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PREVALENCE OF CENTRAL OBESITY AND ITS ASSOCIATED METABOLIC PARAMETERS OF ADOLESCENTS IN VADAMARACHCHI EDUCATIONAL ZONAL DIVISION, JAFFNA

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Overweight and obesity defined based on BMI that represent excessive fat accumulation, cause significant risk on health of a person. This condition develops chronic diseases such as diabetes mellitus, cardiovascular diseases, and cancer. Moreover, the central obesity is an accurate indicator to detect the adiposity of a person. The study was aimed to determine the prevalence of central obesity and its associated metabolic parameters of adolescents in Vadamarachchi educational zonal division, Jaffna. All the students, the age group of 16-19 years from most of the schools of 1AB and 1C (n=10) of Vadamarachchi educational zone that have been randomly selected for this study during 2014. Anthropometric measurements were obtained and the waist/hip ratio was calculated. Overweight & obese students were selected to carry out further biochemical parameters and associated factors. Even though 108 students identified as overweight and obesity, only 55 students participated in the further analysis as others' parents not gave concern to blood drawing. Ethical clearance had obtained from Ethical Review Committee, Faculty of Medicine, and University of Jaffna. Data were analyzed using SPSS software.

A total of 1429 students were screened and 21.34% (n=305) of students were underweight and 7.6% (n=108) were overweight and obese. Prevalence of central obesity was 1.39% (n=20). Among the overweight & obese students, 18.52% (n=20) students had central obesity. Overweight & obese students, 40% (n=22) had hyperinsulinism (fasting serum insulin level >10 IU/dL). The level of that, 14.5%, 5.5%, 1.8%, of the students were in the border line (130-159mg/dL), high level (160-189mg/dl) and very high level of LDL (>189mg/dL) respectively. Similarly, 36.4% had low HDL level (< 40mg/dL), 16.4% had high level triglycerides (>200mg/dL) and 14.5% students had high level of total cholesterol (>239mg/dL). High number of overweight & obese students had dyslipidemia (n=41). Among central obese students, 52.9% (n=9) had hyperinsulinism.

The prevalence of central obesity was 1.39 and overweight and obesity was 7.6% among the adolescents from Vadamarachchi zonal division and it would be a devastating health problem among adolescents. However, the studied overweight and obese students were highly affected with hyperinsulinism and dyslipidemia. Also, one third of overweight students had central obesity. Hence this study recommends taking remedial measures to reduce the obesity among the school children.

Keywords: Central Obesity, Dyslipidemia, Hyperinsulinism, Overweight and Obesity.