Prevalence of Childhood Obesity in the United States 1999 - 2018: A 20-Year Analysis

Hang Long Li. *University of Hong Kong*

Hang Long Li, BSc[1], Man Fung Tsoi, PhD[1], Qi Feng, PhD[2], Ching-Lung Cheung, BSC, PhD[3], Tommy Cheung, FRCP[1], Bernard MY Cheung, PhD[1].
[1]Department of Medicine, The University of Hong Kong, Hong Kong, Hong Kong, [2]Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong, Hong Kong, [3]The University of Hong Kong, Hong Kong, Hong Kong.

Introduction: Obesity is a public health crisis in the US. Childhood obesity is associated with multiple comorbidities in the adulthood, including metabolic syndrome, cardiovascular diseases, and premature death. A recent study found that the prevalence of childhood obesity varied according to age and ethnicity. This study aims to evaluate the long-term trends and the underexplored socioeconomic factors associated with childhood obesity.

Method: From the US National Health and Nutrition Examination Survey from 1999 to 2018, 35 907 children aged 2-19 with body mass index (BMI) data were included. Prevalence of obesity and severe obesity, defined as BMI ≥95th percentile and ≥120% of 95th percentile of US Centers for Disease Control and Prevention growth charts, respectively. Trends in prevalence of obesity and subgroup analyses according to age group, sex, ethnicity, language used in interview, household education level, and household income level, were analyzed. Data analysis was performed using the R statistical package "survey" (version 3.6.3).

Results: The prevalence of obesity and severe obesity increased from 14.7 [95% CI: 12.9-17.0] % to 19.2 [17.2-21.0] % and 3.9 [2.9-5.0] % to 6.1 [4.8-8.0] % in 1999-2018, respectively (p=0.001 and p=0.014 for obesity and severe obesity, respectively). In 2017-8, the prevalence of obesity among children from Spanish-speaking households was 24.4 [22.4-27.0] %, higher than children from English-speaking households (p=0.027). Children from households with high education level and high income level had a lower prevalence of obesity compared to those with low education level and low income level (p=0.003 and p=0.002 for education level and income level, respectively). Compared to girls, boys had higher prevalence of obesity (p=0.002) and severe obesity (p=0.004).

Conclusion: The prevalence of childhood obesity in America kept increasing during the period 1999-2018 despite various public health initiatives. The problem is worse in children with lower socioeconomic status, and in children from Spanish-speaking households. Public health interventions are urgently needed to halt the rising trend of childhood obesity, and measures specifically catering to children from Spanish-speaking families should be put in place.