

<https://doi.org/10.29289/259453942021V31S2058>

HANDGRIP STRENGTH AND ISOMETRIC BILATERAL BENCH PRESS FOR UPPER INTERLIMB STRENGTH ASYMMETRY IN BREAST CANCER WOMEN, WITH OR WITHOUT LYMPHEDEMA

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Purpose: The aim of this study is to compare upper interlimb strength asymmetry in breast cancer women (BCW), with or without lymphedema, using the handgrip strength test and the isometric bilateral bench press (IBBP) test. **Methodology:** Twenty-two BCW (age 52.04 ± 8.62 years) were enrolled in a cross-sectional study, with a single-day testing. Ten participants with self-reported breast cancer – related lymphedema (BCRL) and 12 participants without BCRL were evaluated for the interlimb strength asymmetry. The average of the best three of four attempts of the handgrip strength and the IBBP was used to compare the maximal voluntary isometric contraction of each limb. To calculate the interlimb strength asymmetry, we used the following formula as a percentage: the modulus of left minus right side divided by the average between sides, then multiplied by 100. For the statistical analysis, we used the nonparametric Mann–Whitney U test for the handgrip strength and the independent t-test for IBBP. **Results:** The handgrip strength in BCW with lymphedema ($27.62\% \pm 15.5\%$) showed a higher interlimb strength asymmetry than BCW without lymphedema ($12.37\% \pm 16.29\%$; $p=0.021$). However, there was no difference in IBBP (with lymphedema $8.89\% \pm 5.81\%$ versus without lymphedema $9.84\% \pm 7.98\%$, $p=0.759$). **Conclusion:** BCW with lymphedema might have higher interlimb strength asymmetry assessed by the handgrip strength test compared with BCW without lymphedema, but not in a multi-compound movement such as IBBP. More studies are necessary to confirm our findings.

Keywords: Oncology; Muscle Strength; Cancer, Swelling.