzbekistan is extremely insufficient.

In our republic, in the direction of solving the issues of organizing medical care for the prevention of ophthalmic pathology, work was done only by the Tashkent Pediatric Medical Institute (Jamalova Sh.A., 2018), where studies were conducted to study visual impairment in diabetes mellitus, the organization of medical care and the development ways of prevention. In the Republican Specialized Scientific and Practical Medical Center for Eye Microsurgery Z.U. Sidikov (2015) conducted studies on the incidence of eye diseases in the population of the Republic of Uzbekistan. At the Tashkent Medical Academy A.F. Yusupov (2018) and at the Tashkent State Dental Institute N.R. Yangiyeva (2022), studies were conducted on a comprehensive assessment of the functional state of the eye in AMD, the choice of treatment tactics and electronic programming of the elderly were developed.

D.Yu. Khokhlova, E.A. Drozdova (2014) in their study determined the frequency of occurrence of risk factors in the Chelyabinsk region (Russian Federation) in patients with retinal vein occlusion depending on age, gender, type and location of occlusion. The leading risk factors were: overweight in 53%, smoking in 24%, alcohol abuse in 8% of the surveyed.

D.M. Tuychibaeva, N.R. Yangieva (2021) after analyzing statistical data for the period 2010 - 2019. found that 6842 people were recognized as disabled for the first time due to glaucoma, in total for the study period in the country there were 58544 disabled people with this pathology. .3 times, with an increase in primary disability by 4.1 times.

The purpose of the study: to study the features of the course of general somatic pathology and risk factors for the development of diseases of the organ of vision in centenarians living in various climatic and geographical zones of Uzbekistan.

Material and methods: The study was based on an integrated approach by studying the state of morbidity and disability due to ophthalmic pathology in centenarians living in different climatic zones of Uzbekistan, establishing risk factors, as well as developing a set of measures for the prevention and medical rehabilitation of the contingent of the examined.

The studies were carried out in the period from 2020 to 2022 at the Andijan State Medical Institute and at the Tashkent Institute for the Improvement of Doctors with a trip to Andijan, Ferghana, Namangan, Kashkadaryaand Jizzakh provinces.To study the existing local risk factors, as well as the features of damage to the organ of vision in long-livers of different climatic zones, the following regions were identified: the valley, including Andijan, Ferghana, Namangan provinces; mountainous, including some areas of the Kashkadarya region; steppe, including the Jizzakh region.

Who studied, how much, where and other general data of the study. What research methods are used.

The prevalence of diseases of the organ of vision among centenarians by region

| Diseases of the organ of vision | Regions | | | | | | Pearson's chi-square | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fergana Valley | | Jizzakh region | | Kashkadarya region | | | | | |
| | abs | M(%) ±m | abs | M(%) ±m | abs | M(%) ±m | □2 | P | abs | M(%) ±m |
| Diseases of the adnexa | 242 | 25,97± 1,44 | 45 | 31,03 ±3,84 | 135 | 25,62 ±1,9 | 38,49 | 0,000 | 422 | 26,31 ±1,10 |
| refraction anomalies | 177 | 18,99 ± 1,28 | 17 | 11,72 ±2,67 | 91 | 17,27 ±1,6 | 5,71 | 0,058 | 285 | 17,77 ±0,95 |
| Diseases of the lens | 220 | 23,61± 1,39 | 30 | 20,69 ±3,36 | 104 | 19,73 ±1,7 | 3,23 | 0,198 | 354 | 22,07 ±1,04 |
| Hypertensive retinopathy | 167 | 17,92± 1,26 | 27 | 18,62 ±3,23 | 119 | 22,58 ±1,8 | 38,71 | 0,000 | 313 | 19,51 ±0,99 |
| diabetic retinopathy | 17 | 1,82 ±0,44 | 3 | 2,07 ±1,18 | 13 | 2,47 ±0,6 | 2,88 | 0,237 | 33 | 2,06 ±0,35 |
| AMD | 46 | 4,94 ± 0,71 | 8 | 5,52 ±1,90 | 32 | 6,07 ±1,0 | 5,88 | 0,053 | 86 | 5,36 ±0,56 |
| glaucoma | 25 | 2,68 ± 0,53 | 11 | 7,59 ±2,20 | 17 | 3,23 ±0,77 | 17,19 | 0,000 | 53 | 3,30 ±0,45 |
| Diseases of the optic nerve | 38 | 4,08± 0,65 | 4 | 2,76 ±1,36 | 16 | 3,04 ±0,75 | 0,02 | 0,988 | 58 | 3,62 ±0,47 |
| **Total number of cases of STD** | **932** | **100,0 ± 0** | **145** | **100,0 ±0** | **527** | **100,0 ±0** | | | **1604** | **100,0 ±0** |

