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# Children's Coping Strategies for Chemotherapy-Induced Nausea and Vomiting

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**P**ediatric cancer treatment often includes the use of chemotherapy agents that can cause multiple and sometimes severe side effects. Chemotherapy-induced nausea and vomiting (CINV) is a common occurrence, with as many as 60% of pediatric patients with cancer reporting nausea or vomiting at some point during chemotherapy treatment (Tyc, Mulhern, & Bieberich, 1997). Despite the prevalence of CINV, the actual frequency and duration of nausea and vomiting among children throughout chemotherapy treatment is not well documented. CINV has been reported as one of the most feared and distressing side effects of cancer treatment (Holdsworth, Raish, & Frost, 2006; Miller & Kearney, 2004). Poorly controlled CINV has been linked to physical and psychosocial consequences including anorexia, malnutrition, fluid and electrolyte imbalances, poor functional status, and anxiety (Dewan, Singhal, & Harit, 2010; Miller & Kearney, 2004). Those issues can make pediatric patients vulnerable to additional complications, treatment delays, and decreased quality of life. In addition, CINV can have significant financial consequences, such as loss of work for the caregiver and a need for increased medical visits (Miller & Kearney, 2004).

Chemotherapy agents are classified into groups based on their unique emetic potential (see Figure 1). Highly emetogenic chemotherapy (HEC) medications are likely to cause nausea or vomiting 90% of the time, whereas moderately emetogenic chemotherapy (MEC) medications are likely to cause nausea or vomiting 30%–90% of the time (Schwartzberg, 2007). To avoid detrimental outcomes in children who are receiving chemotherapy agents that are likely to cause nausea and vomiting, offering strategies to minimize or eliminate CINV is vital. However, caregivers must fully understand the symptom experience to recommend effective strategies.

**Purpose/Objectives:** To identify anticipatory, acute, and delayed chemotherapy-induced nausea and vomiting (CINV) frequency and coping strategies used among pediatric patients with cancer.

**Design:** Prospective, cohort design.

**Setting:** A pediatric teaching hospital in the southern United States.

**Sample:** A convenience sample of 40 children aged 7–12 years scheduled to receive either moderately emetic chemotherapy or highly emetic chemotherapy for cancer treatment.

**Methods:** Children completed the Adapted Rhodes Index of Nausea and Vomiting for Pediatrics and the Kidcope–Younger Version.

**Main Research Variables:** CINV and coping strategies.

**Findings:** CINV occurred during the anticipatory, acute, and delayed times, with the highest frequency occurring during the delayed time. The most frequently used coping strategies were distraction and wishful thinking, whereas the most effective strategies were social support and distraction. No statistically significant differences were observed in the frequency or efficacy of coping strategies over time.

**Conclusions:** CINV occurs throughout chemotherapy treatment. The most efficacious coping strategies included active and passive coping, with active coping strategies being more effective.

**Implications for Nursing:** Nurses should recognize that CINV occurs at all points of chemotherapy treatment. Nurses can assist children in developing active coping strategies to manage their CINV.

## Conceptual Framework

Symptom Management Theory provided the conceptual framework for this study. The theory states that, to provide effective symptom management, three components need to be evaluated: the symptom