

The Effect of Saffron Aqua Extract with 8 Weeks Aerobic and Resistance Training on Glutathione peroxidase (GPx) and Malondialdehyde (MDA) in Men with Type 2 Diabetes

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The aim of this study is to investigate the effect of saffron aqua extract with 8 weeks aerobic and resistance training on glutathione peroxidase (GPx) and malondialdehyde (MDA) in men with type 2 diabetes. The population consists of 36 male patients with type 2 diabetes with a body mass index between 21 to 30 kilograms per meter squared who were consumed metformin to control their blood sugar. These individuals were randomly divided into 5 groups: control, aerobic training, aerobic training and supplementation, resistance training, resistance training and supplementation. Thus, one repetition maximum was performed for aerobic training group 3 days per week and each session 60 minutes consists of walking and running and aerobics, resistance training out for 3 days per week and each session 60 minutes resistance exercise to reach 70-65 percent. The groups that were investigated in this study for 8 weeks include the training and saffron groups who were consumed 3 milligrams per kilogram saffron aqua extract daily as well as activities, the control group that ate saffron aqua extract daily and use placebo. Blood samples were taken at the beginning and end of the period of the groups after 12-hour fasting and concentrations of malondialdehyde and glutathione peroxidase were measured. Laboratory variables were assessed by ELISA and in order to analyze the data was used t statistical model for for affiliate groups or the paired t-test and analysis of variance. Also, the significance level was intended $P \leq 0.05$ for all calculations. 1. After 8 weeks, resting levels of MDA showed a significant level in control and aerobic training and supplementation groups, however, there is non significant change in aerobic exercise, resistance training and resistance training

with supplementation groups. 2. After 8 weeks, resting levels of GPX showed a significant level aerobic training and supplementation, resistance training and resistance training and supplementation groups, but any significant change in control and aerobic training groups were observed. With regard to finding, it can be concluded that aerobic and resistance training combined with the consumption of saffron may be used as an effective preventive method to avoid the multiple complications of diabetes. So that, regular aerobic and resistance training with a daily intake of saffron extract to improve plasma peroxidation and antioxidant balance in men with type 2 diabetes.

Keywords : Glutathione Peroxidase, Malondialdehyde, Type 2 Diabetes, Saffron

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