The Elusive Concept of the Symptom Cluster

Andrea M. Barsevick, PhD, AOCN®

Purpose/Objectives: To provide an integration and synthesis of literature on the definition and importance of the symptom cluster, theoretical frameworks to explain it, analysis strategies to identify it, interventions to alleviate it, and suggestions for future research.

Data Sources: A literature review from 1995–2007 was conducted using MEDLINE®. Clinical guidelines, descriptive research, intervention studies of multiple symptoms, and theoretical and conceptual articles were examined. Articles were reviewed if at least two of the four symptoms of interest were examined in relation to one or more other symptoms. Conceptual models were included if they explained or allowed for the notion of a symptom cluster.

Data Synthesis: Four symptoms were examined as a candidate symptom cluster for this analysis: fatigue, insomnia, pain, and depression. Symptom clusters were identified by expert opinion, group comparisons, shared variance among symptoms (including factor analysis and mediation analysis), identification of subgroups, influence of symptoms on patient outcomes, or the identification of a common underlying mechanism. Regardless of the method chosen for identifying a symptom cluster, the substantial evidence showed that various combinations of the target symptoms formed a symptom cluster.

Conclusions: Although the findings suggest that fatigue, insomnia, pain, and depression constitute a viable cluster for further study, more research is needed to define the cluster and describe its underlying mechanisms. Addressing multiple symptoms is beneficial in reducing negative patient outcomes; however, more work needs to be done to understand the efficacy of intervention for symptom clusters.

Implications for Nursing: When conducting symptom assessment, healthcare providers should address the four symptoms (fatigue, insomnia, pain, and depression) targeted in this review because evidence of clustering exists. Guidelines provided by the National Comprehensive Cancer Network for fatigue and distress provide algorithms and decision trees for assessment and management.

Key Points . . .

➤ Because patients with cancer often have multiple symptoms, the possibility that symptoms cluster together in a systematic way cannot be ignored.

➤ Fatigue, insomnia, pain, and depression are the most prevalent and distressing symptoms for patients with cancer.

➤ The evidence suggests that fatigue, insomnia, pain, and depression constitute a symptom cluster and that addressing these symptoms is beneficial in reducing negative patient outcomes.

Most people involved in cancer symptom research or clinical practice have at least a passing interest in symptom clusters because patients with cancer often have multiple symptoms. Given this reality, the possibility that symptoms could cluster together in a systematic way cannot be ignored. Dodd, Janson, et al. (2001) first called for consideration of the concept of the symptom cluster as a basis for a rational approach to symptom management. Figuring out how and why symptoms are related and how they influence patient outcomes is important. Cancer symptom management would benefit if an integrated intervention plan existed for a cluster of symptoms based on a clear understanding of which symptoms are likely to cluster, when clustering is likely to occur, and how a symptom cluster affects patient outcomes.

Since Dodd, Miaskowski, and Paul (2001) first issued the challenge to study symptom clusters, a significant amount of research has focused on the phenomenon. This article will integrate and synthesize literature examining the definition and importance of the symptom cluster, theoretical frameworks

that can be used to guide understanding of this construct, strategies that have been used to identify a symptom cluster, interventions used to alleviate a symptom cluster, and suggestions for future research.

Four symptoms were examined as a candidate symptom cluster for this analysis: fatigue, insomnia, pain, and depression. These four symptoms were selected because fatigue and insomnia are among the most prevalent symptoms reported by patients with cancer (Berger et al., 2005; Cella, Davis, Breitbart, & Curt, 2001; Curt et al., 2000; Homsi et al., 2006; Vogelzang et al., 1997) and pain and depression are among the most distressing symptoms (Cleeland et al., 1994; Foley, 2004; Homsi et al., 2006). A literature review from 1995–2007 was conducted. Clinical guidelines, descriptive (nonintervention) studies, intervention studies of multiple symptoms, and theoretical and conceptual articles were examined. Articles were selected for review if they examined at least two of the four symptoms in relation to one or more other symptoms. Conceptual models were included if they explained or allowed for the notion of a symptom cluster. Examples from published studies were used to illustrate different approaches to the identification of and interventions for a symptom cluster. Although the literature review was not exhaustive, it was comprehensive enough to allow for a thorough analysis and synthesis of current scientific thought.