Online Exclusive Article

Clinical Subgroups of a Psychoneurologic Symptom Cluster in Women Receiving Treatment for Breast Cancer: A Secondary Analysis

Hee-Ju Kim, PhD, RN, Andrea M. Barsevick, PhD, RN, AOCN®, FAAN, Susan L. Beck, PhD, APRN, FAAN, and William Dudley, PhD

Purpose/Objectives: To investigate clinical subgroups using an empirically identified psychoneurologic symptom cluster (depressed mood, cognitive disturbance, fatigue, insomnia, and pain) and to examine the differences among subgroups in the selected demographic and clinical variables, as well as in patient outcome (i.e., functional performance).

Design: Secondary analysis.

Setting: A university health science center in Salt Lake City, UT, and a National Cancer Institute–designated comprehensive cancer center in Philadelphia, PA.

Sample: 282 patients with breast cancer undergoing chemotherapy or radiotherapy.

Methods: Cluster analyses were conducted to identify subgroups. Multinomial logistic regression and one-way analyses of variance were used to examine the differences among subgroups.

Main Research Variables: Depressed mood, cognitive disturbance, fatigue, insomnia, pain, and functional performance.

Findings: Patients were classified into four distinct subgroups based on their symptom cluster experience: all low symptom, high fatigue and low pain, high pain, and all high symptom. Such patient classification patterns were consistent across the treatment trajectory, although group memberships were inconsistent. After initiating treatment, two additional subgroups emerged: high depressed mood and cognitive disturbance, and high fatigue and insomnia. Subgroups differed in physical performance status at baseline, symptom burden, and treatment modality in a relatively consistent pattern across time points. Patients in the all-high-symptom subgroup experienced the most serious limitations in activities across all time points.

Conclusions: Patient subgroups exist that share the unique experience of psychoneurologic symptoms.

Implications for Nursing: Findings are useful to determine who needs more intensive symptom management during cancer treatment. Future studies should examine whether specific symptom management strategies are more efficient for certain subgroups.

Symptom clusters are groups of interrelated symptoms that occur together (Kim, McGuire, Tulman, & Barsevick, 2005). Identifying clinical subgroups of patients with cancer with different patterns of symptom severity can help determine who needs more intensive care and assist the development of symptom management strategies tailored to a specific patient subgroup (Gwede, Small, Munster, Andrykowski, & Jacobsen, 2008). The current analyses build on previous research that identified a psychoneurologic symptom cluster (depressed mood, cognitive disturbance, fatigue, insomnia, and pain) (Kim, Barsevick, Tulman, & McDermott, 2008) by evaluating whether subgroups of patients with breast cancer with different patterns of those symptoms could be identified. A psychoneurologic symptom cluster in this study is defined as a set of emotional or behavioral symptoms that could be related to psychological or neurologic dysfunction and that co-occur and are interrelated with each other.

Several studies have provided empirical evidence of the clustering tendency of psychoneurologic symptoms in patients with cancer (Bender, Ergun, Rosenzweig, Cohen, & Sereika, 2005; Chen & Tseng, 2006; Kim et al., 2008). For instance, a previous study by the current authors (Kim et al., 2008) empirically identified two treatment-related symptom clusters by factor analyzing 20 different oncologic symptoms at three different time points across the cancer treatment trajectory in patients with breast cancer. The previously mentioned psychoneurologic cluster was present before and during treatment; an upper gastrointestinal cluster (nausea, vomiting, and decreased appetite) was identified after the commencement of treatment. Of note, in the authors' previous work and in work by others,