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TITLE: PERCEIVED STRESS HAS A NEGATIVE EFFECT ON SELF-REPORTED UPPER EXTREMITY FUNCTION AMONG WOMEN TREATED FOR BREAST CANCER

PRESENTATION TYPE: Platform

CURRENT SECTION: Oncology

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Student Category - Research Report: Not a Student

#### Abstract

#### ABSTRACT BODY:

**Purpose/Hypothesis :** Women treated for breast cancer report ongoing upper extremity disability with functional limitations; however, objective measures do not appear to explain the extent of perceived dysfunction. The purpose of this study was to investigate the relationship between perceived stress level, fear of physical activity, self-reported upper extremity function, and objective measures of upper extremity function including range of motion (ROM), strength, and muscular endurance, among women treated for breast cancer.

**Number of Subjects :** 25

**Materials/Methods :** Women diagnosed with stage I-III breast cancer in the past 12-60 months were evaluated using the Disabilities of the Arm, Shoulder and Hand (DASH), Perceived Stress Scale (PSS), Fear of Physical Activity/Exercise Scale - Breast Cancer (FPAX-B), and the Functional Assessment of Cancer Therapy for Breast Cancer (FACT-B). Bilateral arm flexion, external rotation, and internal rotation ROM and strength were measured with a digital inclinometer and a hand held dynamometer fixed to a stationary device. Bilateral arm muscle endurance was measured using the Upper Limb Lift Test. Descriptive statistics were calculated for all variables and relationships between the PSS, FPAX-B, FACT-B and the DASH and objective measures were analyzed with Pearson's r.

**Results :** The mean age of participants was 52 (range 31-68), with a mean BMI of 28.07 (SD= 6.6). The mean ROM of shoulder flexion was  $\geq 147^\circ$ , ER  $\geq 85^\circ$ , and IR  $\geq 70^\circ$ . The PSS, FPAX-B, and FACT-B were significantly correlated ( $p=0.000$ ) with the DASH ( $r= -.739$ ;  $r= -.717$  and  $r= .779$  respectively). No significant correlation was found between any of the self-reported measures and the objective ROM, strength, or muscular endurance measures.

**Conclusions :** The experience of stress and fear of physical activity appear to result in lower levels of self-reported upper extremity function despite adequate motion, strength, and muscular endurance. Perceived stress and other cognitive constructs may explain the apparent difference between objective and perceived measures of function currently observed in this population. Further exploration into the cognitive and psychological effect of a breast cancer diagnosis and the associated impact on self-perceived function is warranted.

**Clinical Relevance :** Investigating the impact of stress and fear of physical activity on self-perceived upper extremity function in women treated for breast cancer may help clinicians identify and address barriers to recovery for this population.

**KEYWORDS:** Patient reported outcomes, fear of physical activity, breast neoplasm.

**References: Limit to only those materials that ensure that the content is evidence-based; minimum 5 references, no more than 10 years old (2008 and forward):** Groarke A, Curtis R, Kerin M. Global stress predicts both positive and negative emotional adjustment at diagnosis and post-surgery in women with breast cancer. *Psycho-Oncology* [serial online]. January 2013;22(1):177-185.

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