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Abstract
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A Comparative Analysis of Patient-Reported Fatigue Severity and Interference Among Patients with Breast Cancer Undergoing Chemotherapy and/or Radiotherapy

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Abstract

Purpose: Patient-reported outcomes (PROs) can offer valuable insights into patients' experiences and well-being, particularly for symptoms that are underreported by clinicians, such as cancer-related fatigue.[1] Recently, our group used routinely collected PROs to screen for patients experiencing fatigue during breast radiation as part of a recently completed symptom intervention trial (IMPROVE). The objective of the current study is to describe the frequency of patient-reported fatigue severity and its perceived interference with daily activities among a new cohort of breast cancer patients undergoing chemotherapy or radiotherapy (RT).

Methodology: Surveys assessing fatigue severity were administered to patients undergoing routine chemotherapy and RT treatment for breast cancer at an academic center between January 2019 - 2022. Fatigue severity (5-point Likert: none, mild, moderate, severe, very severe) and interference with daily activities (5-point Likert: not at all, a little bit, somewhat, quite a bit, very much) were assessed using the validated PRO-CTCAE. Each department established the method of survey distribution. The chemotherapy surveys were distributed to patients undergoing active treatment once per week, and RT surveys were distributed to patients two weeks and four weeks after treatment. Chi-square analysis was used to assess differences in reported fatigue severity and interference between groups without correction for multiple comparisons.

Results: During the study period, 3,524 individual patients with breast cancer received at least one survey, of whom 1,163 responded (33%). The patient-level response rate during chemotherapy was 25% (687/2,730) compared to 60% immediately after RT (475/792). Patients who completed the survey during chemotherapy reported significantly more moderate or greater fatigue severity than those completing the survey (82% v. 47%; P< 0.001) after RT. Notably, 45% of patients reported severe or very severe fatigue during chemotherapy, compared to only 12% after RT. Fatigue interference was reported by 97% of patients during chemotherapy vs 46% after RT. Of the patients undergoing chemotherapy, 87% reported that fatigue interfered "quite a bit" or "very much" in their daily activities compared to only 15% immediately after RT (P< 0.001). A subset of patients received both chemotherapy and RT with a response rate of 48% (115/238). For patients completing chemotherapy followed by RT (n=115) vs. RT alone (n=360), chemotherapy prior to RT was associated with experiencing more intense fatigue and more significant interference with daily activities due to fatigue (P< 0.001).

Conclusion: The high prevalence of severe fatigue and interference identified in this study underscores the need for interventions to prevent and treat fatigue during and after treatment. Patient engagement with PROs is high immediately after radiation, providing a potentially opportune time to intervene.

References
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