

# Pilot Study of a Survey to Identify the Prevalence of and Risk Factors for Chronic Neuropathic Pain Following Breast Cancer Surgery

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**B**reast cancer is the most common cancer among Canadian women; one in nine women will develop breast cancer in her lifetime and one in 29 will die from it (Canadian Cancer Society [CCS], 2011). Advances in screening, diagnosis, and treatment have led to a decreased mortality rate for women with breast cancer, which makes the study of chronic conditions more important as the breast cancer population ages. The primary treatment option for breast cancer is surgery (lumpectomy or mastectomy). Many patients also receive adjuvant therapies such as chemotherapy, radiation therapy, hormone therapy, targeted therapy, biologic therapy, or a combination of these therapies (CCS, 2010).

Mastectomies and lumpectomies can be done with or without complete axillary lymph node dissection (ALND) (CCS, 2010). A less invasive procedure introduced in the mid-1990s called sentinel lymph node dissection (SLND) (also known as sentinel node biopsy or sentinel lymph node biopsy) is used to sample the lymph nodes in early-stage breast cancer. The procedure entails the removal and examination of one or a few lymph nodes from the axilla called sentinel lymph nodes (CCS, 2010). Lumpectomy and mastectomy differ mainly in the amount of breast tissue to be excised, which, in turn, is determined by the tumor size in relation to the breast (CCS, 2009). Therefore, the most recent and least invasive procedure is a lumpectomy with SLND (Jung, Ahrendt, Oaklander, & Dworkin, 2003).

Breast cancer treatments are not without side effects. Chronic neuropathic pain post breast surgery (PPBS), also known as chronic post-mastectomy or -lumpectomy pain syndrome, is one such complication. However, variability exists in the prevalence rates for PPBS reported in the literature, ranging from 20%–68% (see Table 1). Such variability may be because of differ-

**Purpose/Objectives:** To provide a preliminary determination of the prevalence rate of women who suffer from neuropathic pain post breast surgery (PPBS) and explore potential risk factors associated with its development.

**Design:** Prospective, quantitative, longitudinal survey.

**Setting:** Breast health clinic in western Canada.

**Sample:** A convenience sample of 17 women undergoing breast cancer surgery.

**Methods:** The Brief Pain Inventory was administered before surgery and 2 days, 10 days, and 3 months postsurgery. Demographic data also were collected preoperatively. Analysis included determining prevalence of PPBS; descriptive analyses on age, gender, and body mass index (BMI); presence of acute postoperative pain; type of surgery; and two-tailed t tests on age and BMI.

**Main Research Variables:** The symptom experience of chronic PPBS.

**Findings:** Twenty-three percent of the sample developed PPBS. Younger age (50 years or younger), more invasive surgery, acute postoperative pain, and less analgesic use during the acute postoperative period were factors associated with the development of PPBS.

**Conclusions:** Additional research is required to confirm the significance of these potential risk factors in the development of PPBS.

**Implications for Nursing:** Nurses are ideally situated to identify early signs of PPBS. In addition, nurses play a key role in the education of patients and healthcare professionals and can facilitate increased awareness about the possibility of developing PPBS, enabling earlier and more effective treatment of PPBS.

ent definitions of chronic pain used; severity of pain cutoff points used for analysis; whether pain location is restricted to the arm, chest wall, or axilla (or all three); and the exclusion or inclusion of breast cancer