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**ASSESSMENT OF SERUM VITAMIN D LEVELS AND ITS ASSOCIATION WITH BODY MASS INDEX (BMI), AMONG A SELECTED POPULATION OF OBESE AND NON-OBESE (NORMAL BMI) YOUNG ADULTS**

*Madhushanka SPTB, De Silva ADP, Hettiarachchi UPK, Athiththan LV*

*Faculty of Medical Sciences, University of Sri Jayewardenepura.*

**Introduction:** Prevalence of obesity globally is increasing rapidly. Previous studies have observed a reduction in serum vitamin D levels in overweight and obese individuals which lead to the development of insulin resistance and other metabolic abnormalities.

**Objective:** To assess the serum vitamin D levels of a selected population and to investigate the association of Body Mass Index (BMI) with serum vitamin D levels.

**Methods:** Thirty obese (BMI  $\geq 27.5$  kgm<sup>-2</sup>) and thirty normal (BMI-18.5-23 kgm<sup>-2</sup>) subjects from University of Sri Jayewardenepura (USJ) and attending Family Practice Centre who gave consent to participate in the study were recruited for the study. BMI of each individual were calculated and a questionnaire was used to obtain the other relevant data. Blood samples from subjects were collected for the analysis of total serum 25(OH)D (vitamin D) levels using the mini-VIDAS hormonal analyser. Ethical clearance for the study was obtained from the ethics review committee of Faculty of Medical Sciences, USJ.

**Results:** Mean age of the population was 26 $\pm$ 5 years. Approximately 30% of the population were males. Mean serum vitamin D level ( $\pm$ SD) of the obese group was 17.43 $\pm$ 4.54ng/ml and in normal group it was 20.36 $\pm$ 4.12ng/ml and there was a significant difference between the serum vitamin D levels of the two groups (P< 0.05). In the obese group, 73.34% had vitamin D deficiency (<20ng/ml), 23.33% had vitamin D insufficiency ( $\geq$ 20 - <30ng/ml) and only 3.33% had optimal vitamin D levels ( $\geq$  30 ng/ml). In the non-obese group, the corresponding percentages were 43.33%, 50.00%, and 6.67% respectively and the serum vitamin D level had an inverse association with the BMI (P= 0.037).

**Conclusion:** A higher percentage (95%) of subjects in the population had vitamin D deficiency or insufficiency and the increased BMI significantly correlated with reduced serum vitamin D levels.