

Distribution of total cholesterol and glucose parameters in a sample of Tuvans in Kyzyl

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Motivation and Aim: Elevated blood cholesterol and glucose levels have a broad etiology and are one of the major causal risk factors for cardiovascular disease (CVD). Urbanization inherent in the Republic of Tyva, in particular the city of Kyzyl, is one of the main causes of chronic diseases in the population [1]. The interaction of genetic factors with lifestyle has a significant impact on the prevalence of obesity, diabetes, cardiovascular disease and other risk factors [2]. Based on the total mortality in the Republic of Tyva, the proportion of deaths from cardiovascular diseases is 32.6 %. There is also an increase in the number of cases of coronary heart disease among the young population [3]. The study of the features of multifactorial diseases in the indigenous population and one of the risk factors predisposing to it, such as obesity, will determine the main ways to prevent these diseases and improve specialized medical care in the Republic of Tyva.

Methods and Algorithms: The study involved residents of the Republic of Tyva of both genders ($n = 397$) with a female predominance of 72.29 % ($n = 287$). Men accounted for 27.71 % ($n = 110$). Age ranged from 11 years to 83 years. People were divided into 6 age groups with a predominance of people under the age of 21–30.23 % ($n = 120$). The average age was 37.2 years. Only persons who indicated the presence of relatives of Tuvan nationality up to the second generation during the questionnaire participated in the current research. The determination of cholesterol and glucose in the blood was carried out using portable express blood analyzer "CardioChek". The capillary blood was used as the research material. A statistical analysis of the income data was performed.

Results: When analyzing total cholesterol in the blood, an average value of 4.63 and 3.81 mmol/l was found for men and women respectively. The average for both sexes is 4.4 mmol/l. When determining hyper- and hypocholesterolemia, it was found that among women the proportion with hypercholesterolemia is 18 people (7 %), and with hypocholesterolemia the proportion is 27 people (10 %). For men, the number of persons with hypocholesterolemia is 41 people (37 %). Cases of hypercholesterolemia in men group were not observed. As to hyper- and hypoglycosemia the results had shown its existence among 31 people (11 %) and 3 people (1 %) relatively in women group, and 8 (7 %) and 1 (1 %) in men representatives respectively. The number of people with a deviation in the level of glucose and cholesterol in the blood in the total score was 10.83 and 21.66 % respectively.

Conclusion: Analysis of the data showed that the residents of the Republic of Tuva are more likely to have hyperglucosemia in women representative group, predominantly

over 46 years, and hypocholesterolemia in both genders, predominantly under 30 years. When comparing data with such northern ethnic groups as Evenks, Evens, Dolgans, Yukaghirs, Yakuts, it was found that the average level of total cholesterol in the blood of the inhabitants of Tuva (4.4 mmol/l) is lower [4]. Among other indigenous peoples of Siberia, the Khanty (4.46 mmol/l), as well as the Nenets and Komi (4.44 mmol/l), leading a sedentary, non-nomadic lifestyle, have a similar indicator [5, 6].

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