A social cognitive theory-based programme for eating patterns and sedentary activity among overweight adolescents in Makassar, South Sulawesi: a cluster randomised controlled trial

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Background and Objectives: Social cognitive theory provides the opportunity for program development to enhance healthy personal behavioural characteristics. We devised the study to employ social cognitive theory to reduce snacking habits and sedentary activity among overweight adolescents. Methods and Study Design: Eight junior high schools in Makassar city were randomly assigned as intervention and control schools. A total of 238 overweight students aged 11-15 years (BMI z-score ≥1 SD, according to a 2007 report from the WHO) were recruited. Adolescents from the intervention schools attended 12 weekly 75-min nutrition education group sessions, which focused on behavioural modification assisted by trained facilitators; furthermore, their parents received weekly nutrition education leaflets. Adolescents from the control schools, but not their parents, received leaflets on evidenced-based nutrition information. The BMI z-scores, waist circumference, snacking habits, sedentary activity, and the adolescents' self-efficacy data were assessed prior to and after 3 months of intervention. The outcomes were analysed on an intent-to-treat basis. Results: Compared with the control group, the intervention group showed a higher reduction in BMI z-scores (−0.08; p<0.05) and waist circumference (−1.5; p<0.05) at 3 months. Significant between-group differences were also observed for decreased snacking habits, but not for sedentary activity. Additionally, the programme improved self-efficacy for reducing these behaviours. Mean compliance and satisfaction with the programme were 95% and 92%, respectively. Conclusions: These high reduction rates suggest that the programme is promising and may address the problem of overweightness in adolescents. Additional studies are required to develop the programme in community settings.

Key Words: adolescents, overweight, social cognitive theory, self-efficacy, snacking

INTRODUCTION

Indonesia, a southeast Asian country, has demonstrated remarkable changes in childhood overweightness and obesity. The Indonesian Ministry of Health has reported that the national prevalence of overweight and obese school-aged (6-14 years) children increased from 6.5% in 2001 to 15.9% in 2007, with a higher prevalence among those living in urban areas.1,2 However, some cities in Indonesia have shown a higher prevalence of childhood obesity than the national prevalence.3 One such place is Makassar, the capital city of the South Sulawesi Province. According to data from the Indonesian Basic Health Research conducted in 2007, 20.2% of school-aged boys and 20.1% of school-aged girls in Makassar are overweight. This prevalence was the highest among that of other regions in the South Sulawesi province.3

The complications of childhood overweightness and obesity can be physical and psychosocial, with both short- and long-term consequences,4,5 including an increased frequency of cardiovascular risk factors and their persist-