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АНАЛИЗ РАСПРОСТРАНЕННОСТИ ФАКТОРОВ РИСКА СЕРДЕЧНО-СОСУДИСТЫХ ЗАБОЛЕВАНИЙ СРЕДИ СТУДЕНТОВ-МЕДИКОВ

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ANALYSIS OF THE PREVALENCE OF CARDIOVASCULAR RISK FACTORS AMONG MEDICAL STUDENTS

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Резюме. В данной работе описываются результаты проведённого анонимного опроса среди студентов Белорусского государственного медицинского университета относительно имеющихся у них факторов риска сердечно-сосудистых заболеваний (управляемых и не управляемых). По результатам исследования выявлены наиболее часто встречающиеся факторы риска сердечно-сосудистых заболеваний у студентов-медиков и предложены пути их коррекции.

Ключевые слова: опрос, студенты, сердечно-сосудистые заболевания, факторы риска сердечно-сосудистых заболеваний.

Resume. This article describes the results of an anonymous survey conducted among students at the Belarusian State Medical University regarding their cardiovascular risk factors (controllable and uncontrollable). The study identified the most common cardiovascular risk factors among medical students and proposed ways to correct them.

Keywords: survey, students, cardiovascular diseases, cardiovascular disease risk factors.

Relevance. With the lifestyle changes happening in developed countries the incidence of cardiovascular diseases (CVD) has drastically increased [1]. Many of these lifestyle changes happen to students, especially to those that have a large academic load such as medical students [2, 3]. As such to decrease the risk of development of these diseases' awareness about them and early testing for risk factors needs to be carried out [4, 5].

Aim: to assess the CVD risk of Belarussian State Medical University students using a questionnaire based on different risk factors.

Objectives:

1. Assess prevalence of hereditary CVD risk factor among Belarussian State Medical University students

2. Assess prevalence of modifiable (lifestyle) CVD risk factor among Belarussian State Medical University students.

Materials and methods. For the purposes of this research, we have used publicly available questionnaire which was developed for assessing risk of CVD based on different risk factors. The questions were made to assess the presence of following risk factors: excess weight, smoking, age, sex, hereditary factors, level of physical activity, dietary habits and blood pressure. Each answer was assigned an appropriate score which was later tallied to get the risk of CVD. The questionnaire was given to volunteers from student

body of Belarussian state medical university, the students received no incentive and the survey was conducted in an anonymous manner. The interpretation of the students' answers was done by use of methods of descriptive statistics and Microsoft Excel to which all answers were manually transferred. A total of 315 students answered our survey. After checking for the correctness of filing in the blanks there were 301 left respondents among whom 66.67% were female and 28.89% were male, with an average age of 20.05 ± 1.73 (fig. 1).

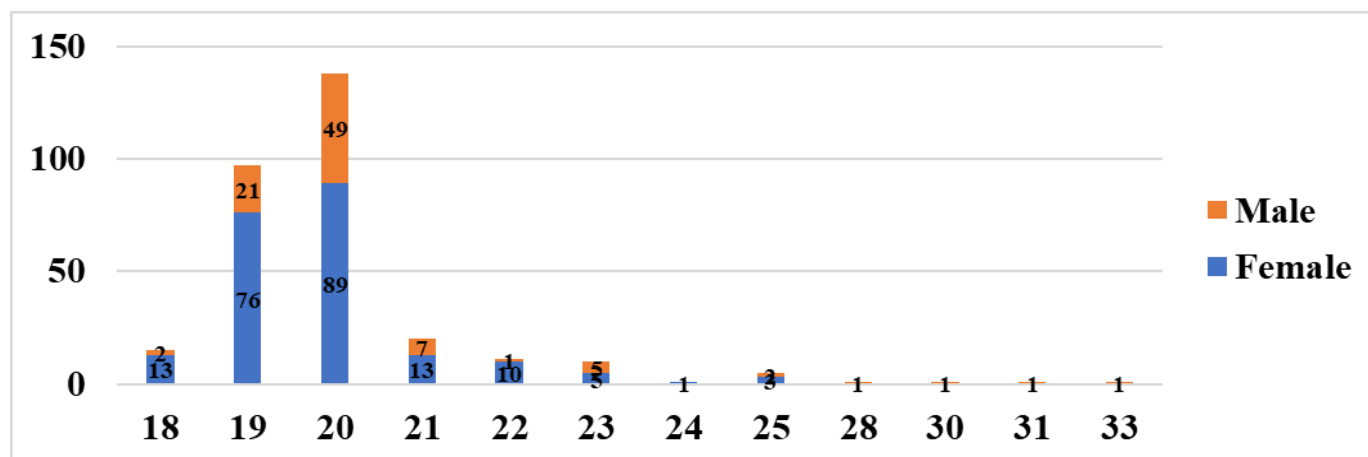


Fig. 1 – Break down of survey participants by age and sex

Results and their discussion. Out of the 301 respondents, to the question if they had a person in their family die of cardio vascular disease 190 (60.32%) answered as no, 61 (19.37%) as one relative in the ages between 40 and 50, 44 (13.97%) as two relatives at any age, and 5 (1.59%) as three relatives at any age. Based on the answers given by the respondents we can make the conclusion that majority of them did not have an evident hereditary disposition to a CVD. When asked about their lifestyle choices that affect the risk of CVD development; 44 (13.97%) indicated that they smoked between 1 and 10 cigarettes daily, 3 (0.95%) that they smoked more than 10 cigarettes a day, 253 (80.32%) that they didn't smoke. Most of the students (278; 88.25%) said they had a daily physical activity of walking for 30 minutes at a brisk pace or its equivalent, while 23 (7.30%) didn't

