

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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THE INFLUENCE OF CARDIORESPIRATORY FITNESS ON THE TOLERANCE TO PHYSICAL EXERTION OF SCHOOLCHILDREN

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Introduction. Cardiorespiratory fitness in childhood is a key marker of health. Scientists of the American Heart Association (AHA) consider that the cardiorespiratory fitness (CRF) refers to the capacity of the circulatory and respiratory systems to supply oxygen to skeletal muscle mitochondria for energy production needed during physical activity. The results of a study by Finnish scientists confirm that physical activity is significant for the cardiorespiratory fitness of teenagers. Besides, higher level of physical activity is more useful for overweight teenagers .

The aim of the study. The purpose of the study was to analyze the effect of cardiorespiratory fitness on the tolerance to physical exertion of schoolchildren.

Materials and methods. Children's physical development was characterized by somatoscopic (research features of the development of the musculoskeletal system, degree of fatness, physique, posture, etc.) and anthropometric indicators (body weight, height, chest circumference, waist circumference, hip circumference). Physical activity was researched by using the questionnaire, for assessment the tolerance to physical exertion we used the heart rate, the arterial blood pressure, the inspiratory breath-hold test. Statistical analysis conducted with the program Statistica 12.0.

Results. The object of research was 103 children from 7 to 12 years old. The average age of all examined children was 9.87 ± 0.14 years (with a range from 7 to 12 years), that is a prepubertal age. By gender, there were 50 boys (49.6%) and 53 girls (51.4%). The main group of 70 examined children, the average age was 9.7 ± 0.17 years, who studied according to a school program with health-preserving technologies and in the control group - 10.06 ± 0.04 years ($p > 0.05$) schoolchildren with a standard study program. The children of the main group at rest had better indicators of the cardiorespiratory system: heart rate 83.8 ± 0.87 beats/min (in the control group – 88.8 ± 2.03 beats/min), systolic blood pressure – $88.5 \pm 33.3 \pm 3.89$ " (in the control group - 30.6 ± 1.45 "), blood oxygen saturation by pulse oximetry (respectively) - $98.8 \pm 0.03\%$ and $97.3 \pm 0.32\%$.

Conclusion. To conclude, low physical activity was accompanied by a decrease in tolerance to physical exertion in children with different levels of physical development. Physical activity should be encouraged in children at cardiovascular risk to prevent further decline in cardiorespiratory fitness and the development of other comorbidities. Sufficient physical activity supports satisfactory parameters of adaptation capabilities of child's organism.

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CLINICAL AND PARACLINICAL CRITERIA OF DIGESTIVE SYSTEM DYSFUNCTION IN NEWBORNS WITH PERINATAL PATHOLOGY

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Introduction. Visceral hypoperfusion is accompanied by activation of indigenous microflora that damages the intestinal barrier of the newborn. The loss of the intestinal barrier can lead to a syndrome of systemic inflammatory response, individual organ damage and multiple organ failure due to the resorption of endotoxins and other substances.

The aim of the study. Determination of clinical and paraclinical manifestations of functional disorders of the digestive system in newborns with perinatal pathology.

Materials and methods. The study included 132 full-term newborns, who were divided into: the main group - 82 infants with severe forms of perinatal pathology, in which severe forms of gastrointestinal dysfunction were noted, including in the complex of multiple organ failure; the comparison group consisted of 50 healthy newborns.

Results. According to the survey data in newborns, the most severe cases of perinatal pathology were due to such conditions as: respiratory distress syndrome - 95.12% (required