

Secular changes of body fat and physical fitness of preschool children over the last century

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Abstract

Body mass index (BMI) of Czech children measured in 1895, compared with those in 2010 was found to be lowest. Repeated measurements of representative samples of children (up to 100,000 subjects in ten year intervals) from the 1950s until the present, revealed slightly higher and fluctuating BMI values along with accelerated growth. However, measurements of body composition revealed increasing adiposity in school children and adolescents in many countries along with deteriorating physical fitness levels (aerobic power, motor performance, etc.). Such changes were always smaller in growing subjects involved in adequate physical activity regimes and exercise – provided the character, intensity, duration and frequency were appropriate. Comparing preschool children (4-6 years) examined in the fifties and seventies of the last century and recently revealed a significant increase of adiposity (skinfold thicknesses), which was accompanied with a significant reduction of motor abilities (testing broad jump, ball throw, etc.). Mentioned changes were smaller in children who had a special physical activity regime in kindergarten including increased physical activity; in children who took part in special physical education classes of preschoolers with one of the parents, and/or any other caretaker; and in children who were most active spontaneously. Positive changes from adequate physical activity and sports training regimes were even more apparent during later years. In obese growing subjects, adequate exercise proved to be the most effectively reducing factor. In conclusion, the undesirable impact of present-day lifestyle choices including sedentary influences negatively the growing organism from a much earlier age than previously assumed.

Biography

Jana Parizkova, Professor (2003), M.D., Ph.D., D.Sc. She is working in Obesity Management Centre, Institute of Endocrinology, Prague, Czech Republic. Published cca 580 articles in reputed journals, monographs, Proceedings etc., and 20 monographs in the USA, Switzerland, Germany, Poland, Czech Republic etc. on body composition, functional capacity, obesity as related to nutrition and dietary intake, physical activity and exercise during life span, especially during growth and development.