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## Physical activity in pre-school children from the aspect of health criteria

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### Abstract

The main aim of this study was to assess potential differences between groups of pre-school children meeting and not meeting health recommendations for physical activity (PA) from the aspect of so called indicators of physical activity (active energy expenditure, number of steps). The number of steps was measured by Yamax Digi-Walker SW-200 pedometers (Yamax Corporation, Tokyo, Japan) and the active energy expenditure was measured by Caltrac (Muscle Dynamics Fitness Network, Torrance, California) accelerometers. Evaluation of PA from the aspect of so called health criteria was realized following the criteria of Frömel, Novosad and Svozil (1999), who recommend values of so called health criteria of PA. Meeting these criteria, it is possible to suppose that PA positively affects the healthy development of an individual. The sample consisted of 200 pre-school children. Forty nine of these children (30 boys and 19 girls) were labeled as group A (children who did not meet the recommended values at least in one of the health criteria of PA). Group B (children who met the recommended values at least in one of the mentioned criteria of PA) consisted of 151 children (74 boys and 77 girls). The Mann-Whitney U test was used to test the statistical significance of possible differences between groups A and B and also between boys and girls within these groups as well. In all monitored parts of a week, as well as in both monitored parts of a day, a significant difference ( $p < .001$ ) was found between groups A and B in both indicators of PA. Regarding these variables, the smallest differences ( $p < .02$ ) were observed within the time spent at school. Our results confirm that a stay at kindergarten belongs among the relevant parts of a day from the aspect of children's physical activity in the sense of a very "problematic" part of a day, when the values of active energy expenditure and steps are decreased almost by 50% even in children physically active outside the school. On the other hand, a kindergarten is a proper place for children with hypokinetic behavior, who can be activated by an adequate incidence of school physical regimen.

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