

This material is protected by U.S. copyright law. Unauthorized reproduction is prohibited. To purchase reprints or request permission to reproduce, e-mail [reprints@ons.org](mailto:reprints@ons.org).

# Virtual Reality as a Distraction Intervention for Women Receiving Chemotherapy

Susan M. Schneider, PhD, RN, AOCN®, Maryjo Prince-Paul, MSN, RN, CRNH, Mary Jo Allen, BSN, RN, Paula Silverman, MD, and Deborah Talaba, MSN, RN

**Purpose/Objectives:** To explore the use of virtual reality as a distraction intervention to relieve symptom distress in women receiving chemotherapy for breast cancer.

**Design:** Crossover study.

**Setting:** The outpatient clinic of a midwestern comprehensive cancer center.

**Sample:** 20 women 18–55 years of age.

**Methods:** Using a crossover design, 20 subjects served as their own controls. For two matched chemotherapy treatments, one pretest and two post-test measures were employed. Participants were assigned randomly to receive the virtual reality distraction intervention during one chemotherapy treatment and received no distraction intervention (control condition) during an alternate chemotherapy treatment. An open-ended questionnaire elicited each subject's evaluation of the intervention.

**Main Research Variables:** Symptom distress, fatigue, anxiety.

**Findings:** Significant decreases in symptom distress and fatigue occurred immediately following chemotherapy treatments when women used the virtual reality intervention.

**Conclusions:** The distraction intervention decreased symptom distress, was well received, and was easy to implement in the clinical setting.

**Implications for Nursing:** Nursing interventions to manage chemotherapy-related symptom distress can improve patient quality of life and increase chances for survival by reducing treatment-related symptom distress and enhancing patients' ability to adhere to treatment regimens and cope with their disease.

## Key Points . . .

- ▶ One way to cope with chemotherapy-related symptom distress is through the use of distraction interventions (concentrating on pleasant or interesting stimuli instead of focusing on unpleasant symptoms).
- ▶ A virtual reality distraction intervention decreased chemotherapy-related symptom distress in a sample of women with breast cancer.
- ▶ By decreasing chemotherapy-related symptoms, virtual reality has the potential to increase compliance with treatments, affect survival, and enhance quality of life.

chemotherapy infusion and last for 48 hours (Bender et al., 2002; Rhodes, Watson, Johnson, Madsen, & Beck, 1987). Research has shown that patients who are anxious during the first chemotherapy treatment are more likely to experience anticipatory nausea with subsequent treatments (Coons, Leventhal, Nerenz, Love, & Larson, 1987). These investigators also found that adults who are younger and those who develop anticipatory nausea are more likely to experience distress with chemotherapy treatments. For some patients, antiemetics are effective for the treatment of nausea and vomiting. However, nonpharmacologic interventions also have the potential to relieve these symptoms.

Other common physical symptoms associated with chemotherapy include anorexia, fatigue, and anxiety (Sarna, Lindsey,

**B**reast cancer is the leading cause of cancer mortality among women aged 30–50. One out of every eight women will develop breast cancer in her lifetime (Jemal et al., 2003). Standard treatment for breast cancer often involves neoadjuvant or adjuvant chemotherapy treatment. These treatments can cause severe side effects such as nausea, vomiting, and fatigue. To achieve a cure, women often must tolerate high levels of symptom distress as a result of treatment- and disease-related side effects. The purpose of this pilot study was to explore the use of virtual reality as a distraction intervention to relieve symptom distress, fatigue, and anxiety in women receiving chemotherapy for breast cancer.

Symptom distress is a global concept that encompasses the discomfort experienced from a wide variety of symptoms. Symptom distress interferes with a person's ability to perform activities of daily living and adversely affects quality of life (Ehlke, 1988; Pickett, 1991). Frequently reported symptoms associated with cancer chemotherapy are nausea and vomiting (Pickett; Watson & Marvell, 1992). As many as 60% of patients experience these side effects. Acute chemotherapy symptoms such as nausea and vomiting may begin with the

*Susan M. Schneider, PhD, RN, AOCN®, is the director of the Oncology Program in the School of Nursing at Duke University in Durham, NC; Maryjo Prince-Paul, MSN, RN, CRNH, is a clinical nurse specialist at the Hospice of the Western Reserve in Cleveland, OH; Mary Jo Allen, BSN, RN, is an administrative director at the Lake/University Ireland Cancer Center in Mentor, OH; Paula Silverman, MD, is an associate professor of medicine at Case Western Reserve University Comprehensive Cancer Center at University Hospitals Health System in Cleveland; and Deborah Talaba, MSN, RN, is a staff nurse for the Centers for Dialysis Care in Cleveland. Funding for this study came from the Comprehensive Cancer Center at Case Western Reserve University and University Hospitals of Cleveland, as well as an American Cancer Society Institutional Research Grant. (Submitted December 2001. Accepted for publication March 7, 2003.) (Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Oncology Nursing Forum or the Oncology Nursing Society.)*

Digital Object Identifier: 10.1188/04.ONF.81-88