

Conflict of interest: The authors declare no conflict of interest.

Funding: Not applicable.

Ethics committee approval: Not applicable.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101318>

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IMPACTS OF A PILATES, ZUMBA AND THORACOABDOMINAL REBALANCING PROTOCOL ON THE CARDIORESPIRATORY CONDITIONS OF WOMEN WITH BREAST CANCER: PILOT STUDY

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Background: Breast cancer represents a relevant health problem both in Brazil and globally, bringing several adverse effects due to treatments, which may include surgeries and/or complementary therapies. Among these consequences, cardiorespiratory changes stand out and require special attention. Therefore, it is essential to develop rehabilitation strategies that promote adherence and effectiveness, through the implementation of a specific and detailed protocol for this population, which includes a combined global training of Mat Pilates, Zumba and Thoracoabdominal Rebalancing with the aim of improving the patients' cardiorespiratory condition.

Objectives: To evaluate the impacts of an exercise protocol consisting of Mat Pilates, Zumba and Thoracoabdominal Rebalancing on the cardiorespiratory conditions of women undergoing breast cancer treatment.

Methods: Controlled and randomized clinical trial, carried out with women after surgery and undergoing breast cancer treatment, randomized to the intervention group (IG = 8) that received the Zumba, Mat Pilates and Thoracoabdominal Rebalancing protocol and the control group (CG = 8) that did not receive the protocol. The protocol was carried out in 10 sessions, 2 per week on alternate days. Protocol consisting of monitoring initial and final signs (heart rate, diastolic and systolic blood pressure), reeducation of respiratory biomechanics using the Thoracoabdominal Rebalancing Method, 10 minutes of Zumba and 10 minutes of Mat Pilates. Before and after the protocol period, general and clinical characteristics, the physical activity questionnaire (IPAQ) and cardiorespiratory conditions were evaluated considering respiratory muscle strength (maximum inspiratory and expiratory pressures), peripheral muscle strength (handgrip test) and functional capacity using the sit-to-stand test. The variables were analyzed using specific intra (Wilcoxon) and intergroup (Mann-Whitney) statistical tests.

Results: The IG was 43.2 ± 7.2 years old and the CG was 59.3 ± 5.5 years old. 75% of the IG and 25% of the CG practiced physical activity. In the intragroup analysis, the IG showed a significant improvement in sit-to-stand test ($p = 0.048$), while the CG showed a significant worsening in maximum inspiratory pressure ($p = 0.039$) and in handgrip of the dominant hand ($p = 0.030$). In the intergroup analysis, there was a significant difference in systolic blood pressure ($p = 0.019$), with the CG having higher values and in the handgrip of the dominant hand ($p = 0.048$), with the IG having higher values. This indicates that the protocol has the potential to improve or maintain the variables analyzed in the study, since in participants who did not follow the protocol, a reduction in these variables was observed over time.

Conclusion: The treatment protocol had a positive impact on the cardiorespiratory conditions of the IG, considering sit-to-stand test and blood pressure, in addition to maintaining respiratory and peripheral muscle strength variables. While the patients in the CG, who did not undergo the intervention, had a negative impact on the inspiratory and peripheral muscle strength of the dominant hand.

Implications: The results found demonstrate the potential that this protocol has in providing improvements in the cardiorespiratory conditions of this population, through the combination of specific and well-structured exercises, improving recovery and functionality.

Keywords: Breast Neoplasms, Breathing Exercises, Exercise Movement Techniques

Conflict of interest: The authors declare no conflict of interest.

Funding: CAPES - Finance Code 001.

Ethics committee approval: CAAE: 63879522700005504.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101319>

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CELLULAR INTEGRITY OF PEOPLE WITH LUNG OR HEAD AND NECK CANCER UNDERGOING A HOME-BASED PHYSICAL TRAINING PROGRAM DURING ONCOLOGICAL TREATMENT

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Background: Lung and head cancer have high incidence and mortality rates. Chemotherapy and radiotherapy are widely used therapeutic modalities in cancer treatment, acting by destroying tumor cells. However, these treatments can also affect healthy cells, leading to adverse effects and damage to cellular integrity and function. Considering the difficulty of going to a training center, the immunosuppression of this population and the benefits of physical exercise in healthy people, home physical training can be a complement to cancer treatment.

Objectives: To evaluate the cell integrity of people with lung or head and neck cancer undergoing a home-based physical training program during cancer treatment.

Methods: People with primary lung or head and neck cancer were randomized into a training group (TG) and a control group (CG). The TG performed home-based physical training during cancer treatment. Aerobic training was performed through daily walks of at least 20 minutes, seven times a week, and resistance training of elbow flexion, knee flexion and extension with a green elastic band (2.3 kg of resistance), twice a week. The training time followed the duration of cancer treatment established individually by the oncologist. The CG performed only cancer treatment without any type of physical exercise. The groups were evaluated before and after cancer treatment, regarding the cell integrity (phase angle of the bioelectrical impedance analysis). The paired t-test was used to verify the intragroup difference and the independent t-test for intergroup analysis. In addition, a linear regression with the cell integrity and training adherence was performed.

Results: Fifty-four people were evaluated, most were diagnosed with head and neck cancer (60%), men (78%), with overweight and in an advanced stage of the disease (74%). The TG performed the home physical training program for a mean of 14 weeks, with 52%