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Improving Self-Management of Chemotherapy Induced Nausea and Vomiting in Patients with Breast Cancer through Nurse-Led Education

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Introduction

Background

- Breast cancer is the second leading cause of cancer death in women and was the fourth leading cause of cancer death in 2025¹.
- Chemotherapy-induced nausea and vomiting (CINV) affects 60–90% of patients, risking dehydration, electrolyte imbalances, and treatment non-adherence^{2,3,4}.
- GI symptoms account for > 90% of chemo adverse events^{2,3}:
 - Abdominal pain (52.1%)
 - Nausea/vomiting (41.3%)
- Management costs of CINV > Chemotherapy cost in first 30 days⁵.
- CINV management involves pharmacological and non-pharmacological approaches⁶.

Problem Statement

The project site provides verbal education for CINV management, but with limited written CINV materials and nurse-led education on antiemetic use. There is also no standardized CINV assessment tool to evaluate patient symptoms.

PICOT

In adult patients with Breast Cancer, how does providing nurse-led written education and post-chemo follow up with a standardized assessment tool compared to current practice affect CINV symptoms and antiemetic use over 8 weeks?

Literature Synthesis

Inclusion Criteria

- Studies within the last 10 years.
- Age ≥ 18 years.
- Patients receiving chemotherapy
- Articles related to CINV, nurse-led follow up, patient education, & symptom control
- High quality articles: < 3

Synthesis summary

Written Education Reduces CINV Symptoms:

Pamphlets, brochures and booklets significantly reduce nausea and psychological distress, compared to verbal education^{8,9,10,11}.

Nurse-Led Follow-Up: Decreases chemotherapy related symptom severity (i.e. appetite changes, nausea, distress, pain, fatigue, and anxiety)^{12,13,14,15,16}.

Pharm & Nonpharmacological Interventions: Coupling antiemetic regimen with non-pharmacological strategies (i.e. nutrition, PMR, guided imagery) lower nausea, improved quality of life (QoL) and CINV self-management^{11,17,18,19,20}.

MASCC/ESMO Recommendations:

MASCC Antiemetic Tool (MAT) for standardized CINV assessment has²¹:

- Reduced nausea, vomiting^{19,22}
- Improved QoL, symptom tracking & communication^{19,22,23}
- Optimized adherence to treatment^{19,22}

Methods

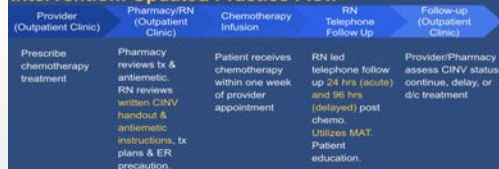
Purpose (goal): To Improve the Self-Management of CINV in Patients with Breast Cancer by Incorporating Written Education and Post-Chemotherapy Nurse-Led Follow Up with a Standardized CINV Assessment Tool.

Design: Pre/Post Intervention Quality Improvement Project.

Project site: Ambulatory Oncology Unit in Southern California.

Participants: Patients with Breast Cancer receiving highly emetogenic parenteral chemotherapy (HEC) seen by 3 Breast Cancer providers.

Intervention: Updated Practice Flow



Outcome measures:

- CINV symptoms in 24 hours (Acute) and 96 hours (Delayed) post-chemo
- Antiemetic Utilization in 24 hours (Acute) and 96 hours (Delayed) post-chemo

Data collection:

Pre-intervention data was collected from EHR chart review

Post-intervention data was collected from MAT Score Sheet and EHR chart review

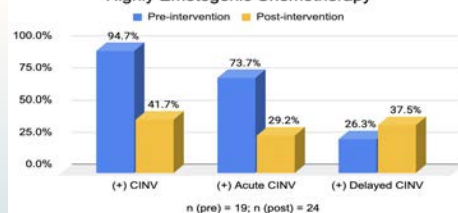
Data analysis: Pre/Post comparison of CINV symptoms and antiemetic usage using Descriptive Statistics with Excel Data Analysis Pack

Results

Variables	Pre n = 19	Post n = 24	Variables	Pre n = 19	Post n = 24
Age, median	52.00	53.50	Chemo Cycle Median	2	5
Sex n (%)			(+) CINV Symptoms	18 (94.7%)	10 (41.7%)
Female	19 (100%)	24 (100%)	(+) CINV	14/19 = 73.7%	7/24 = 29.2%
Male			Acute	5/19 = 26.3%	9/24 = 37.5%
BMI, median (kg/m ²)	25.7	27.6	Delayed		

Table 1. Demographics

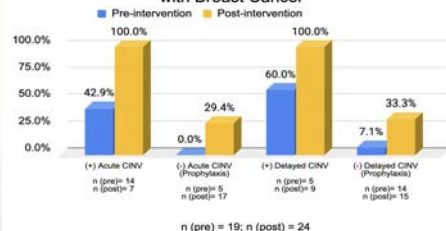
CINV Symptoms in Patients with Breast Cancer Receiving Highly Emetogenic Chemotherapy



Graph 1. CINV Symptoms in Patients with Breast Cancer Receiving Highly Emetogenic Chemotherapy (HEC)

Results (cont.)

Antiemetic Use for Acute and Delayed CINV in Patients with Breast Cancer



Graph 2. Antiemetic Use for Acute and Delayed CINV in Patients with Breast Cancer

Conclusion

Result Interpretation

Post-intervention resulted in:

- 100% utilization of antiemetics when experiencing CINV symptoms.
- Increase in prophylactic antiemetic use.
- Significant reduction in total CINV symptoms and acute CINV.
- Increased delayed CINV likely due to standardized assessment with MAT tool.

Clinical Implications:

Improving CINV symptoms impacts:

- Hydration and nutrition
- Quality of life & experience
- Treatment adherence, completion, and disease prognosis
- ED visits & hospitalizations

Utilization of the MAT tool:

- Enhanced interdisciplinary team collaboration
 - Potential to improve patient-provider communication & individualized care
- This QI initiative demonstrated that nurse-led written patient education and post chemotherapy standardized assessment is an effective intervention that empowers patients to self manage their CINV symptoms and improve quality of life.

References

Education Materials & MAT



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Figure 1. PRISMA Diagram of literature synthesis