



## The antioxidant effect of TRX training in sedentary obese women

### Poster Presentation

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### Abstract

**Introduction:** Obesity is associated with increased oxidative stress (1). Today, exercise training is mentioned as the most important and least costly way to prevent many diseases, cause public health, and reduce disability (2). In this case, decreased free radical activity in response to increased antioxidant synthesis has been reported as a consequence of regular and continuous exercise training (3).

**Methods:** The present study followed the effect of 8 weeks of TRX training in obese middle-aged women on H<sub>2</sub>O<sub>2</sub> and GPX levels. GPX and H<sub>2</sub>O<sub>2</sub> activity levels and anthropometric indices of subjects were measured before and 48 hours after the last training session. Independent t-tests for baseline levels and paired t-tests for variable changes between the two groups were used to evaluate the data results.

**Results:** Anthropometric indices decreased in response to TRX training, and GPX levels increased significantly ( $p < 0.05$ ). At the same time, H<sub>2</sub>O<sub>2</sub> remained unchanged after 8 weeks of TRX training ( $p = 0.68$ ).

**Conclusion:** Increased GPX activity may be attributed to weight loss and body fat loss following exercise because obesity and high levels of body fat mass are associated with increased ROS and lipid peroxidation due to increased access to the fat substrate. Decreased activity of antioxidants, including GPX, in obese people, has been reported as one of the reasons for the increase in oxidative stress (4). Due to the positive effect of TRX exercises on GPX, despite the fact that H<sub>2</sub>O<sub>2</sub> does not change, the antioxidant effect of these exercises can be reported in obese middle-aged women.

### Keywords

TRX training; H<sub>2</sub>O<sub>2</sub>; GPX and obesity

### Reference

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