PHYSIOLOGICAL CHANGES IN HIGH SCHOOL TEACHERS: A CROSS-SECTIONAL STUDY

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Introduction. Physiological changes that occur in the case of intellectual work usually cause a slowing of the pulse, and only sometimes a significant mental stress accelerates it. During work, blood pressure typically increases, breathing accelerates and the blood filling of the brain vessels increases, but the blood filling of the vessels in the extremities and the abdominal cavity decreases.

The aim of this study is to assess the physiological changes occurring in the teachers' body as a result of the intellectual activity.

Material and methods. In order to achieve the proposed goal, a descriptive cross-sectional study was conducted. Two schools were randomly selected one rural and one urban) from the Republic of Moldova. The study included a sample of 40 teachers, who were employed full time only in the same school district. The physiological changes were carried out using specific tests, approved by the Ethics Committee of *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova (Decision no. 17 from 14.04.2019). The changes in the circulatory system were evaluated based on pulse frequency and blood pressure values. The changes in the central nervous system were determined using chronoreflexometry methods. The level of attention was determined by applying the Platonov-Sholtz tables and the correction test by applying Amfimov's table.

Results. Of the total number of subjects, 95% were women. The average age of the sample was 48.6 (3.77) years. The cardiovascular system was characterized by a decrease towards the end of the working day in the average values of the following indicators: the arterial pulse – from 73.5±2.5 BMP to 67.1±5.1 BMP; the systolic blood pressure from 116.6±11.1 mmHg to 115.6±10.0 mmHg; pulse pressure from 33.8±10.55 mmHg to 33.1±7.50 mmHg; the vascularization index from 26.6±8.31 to 21.9±4.07; the stroke volume from 41.5±7.21mL to 31.2±5.89mL; the cardiac output from 3075.2±52.01 mL/min to 2628.3±45.12 mL/min; the Quaas index from 27.0±3.64 to 22.1±6.39 and a slight increase in the average indices of diastolic blood pressure from 80.8±6.11 mmHg to 82.5±7.5 mmHg and the mean dynamic tension from 95.8±4.98 mmHg to 96.4±8.55 mmHg. Analyzing the values of the Kerdo's vegetative index, we obtained that in 66.6% of cases, the action of the parasympathetic nervous system prevails in teachers both at the beginning and at the end of the working day. Evaluating the changes at the CNS level, we obtained an increase in the visual latency periods from 257.5±27.55 ms to 343.1±46.7 ms and the auditory one from 105.6±29.24 ms to 139.6±22.61 ms. The attention level decreased on average by 15% according to Platonov-Sholtz tables and by 35.2% according to Amfimov's method. Work capacity decreased by 27.9% and memory capacity decreased from 22.1±6.65% to 18.6±2.21% at the end of the working day.

Conclusions. This study demonstrated the relationship between physiological changes that occur during work and teachers' teaching abilities and skills.

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