Identification of Tools to Measure Changes in Musculoskeletal Symptoms and Physical Functioning in Women With Breast Cancer Receiving Aromatase Inhibitors

Karen K. Swenson, PhD, RN, AOCN®, Mary Jo Nissen, PhD, MPH, Susan J. Henly, PhD, RN, Laura Maybon, RN, Jean Pupkes, RN, ACNS-BC, AOCN®, Karen Zwicky, BS, Michaela L. Tsai, MD, and Alice C. Shapiro, PhD, RD, LN

Purpose/Objectives: To estimate and compare responsiveness of standardized self-reported measures of musculoskeletal symptoms (MSSs) and physical functioning (PF) during treatment with aromatase inhibitors (AIs).

Design: Prospective, longitudinal study.

Setting: Park Nicollet Institute and North Memorial Cancer Center, both in Minneapolis, MN.

Sample: 122 postmenopausal women with hormone receptor-positive breast cancer.

Methods: MSSs and PF were assessed before starting AIs and at one, three, and six months using six self-reported MSSs measures and two PF tests.

Main Research Variables: MSSs and PF changes from baseline to six months.

Findings: Using the Breast Cancer Prevention Trial–Musculoskeletal Symptom (BCPT-MS) subscale, 54% of participants reported MSSs by six months. Scores from the BCPT-MS subscale and the physical function subscales of the Australian/Canadian Osteoarthritis Hand Index (AUSCAN) and Western Ontario and McMaster Osteoarthritis Index (WOMAC) were most responsive to changes over six months.

Conclusions: BCPT-MS, AUSCAN, and WOMAC were the most responsive instruments for measuring AI-associated MSSs.

Implications for Nursing: Assessment and management of MSSs are important aspects of oncology care because MSSs can affect functional ability and AI adherence.

Knowledge Translation: The three measures with the greatest sensitivity were the BCPT-MS, AUSCAN, and WOMAC questionnaires. These measures will be useful when conducting research on change in MSSs associated with AI treatment in women with breast cancer.

Breast cancer is the most common cancer among women in the United States, with an estimated 232,340 women to be diagnosed in 2013 (American Cancer Society, 2013). Among postmenopausal women diagnosed with breast cancer, about 75% present with hormone receptor-positive disease, and that proportion is increasing (Anderson, Katki, & Rosenberg, 2011; Glass, Lacey, Carreon, & Hoover, 2007). Current guidelines recommend endocrine treatment with aromatase inhibitors (AIs) in postmenopausal women with hormone receptor-positive breast cancer following primary treatment with surgery or radiation therapy (Carlson et al., 2011). Five years of adjuvant AI treatment has been associated with an 18%–32% reduction in the risk of breast cancer recurrence over tamoxifen in clinical trials (Coates et al., 2007; Coombes et al., 2004).

AIs (anastrozole, letrozole, and exemestane) generally are prescribed for hormone receptor-positive disease after initial breast surgery, chemotherapy, or radiation therapy are completed (Cuzick et al., 2010). Women are given their prescription, along with instructions about the reason for treatment and a brief overview of potential side effects (Davidson, Vogel, & Wickerham, 2007; Love, 2005). Because follow-up visits are recommended every four to six months, instead of the frequent visits during radiation therapy or chemotherapy, appointment scheduling rarely permits ongoing, comprehensive face-to-face patient education regarding AI treatment, including management of side effects, from the nurse (National Comprehensive Cancer Network, 2013). Women may feel that the treatment phase is behind them at this time point. Women also may perceive that oral endocrine treatments are less important than surgery, chemotherapy, and radiotherapy (Fallowfield et al., 2006). These factors, in addition to the side effects from AI treatment, may lead to decreases in treatment adherence. However, treatment effectiveness is affected by adherence, because patients derive the most benefit from AI treatment when taken consistently at the correct dose and duration for the entire five-year period (Early Breast Cancer Trialists' Collaborative Group, 2005).