

Addressing adherence to guidelines on prevention of acute chemotherapy induced nausea and vomiting in pediatric patients

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Abstract

Background: Chemotherapy induced nausea and vomiting (CINV) is a distressing adverse effect in children receiving cancer treatment. There are evidence-based pediatric clinical practice guidelines (CPG) on chemotherapy emetogenicity and acute CINV prevention, but adherence to these guidelines is low. **Procedure:** A quality improvement-based study was conducted at McMaster Children's Hospital. The SMART aim was to increase adherence to guidelines on prevention of acute CINV in hospitalized patients receiving high (HEC) and moderately (MEC) emetogenic chemotherapy from baseline 25% to >70% by June 2021. Barriers were identified by process mapping and a series of interventions were implemented. **Results:** Guideline adherence (GA) was assessed in 270 inpatient chemotherapy administrations (HEC, MEC). Data was collected on 131 charts pre-interventions and 139 charts post-interventions. Interventions included education, addition of guideline recommended anti-emetics to the inpatient formulary and implementation of a standardized CPG tool. Initial rates of total CINV GA were 25%, which improved to 72% post-intervention ($p < 0.001$). In subgroup analysis, GA in the MEC group improved from 13% to 34% ($p = 0.015$), and in the HEC group from 32% to 93% ($p < 0.001$). The most common reason for non-adherence in the HEC group was failure to use aprepitant as anti-emetic, and in MEC was option for ondansetron monotherapy prophylaxis. **Conclusion:** Using quality improvement methodology, barriers to guideline adherence were identified and interventions implemented. Guideline adherence for prevention of CINV improved, particularly in the HEC group but less for the MEC group. Future steps will include sustainability of interventions and addressing adherence in the MEC group.

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