
EVALUATION OF THE INFLUENCE OF SMOKING ONTO THE AGGRAVATION OF HEALTH AS THE INITIAL PHASE OF DISEASE

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Evaluation of the influence of smoking onto the aggravation of students' health is made. It shows connection between functional stress tests and hemodynamic parameters of boys according to their lifestyle. The students were divided into the following groups: non-smokers (n = 9); nonsmokers doing sports (n = 5); smokers (n = 12); smokers doing sports (n = 4).

According to the data, the duration of arbitrary breath-holding appeared to be the highest among non-smokers involved in sports, the lowest level among smokers; The frequency of the respiratory cycles of young men being tested had an reverse result – it was the highest in the group of smokers, and the lowest among non-smokers doing sports. In the course of the functional breath-holding test the ambiguous reaction of the cardiovascular system of the subjects was established. Indicators of hemodynamics before the functional stress test generally corresponded to the parameters that are peculiar for this age group. In the group of non-smokers (55.5 %) and smokers athletes (33.3 %) tendency to tachycardia was established.

The connection between functional stress test and hemodynamic parameters among boys according to their lifestyle: the length of an arbitrary breath-holding was the highest among non-smokers involved in sports ($69,1 \pm 2,83$), the lowest - among smokers ($50,27 \pm 3,64$). The frequency of the respiratory cycles in a group of smokers appeared the highest ($23,08 \pm 0,89$); nonsmokers – $18,22 \pm 0,26$ and smokers doing sports – $18,0 \pm 2,67$; non-smokers doing sports – $13,8 \pm 1,58$.

Functional apnea tests among young men not involved in sports (both smokers and nonsmokers) resulted in a decrease of the sympathetic segment of the vegetative nervous system with an increase in parasympathetic segment. Among smokers involved in sports, on the contrary, there was a significant increase of hemodynamic parameters, indicating an increase in tone of the sympathetic nervous system. Among the tested non-smokers involved in sports an increase in systolic blood pressure was defined during lowering of diastolic pressure, which is a consequence of Frank-Starling mechanism result.

The results of the comparative assessment of adaptive capacity of the cardiovascular system of students being tested with the help of an index of the functional changes showed that the adaptive capacity of the young men involved in sports ($2,13 \pm 0,13$), non-smokers ($2,38 \pm 0,12$) and smoking athletes ($2,36 \pm 0,37$) is within the assessment of «satisfactory adaptation». The scope of the adaptation potential of smoking students corresponded to «stress adaptation mechanisms» ($2,61 \pm 0,11$), indicating the probability of having hidden or unrecognized disease. Differences received from the scope of adaptive capacity in smoking groups not involved in sports and smoking athletes are connected with the fact that under the combined influence of physical activity and smoking tension of compensatory functions of the body due to the intensification of the work of the blood circulation system occurs. It effectively increases the oxygen supply of tissues. Thus, the survey shows a decrease of cardio and respiratory endurance to functional stress tests resulting in increasing the data performance of the adaptation potential of the blood circulation system among smoking students.

Keywords: health, students, cardiovascular system, blood pressure, smoking, breathing, functional stress test.

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