

# Active and Passive Coping Strategies

## Comparing psychological distress, cortisol, and proinflammatory cytokine levels in breast cancer survivors

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**BACKGROUND:** Breast cancer survivors can experience psychological distress, such as anxiety and depression, long after treatment has ended, and the development of such negative affective states has been related to the coping strategy used.

**OBJECTIVES:** This pilot study aims to determine whether different coping strategies are associated with differences in psychological distress, cortisol, and tumor necrosis factor alpha (TNF- $\alpha$ ) levels in breast cancer survivors.

**METHODS:** 54 breast cancer survivors completed the Stress Coping Questionnaire and the Hospital Anxiety and Depression Scale and provided a blood sample for cortisol and proinflammatory cytokine measures.

**FINDINGS:** Passive coping strategies were associated with higher psychological distress, cortisol, and TNF- $\alpha$  levels. The passive group had more avoidance and negative self-targeting and less positive reappraisal and focusing on a problem's solution.

### KEYWORDS

psychological distress; cortisol; tumor necrosis factor; breast cancer; coping

### DIGITAL OBJECT IDENTIFIER

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**BREAST CANCER IS THE MOST COMMON CANCER** in women worldwide. Although cancer survival rates have increased, survivors often face additional mental health diagnoses, such as anxiety or depression, long after treatment has ended (Bower, 2008). These disorders lead to poorer quality of life and compromise patient health outcomes (Smith, 2015). Depression is a clear predictor of reduced survival and facilitates cancer progression, likely through changes in the hypothalamic-pituitary-adrenal (HPA) axis and the immune system (Feller et al., 2019). Physiopathology of anxiety and depression is characterized by an HPA axis dysregulation and an inflammatory response (Furtado & Katzman, 2015a, 2015b; Gerritsen et al., 2019). Therefore, an important and modifiable risk factor for the development of anxiety and depressive symptoms can be the coping strategy used (Geyikci, Cakmak, Demirkol, & Uguz, 2018; Reich & Remor, 2010).

Coping styles dictate the response to threats or challenges to prevent or reduce associated distress (Ghanem et al., 2019). Categories of coping styles are active coping and passive (or avoidant) coping (Nielsen & Knardahl, 2014). Active coping is generally associated with more adaptive adjustment and characterized by strategies such as problem-focused coping, whereas passive coping is defined as maladaptive strategies when faced with stressful situations, such as negative self-targeting and avoidance (Wood & Bhatnagar, 2015). Studies suggest that coping style can determine the immune and endocrine responses to stress (Diaz, Aldridge-Gerry, & Spiegel, 2014; Hoyt et al., 2014; Tripathy, Tripathy, Gupta, & Kar, 2019). Passive coping rather than active coping has been associated with poorer immune response and flatter cortisol diurnal slope (Dougall, Wroble Biglan, Swanson, & Baum, 2012; Hoyt et al., 2014). A meta-analysis reported that positive psychological traits are associated with reduced HPA reactivity in healthy populations (Chida & Hamer, 2008) and in patients with cancer (Diaz et al., 2014).

Patients with breast cancer who exhibit psychological distress can demonstrate ineffective coping strategies, such as negation or avoidance (Alcalar, Ozkan, Kucucuk, Aslay, & Ozkan, 2012; Donovan-Kicken & Caughlin, 2011; Malik & Kiran, 2013). A problem-focused coping strategy has been associated with better psychological outcome (Büyükaşık-Çolak, Gündoğdu-Aktürk,