Gastrointestinal and Neuropsychological Symptoms Are Associated With Distinct Vomiting Profiles in Patients Receiving Chemotherapy

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OBJECTIVES: To identify subgroups of patients with distinct chemotherapy-induced vomiting (CIV) profiles; determine how these subgroups differ on several demographic, clinical, and symptom characteristics; and evaluate factors associated with chemotherapy-induced nausea and CIV profiles.

SAMPLE & SETTING: Adult patients (N = 1,338) receiving cancer chemotherapy.

METHODS & VARIABLES: Data were collected on demographic, clinical, and symptom characteristics. Differences among subgroups of patients with distinct CIV profiles were evaluated using parametric and nonparametric tests.

RESULTS: Three CIV profiles (None, Decreasing, and Increasing) were identified. Compared with the None class, Decreasing and Increasing classes were more likely to have lower household income and a higher comorbidity burden, as well as to report higher rates of dry mouth, nausea, diarrhea, depression, anxiety, sleep disturbance, morning fatigue, and pain interference.

IMPLICATIONS FOR NURSING: Clinicians need to assess common and distinct risk factors for CIV and chemotherapy-induced nausea.

KEYWORDS cancer; chemotherapy; latent class analysis; nausea; vomiting
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Despite the administration of evidence-based antiemetics, about 20% of patients with cancer report chemotherapy-induced vomiting (CIV) (National Comprehensive Cancer Network [NCCN], 2023). This debilitating symptom can lead to nutritional deficits, dehydration, increased risk of vomiting in future treatment cycles, discontinuation of treatment, and worse clinical outcomes (NCCN, 2023). One of the challenges in determining the prevalence of and risk factors for CIV is that the majority of studies investigated CIV together with chemotherapy-induced nausea (CIN) as a composite symptom (chemotherapy-induced nausea and vomiting [CINV]). Although a strong correlation exists between the occurrence of CIV and CIN, the occurrence of CIN is three times higher than that of CIV (NCCN, 2023; Singh et al., 2018).

Only four cross-sectional studies evaluated for associations between demographic and clinical characteristics and the occurrence of CIV (Di Mattei et al., 2016; Hayashi et al., 2019, 2021; Naito et al., 2020). Across these studies, younger age (Hayashi et al., 2021; Naito et al., 2020), receipt of a highly emetogenic chemotherapy regimen (Di Mattei et al., 2016), body mass index of 18.5 kg/m^2 or less (Hayashi et al., 2019), and receipt of an antiemetic regimen without a neurokinin-1 receptor antagonist (Hayashi et al., 2019) were associated with increased rates of CIV. Associations between hyperemesis gravidarum and CIV are inconsistent (Di Mattei et al., 2016; Hayashi et al., 2019, 2021; Naito et al., 2020). Limitations