

OP-12 : STUDY ON BODY FAT PERCENTAGE AND BODY MASS INDEX AS THE PREDICTOR OF OBESITY IN SCHOOL CHILDREN OF JAFFNA DISTRICT

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Introduction : Body mass index (BMI) is widely accepted in determining obesity and recent studies have proven that the Percentage Body Fat (PBF) rather than BMI is a good predictor of obesity and obesity related complications.

Objectives : To estimate the percentage fat content and anthropometric measurements among children living in Jaffna district of Sri Lanka.

Methods : Community based cross sectional study using multistage stratified proportionate cluster sampling technique, was done among healthy children attending school in Jaffna districts from November 2015 to May 2016. Height, weight and waist circumference (WC) was measured using standard techniques. Fat mass (FM) was measured using Bio electrical impedance assay. A PBF >33.6% in girls and > 28.6% in boys were considered as cut off associated with metabolic derangements (Sri Lankan values). WHO standard distribution curve used for BMI and Waist circumference analysed using International Diabetic Federation recommendations. Data was coded and entered into SPSS version 21 and analysed.

Results : A total of 709 samples were collected. The mean age was 13.68(±2.51) years, and the male female ratio was 1:1.02. 172(24.26%) including 87males and 85

girls were identified to have excess PBF with no significant sex variation ($p>0.05$), and 61(8.6%) including 47males and 14 girls were identified as obese by BMI with significant sex variations ($p<0.01$). The mean PBF values were 13.11(±4.37), 21.32(±7.58), 34.30(±5.32), 40.31(±6.18) in underweight, normal weight, overweight and obesity respectively ($p<0.01$). Acanthosis was present in 66(9.3%) students, among them 30 were obese and 48 had excess PBF. This results was statistically significant ($p<0.01$). Waist circumference was excess in 177(25.04%) students, among them 48(27.11%) were obese and 111(62.71%) had excess PBF. ($p<0.05$)

Conclusion : BMI alone is not a good indicator to assess childhood obesity. Further studies are needed to assess the risk of metabolic syndrome and its relationship to percentage body fat.