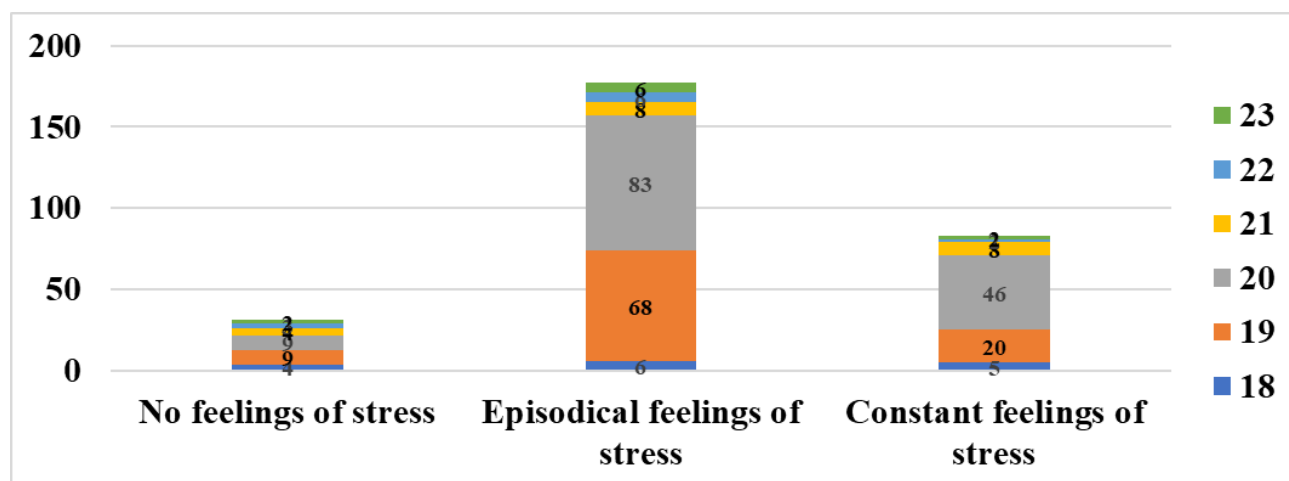


Fig. 2 – Prevalence of feelings of stress among participants broken down by age

*10 students are not represented on the graph as their age is not representative of the student body

When asked if they were leading a stressful life 87 (27.62%) said yes, 180 (57.14%) said periodically and 34 (10.79%) said no. Which is most likely caused by the periodic assessments of knowledge and skill that they need to pass as medical students in form of control works, colloquiums and exams that occur in a periodic fashion (fig. 3).

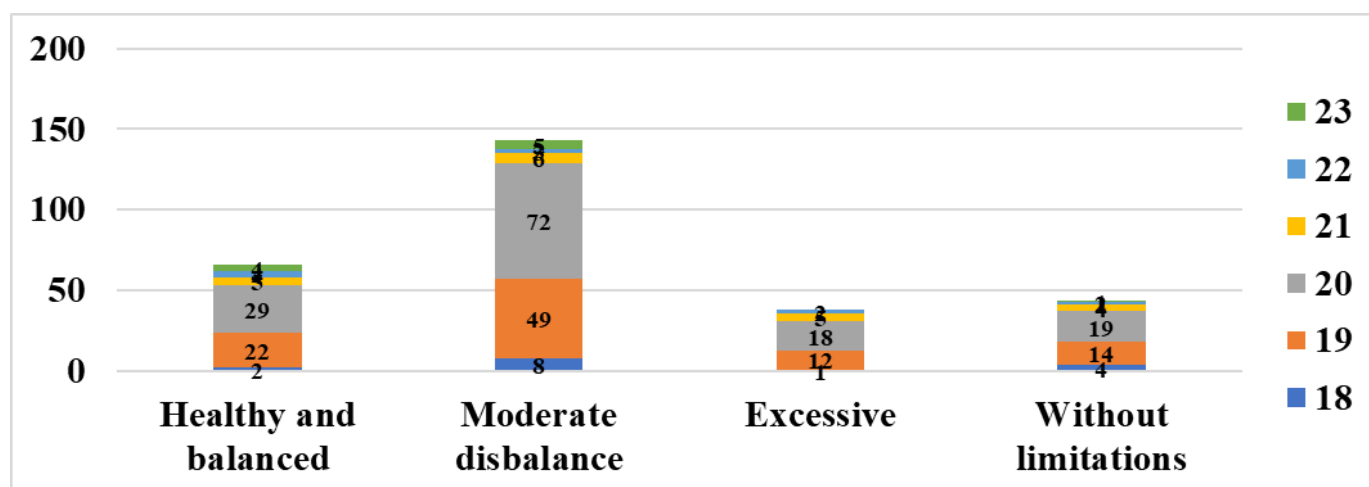


Fig. 3 – Dietary choices of participants broken down by age

*10 students are not represented on the graph as their age is not representative of the student body

