

# HEALTH PROMOTION INTERVENTION ACUTELY ALTERS PLASMA LECTIN LEVELS IN OVERWEIGHT/OBESE FEMALE COLLEGE STUDENTS

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**Introduction:** The aim of this study was to investigate the effect of health promotion programs on the weight control and the plasma adipokine responses in overweight/obese female at the university students.

**Materials and Methods:** A quasi-experiment study is conducted in two campuses which are Chang Gung University and Oriental Institute of Technology in north Taiwan. The experimental group (n=21) received an regular walk: □10000 steps per day for 3 months. According to previous physical examinations, overweight were found as the main health problems among these students. There are two phases of the applicant, including cross-section survey and health intervention. The study subjects of the first-phase study are students of medical colleges aged 16~25 years. The study subjects of the second-phase are overweight or obese participants of the first-phase study. The study period is anticipated during Oct 2012 to Spe 2015. Physical examination data, including weight, waist, body mass index, blood pressure, triglyceride, cholesterol, sugar, low density lipoprotein, high density lipoprotein, adipokine, and leptin, were measured before exercise, and at 48 hours after exercise on the last exercising days.

**Results and Discussion:** Twenty-one females (age  $18.6 \pm 2.3$  years) completed a 3 months of health promotion programs. The changes in physical examination data (weight, waist, body mass index, blood pressure, triglyceride, cholesterol, sugar, low density lipoprotein, high density lipoprotein) were similar on the first and 48 hours after the last exercise day. Otherwise, the changes in adiponectin concentrations were similar on the first and 48 hours after the last exercise day ( $7075.4 \pm 3102.4$  and  $6984.6 \pm 3285.8$  ng/ml;  $p > .01$ ). Leptin decreased after exercise ( $8.8 \pm 4.6$  ng/ml vs.

baseline  $11.1 \pm 4.6$  ng/ml;  $p < .01$ ).

**Conclusion:** The changes in physical examination data were unaffected, but leptin was significantly decreased after health promotion programs. Future studies are required to disclose the functional consequences of these alterations in plasma adipokine levels.