

ECONOMIC AND OUTCOMES ISSUES OF CANCER

DIRECT AND INDIRECT COSTS OF CHEMOTHERAPY-INDUCED TOXICITY

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OBJECTIVE: Chemotherapy-induced toxicities (CIT) may have a significant impact on overall healthcare costs; however, there is limited research on the total costs associated with CIT, particularly indirect costs. The objective of this prospective study is to assess the cost of neurologic and hematologic toxicities in women with breast and gynecologic cancers.

METHODS: Women experiencing CIT completed questionnaires that assessed healthcare utilization and patient and caregiver productivity loss. Direct medical costs were based on hospital cost-accounting data and indirect costs were based on Labor Force, Employment, and Earnings data.

RESULTS: The average time in the study for hematotoxicity was 2.9 months and 5.5 months for the neurotoxicity group. The mean age for women in the study was 59.5 years with an average household income of \$44,702. The mean direct medical costs for hematotoxicity were \$2172 (sd = \$2818, range = \$0–\$9500) and \$460 (sd = \$1920, range = \$0–\$3500) for neurotoxicity. Patient-related indirect costs for hematotoxicity averaged \$2778 (sd = \$2627, range = \$291–\$8791) in lost wages compared to \$12,460 (sd = \$8370, range = \$169–\$23,976) for neurotoxicity. Additionally, non-paid caregivers were needed 38% of the time for women with hematotoxicity and missed work 43.7% of the time for an average of 2.5 hours/week. While women with neurotoxicity required more help from informal caregivers (53.7%) incurring an average of 4 hours per week of lost wages. Paid workers were needed 44.5% (mean = 6.75 hours/week) for hematotoxicity and 26.8% (mean = 3.7 hours/week) for neurotoxicity.

CONCLUSIONS: Chemotherapy-induced hemato- and neurotoxicities have significant direct and indirect costs. Neurotoxicity appears to result in a disproportionate amount of indirect costs due in part to longer duration of neurotoxicity-related morbidities. Future research on the costs of CIT should include an assessment of the impact of indirect costs.

PCD1

COSTS ASSOCIATED WITH CHEMOTHERAPY-INDUCED TOXICITIES: A REVIEW OF THE LITERATURE

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PCD2

Pharmaceutical agents that prevent or manage chemotherapy-induced toxicity (CIT) have recently become available, and the impact of their overall healthcare cost savings is ill defined.

OBJECTIVE: The purpose of this review is to evaluate the overall cost associated with CITs, particularly cardiovascular toxicities, hematologic toxicities, neurotoxicities, and nephrotoxicities.

METHODS: A comprehensive review of the literature was conducted to identify studies that reported CIT-associated costs, either as a primary or secondary study endpoint. The diversity of this therapeutic area necessitated these exclusion criteria: cancers secondary to autoimmune deficiencies, chemotherapy following transplantation or radiation treatment, and studies restricted to hypothetical costs or to chemotherapy-related nausea and vomiting. Inclusion criteria comprised chemically induced (or adverse event) toxicities and cost-related measures.

RESULTS: Definitions and methods used by researchers measuring CIT-associated costs vary widely. Most studies included only direct medical costs, with emphasis on inpatient resource utilization. Thus, hospitalization consistently was identified as the most important factor affecting total costs, regardless of cancer type. As a percentage of total treatment costs, CIT costs comprised up to 58% of all resources expended on inpatient cancer care. Toxicity cost estimates ranged as follows: febrile neutropenia, \$250–\$9000; cardiotoxicity, \$1700–\$5600; thrombocytopenia, \$1000–\$2600. No study has evaluated nephrotoxicity and neurotoxicity costs.

CONCLUSIONS: Overall, costs associated with CITs may be substantial. Both direct and indirect costs, costs associated with chemotherapy-induced neutropenia and nephrotoxicity, and costs associated with ambulatory care or with toxicities occurring beyond the initial chemotherapy regimen need to be elucidated. A comprehensive, prospective cost-of-illness study that examines overall costs associated with CITs would help determine how to best use finite healthcare dollars to improve patient care.

PCD3

COSTS AND OUTCOMES OF HOME VERSUS HOSPITAL-BASED TREATMENT OF FEBRILE NEUTROPENIA IN PEDIATRIC ONCOLOGY PATIENTS

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OBJECTIVE: We compared costs and outcomes associated with home and hospital-based treatment of febrile neutropenia (FN) among pediatric oncology patients.

METHODS: In a historical case series study we gathered data from charts of University of New Mexico (UNM) patients who were treated at home (n = 36, 72 treat-