

# Relationships Among Pain, Sleep Disturbances, and Depressive Symptoms in Outpatients From a Comprehensive Cancer Center

Susan C. McMillan, PhD, ARNP, FAAN, Cindy Tofthagen, MS, ARNP, AOCNP®, and Mary Ann Morgan, MS, ARNP-BC

**Purpose/Objectives:** To describe the pain experience of outpatients with cancer and explore the relationships with sleep disturbance, depression, and patient functioning.

**Design:** Descriptive, cross-sectional study.

**Setting:** Outpatient clinics at a large comprehensive cancer center in the southeastern United States.

**Sample:** 85 patients with a pain intensity level of at least 3.

**Methods:** Secondary analysis of baseline data.

**Main Research Variables:** Pain intensity and distress, pain interference, sleep disturbance intensity, and distress and depression.

**Findings:** The sample included men and women with a mean age of 54 years and 13 years of education. Mean present pain intensity on the Brief Pain Inventory scale was 4.6; mean pain at its worst was 8.3. Mean pain intensity measured with the Memorial Symptom Assessment Scale was 2.4 and pain distress was 2.2. Pain intensity and pain distress had a strong, positive correlation. The mean interference score for the group was 42.8. More than 63% of patients reported a problem with sleep disturbance. Distress from sleep disturbance was significantly correlated with pain intensity and pain distress. Pain interference also was correlated with sleep disturbance intensity and sleep disturbance distress. Pain severity, pain distress, pain right now, and pain interference total scores all were significantly correlated with depression scores.

**Conclusions:** Patients with cancer continue to experience pain during outpatient treatment and report sleep and depressive symptoms related to it.

**Implications for Nursing:** Improvements continue to be needed in assessment and treatment of pain.

## Key Points . . .

- ▶ Many outpatients with cancer continue to have persistent and severe pain.
- ▶ Pain significantly interferes with enjoyment of life, relationships with others, and mood and keeps patients from obtaining needed rest. Better pain control may lead to improvements in symptom distress and emotional well-being.
- ▶ Among outpatients with cancer, pain intensity is highly correlated with distress from pain, interferes with sleep and other daily activities, and has a significant relationship with depression.

Modonesi et al., 2005; Stromgren et al., 2006; Vallerand, 1997; Walsh & Ribicki, 2006). Pain is a subjective and multidimensional experience that requires patients' self-report for healthcare providers to fully understand it (Shin, Kim, Kim, Chee, & Im, 2007; Vallerand). Because of its multidimensional nature, symptom assessment should include intensity, timing, and quality as well as distress and interference with daily functioning (Armstrong, Cohen, & Eriksen, 2004; Lenz, Pugh, Milligan, Gift, & Suppe, 1997).

Rhodes, McDaniel, and Matthews (1998) conceptualized the symptom *experience* to include patients' perceptions of and responses to symptom occurrence and symptom distress. Symptom *occurrence*, according to this conceptualization, includes temporal features and severity (intensity) of the

Although cancer is curable in many, if not most cases, it continues to be feared. Research is producing insights and advances into the causes and cures for cancer, but the problem of symptom management continues. Symptoms from the disease and its treatment with resulting distress continue to be challenging and, according to the National Institutes of Health (NIH) State-of-the Science Panel, should be the focus of future research (Patrick et al., 2003).

Pain is a symptom that has been identified to be among the most prevalent for patients with cancer (Gordon et al., 2005;

*Susan C. McMillan, PhD, ARNP, FAAN, is the Lyall and Beatrice Thompson professor of oncology quality of life nursing, Cindy Tofthagen, MS, ARNP, AOCNP®, is a doctoral student, and Mary Ann Morgan, MS, ARNP-BC, is a doctoral student, all in the College of Nursing at the University of South Florida in Tampa. This study was funded by a grant from the National Institute for Nursing Research R01-NR008270. No financial relationships to disclose. (Submitted August 2007. Accepted for publication January 7, 2008.)*

Digital Object Identifier: 10.1188/08.ONF.603-611