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# Impact of short-duration physical exercise on the upper limb of women treated for breast cancer: the Blue Flower Project

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**Objective:** To evaluate the impact of short-duration physical exercise on quality of life and functionality, range of motion, and upper limb volumetry in women treated for breast cancer. **Methods:** This is a prospective cohort study. Women with a diagnosis of breast cancer who had completed cancer treatment were included. The intervention lasted 24 weeks, with a progressive exercise protocol using body weight, six days per week, lasting 12 minutes per day. Activities were performed in person in groups once a week and individually through a specific application from the Blue Flower Project five times a week. The variables assessed were quality of life related to upper limb dysfunctions (disabilities of the arm, shoulder, and hand questionnaire; DASH), shoulder functionality (goniometer; BAIOBIT<sup>®</sup>), subclinical arm volume/lymphedema, and body composition (bioimpedance; inBody 770<sup>®</sup>). All assessments were conducted at baseline, three months, and six months. Repeated measures analysis of variance (ANOVA) were applied. A significance level of 5% ( $p < 0.050$ ) was assumed for statistical significance. **Results:** Of the 56 women who started the program, 34 completed the 24 weeks. The mean age was 57 (standard deviation  $\pm 8$ ) years. There was a significant improvement in quality of life related to upper limb dysfunction measured by DASH ( $p = 0.001$ ) and in the range of motion for flexion ( $p = 0.017$ ), adduction ( $p = 0.007$ ), abduction ( $p = 0.005$ ), medial rotation ( $p = 0.011$ ), and lateral rotation of the shoulder ( $p = 0.01$ ). Patients also showed a reduction in upper limb volumetry measured by tape ( $p = 0.017$ ) and in lean muscle mass of the arms assessed by bioimpedance ( $p = 0.006$ ). **Conclusion:** Daily physical activity for 12 minutes had a significant impact on quality of life related to upper limb functionality, range of motion in all movements, and a reduction in arm volumetry in women treated for breast cancer.

**Keywords:** breast cancer; lymphedema; physical activity; quality of life.