

# Using Serious Games to Increase Prevention and Self-Management of Chemotherapy-Induced Nausea and Vomiting in Older Adults With Cancer

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**OBJECTIVES:** To examine the frequency and types of preventive and self-management behaviors reported by participants, as well as report acceptability and usability data for the electronic Symptom Self-Management Training–Chemotherapy-Induced Nausea and Vomiting (CINV) serious game.

**SAMPLE & SETTING:** 80 adults who were aged 60 years or older and newly diagnosed with cancer were recruited from a community cancer center.

**METHODS & VARIABLES:** Participants were randomized to an intervention or control group. A symptom management checklist was used to record preventive and self-management behaviors used after each chemotherapy treatment at home. Acceptability and usability were assessed using a brief survey.

**RESULTS:** The intervention group reported using more preventive behaviors, and the control group reported using more self-management behaviors. Antiemetics were the most common strategy used, followed by dietary strategies. Participants rated all aspects of the serious game highly for usability and acceptability.

**IMPLICATIONS FOR NURSING:** Oncology providers can help older adults plan for self-managing treatment-related side effects at home. Recording self-management behaviors may reinforce the importance of active prevention and management of CINV.

**KEYWORDS** serious game; self-management; older adults; chemotherapy-induced nausea and vomiting  
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Chemotherapy-induced nausea and vomiting (CINV) is a common side effect of cancer treatment (Loerzel, 2015; Nyrop et al., 2019; O'Neill et al., 2015; Uysal et al., 2018). Older adults undergoing cancer treatment are at serious risk for CINV and associated complications, such as dehydration, fluid and electrolyte imbalances, generalized fatigue, and muscle weakness (Naeim et al., 2014). Severe CINV occurs in as many as 80% of older adults receiving treatment for cancer (Massa et al., 2009), leading to poor quality of life and reduced functioning (Cohen et al., 2007). CINV is one of the most common reasons why patients call their oncologist (Flannery et al., 2014) and can lead to increased use of resources, unplanned emergency department visits, and hospital admissions (Geddie et al., 2016).

Standard practice toward patient education includes providing all patients with basic information about cancer treatment and potential side effects, usually in the form of take-home written materials; however, older adults have reported being overwhelmed by this information (Loerzel et al., 2018). Fitch et al. (2015) reported that, although older adults are satisfied with the information they receive, they believe answers to their questions can be hard to find. Older adults have identified fast-talking providers who use medical jargon and complex written materials as a barrier to educational processes. In addition, previous studies have found that older adults do little to self-manage side effects at home, despite being educated about side effect self-management (Loerzel, 2018), and they do not believe the self-management strategies they are taught are effective at managing side effects (Loerzel, 2016). This lack of self-management or waiting too