

Increasing Prevalence of Childhood Overweight: A proposed critical role of the first year in school

Hoffmann, S, Brendel, C, Tug, S, Simon, P

Johannes Gutenberg-University, Faculty of Social Science, Media and Sport, Department of Sports Medicine, Mainz, Germany

Introduction: All major empirical studies on childhood overweight agree that prevalence increased significantly in the recent years. Typically, studies using the International Obesity Task Force (IOTF) age-, sex-, and BMI-specific cutoff points do not specify in detail whether increase in prevalence can be attributed to a particular age or whether this increase occurs independent of age.

Methods: We analyzed the public data file of the German Health Interview and Examination Survey for Children and Adolescents (KiGGS). The present analysis was restricted to 14,747 children and adolescents aged 3 to 17 years. Overweight was defined using both IOTF-cut-offs and the percentile curves for German children according to Kromeyer-Hauschild.

Results: Prevalence of overweight significantly increased with age on a global scale from 10% at age 3 and 4 to 20% at age 17 ($p < 0.0001$). However, post-hoc analysis showed that only the rapid increase from 14% to 19% between the 6th and the 7th year is statistically significant ($p=0.006$ for IOTF and $p=0.01$ for Kromeyer-Hauschild).

Conclusion: Former studies that reported effects of serious life events on weight gain in children typically investigated factors associated with social status. Here we found evidence that the recent increases in overweight in Germany can be refined to a particular age directly following the serious life event "first day at school" that is independent of social status. Future research should focus on the factors that lead to the increases in weight of children, who entered primary school recently.