

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 ($\beta = 0.526$), with low energy expenditure ($\beta = -0.071$), low energy intake ($\beta = -0.026$), high BMI of father ($\beta = 0.019$), and high BMI of mother ($\beta = 0.047$) contributed towards high BMI-for-age of the children ($R^2: 58.3\%$; $F = 163.825$, $p < 0.05$). 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