



## Compare and investigation of two methods of weight loss protocols on plasma levels of AGRP in accommodated female students

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**Introduction:** Obesity is known as a main cause of many diseases such as hypertension, atherosclerosis, Type II diabetes, certain types of cancer and respiratory and gastrointestinal disorders and high relationship between obesity and this disease has been reported (1). Positive energy balance causing overweight and obesity, which has been the most health threatening factor in common communities and all countries (3). Failure in weight control, make researchers thought to find out what mechanism involved in this phenomenon (2). Agouti-related peptide (AGRP) is a neuropeptide produced in the brain in the arcuate nucleus of the hypothalamus. This peptide in various physiological and pathological conditions has different behaviors and many actions are attributed. Probably the most important role in AGRP its role in energy balance and is homeostasis. Recent studies have shown a negative balance in low energy conditions, AGRP s increased positive food intake and stimulate appetite (1). Purpose of This study was compare two methods of weight loss protocols, 1. Diet and exercise, 2. Diet without exercise in levels of plasma AGRP in accommodated female students. **Methodology:** Total 30 subject of accommodated female students (BF = 29.64 ±3.51 and BMI = 28.88 ±2.17) recalled and randomly assigned into two experimental and one control groups. Experimental group1 Experienced twelve-day and researchers proposed diet, experimental group2 either Experienced twelve-day and researchers proposed diet along with twelve-day running training (intensity was 60 to 70 %HRmax for 50 minutes) every day and control group remained sedentary with normal diet in this period. Blood samples (10 cc from-brachial vein) were collected 12 hours before the first day and 12 hours after the last day at 8 am (subjects were fasting).also body fat percentage of subjects measured using 5 point method . After plasma separation, AGRP levels measured using ELISA method with special Kit. **Data analyzed by the ANOVA and tukey post-hoc test in SPSS software version 16. Result:** the levels of plasma AGRP in the experimental group 1 compare with control group, increased significantly (p = 0.045). Fat percentage in the control group remain unchanged but in both experimental groups decreased, which only in the experimental group2 was significant (p = 0.012). **Conclusion:** Since increased AGRP increased appetite and increased weight therefore no change in AGRP can be effective in maintaining subject's weight. The study results suggest that : In order to be successful in weight loss and reduced more body fat percent, choose present study researchers proposed diet and training protocol.

### References:

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