

JOINT EVENT  
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**Effect of combined training with and without pomegranate concentrates on HbA1c and C-peptide in middle-aged women**

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**Statement of the Problem:** Metabolic syndrome is a cluster of metabolic disorders such as dyslipidemia, raised blood pressure and fasting plasma glucose that can lead to diabetes type II and cardiovascular diseases. The strategy suggested for treating metabolic syndrome is to promote life style and health. Healthy lifestyle promotion and rich herb supplements with anthocyanin and polyphenol are recommended for treatment. The purpose of this research was to investigate the effects of 8 weeks of combined training exercise with and without pomegranate concentrate consumption on HbA1c and C-peptide in middle-aged women.

**Methodology & Theoretical Orientation:** In this quasi-experimental study, 24 physically inactive middle-aged women suffering of metabolic syndrome participated purposively and voluntarily. The patients were randomly divided into groups of combined exercise group (E=12) and combined exercise with pomegranate concentrate consumption group (EPC=12) who consumed pomegranate concentrate (50 grams per day for 8 weeks). The combined exercise, aerobic and resistance, protocol were conducted with 60-80% intensity of Maximum heart rate (HR max), and 60-80% of one repetition maximum (1-RM). Participants' HbA1c, C-peptide, anthropometry and metabolic syndrome indexes were measured once before 24-hours of the first exercise session onset and 48-hours after the last session. The data were analyzed with SPSS software. The Significance level was set at  $P \leq 0.05$ .

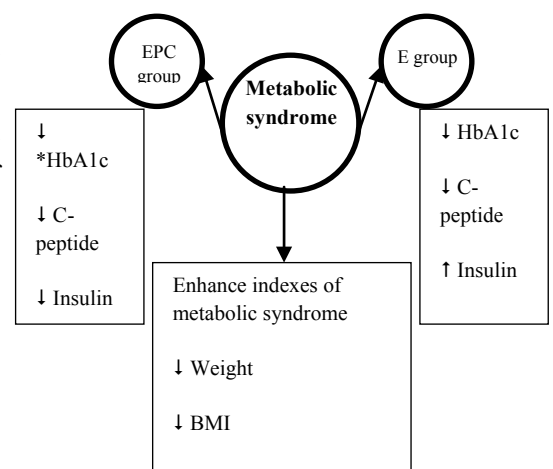
**Finding:** The t-test results indicated a significant reduction in insulin and insulin resistance in EPC as compared to the E group. Moreover, according to the paired sample t-test results, HbA1C level had a significant reduction in EPC ( $P \leq 0.05$ ).

**Conclusion & Significance:** It seems that regular physical exercises along with consuming pomegranate concentrate can probably be effective through reducing HbA1c as the key index of controlling blood glucose. Through improving a number of metabolic syndrome indices such as insulin resistance it can help to prevent its resultant side effects in middle-aged women.

**Biography**

Sadegh Eghbali has completed her graduation in Sport Physiology and MSc in Physical Activity and Health from Ferdowsi University of Iran. She is interested in metabolic syndrome, pre-diabetes and frailty as well as her expertise is to educate patients to improve their health goals with exercise and improving lifestyle. She has years of experience in working with patients suffering from metabolic syndrome both in hospital and education institutions.

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