

EXERCISE CAPACITY OF ADOLESCENTS WITH IDIOPATHIC SCOLIOSIS IN AND WITHOUT CHENEAU BRACE

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Background: Untreated idiopathic scoliosis can lead to large deformations of the trunk, limiting the capacity and functions of the chest biomechanics and exercise capacity, which is closely related to the changes in the functioning of cardio-respiratory system. Often used to treat behavioral Cheneau brace may result in further impairment of cardio-respiratory efficiency, regardless of whether the beneficial effects of prolonged brace therapy. **Aim:** Observation whether a Chaneau brace affects to exercise capacity of adolescent with idiopathic scoliosis. Determined whether exercise capacity depends on the size of the curvature measured by Cobb's method, the extent of deformation, the degree of direct influence of Cheneau brace. **Design:** A randomized, controlled trial. **subjects:** The study was conducted in 56 patients aged 10 to 18 years average, diagnosed with idiopathic scoliosis with different location of the curvature. Patients were assigned to the preventive treatment with a Cheneau brace. **Methods:** The study included two forms of exercise: tests on cycle ergometer, and the 6 Minute Walk Test. Both tests were conducted in random order twice: once in a brace and once without established it. **Results:** It has been shown disability of the exercise test parameters on the cycle ergometer during the test with a Cheneau brace to compare it to their tests without the brace. It was not found to be statistically significant correlation between the degree and location of the scoliosis, the degree of thoracic kyphosis, patients' age and the cycle ergometer parameters exercise test. It was significantly shorter average distance of march during the 6 MWT ($p < 0,01$) between groups with brace and without it. **Conclusions:** The Chaneau brace significantly reduces efficiency exercises capacity. Both exercise tests had limited utility in assessing the negative effect of the degree and location of scoliosis on some parameters in these trials. More useful in this aspect was a 6 MWT, by which was found a significant inverse correlation between the degree of thoracic kyphosis and the difference in distance of march with and without a brace. It is recommended expand the research on the specific parameters of spirometry.