

**THE GLUCOSE-6-PHOSPHATE
DEHYDROGENASE ACTIVITY
IN THE TESTES AT THE EXERCISE
STRESS VARIOUS REGIMES**

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The glucose oxidation pentosophosphate pathway has its great vital significance for the exchange processes in the testes. The glucose-6-phosphate dehydrogenase (G6PDH; KF 1.1.1.49) is one from the key enzymes of the given metabolic pathway. So, the main paper's goal – is to be studied the G6PDH in the rats' testes at the exercise stress and the physical activity various regimes.

This experiment has been carried out at the 40 male rats, having had their 240 ± 20 gr. mass. So, the exercise stress and the physical activity influence upon these rats has been studied by the forced their swimming method with the 10% load from the animal's body mass. In the end, all these animals have been divided into the four, equal in number, groups ($n = 10$). The first group has been made up the intact rats. The second group – the control ones, which swam without any load. The third group – the rats with the exercise stress and the physical activity optimal regime. The fourth group – with the exercise stress and the physical activity excessive regime. So, the total protein content and the G6PDH activity by the NADP⁺ recovery rate have been defined in the erythrocytes and in the testes. Then, the NADPH concentration increase has been registered at the 340 nm wavelength during the reaction. The obtained data statistical processing has been carried out with the Student's test (t) application. The communication measurement between the variables has been made by means of the correlation analysis by Spierman ®.

All the received data during the experiment are being testified on the fact, that the exercise stress and the physical activity optimal regime is not considerably influenced upon the G6PDH activity, as in the erythrocytes, well as in the testes. So, the exercise stress and the physical activity excessive regime has been resulted in the G6PDH activity decrease in the fourth group rats' erythrocytes for 52% ($p = 0,040$), for 64% ($p < 0,001$), and for 49% ($p = 0,006$), in comparison with the similar index at the first, the second, the third groups' rats, correspondingly. So, the G6PDH activity of the fourth group has been for 44% ($p = 0,001$), and 43% ($p < 0,001$) lowered in the rats' testes, as compared with the similar index at the first, the second groups' rats, correspondingly. Thus, the correlation coefficient between the G6PDH activity has been made up $r = 0,489$ ($p = 0,026$) at the excessive exercise and the excessive physical activity in the erythrocytes and in the testes.

Thus, it has been found out, that the exercise stress and the physical activity optimal regime is

not considerably influenced upon the G6PDH activity in the testes during the carried out study and the research. So, the exercise stress and the physical activity excessive regime has been resulted in the G6PDH activity decrease in the erythrocytes and in the testes, that is being testified to the pentose cycle inhibition under all these conditions. Then, it is quite possible to be viewed and to be determined on the pentose cycle intensity in the testes by the G6PDH activity in the erythrocytes.

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**PECULIARITIES OF GYNAECOLOGICAL
ENDOCRINE-DETERMINED PATHOLOGY
INHERITANCE WITHIN TEENAGE GIRLS**

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In recent years a steady increase in endocrine-determined gynaecological pathology within teenage has been registered. A search for new effective approaches to therapy and rehabilitation of girls with described pathology is closely linked to further deepening of our knowledge on disease emergence mechanisms and definition of genetic and environmental factors in its formation.

The goal of our work is to find out the type of gender development delay (GDD), oligomenorrhea (OM), pubertal uterine bleedings (PUB) inheritance type and contribution of genetic and environmental factors in the development of these nosological forms.

Family anamnesis of 356 teenage girls of 13-17 years has been studied. All patients had no less than one sister older than 17 years. In order to test the correspondance of the pathology to the monogenic inheritance segregation frequencies were calculated according to Weinberg formula, correspondance to multi-factoral inheritance was calculated according to correlation coefficients between relatives of the I kinship degree in accordance with quasicontinuous and alternative model. Correlation coefficients were used to decompose total phenotypical dispersion on environmental and genetic part.

Based on segregation frequencies calculation and comparison of difference between empiric and theoretical expected frequency of GDD, OM, and PUB inheritance hypothesis of monogenic inheritance was declined. The calculation of quasicontinuous GDD, OM, and PUB inheritance showed us the discrepancy of these models. While examining alternative hypothesis it was defined that for GDD genotypic component equals 0,75 and environmental – 0,25, while for PUB genotypic component