

# Lower Income, Smoking, Cardiopulmonary Comorbidities, and Higher Symptom Burden Influence the Occurrence of Cough in Patients Receiving Chemotherapy

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**OBJECTIVES:** To identify subgroups of patients with distinct cough occurrence profiles and evaluate for differences among these subgroups.

**SAMPLE & SETTING:** Outpatients receiving chemotherapy (N = 1,338) completed questionnaires six times over two chemotherapy cycles.

**METHODS & VARIABLES:** Occurrence of cough was assessed using the Memorial Symptom Assessment Scale. Latent class analysis was used to identify subgroups with distinct cough occurrence profiles. Parametric and nonparametric tests were used to evaluate for differences.

**RESULTS:** Four distinct cough profiles were identified (None, Decreasing, Increasing, and High). Risk factors associated with membership in the High class included lower annual household income; history of smoking; self-reported diagnoses of lung disease, heart disease, and back pain; and having lung cancer.

**IMPLICATIONS FOR NURSING:** Clinicians need to assess all patients with cancer for cough and provide targeted interventions.

**KEYWORDS** cancer; chemotherapy; chest tightness; cough; depression; dyspnea

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Cough is a common and distressing symptom that occurs in 22%–93% of patients with cancer (Chowienczyk et al., 2020; Harle et al., 2019, 2020; Iyer et al., 2014; Lou et al., 2017; Molassiotis et al., 2010; Walling et al., 2015). This broad range in prevalence rates suggests that a large amount of interindividual variability exists in this symptom. However, guidelines for the management of cough published by the American College of Chest Physicians provide recommendations for pharmacologic and nonpharmacologic interventions only for patients with lung cancer (Molassiotis et al., 2017). Of note, all of these interventions are based on level II evidence that indicates uncertainty in the estimates of benefits, risks, and burdens (Molassiotis et al., 2017). Therefore, additional research is needed on the occurrence of and risk factors for cough in patients with heterogeneous types of cancer to be able to design targeted assessments and interventions.

## Demographic and Clinical Risk Factors

Patients with lung cancer can experience cough from a tumor mass that irritates cough receptors (Li et al., 2021) and/or obstructs the airways (Kvale, 2006) or from secondary causes (e.g., pleural effusion) (Molassiotis et al., 2017). Equally important, risk factors for cough in patients with other types of cancer include older age (McGarvey et al., 2021), past or current history of smoking (McGarvey et al., 2021), cardiopulmonary comorbidities (Christensen et al., 2016; McGarvey et al., 2021), gastrointestinal reflux