

Drug related problem in breast cancer patients receiving chemotherapy

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Abstract

Background: Breast cancer is still an important global health problem, and patients with breast cancer often receive chemotherapy as part of their treatment. Nevertheless, drug-related problems (DRPs), including adverse drug reactions (ADRs), drug interactions, non-adherence, financial toxicity, and other DRPs affect treatment effectiveness and patient safety. The objective of this research was to assess the prevalence, types, and contributing factors of DRPs among breast cancer patients receiving chemotherapy at Benghazi Medical Center, Libya. **Aim:** To evaluate the prevalence, types, and contributing factors of drug-related problems (DRPs) in breast cancer patients undergoing chemotherapy, with a focus on optimizing treatment safety, adherence, and clinical outcomes through actionable recommendations for healthcare systems in resource-limited settings. **Method:** descriptive cross-sectional study was conducted with 100 breast cancer patients receiving chemotherapy. Data were collected via structured patient interviews, medical record reviews, oncologist/pharmacist consultations, and drug interaction databases. Variables included socio-demographics, chemotherapy regimens, comorbidities, and DRPs. Statistical analysis using SPSS v.20 employed descriptive statistics and chi-square tests (significance threshold: $p < 0.10$). **Result:** Socio-demographics: Participants were only female, aged 41–45 (35%), married (68%), and diagnosed within the past year (53%). No significant association was found between socio-demographic factors and DRPs ($p > 0.10$). DRPs: ADRs affected all patients (100%), primarily fatigue (38%). Financial burden concerned (92%) of participants, with significant associations between chemotherapy type and cost-related stress ($p = 0.000$). Additional drug therapy was required for (39%) of patients, while non-adherence and drug interactions were minimal (10% and 3%, respectively). Taxol treatment (24%) and HER2-targeted therapies (18%) were most prescribed. **Conclusions:** emphasized addressing financial barriers, standardizing premedication protocols, and integrating multidisciplinary care to enhance safety and adherence. Future research should explore pharmacogenomics, AI-driven risk prediction, and longitudinal DRP impacts. This study Emphasizes the urgent need for cost-effective strategies and personalized interventions to optimize chemotherapy outcomes in resource-limited settings.