Identified general therapeutic pathology in the surveyed population of centenarians by region

| Diseases | Регионы | | | | | | | | | Pearson's chi-square | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fergana Valley | | | Jizzakh region | | | Kashkadarya region | | | | | | | |
| | abs | M(%) | m | abs | M(%) | m | abs | M(%) | m | c2 | P | abs | M(%) | m |
| Atherosclerosis of cerebral vessels | 368 | 17,05 | 0,81 | 43 | 14,88 | 2,09 | 169 | 13,65 | 0,98 | 8,665 | 0,013 | 580 | 15,74 | 0,60 |
| ischemic heart disease | 311 | 14,41 | 0,76 | 41 | 14,19 | 2,05 | 154 | 12,44 | 0,94 | 14,029 | 0,001 | 506 | 13,73 | 0,57 |
| myocardial infarction | 59 | 2,73 | 0,35 | 9 | 3,11 | 1,02 | 23 | 1,86 | 0,38 | 1,091 | 0,580 | 91 | 2,47 | 0,26 |
| Hypertensive diseases | 245 | 11,35 | 0,68 | 32 | 11,07 | 1,85 | 115 | 9,29 | 0,83 | 2,993 | 0,224 | 392 | 10,64 | 0,51 |
| diabetes | 19 | 0,88 | 0,20 | 2 | 0,69 | 0,49 | 13 | 1,05 | 0,29 | 2,061 | 0,357 | 34 | 0,92 | 0,16 |
| anemia | 115 | 5,33 | 0,48 | 24 | 8,30 | 1,62 | 75 | 6,06 | 0,68 | 19,246 | 0,000 | 214 | 5,81 | 0,39 |
| Respiratory system diseases | 55 | 2,55 | 0,34 | 3 | 1,04 | 0,60 | 25 | 2,02 | 0,40 | 2,100 | 0,350 | 83 | 2,25 | 0,24 |
| Diseases of the gastrointestinal tract | 126 | 5,84 | 0,50 | 25 | 8,65 | 1,65 | 103 | 8,32 | 0,78 | 44,839 | 0,000 | 254 | 6,89 | 0,42 |
| Diseases of the musculoskeletal system | 222 | 10,29 | 0,65 | 19 | 6,57 | 1,46 | 102 | 8,24 | 0,78 | 4,791 | 0,091 | 343 | 9,31 | 0,48 |
| Diseases of the genitourinary system | 132 | 6,12 | 0,52 | 14 | 4,84 | 1,26 | 64 | 5,17 | 0,63 | 1,428 | 0,490 | 210 | 5,70 | 0,38 |
| Diseases of the nervous system | 60 | 2,78 | 0,35 | 6 | 2,08 | 0,84 | 41 | 3,31 | 0,51 | 7,554 | 0,023 | 107 | 2,90 | 0,28 |
| ENT pathology | 52 | 2,41 | 0,33 | 11 | 3,81 | 1,13 | 125 | 10,10 | 0,86 | 205,113 | 0,000 | 188 | 5,10 | 0,36 |
| Obesity | 28 | 1,30 | 0,24 | 3 | 1,04 | 0,60 | 12 | 0,97 | 0,28 | 0,013 | 0,993 | 43 | 1,17 | 0,18 |
| Sedentary lifestyle | 199 | 9,22 | 0,62 | 38 | 13,15 | 1,99 | 136 | 10,99 | 0,89 | 54,465 | 0,000 | 373 | 10,12 | 0,50 |
| Hereditary burden | 167 | 7,74 | 0,58 | 19 | 6,57 | 1,46 | 81 | 6,54 | 0,70 | 1,781 | 0,410 | 267 | 7,25 | 0,43 |
| **Total** | **2158** | **100,0** | **0,00** | **289** | **100,0** | **0,00** | **1238** | **100,0** | **0,00** | | | **3685** | **100,0** | **0,00** |

