Using a Simple Diary for Management of Nausea and Vomiting During Chemotherapy

Frida Barak, MD, Mazal Amoyal, BSN, RN, and Leonid Kalichman, PhD

Nausea and vomiting (NV) are frequent complications following chemotherapy, even when taking 5-HT3 or neurokinin-1 antagonists (Kris et al., 2006). The rate of NV is higher in women, particularly in those who have received prior chemotherapy, have experienced motion sickness, had NV during pregnancy, or are familiar with other people who had experienced chemotherapy-induced NV (Dando & Perry, 2004; Warr, Street, & Carides, 2010). The literature has documented the physical and emotional effects of chemotherapy-induced NV (Dando & Perry, 2004; Kris et al., 2005). Therefore, oncology units place great emphasis on the prevention of postchemotherapy NV.

The authors of this article introduced an innovative technique in the Oncology Institute of the Barzilai Medical Center in Ashqelon, Israel, where patients used an NV diary following chemotherapy with the desire to improve patients’ NV management. A very simple diary was developed to monitor patients’ NV and establish additional ways for patients to express their fears and anxieties in their own language. The main objectives were to evaluate the effectiveness of an NV diary as a tool to ensure the nursing staffs’ effective communication with patients, antiemetic therapy adjustment, and to involve patients in this process. An additional aim was to evaluate the association between NV during pregnancy and chemotherapy-induced NV. Previously, only Hermansen-Kobulnicky, Wiederholt, and Chewning (2004) used the Write Track personal health tracker to evaluate adverse effects in a randomized pretest/post-test experimental study of patients who were beginning chemotherapy (N = 74).

Methods

All new female patients with operable breast cancer (postsurgery) who were treated in the oncology unit with adjuvant chemotherapy containing doxorubicin were asked to participate in the study. Seventy-one patients agreed, but only 47 completed the study. Participants’ mean age was 57 years (range = 36–78 years) with an average of two children (range = 0–8). All participants were chemotherapy naive and most received IV chemotherapy of a similar regimen for the treatment of their breast cancer. The Specialized Oncology Unit of the Barzilai Medical Center in Ashqelon, Israel, provides medical services to a population of 500,000 consisting of a high proportion of immigrants with a wide variety of languages, cultural backgrounds, and social and financial conditions—mostly immigrants from the former Union of Soviet Socialist Republics. Given that diversity, innovative approaches are required to ensure excellence of care. Oncology unit services include follow-up visits, chemotherapy treatments, pain evaluation and care, supportive and palliative care, psychosocial support, and nutritional evaluation.

Prior to initiating treatment, patients were asked to detail NV during their pregnancies or any other experiences with NV. Each patient received a seven-day postchemotherapy diary before treatment began. The diary was developed to answer the need for feedback about NV from the patient, particularly those who did not speak Hebrew, the local language. Each day, patients used a four-point Likert-type scale ranging from 1 (none) to 4 (severe) to score nausea and a similar four-point scale ranging from 1 (none) to 4 (severe) for vomiting.

At subsequent visits, the healthcare team (i.e., oncology nurse and physician) assessed the number of vomiting episodes since the last visit and the daily scores of NV using the categories weak (grade 1 and 2), moderate (grade 3), or severe (grade 4). Following the assessment, the physician made adjustments to the patient’s antiemetic treatment, when warranted. Other symptoms such as...
The schedule and doses of antiemetic drugs are presented in Table 1. Antiemetic treatment was adjusted according to patient report in the diary. During treatment, patients received IV doses of 5-HT\(_3\) receptor antagonists and dexamethasone. For two consecutive days after chemotherapy, patients received a 5-HT\(_3\) receptor antagonist, and, when warranted, a dopaminergic antagonist.

At the visit seven days postchemotherapy, patient diaries were evaluated and constructive care, and communication with the patient. Routinely, patients were advised to start antiemetic treatment 30 minutes prior to chemotherapy. During treatment, patients received IV doses of 5-HT\(_3\) receptor antagonists and dexamethasone. For two consecutive days after chemotherapy, patients received a 5-HT\(_3\) receptor antagonist, and, when warranted, a dopaminergic antagonist.

The authors looked at the relationship between chemotherapy-induced NV after the first versus the second treatment. Among three individuals who experienced severe NV after the first treatment, one continued to experience severe NV after the second treatment and two experienced no or light NV. Among 16 individuals who experienced moderate NV after the first treatment, only 4 (25\%) experienced moderate, and 12 (75\%) experienced no or light NV after the second treatment. The review of the diary led to steps that likely were effective in improving patients’ antiemetic treatment.

Among the 18 women who had no experience with NV during pregnancy, 12 (67\%) experienced no or light NV after the first course of chemotherapy and six (33\%) experienced moderate-to-severe NV (see Table 2). However, among nine women who did experience NV during pregnancy, five (55\%) experienced moderate-to-severe NV after the first course of chemotherapy, and four (44\%) experienced no or light NV.

### Discussion

In the current study, antiemetic therapy was successful even after the first treatment, with 57\% of patients not experiencing any NV. Antiemetic therapy adjustments based on information received from a simple self-reporting NV diary also were effective. The number of patients complaining of delayed NV declined to 15\% after the second treatment, much lower than reported in other studies (Grunberg et al., 2004). Those results are similar to a study by Hermansen-Kobulnicky et al. (2004), which found that patient self-documented symptoms and adverse effects can be valuable, particularly when the information is used to help tailor medication.
regimens to improve clinical status while satisfying patients’ personal priorities.

The use of a simple diary in the current study allowed the clinical staff to make adjustments to patients’ antiemetic therapy. That involvement gave the staff a sense of caring, showing them that they had successfully taken care of their patients. Taking into account the relatively small sample size, the authors cautiously conclude that using the NV diary along with antiemetic therapy facilitates a high degree of NV control.

The results of the current study suggest a propensity (1.5 times higher) for women who experienced NV during pregnancy to experience chemotherapy-induced NV. The knowledge of patient NV during pregnancy, motion sickness-related NV, or past personal experience or exposure to NV in others are of major importance for nurses and other clinical staff because they possibly identify patients who could experience NV during chemotherapy.

The authors found that most patients responded favorably to the opportunity to express their fears and anxieties in diary format and were appreciative of the individual attention. Nurses reported that the introduction of a diary assisted with better understanding of their patient. Using the NV diary strengthened the sense of security of the patients and the trust between staff and patients, in addition to increasing the sensitivity of the staff to cultural differences, as well.

**Conclusion**

Using a diary to record experiences with NV helped patients at the authors’ institution achieve better control of their NV, and patient responses to the method were positive. The diary strengthened patients’ sense of security and increased the staff’s sensitivity to cultural differences, as well.

**References**


**Do You Have an Interesting Topic to Share?**

Evidence-Based Practice offers information to help nurses integrate research-based findings into practice. Length should be no more than 1,000–1,500 words, exclusive of tables, figures, insets, and references. If interested, contact Associate Editor Carlton G. Brown, PhD, RN, AOCN® at cgenebrown@gmail.com.