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**COMPARISON OF EXERCISE TOLERANCE IN CHILDREN WITH DIFFERENT TYPES
OF CHRONIC HEALTH CONDITIONS**

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Introduction. Physical activity (PA) has a beneficial effect on mental and physical health. Using PA and exercise increase the quality of life in healthy children, as well as in children with chronic health conditions. However, there has been a recent reduction of the PA levels among children for various reasons, sometimes it's medical limitations. So it is important to assess the exercise tolerance of the child in order to recommend the intensity of exercise as healthy children as and those with chronic pathology. A generalized indicator of responses of the adaptive nature of the organism is the condition of the cardiovascular system, whose activity is provided by adequate reactions of the autonomic nervous system.

Aim: investigate exercise tolerance in children with different chronic health conditions.

Material and methods. The 58 children (boys – 67,2 %; girls – 32,8 %) from 8 to 17 years were observed. The patients were divided into groups: 1 group (1gr.) - 23 children with the endocrine pathology, the 2nd group (2gr.) - 23 children with the cardiac pathology, and control group (CG) – 12 healthy children. The study was conducted by survey with the aim of finding risk factors and determination of cardiac activity and condition of autonomous nervous system (ANS) (Ruffier-test, Kerdo Index, Orthostatic test). Statistical analyses were performed with a statistic package “Exel”.

Results and discussion. According to Ruffier test 69,5 % of children from the 1gr. had unsatisfactory indexes (USI) and 30,5 % had well and satisfactory indexes(SI). 47,8 % of children from the 2gr. had weak indexes and 8,7 % USI, the other 43,4 % children - SI and well indexes. In CG: weak – 25,1 %, SI and well- 74,9 % of children. According to Kerdo Index interpretation in patients of all groups were sympathetic predominance of ANS (1gr. – 81%, 2gr. – 73,9 %, CG - 66,6%). According to orthostatic test, in patients of 1gr. 27.6% had hyperdiastolic reactions, that characterizes unsatisfactory adaptation reserves of organism; in 23.4% were asympathetic and 31,9% were asthenosympathetic, that indicates insufficient vegetative providing; and just 10,6% had normal response of ANS. In patients with cardiac pathology (2gr.), the reaction of ANS was with the same frequency (33,3%) - hyperdiastolic, asympathetic and asthenosympathetic reactions, normal response.

Conclusions. A significant part of children with endocrine and cardiac pathologies found a decrease in the adaptive capacity of the cardiovascular system, as evidenced by the low results of Ruffie's test and inadequate reaction of ANS, compared to the control group. But in children with endocrine pathology, a required plan of examination does not include an investigation of the condition of the cardiovascular and autonomic nervous system, exercise tolerance, so these disorders can remain undiagnosed. We recommend include the determination of exercise tolerance and the condition of ANS in a plan of examination children with endocrine pathology, which should be considered for early intervention to improve results of management.