The incidence of diseases of the organ of vision in centenarians of the Fergana Valley, depending on risk factors

| STD | Smoking | | high insolation | | Alcoholism | | Mostly carbohydrate food | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | abs | % | abs | % | abs | % | abs | % | abs | % |
| Diseases of the adnexa | 6 | 7,5 | 34 | 18,0 | 2 | 5,7 | 18 | 13,9 | 60 | 13,8 |
| refraction anomalies | 5 | 6,2 | 5 | 2,6 | 3 | 8,5 | 9 | 6,9 | 22 | 5,9 |
| Diseases of the lens | 30 | 37,5 | 86 | 45,7 | 9 | 25,7 | 40 | 31,0 | 165 | 38,1 |
| Hypertensive retinopathy | 12 | 15,0 | 19 | 10,1 | 6 | 17,1 | 31 | 24,0 | 68 | 15, |
| diabetic retinopathy | 4 | 5,0 | 7 | 3,7 | 4 | 11,4 | 5 | 3,8 | 20 | 4,63 |
| AMD | 14 | 17,5 | 8 | 4,2 | 4 | 11,4 | 10 | 7,7 | 36 | 8,3 |
| glaucoma | 7 | 8,7 | 23 | 12,2 | 5 | 14,2 | 12 | 9,3 | 47 | 10,8 |
| Diseases of the optic nerve | 2 | 2,5 | 6 | 3,1 | 2 | 5,7 | 4 | 3,1 | 14 | 3,2 |
| Total | 80 | 100,0 | 188 | 100,0 | 35 | 100,0 | 129 | 100,0 | 432 | 100,0 |

The incidence of diseases of the organ of vision in centenarians of the Kashkadarya region, depending on risk factors

| STD | Smoking | | high insolation | | Alcoholism | | Mostly carbohydrate food | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | abs | % | abs | % | abs | % | abs | % | abs | % |
| Diseases of the adnexa | 20 | 57,1 | 35 | 23,1 | 23 | 19,3 | 29 | 21,6 | 107 | 19,7 |
| refraction anomalies | 17 | 48,5 | 13 | 8,6 | 12 | 10,0 | 14 | 10,4 | 56 | 10,3 |
| Diseases of the lens | 34 | 97,1 | 43 | 28,4 | 35 | 29,4 | 46 | 34,3 | 158 | 29,1 |
| Hypertensive retinopathy | 43 | 122,8 | 44 | 29,1 | 33 | 27,7 | 34 | 25,3 | 154 | 28,4 |
| diabetic retinopathy | 7 | 20,0 | 5 | 3,3 | 4 | 3,3 | 0 | 0,0 | 16 | 2,9 |
| AMD | 9 | 25,7 | 7 | 4,6 | 9 | 7,5 | 6 | 4,4 | 31 | 5,7 |
| glaucoma | 5 | 14,2 | 3 | 1,9 | 2 | 1,6 | 3 | 2,2 | 13 | 2,4 |
| Diseases of the optic nerve | 3 | 8,5 | 1 | 0,6 | 1 | 0,8 | 2 | 1,4 | 7 | 1,2 |
| Total | 138 | 394,2 | 151 | 100,0 | 119 | 100,0 | 134 | 100,0 | 542 | 100,0 |

The incidence of diseases of the organ of vision in centenarians of the Jizzakh region, depending on risk factors

