

<https://doi.org/10.29289/259453942025V35S1021>

# The effects of resistance training versus combined training on the health-related quality of life levels of breast cancer patients undergoing neoadjuvant chemotherapy

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**Objective:** To compare the effects of resistance training (RT), combined training (CT), and control group (CON) on the health-related quality of life (HRQoL) of breast cancer patients undergoing neoadjuvant chemotherapy. **Methods:** A randomized clinical trial (Brazilian Registry of Clinical Trials n° 16497) was conducted with 19 women undergoing neoadjuvant chemotherapy, distributed in RT (n=6; age 44.33 standard deviation  $\pm$ 5.50), CT (n=6; age 43.80 $\pm$ 8.64), and CON (n=6; age 40.42 $\pm$ 7.96). The RT group performed only resistance training, while the CT group performed the same resistance training protocol adding an aerobic training session at the end. Both groups (RT and CT) underwent physical exercise sessions once a week for 12 weeks. The CON group received only the usual care. HRQoL was assessed by the Functional Assessment of Cancer Therapy (FACT-B). Data normality was analyzed by the Kolmogorov-Smirnov test. A one-way analysis of variance (ANOVA) was conducted for parametric data to compare groups at baseline. Finally, a factorial ANOVA with repeated measures was employed to evaluate the effects of group, time, and group-by-time interaction. The analysis followed the intention-to-treat principle, so that all randomized participants were included in the analysis, regardless of protocol adherence or data completeness. The study was approved by the ethics committee of the Federal University of Goiás (CAAE: 50717115.4.0000.5083). **Results:** One-way ANOVA showed that the groups had similar HRQoL scores at baseline (p=0.93). The factorial ANOVA did not detect significant effects for group (p=0.87), time (p=0.59), or group-by-time interaction (p=0.87), indicating that HRQoL levels did not change throughout the intervention, and were not influenced by different training or control protocols. **Conclusion:** There were no significant changes in HRQoL levels in the RT, CT, and CON groups after 12 weeks of physical exercise during neoadjuvant chemotherapy treatment.

**Keywords:** cancer; sedentary behavior; physical exercise.