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# The Relationship Between Symptom Severity and Symptom Interference, Education, Age, Marital Status, and Type of Chemotherapy Treatment in Israeli Women With Early-Stage Breast Cancer

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In 2007, more than 4,000 women were newly diagnosed with breast cancer in Israel (Israeli National Cancer Registry, 2010). Many women with early-stage breast cancer are being offered adjuvant chemotherapy; however, patients receiving chemotherapy often experience bothersome symptoms (Stanton, Bernaards, & Ganz, 2005). Patients report the distressing symptoms of cancer to clinicians as the subjective feelings of physical and mental changes produced by their disease and its treatment. Patients with cancer typically experience multiple symptoms concurrently (Lee et al., 2004), which is true of women receiving adjuvant chemotherapy for breast cancer. The symptoms include fatigue, sleep disturbances, weight gain, mild memory loss, and premature menopause (Byar, Berger, Bakken, & Cetak, 2006; Schultz, Klein, Beck, Stava, & Sellin, 2005; Stanton et al., 2005).

## Symptom Severity and Breast Cancer

Women at the end of their adjuvant treatment can still experience symptoms but have fewer opportunities to be in contact with their professional caregivers. In addition, nonspecific symptoms such as pain, fatigue, sleep disturbance, emotional distress, and poor appetite typically are not monitored as closely as treatment toxicities in the clinical setting; as a result, appropriate symptom management often is not addressed (Cleeland, 2007).

An Israeli study reported on menopausal symptoms in women with breast cancer; however, the study was conducted several years after the women were diagnosed (Mannor & Zohar, 2006). No studies were found that examined symptom severity in Israeli women with early-stage breast cancer receiving adjuvant chemotherapy.

**Purpose/Objectives:** To examine symptom severity's relationship to symptom interference, education, age, marital status, and type of chemotherapy treatment in Israeli women with stage I or II breast cancer.

**Design:** Cross-sectional, descriptive, correlational design.

**Setting:** Hadassah University Hospital's oncology daytime care unit in Israel.

**Sample:** 51 women with stage I or II breast cancer who were receiving an adjuvant chemotherapy protocol that included doxorubicin.

**Methods:** Women receiving adjuvant chemotherapy were given the M.D. Anderson Symptom Inventory (MDASI), a modified version of the Breast Cancer Prevention Trial Hot Flashes Subscale (BCPT-HFS), and a demographic and treatment questionnaire to assess their symptoms toward the end of their chemotherapy treatment.

**Main Research Variables:** Symptom severity, symptom interference, education, age, marital status, and type of chemotherapy treatment.

**Findings:** The most frequent and severe symptoms were fatigue, sleep disturbance, and drowsiness. The MDASI symptom severity total scores were positively correlated with total scores of interference with activities of daily life, with most individual symptoms being significantly related to the total interference scores. The strongest relationships were found with fatigue, distress, and sadness. Education was inversely related to the MDASI general symptom severity total scores; age was inversely related to the BCPT-HFS total scores. Patients who received treatment with doxorubicin plus cyclophosphamide or doxorubicin, cyclophosphamide, plus fluorouracil had greater symptom severity than those who received doxorubicin plus cyclophosphamide followed by paclitaxel and had their symptoms evaluated after receiving paclitaxel.

**Conclusions:** Increased symptom severity disrupts daily function and life in women with breast cancer.

**Implications for Nursing:** Evidence-based symptom profiles for different chemotherapy protocols are needed.