

Effects of Endurance Training and Thyme Consumption on Neuropeptide Y in Untrained Men

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Abstract : Abstract Aim: Over-weight is not desirable and has implications for health and in the case of athletes affects performance. Exercise is a strategy used to counteract overweight owing to create a negative energy balance by increasing energy expenditure and influencing appetite regulating hormones. Interestingly, recent studies have revealed inhibitory effects of exercise on the hunger associated with these hormones in healthy subjects Neuropeptide Y(NPY) is a 36 amino acid protein that is a powerful stimulant appetite. NPY is an important central orexigenic hormone predominantly produced by the hypothalamus, and recently found to be secreted in adipose tissue. This neurotransmitter is secreted in the brain and autonomic nervous system. On the other hand, research has shown that thyme in addition to various properties, also affects the appetite. The purpose of this study was to determine Effects of eight weeks endurance training and thyme consumption on neuropeptide Y in untrained men. Methodology: 36 Healthy untrained men (mean body weight 78.25 ± 3.2 kg, height 176 ± 6.8 cm, age 34.32 ± 4.54 years and BMI 29.1 ± 4.3 kg/m²) voluntarily participated in this study . Subjects were randomly divided into four groups: 1. control, 2. Endurance training, 3. Thyme 4. Endurance training + Thyme. Amount of 10cc Blood sampling were obtained pre-test and post-test (after 8 weeks). The taken blood samples were centrifuged at $1500 \times g$ for 15 min then plasma was stored at -20 °C until analysis. Endurance training consisted three session per week with 60% -75% of reserve heart rate for eight weeks. Exclusion criteria were history of gastrointestinal, endocrine, cardiovascular or psychological disease, and consuming any supplementation, alcohol and tobacco products. Descriptive statistics including means, standard deviations, and ranges were calculated for all measures. K-S test to determine the normality of the data and analysis of variance for repeated measures was used to analyze the data. A significant difference in the $p < 0/05$ accepted. Results: Results showed that aerobic training significantly reduced body weight, body mass index, percent body fat, but significant increase observed in maximal oxygen consumption level ($p \leq 0/05$). The neuropeptide Y levels were significantly increased after exercise. Analysis of data determined that there was no significant difference between the four groups. Conclusion: Appetite control plays a critical role in the competition between energy consumption and energy expenditure. The results of this study showed that endurance training and thyme consumption can be cause improvement in physiological parameters such as increasing aerobic capacity, reduction of fat mass and improve body composition in untrained men.

Keywords : Endurance training, neuropeptide Y, thyme, untrained men

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