

Trends in childhood obesity, underweight and stunting among urban school children in Romania

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INTRODUCTION

Childhood adolescence overweight and obesity are increasing in Romania, but limited information is available on their current trends (1).

OBJECTIVE

The current study aimed to analyze the trend in prevalence of weight disturbances and stunting in the past 5 years in school aged children from the Transylvania region in Romania.

METHODS

Two cross-sectional data sets from 2013 (1129 subjects) and 2018 (3173 subjects) were analyzed, both including children from 6 to 14 years, from urban schools in Tirgu-Mures, Romania.

Data on age, gender, height, weight and BMI was collected. All anthropometric measurements were carried out by trained personnel using standardized instruments. Standard deviation scores for height and BMI were calculated using the national synthetic standards for height and the WHO standards for BMI.

Overweight was defined as BMI >1SD, obesity as BMI >2SD, underweight as BMI below -2SD and stunting as height below -2SD for age and sex. The prevalence of weight and height disturbances was calculated for both data sets, according to gender and age group. For data analysis M.O Excel and SPSS v. 25 were used with a level of significance $\alpha=0.05$.

RESULTS

Gender and age distribution were similar in the two data sets ($p=0.071$ for gender, and $p=1.000$ for age). Prevalence of overweight increased in all age groups and both sexes, from 18.95% in 2013 to 22.63% in 2018, with the highest value for the pubertal age group (12-14 years) (fig. 1). Obesity prevalence increased overall from 11.96% to 12.1%, but this was caused by an increase only for male gender, as the prevalence of obesity in girls decreased from 9.39% in 2013 to 8.84% in 2018 (fig. 2).

Underweight had a positive trend, with a prevalence of 1.42% in 2013 and 3.97% in 2018, with gender having no influence ($p=0.424$) (fig. 3). Prevalence of stunting decreased in both sexes from 3.99% to 1.51% (fig. 4).

DISCUSSIONS

The prevalence of childhood overweight and obesity has increased in the last five years in urban school children from Romania, following the worldwide obesity epidemic (2). Although the positive trend is considered to be caused by an increase mainly in rural areas – for adults at least (3), our study showed that this tendency applies also to urban areas, in case of children.

An important finding is the increase in underweight prevalence, in contrast with findings from other studies (2), which might reflect a decrease in the socio-economic status of our country.

Short stature prevalence has a negative trend, which coincides with the positive secular trend observed in the past century (4), which appears to continue and might point towards the need for new national growth references.

CONCLUSIONS

Both overweight and underweight have a positive trend, while stunting is decreasing in frequency. Obesity has a positive trend in boys, but is decreasing in girls, albeit the difference being rather small.

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Fig. 1 – Overweight prevalence difference

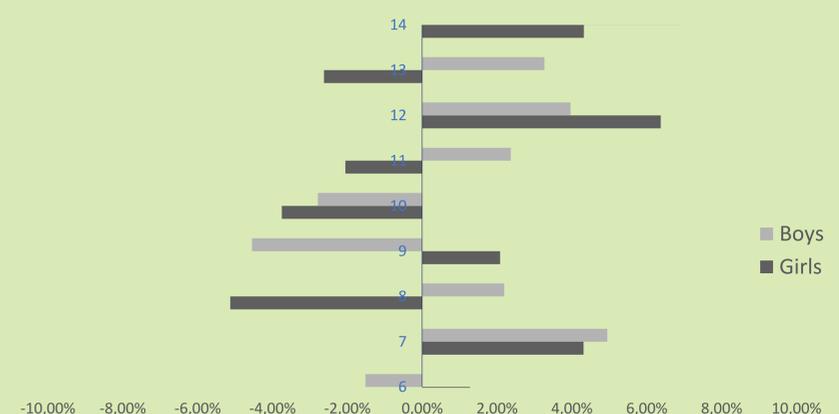


Fig. 2 - Obesity prevalence difference



Fig. 3 – Underweight prevalence difference

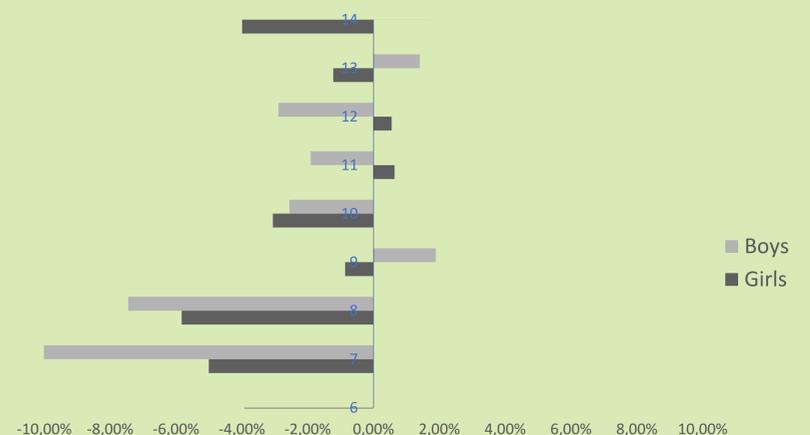


Fig. 4 – Stunting prevalence difference