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## **PREVALENCE OF OVERWEIGHT AND OBESITY IN ADOLESCENTS AGED 12 – 16 YEARS IN COLOMBO DISTRICT, SRI LANKA: AN ASSESSMENT OF BODY COMPOSITION BY USING SKIN - FOLD THICKNESS**

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### **ABSTRACT**

The aim of the study was to determine the prevalence of overweight and obesity in adolescents aged 12 – 16 years in Colombo District and to analyze the correlation between the measurements of BMI, skinfold thickness to assess overweight and obesity. To achieve the objectives a cross-sectional study was conducted on 1374 adolescents from 25 schools in Colombo District selected by stratified random cluster sampling. Students of grades 7-11 were included. Anthropometric measurements were measured as described by the WHO (1995). The percentage of total body fatness (%BF) was calculated from Skinfold thickness (SFT) according to the equation by Slaughter et al. Age- and the sex-specific reference for Body-Mass Index by International Obesity Task Force (BMI between 25 to 29.9 is overweight and BMI more than 30 is obese) and Sex- specific centile charts for percentage of fat (2<sup>nd</sup>, 85<sup>th</sup> and 95<sup>th</sup> centiles for under fat, over fat and obese respectively), developed by McCarthy et al were used as cut-offs of overweight and obesity. Majority of the sample (50.3%) were girls. According to age specific BMI, 3.1% were obese and 8.4% were overweight. Based on the skinfold thickness measurements the percentage of over fatness and obesity were 13.0% and 10.3% respectively. According to the BMI categories, compared to girls, boys showed higher prevalence of underweight, observed in 459 (53.4%), whereas 36 girls (54.8%) were overweight and 26 girls (61.9%) were obese. However, classification of %BF by SFT revealed higher prevalence of under – fatness, overweight and obesity among boys. The results found a positive correlation between BMI and skinfold thickness ( $P < 0.001$ ,  $r = 0.787$ ). BMI had lower values for the prevalence of overweight and obesity than with %BF. Since the consequences associated with obesity are mainly due to the excess fat mass the better monitoring tool has to directly assess the adiposity. Therefore, obesity has to be diagnosed on a simple and accurate method of assessing %BF. Thus we conclude that BF% derived from SFT can be effectively used for measuring adiposity among the children and adolescents.

**Keywords:** Adolescents, Body Fat, Body Mass Index, Skinfold Thickness, Obesity