ORIGINAL ARTICLE

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# The Comparison of HighIntensity Interval Training Versus Continuous Training on the Expression of ErbB3 in Breast Cancer Bearing mice

**Nasiri M:** Ph.D. Student of Exercise Physiology Department of Exercise Physiology, Central Tehran Branch, Islamic Azad University, Tehran, Iran
**Peeri M:** Exercise Physiology Department of Exercise Physiology, Central Tehran Branch, Islamic Azad University, Tehran, Iran
**Matinhomaee H:** Exercise Physiology Department of Exercise Physiology, Central Tehran Branch, Islamic Azad University, Tehran, Iran

**Corresponding Author:** Maghsoud Peeri, mpeeri@iauctb.ac.ir

## Abstract

**Introduction:** The studies of the last two decades have shown that regular training has an important role in inhibiting breast cancer progression, alsoErbB3 function as aTherapeutic factor for reduction of tumor growth, so the aim of the study was to evaluate the comparison of HighIntensity Interval Training Versus Continuous Training on the expression of ErbB3 in breast cancer bearing mice.

**Methods:** For this purpose, 18 BALB/c mice (6-8 weeks, weight 19 ± 1.05 g), after induction of cancer (MC4-L2 subcutaneous injection into the right side of the mice), were randomly divided into three 6-member groups: high-intensity interval training, continuous training and control. Each session of high-intensity interval training group program includes sixintervals of three minutes and 20 seconds with an intensity of 85 to 90 percent of VO2max and 1 minute recovery with 30 to 35 percent VO2max intensity between each interval and The continuous training program was defined as running at 60% VO2max for 60 minutes in each session; Training programs were conducted five days a week for 10 weeks.

**Results:** The statistical results showed thatthe expression level of ErbB3 decreased significantly in both exercise groups compared to the Control group($p=0.005$); however, there was no difference between both exercise groups($p=0.304$)and alsoboth continuous and interval training were effective to inhibit the growth of breast tumors, but HIT program appears to confer greater inhibitor than the continuous training program.

**Conclusion:** It seems that HIT is more effective at inhibit breast tumor than the continuous training program.

**Keywords:** Breast Cancer, High Intensity Interval Training, continuous training, ErbB3 gene.