

SECULAR TRENDS IN THE PHYSICAL FITNESS OF UNDERWEIGHT, OVERWEIGHT, AND OBESE GIRLS

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Abstract

Introduction. Along with the changing socio-economic status of the Polish society, differences in the nutritional statuses of children and adolescents as well as a decrease in their physical fitness are becoming apparent. The aim of the study was to determine ten-year changes in the physical fitness of girls with normal weight-to-height ratios compared to their underweight, overweight, and obese peers. **Material and methods.** A total of 5,760 girls aged 13-18 years were examined in 2006, and 2,669 girls were evaluated ten years later. The participants of the study underwent the Eurofit tests, and their height and weight were measured, which made it possible to calculate BMI. The subjects were divided into groups based on the recommendations of the International Obesity Task Force. Ten-year differences in physical fitness were expressed in T-scale points, and their magnitude was estimated using Student's t-test for independent samples. The frequency of underweight and excess weight was expressed in percentages, and the size of statistical differences between the groups was evaluated using the χ^2 test. **Results.** During the decade analysed, the prevalence of overweight and obesity in the group of girls increased and that of underweight decreased. From 2006 to 2016, there were no significant changes in the physical fitness of the girls, neither in the calculations for the entire population nor in the group with normal BMI. On the other hand, an improvement in the level of physical fitness of underweight girls and its decrease in overweight and obese subjects were observed. However, the changes were not consistent across all Eurofit tests. **Conclusion.** The changes in the weight-to-height ratios and physical fitness of the girls who participated in the study show that there is a need to undertake inter-ministerial corrective actions aimed at increasing the physical activity of children and adolescents, with particular emphasis on students with excess body weight.

Key words: BMI, physical fitness, secular trend