Quantitative Comparison of Arm Activity Reveals Survivors of Breast Cancer Use Their Arms Equally to Controls

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Stress and Fear: Exploring the Gap Between Self-Reported and Objective Functional Measures in Women Treated for Breast Cancer

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Disclosures

No relevant financial relationship exists

Background

Co-investigators:
- Anne Fleischer, PhD, MPH, OT/L, CLT-LANA
- MSOT Students
  - Occupational Science and Occupational Therapy Department, Eastern Kentucky University, Richmond, Kentucky

Methods

Purpose:

To investigate the relationship between self-reported upper extremity function and perceived stress, fear of physical activity, and objective measures among women treated for breast cancer.

Participants

- 24 women
- Mean age 52 (range 31-68)
- Stage 1-3 breast cancer in the past 12-60 months
- Mean BMI = 28.07 (SD = 6.6)
- Mean Duration of cancer = 30 months (SD 13.4)

Acknowledgements

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Methods

Participants

Type of Cancer

Stage of Cancer

- Self-reported Outcome Measures:
  - Functional Assessment of Cancer Therapy (FACT-B)
  - Fear of Physical Activity/Exercise Scale-Breast Cancer (FPAX-B)
  - Perceived Stress Scale (PSS)
  - Disabilities of the Arm, Shoulder, and Hand (DASH)

Objective Measures (bilateral):

- Shoulder ROM
  - Flexion
  - Internal Rotation
  - External Rotation
- Shoulder Strength
  - Flexion
  - Internal Rotation
  - External Rotation
- Endurance
  - Upper Limb Lift Test (ULLT)

Statistical Analysis

- Descriptive statistics on patient demographics
- Correlation between self-reported function and outcome measures

Participants vs Normative Data for ROM
Significant correlation between the DASH and Perceived Stress Scale (PSS).

- $r = .739$ ($p < 0.001$)

Significant correlation between the FPAX-B and the DASH.

- $r = .779$ ($p < 0.001$)

Significant correlation between the FACT-B and the DASH

- $r = -.717$ ($p < 0.001$)

No significant correlation was found between any of the self-report measures and the objective ROM, strength, or muscular endurance.

- Self-reported measures of function appear to be moderately strongly correlated with perceived stress and fear of physical activity.
- Self-reported measures of upper extremity function show no significant correlation to objective measures of ROM, strength, or muscular endurance.
- This relationship should be taken into consideration by clinicians to identify and address barriers to recovery for this population.

Limitations

- Convenience sample
- Data types collected in order of scheduling convenience
- No longitudinal data
● Experience of stress and fear of physical activity appear to result in lower levels of self-reported UE function than what would be expected based on measures of motion, strength, and muscular endurance.
● Perceived stress and other cognitive constructs may explain apparent difference between objective and perceived measures of function currently observed in this population.
● Exploring cognitive and psychological effects of breast cancer diagnosis and treatment may direct rehabilitation strategies and aid in improved outcomes.

Future Research
● Further exploration into the cognitive and psychological effect of breast cancer diagnosis and treatment on physical function.
● Long term physical impact of cancer treatment.
● Impact of treatment type on self-reported and objective measures of function.

Thank you!
Questions?