Associations between home environment, behavioral factors and body-mass-index among primary school children in Selangor, Malaysia

ABSTRACT

This study aimed to determine the associations between home environment, behavioral factors, and BMI-for-age among children in Selangor. A total of 568 children aged 10.6 ± 0.6 years and their parents participated in this study. Parents self-reported their body weight and height and completed a questionnaire that assesses the home environment and their weight management knowledge. Body weight and height of the children were measured. Questions that assessed eating behaviors were answered by the children. A two-day dietary and physical activity recalls were used to assess the energy intake and energy expenditure of the children. The prevalence of overweight and obesity (28.3%) was three times higher than underweight (9.0%) among the children. More boys (37.7%) than girls (23.8%) were overweight and obese (t = 3.791, p < 0.05). Similarly, there were more overweight and obese parents (52.7% fathers; 46.1% mothers) than underweight parents (4.4% fathers; 6.2% mothers). Father's BMI (r = 0.178, p < 0.05), mother's BMI (r = 0.223, p < 0.05), availability of physical activity at home (r = −0.105, p < 0.05), availability of fat/sweet at home (r = 0.088, p < 0.05), energy intake (r = −0.618, p < 0.05), and energy expenditure (r = −0.639, p < 0.05) were associated with BMI-for-age, respectively. The multiple linear regression analysis showed that being male (β = 0.526), with low energy expenditure (β = −0.071), low energy intake (β = −0.026), high BMI of father (β = 0.019), and high BMI of mother (β = 0.047) contributed towards high BMI-for-age of the children (R²: 58.3%; F = 163.825, p < 0.05). The prevalence of overweight and obesity was high in both parents and their children. Family-based interventions that promote healthy eating and active lifestyle is recommended in preventing and managing childhood obesity.

Keyword: Home environment; BMI; Children