Abstract

Obesity is a serious metabolic disease that often occurs in childhood. Up to 55 % of obese children continue to be obese until adolescence and then 80 % of these obese adolescents remain obese in adulthood. This diploma thesis follows the results of the first round of the study Childhood Obesity Prevalence and Treatment (COPAT). Analyzes the data found in 2009–2010 in relation with the results from 2018. The aim of this work was to determine the prevalence of overweight, obesity, metabolic syndrome, hidden (normal-weight) obesity and to examine the factors potentially contributing to the development of excessive body weight in the participants in the second round of COPAT study. After eight years, 12 % of the original sample, ie 246 probands (150 women and 96 men), were repeatedly examined within the diploma thesis. The examinations took place at the Institute of Endocrinology in Prague and consisted of fasting blood, clinical examination (blood pressure and pulse measurement; determination of body composition by bioimpedance analysis) and anthropometric examination. All participants also completed an on-line questionnaire consisting of three parts (personalized questionnaire; Eating inventory questionnaire; Baecke questionnaire of habitual physical activity). The obtained data were processed using Microsoft Excel, Microsoft Access, RůstCZ and statistically evaluated in NCSS, Statgraphics and Simca P++. The prevalence of overweight and obesity increased from 37,8 % to 47,2 % in eight years. Excessive body weight was detected in the second round of COPAT in 42,7 % of women and 54,2 % of men. The results showed that 88,2 % of the subjects who were overweight in adolescence were overweight or obese also in adulthood. The prevalence of metabolic syndrome increased from 5,7 % to 9,8 %. Hidden obesity was detected in 3,5 % of women and no man. A BMI curve was compiled for each participant based on BMI data from 1 to 15 years of age. BMI curves of overweight/obese men and women in COPAT round 2 were statistically significantly different from BMI curves of individuals currently normosthenic – they reached significantly higher values in almost all monitored periods. The OPLS analysis identified the following factors as important predictors of overweight/obesity in early adulthood: perinatal parameters (gestational age, labor length); anthropometric parameters (BMI SDS from preventive examinations, body circumferences, WHR, WHtR, BAI and body fat percentage); eating habits (consumption of certain foods, total energy intake, last meal consumption, diet, restriction and disinhibition score); personal and family history factors (physical activity: leisure and work index; smoking; education; number of adults living in one household; presence of antibodies against adenovirus 36; effort and frequency of weight adjustment efforts).

Key words

overweight, obesity, COPAT, adolescents, young adults, BMI, eating habits, lifestyle factors