

Adolescent Obesity Leading to Adulthood Cardiovascular Diseases among Punjabi Population

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Abstract : The increasing prevalence of adolescent obesity is one of the major causes to be hypertensive in adulthood. Various statistical methods have been applied to examine the performance of anthropometric indices for the identification of adverse cardiovascular risk profile. The present work was undertaken to determine the significant traditional risk factors through principal component factor analysis (PCFA) among population based Punjabi adolescents aged 10-18 years. Data was collected among adolescent children from different schools situated in urban areas of Punjab, India. Principal component factor analysis (PCFA) was applied to extract orthogonal components from anthropometric and physiometric variables. Association between components were explained by factor loadings. The PCFA extracted four factors, which explained 84.21%, 84.06% and 83.15% of the total variance of the 14 original quantitative traits among boys, girls and combined subjects respectively. Factor 1 has high loading of the traits that reflect adiposity such as waist circumference, BMI and skinfolds among both sexes. However, waist circumference and body mass index are the indicator of abdominal obesity which increases the risk of cardiovascular diseases. The loadings of these two traits have found maximum in girls adolescents (WC=0.924; BMI=0.905). Therefore, factor 1 is the strong indicator of atherosclerosis in adolescents. Factor 2 is predominantly loaded with blood pressures and related traits (SBP, DBP, MBP and pulse rate) which reflect the risk of essential hypertension in adolescent girls and combined subjects, whereas, factor 2 loaded with obesity related traits in boys (weight and hip circumferences). Comparably, factor 3 is loaded with blood pressures in boys and with height and WHR in girls, while factor 4 contains high loading of pulse pressure among boys, girls and combined group of adolescents.

Keywords : adolescent obesity, cvd, hypertension, punjabi population

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