Original Paper

Effect of 8 weeks aerobic exercise and vitamin C on liver transaminases activities in obese 8-11 years girls

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Abstract

Background and Objective: Liver diseases accompanied with growing of obesity in children. This study was done to evaluate the effect of aerobic exercise and vitamin C intake on liver transaminases activities in 8-11 years obese girls.

Methods: In this quasi-experimental study, 28 obese girls were randomly divided into four equal groups including control, exercise, supplement (500 mg vitamin C tablet, dailly) and combined (500 mg vitamin C, daily plus exercise) groups. Aerobic exercise was consisted of exercise movements at 50% to 70% maximal heart rate and 3 sessions per week for 8 weeks. Fasting blood samples were collected before and 48 hour after the last intervention. Serum transaminases activities were measured by enzymatic colorimetric method.

Results: 8 weeks of aerobic exercise, vitamin C and the combined intervention were associated with a significant reduction in Alanine aminotransferase (ALT) and Aspartate aminotransferase (AST) activities ($P<0.05$) whereas there was no effect on the Alkaline phosphatase activity. All these interventions were associated with significantly greater reduction in the ALT and AST activities ratio in comparision with control group. Combined intervention induced more reduction on percent of variables changes compared with other interventions ($P<0.05$).

Conclusion: It seems selected aerobic exercise and vitamin C intake may induce their protective effect in obese girls via improvement in liver function.

Keywords: Exercise, Obesity, Transaminase, Vitamin C

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Received 8 Feb 2016 **Revised** 29 May 2016 **Accepted** 21 Jun 2016

Cite this article as: Habibzadeh Bizhani F, Habibian M, Farzanegi P. [Effect of 8 weeks aerobic exercise and vitamin C on liver transaminases activities in obese 8-11 years girls]. J Gorgan Uni Med Sci. Spring 2017; 19(1): 25-32. [Article in Persian]