Gastrointestinal Symptom Representation in Cancer Symptom Clusters: A Synthesis of the Literature

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Purpose/Objectives: To review how gastrointestinal (GI) symptoms are represented within symptom clusters in patients with cancer receiving chemotherapy.

Data Sources: MedLINE®, PsycINFO, and CINAHL®.

Data Synthesis: Forty-two symptom clusters containing a GI component emerged. Only four clusters were replicated in different samples; 38 were unique clusters. Thirteen different symptom measurement tools were used across the studies. Nineteen different GI symptoms were measured; however, many chemotherapy- or cancer-related GI symptoms known to be present in this population were missing or underrepresented. Twenty-one of the studies reviewed identified a symptom cluster that was primarily (50% or greater) composed of GI symptoms.

Conclusions: GI symptoms are prevalent in symptom clusters, but those clusters often are inconsistent. One explanation for this finding may be that current symptom measurement tools do not fully address GI symptoms commonly experienced by patients receiving chemotherapy.

Implications for Nursing: Future research should focus on using a comprehensive symptom assessment tool in a homogenous sample of participants who are receiving chemotherapy. Improved measurement of GI symptoms will advance symptom cluster research, which could impact assessment of chemotherapy-related symptoms and development of interventions for symptom clusters.

Patients with cancer often experience many debilitating and bothersome symptoms. Research has shown that almost half of the most frequently reported and most distressing treatment-related symptoms for patients with advanced cancer are gastrointestinal (GI) in nature (Tong, Isenring, & Yates, 2009). GI symptoms may be caused by the disease or its treatments, often chemotherapy. Although pharmacologic therapies for GI symptoms have improved over time, the inherent toxicity of chemotherapy causes many bothersome GI symptoms to remain prevalent. GI symptoms may lead to secondary issues such as electrolyte imbalance, weight loss, and infections including *Candida albicans*. Severe symptoms may cause patients to refuse further cancer treatment (Schnell, 2003). Because many chemotherapy-related GI symptoms may share a similar cause, they may be experienced together in treatment-related symptom clusters. Although knowledge has been advancing in symptom cluster research, little is known about how GI symptoms are represented within symptom clusters. The purpose of this article is to review the current evidence for GI symptom representation within symptom clusters in patients with cancer who are receiving chemotherapy.

Background

Clinical cancer symptom research has tended to focus on individual symptoms rather than on symptoms that co-occur or cluster together (Dodd et al., 2001). However, evidence has suggested that most patients with cancer experience as many as 11 symptoms, depending on the diagnosis and treatments used (Walsh, Donnelly, & Rybicki, 2000). Dodd et al. (2001), who introduced the phrase *symptom cluster* for such co-occurring symptoms, defined the phrase as three or more concurrent symptoms that are related to each other and may or may not share the same cause. Other investigators have defined a symptom cluster as at least two related symptoms that demonstrate stability and are relatively independent of other clusters (Kim, McGuire, Tulman, & Baresevick, 2005).

Chemotherapy inherently is toxic and impacts cell division and turnover along the full length of the GI tract. Chemotherapy acts on all rapidly dividing cells, with the intention of destroying malignant cells. This action leaves other rapidly dividing cells, like those lining the GI tract, susceptible to damage and growth inhibition. The GI tract turns over and replaces mucosal epithelial cells every 7–14 days (Fall-Dickson & Berger, 2007). Studies have shown that even a few hours after exposure to chemotherapy, cell replacement along the GI tract is inhibited (Mitchell, 2006). If the cells are not replaced at the typical rate, the patient is susceptible to ulcerations, dryness, and inflammation along the