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Prevalence of overweight and obesity and its influencing factors among adolescents in Jaffna educational zonal schools: A cross - sectional study

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The increase in the trend of chronic diseases linked to the nutrition transition and associated dietary and lifestyle changes are of growing concern in adolescents. As a result, adolescent obesity has become an emerging health problem in Sri Lanka. The objective of the study was to identify the prevalence of overweight and obesity and its influencing factors among adolescents aged 15 to 18 years attending schools of Jaffna zonal division of education. A descriptive cross sectional study was conducted and a total of 410 students were recruited using stratified random sampling method. Anthropometric measurements including skin-fold-thickness (SKF), Waist-circumference (WC) and Hip-Circumference (HC) were measured. An interviewer-administered questionnaire which covers socio-economic factors and socio-demographic factors was used. Of this total, 193 (47.1%) were males. Mean (±SD) WC, HC and waist-hip ratio (WHR) in males and females were 70.6±9.3 and 69.6±6.8cm; 87.2±8.0 and 89.8 ±6.4 cm; 0.8±0.05 and 0.7±0.04 respectively. Prevalence of overweight, obesity and severe obesity was 8.3% (n=34), 1.2% (n=5) and 0.2% (n=1) respectively based on the BMI-for-age. However, 5.7% of males and 9.2% of females; and 2.6% of males and 6.5% of females had abdominal obesity based on WC and WHR respectively. Overweight and obese students had higher triceps [23.50 (±6.45 mm)] and sub-scapular SFT [29.75 (±6.06) mm] than others [12.58 (±4.84) and 13.38 (±6.08) mm respectively] (p<0.001). Adolescents from high monthly income families (Rs.50000 to Rs. 100000) had significantly higher prevalence of overweight (26.7%) than others (p<0.001). Prevalence of overweight was higher among adolescents whose fathers were doing educational (11.4%) and professional (23.8%) occupations and mothers were, doing professional jobs (18.9%) and degree holders (31.2%)(p<0.05). In logistic model, the family income [35.3% (n=12)] ($p < 0.001$), fathers with professional jobs [32.3%, (n=10)] ($p < 0.05$) and mothers with degree holders [31.2% (n=5)] (p<0.05) had significantly associated with overweight. This study concluded that, just after three decades of war scenario, the prevalence of overweight and obesity (8.3%) among adolescent was much more less than undernutrition (26.1%). Prevalence of overweight and obesity based on the BMI-for–age (8.3%) was higher than based on the WC (7.3 %) or WHR (4.6 %). Even though the overweight and obesity in adolescents were independent of gender based on the BMI, those were significantly differed based on WC and WHR. Also the findings demonstrated that, high economy of households and parental educational level were significantly associated with overweight and obesity. This study suggested that, the best anthropometric measurements to identify the obesity are WC or WHR. Furthermore factors such as dietary pattern, physical activity and adolescent behavior need to elucidate the association.

Keywords : Overweight, Obesity, Adolescents, Waist Circumference, Waist to Hip Ratio.