

Impact of a Dietary Intervention on BMI and Selected Biomarkers among a Group of Overweight / Obese Women

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Obesity and overweight is an epidemic problem in the world. The objective of this study is to explore the changes in the BMI and selected biomarkers of overweight and obese women after a dietary intervention. This study was done at National Ayurveda Teaching Hospital, Borella. 129 volunteers participated in this four months intervention of a diet containing Sri Lankan Natural food additives. Body mass index, selected bio biomarkers and symptoms which are directly related with obesity were considered. The effectiveness of the intervention was analyzed by Paired sample *t* test. Results revealed that before and after intervention the mean BMI values were 32.92 Kg/m² and 30.23 Kg/m² respectively. Hence the reduction in BMI after intervention was 2.7 Kg/m². The correlation among the BMI before and after intervention was highly significant ($t=29.20$, $df=128$, $p<0.01$). Results indicate that in the biomarkers, the total cholesterol before and after intervention in the population was 210.76±44.61 and 193.62±39.91 respectively. The correlation among the BMI before and after intervention was highly significant ($t=5.53$, $df=127$, $p<0.01$). Before intervention mean triglyceride was 118.94±52.57. After intervention it was noticed that the reduction of triglyceride by 8.41±47.15 for whole study group. The association between triglyceride levels before and after intervention were positive and significant ($t=2.02$, $df=127$, $p<0.05$). The mean LDL levels before and after intervention were 138.35±41.44 and 122.59±34.74 respectively. The average LDL reduction was by 15.75±35.25 after intervention. The association among the LDL before and after intervention was highly significant ($t=5.04$, $df=126$, $p<0.01$). The analysis showed that the VLDL levels before and after intervention were 24.23±0.60 and 22.29±8.15, respectively. The mean reduction of VLDL after intervention was 1.93±9.87 and the association was significant before and after intervention ($t=2.22$, $df=127$, $p<0.05$). The HDL levels before and after intervention in the study population were; 49.77±13.24 and 47.07±9.46, respectively. This dietary intervention was limited to four month period but the weight reduction and all the biomarkers showed a significant change. Hence, if the intervention is followed to an extended period of time better results than this would be expected. However, a study on a larger population is needed to confirm these results.

Key words: Total Cholesterol, Triglycerides, HDL, LDL, VLDL