When asked about their dietary habits: 69 (21.90%) indicated that they had a healthy diet which included a large amount of vegetables and fruits, nuts, oats, fish, lean meat, skimmed milk and its products, 1-3 eggs a week and exclusion of alcohol, 149 (47.30%) that they ate a very moderate amount of meats, fats, baked goods, and sweets 49 (12.38%) that they had a somewhat excessive nutrition and 44 (13.97%) that they didn't limit their diet in any way. The respondents were also asked to assess their weight using the formula height (in cm) – 110 = optimal weight. The results showed that 181 (57.46%) students had no excess weight, 52 (16.51%) had an excess weight of up to 5 kg, 28 (8.89%) up to 10 kg, 12 (3.81%) up to 15 kg, 10 (3.17%) up to 20 kg and 17 (5.40%) more than 20 kg. None of the respondents had a blood pressure above 140/90 mmHg, likely on the account of their young age.

As a result of the questionnaire, it was found that among 301 respondents, 9 (2.86%) had no risk of cardiovascular disease, 223 (70.79%) minimal, 64 (20.32%) explicit, 5 (1.59%) pronounced and none had the maximal possible risk (table 1, fig. 4).

Tbl. 1. Interpretation of CVD risk levels

Risk level	Point range	Recommendation
Maximum risk	more than 40 points	Urgent consultation with a cardiologist and compliance with all their recommendations
Pronounced risk	28–40 points	Make greater efforts to improve your health, prevention, and effective treatment
Explicit risk	16–27 points	Devote more time and attention to your health; get treated regularly
Minimal risk	5–15 points	Make an effort to decrease CVD risk factors
No risk	less than 5 points	Continue a healthy lifestyle and involve your friends and family in it

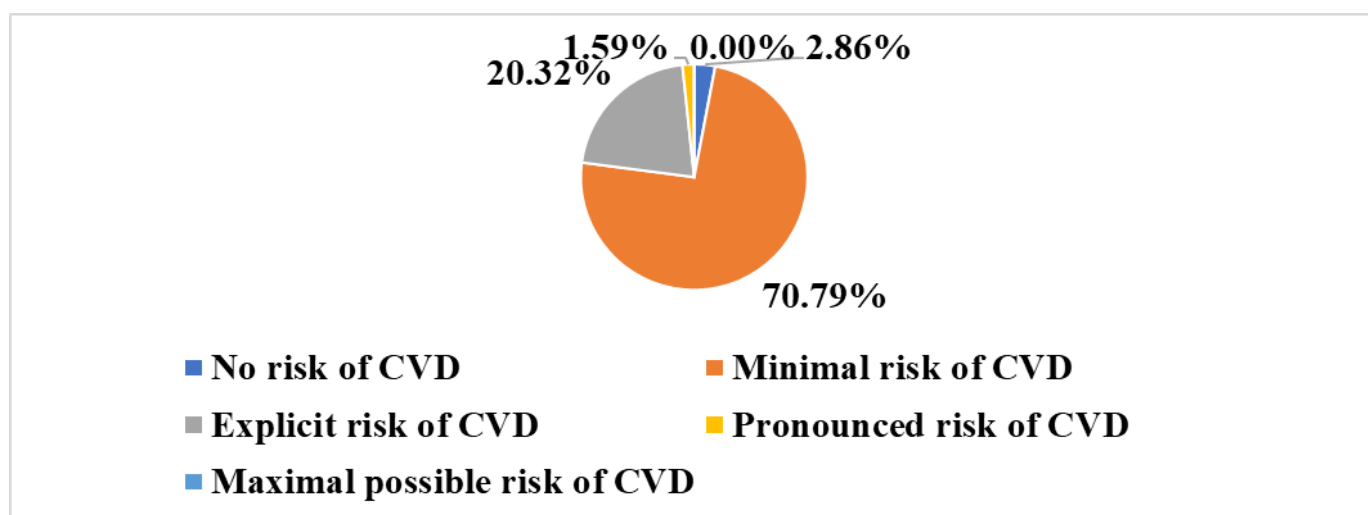


Fig. 4 – Percentages of risk levels among participants

The health of medical students requires special attention: study results have shown that the main controllable risk factors are smoking, poor diet, and chronic stress. To address these risk factors, comprehensive preventative measures are needed: introducing healthy eating habits, learning eco-friendly stress-reducing practices, and quitting unhealthy habits.

Conclusions. The vast majority of medical students are exposed to cardiovascular risk factors (97.14%), with minimal and overt risks predominating. The main causes are lifestyle factors, namely smoking, poor diet, and chronic stress. Since these risk factors are controllable, targeted intervention programs are needed to prevent the development of cardiovascular disease.

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