

Nutritional status of schooling adolescents in Anuradhapura district-are we under-estimating obesity?

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Childhood under nutrition is a well-documented health problem in Sri Lanka, but little attention has been paid to childhood obesity in rural areas. This study was designed to determine the nutritional status of schooling adolescents in the Anuradhapura District with emphasis on defining obesity using different international and local definitions.

Students of grades 9–11 from 74 schools representing the district were selected. Socio-demographic data were obtained through a structured self-administered questionnaire. Anthropometric measurements were carried out according to WHO guidelines. Thinness and stunting were defined using WHO age and sex specific growth references. Obesity was defined using WHO growth references, International and Asian BMI cutoff values of IOTF and Indian BMI cutoff values. Prevalence of central obesity was determined using South Indian and British waist circumference (WC) cutoff values. Appropriate thresholds for waist to height ratio (WHtR) were analyzed using Receiver Operating Characteristics (ROC) curves.

A total of 3135 students were studied. According to WHO growth references, prevalence (with 95% confidence interval) of severe thinness, thinness, overweight and obesity for boys were 9.4% (8.0- 11.0), 19.6% (17.6-21.7), 7.7% (6.4-9.2) and 3.1% (2.3-4.1) respectively. For girls, they were 2.4% (1.8-3.3), 12.6% (11.1-14.3), 6.7% (5.5-8.0) and 1.7% (1.1-2.4) respectively. The prevalence of severe stunting and stunting were 2.5% (1.8-3.4) and 11.1% (9.6-12.8) respectively for boys and 1.0% (0.7-1.7) and 11.0% (9.5-12.6) respectively for girls. Boys had higher prevalence of severe thinness, thinness and overweight/obesity compared to girls. Severe stunting was more prevalent among boys than girls. The prevalence of overweight and obesity were higher while thinness and stunting were lower in type 1AB schools when compared to other types of schools. ROC curves for WHtR against four definitions of obesity, suggested a cutoff value around 0.46.

While thinness and stunting remain a considerable health issue among adolescents in the Anuradhapura District, there is evidence of rising incidence of overweight and obesity. The present study suggests a threshold of 0.46 for WHtR to diagnose obesity.

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