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## Malnutrition and Chemotherapy-Induced Nausea and Vomiting: Implications for Practice

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**T**he systemic administration of chemotherapy agents can result in gastrointestinal toxicities, which in turn affect the nutritional status of patients. Chemotherapy-induced nausea and vomiting (CINV), anorexia, dysgeusia, pain, constipation, and diarrhea are symptoms commonly reported by patients undergoing cancer treatment (Tong, Isenring, & Yates, 2009). A subset of those patients may experience the symptoms to such an extent that their ability to achieve adequate dietary intake is limited, compromising nutritional status and leading to negative outcomes for patients and treating facilities. Malnourished patients experience poorer quality of life, decreased treatment tolerance, increased complications (Ravasco, Monteiro Grillo, & Camilo, 2007), and longer hospital admissions (Gout, Barker, & Crowe, 2009), which jeopardizes treatment adherence and tumor control (Ihbe-Heffinger et al., 2004), increasing mortality (Dewys et al., 1980; Ovesen, Allingstrup, Hannibal, Mortensen, & Hansen, 1993) and burdening healthcare resources (Moore, Tumeh, Wojtanowski, & Flowers, 2007).

Despite advances in antiemetic pharmaceuticals, poorly controlled chemotherapy-related nausea is experienced by as many as 84% of patients (Colaguri et al., 2008; Dibble, Isreal, Nussey, Casey, & Luce, 2003; Hesketh, 2008; Hickok, Roscoe, Morrow, & Ryan, 2007), with about 40% reporting at least one episode of vomiting during treatment (Isenring, Capra, & Bauer, 2004b; Isenring, Cross, Kellett, Koczwara, & Daniels, 2010; Tong et al., 2009). Functional capacity is impaired by CINV, increasing the risk of malnutrition (Hesketh, 2008; Ravasco et al., 2007; Tipton et al., 2007); a risk that is amplified if CINV limits dietary intake. The literature describes malnutrition in an inpatient or mixed inpatient and outpatient setting, and few studies have used validated tools to evaluate the prevalence of malnutrition in the chemotherapy ambulatory care unit alone.

**Purpose/Objectives:** To determine the prevalence of malnutrition and chemotherapy-induced nausea and vomiting (CINV) limiting patients' dietary intake in a chemotherapy unit.

**Design:** Cross-sectional descriptive audit.

**Setting:** Chemotherapy ambulatory care unit in a teaching hospital in Australia.

**Sample:** 121 patients receiving chemotherapy for malignancies, aged 18 years and older, and able to provide verbal consent.

**Methods:** An accredited practicing dietitian collected all data. Chi-square tests were used to determine the relationship of malnutrition with variables and demographic data.

**Main Research Variables:** Nutritional status, weight change, body mass index, prior dietetic input, CINV, and CINV that limited dietary intake.

**Findings:** Thirty-one participants (26%) were malnourished, 12 (10%) had intake-limiting CINV, 22 (20%) reported significant weight loss, and 20 (18%) required improved nutrition symptom management. High nutrition risk diagnoses, CINV, body mass index, and weight loss were significantly associated with malnutrition. Thirteen participants (35%) with malnutrition, significant weight loss, intake-limiting CINV, and/or who critically required improved symptom management reported no prior dietetic contact; the majority of those participants were overweight or obese.

**Conclusions:** Of patients receiving chemotherapy in this ambulatory setting, 26% were malnourished, as were the majority of patients reporting intake-limiting CINV.

**Implications for Nursing:** Patients with malnutrition and/or intake-limiting CINV and in need of improved nutrition symptom management may be overlooked, particularly patients who are overweight or obese—an increasing proportion of the Australian population. Evidence-based practice guidelines recommend implementing validated nutrition screening tools, such as the Malnutrition Screening Tool, in patients undergoing chemotherapy to identify those at risk of malnutrition who require dietitian referral.