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Febrile neutropenia risk assessment- An Irish perspective

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Purpose/ Objectives: To develop, implement and evaluate the effectiveness of a nurse-led risk assessment tool to reduce the incidence of febrile neutropenia (FN) in adult cancer patients receiving myelo-suppresive chemotherapy.

Design: A comparative prospective observational study was conducted in a hospital-based oncology unit.

Sample: Clinical data was collected from 459 patients' charts; 233 patients (50.8%) in phase one had no intervention and 226 patients (49.2%) in phase two had a risk assessment carried out by the nurse, prior to each cycle of chemotherapy. The main outcomes captured were febrile neutropenia, dose reductions, treatment delays and hospitalization days.

Methods: International evidence-based guidelines and published nursing studies were used to develop and implement a risk assessment tool. The tool assessed the risk associated with the chemotherapy regimen and 25 patients-, treatment- and disease-related FN risk factors. Identification of one or more risk factors indicated that patients were at risk of developing FN and Growth Colony Stimulating Factor (G-CSF) should be considered. Clinical outcomes pre and post implementation were used to evaluate the risk assessment tool.

Findings: There were significant reductions in the incidence of FN (15.5% vs. 7.5%) and the number of hospital days (267 vs. 131) following the introduction of the risk assessment tool. Incidence of dose reduction and treatment delays resulting from FN were lower in the second phase. There was an increase of 12.5% in the use of G-CSF in phase one (40%) versus phase two (45%). Social factors were found to have no impact on the risk of developing FN.

Conclusions: Through consistent risk assessment, nurses could determine which patients were at higher risk of developing FN, leading to the more appropriate proactive use of prophylactic G-CSF use in a target population. This led to a significant reduction in life-threatening infections, hospitalizations, dose reductions and delays.

Biography

Catherine O'Brien has an experience of over 20 years as an Oncology / Hematology nurse incorporating Bone Marrow Transplantation, Palliative care and Medical Oncology (both inpatient and daycare) in hospitals both in Ireland and United Kingdom. She has been based in St James's Hospital, Dublin since 2001 working in both clinical and managerial positions. She completed her MSc in Clinical Practice in 2011 in University College Dublin, during which time she completed this research piece and published 2 articles. In her current position as Lead Cancer Nurse she is responsible for clinical leadership. This incorporates staff education & development at post-graduate university and clinical level; clinical practice development; clinical research. She is clinically based at least one day per week which involves providing nurse-led chemotherapy clinics.

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