| STD | Smoking | | high insolation | | Alcoholism | | Mostly carbohydrate food | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | abs | % | abs | % | abs | % | abs | % | abs | % |
| Diseases of the adnexa | 6 | 17,14 | 20 | 28,17 | 5 | 18,52 | 7 | 11,86 | 38 | 19,79 |
| refraction anomalies | 5 | 14,29 | 5 | 7,04 | 4 | 14,81 | 6 | 10,17 | 20 | 10,42 |
| Diseases of the lens | 8 | 22,86 | 17 | 23,94 | 5 | 18,52 | 18 | 30,51 | 48 | 25,00 |
| Hypertensive retinopathy | 6 | 17,14 | 20 | 28,17 | 5 | 18,52 | 16 | 27,12 | 47 | 24,48 |
| diabetic retinopathy | 1 | 2,86 | 1 | 1,41 | 1 | 3,70 | 0 | 0,00 | 3 | 1,56 |
| AMD | 2 | 5,71 | 2 | 2,82 | 3 | 11,11 | 5 | 8,47 | 12 | 6,25 |
| glaucoma | 5 | 14,29 | 4 | 5,63 | 3 | 11,11 | 5 | 8,47 | 17 | 8,85 |
| Diseases of the optic nerve | 2 | 5,71 | 2 | 2,82 | 1 | 3,70 | 2 | 3,39 | 7 | 3,65 |
| Total | 35 | 100,00 | 71 | 100,00 | 27 | 100,00 | 59 | 100,00 | 192 | 100,00 |

Results and discussion: In the group of people with CVD risk factors, most (up to 70%) are characterized by a moderate increase in their indicators. The absence of signs of deterioration in well-being in patients with moderately expressed risk factors leads to a delay in seeking medical help and an increase in the possibility of developing

complications: the proportion of people with coronary artery disease among centenarians who had arterial hypertension and hyperglycemia increased by 10% over three years (2020-2022) and 21%.

Significant for awareness of the danger of high blood pressure are gender, age and the presence of arterial hypertension, and for knowledge about the negative impact on health of overweight - sex, age and body mass index of more than 24 kg/m. Thus, the centenarians of the Fergana Valley are characterized by a high incidence of cerebral atherosclerosis, coronary artery disease, hypertension, and diseases of the musculoskeletal system. Diseases of the ENT organs, respiratory and nervous systems, as well as diabetes mellitus in this contingent are less common than in other regions. Factors such as a sedentary lifestyle and hereditary burden are found in almost half of the respondents. At the same time, obesity, as one of the leading risk factors for metabolic disorders, is very rare (1.3%).

Atherosclerosis of the vessels of the brain and coronary artery disease are most common among centenarians of the Jizzakh region. There was also a high number of patients with hypertension, diseases of the gastrointestinal tract and anemia, which is directly related to the dry and hot climate of the region. At the same time, according to our observations, patients with diabetes mellitus, diseases of the respiratory system and obesity are extremely rare among the centenarians. It should be noted that the majority of patients (73.27%), due to age characteristics, led a sedentary lifestyle.

Along with this, it was found that 136 patients, centenarians of the Kashkadarya region lead a sedentary lifestyle.

Conclusions: The conducted studies have shown that each long-liver is an object that is affected by certain factors, and even if there is the same group of factors, they differ from each other in gradations. That is why this issue is important for the individualized management and prevention of CIS in the elderly.

The results obtained by us showed a certain specificity of indicators of the relative risk of developing CIS, the obtained ranking of places according to risk factors and gradations. A sedentary lifestyle or insufficient physical activity - physical inactivity - contributes to poor health, increases the risk of development and aggravates many diseases (atherosclerosis, obesity, hypertension, diabetes mellitus, osteoporosis), especially in the elderly, and leads to a decrease in life expectancy. The results of the survey and study indicate the importance of social factors associated with longevity, namely: a relatively low educational level and high legal capacity, which in turn indicates the preservation of the ability to self-service and the absence of severe cognitive impairment in patients who have reached the age of 90 years or more .

Analytical analysis of the obtained results (R) showed that the factors "burdened heredity", "solar insolation" and "age" have a high degree of occurrence. Factors such as "predominantly carbohydrate diet", "smoking", "alcohol abuse" have an average degree, and the factors "gender" and "obesity" have a low degree of occurrence. From the obtained results, it follows that the higher the value of the integrated risk indicator for the occurrence of STDs as a result of the impact of a complex of factors studied, the higher the likelihood of developing STDs in this patient and the more grounds for singling him into the group of poor prognosis. Thus, it is relevant to determine the risk factors that contribute to the emergence and development or aggravate the course of CIS in centenarians. The high prevalence, combination of several risk factors for CIS in elderly patients requires the use of multifactorial preventive measures.

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