

Testing an Intervention to Decrease Healthcare Workers' Exposure to Antineoplastic Agents

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Graeve, McGovern, and Arnold completed the data collection. Graeve provided statistical support. Graeve, McGovern, and Polovich provided the analysis. All authors contributed to the conceptualization, design, and manuscript preparation.

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Purpose/Objectives: To develop and test a worksite intervention that protects healthcare workers who handle antineoplastic drugs from work-related exposures.

Design: Intervention study.

Setting: A university hospital in a large midwestern metropolitan area and its outpatient chemotherapy infusion clinic.

Sample: 163 staff (nurses, pharmacists, and pharmacy technicians) who work with antineoplastic agents.

Methods: A self-report survey measured workplace and individual factors to assess use of personal protective equipment (PPE). Wipe samples were tested for surface contamination. An intervention incorporating study findings and worker input was developed.

Main Research Variables: PPE use was the dependent variable, and the independent variables included knowledge of the hazard, perceived risk, perceived barriers, interpersonal influence, self-efficacy, conflict of interest, and workplace safety climate.

Findings: PPE use was lower than recommended and improved slightly postintervention. Self-efficacy and perceived risk increased on the post-test survey. Chemical residue was found in several areas. Awareness of safe-handling precautions improved postintervention. The unit where nurses worked was an important predictor of safety climate and PPE use on the pretest but less so following the intervention.

Conclusions: Involving staff in developing an intervention for safety ensures that changes made will be feasible. Units that implemented workflow changes had decreased contamination.

Implications for Nursing: Worksite analysis identifies specific targets for interventions to improve antineoplastic drug handling safety.

About 1.7 million Americans were expected to be diagnosed with cancer in 2016 (American Cancer Society, 2016). Chemotherapy drugs are often part of an effective treatment plan. Patients receiving chemotherapy are advised of potential adverse outcomes of treatment, such as the future risk of secondary cancers and negative reproductive outcomes (Deniz, O'Mahony, Ross, & Purushotham, 2003; Josting et al., 2003; Sherins & DeVita, 1973). For patients, the benefits of treatment outweigh the risks. Healthcare workers, such as nurses and pharmacists, are pivotal in patient care. Unfortunately, providing this care has the potential to put healthcare workers at risk of chemotherapy exposures. Previous studies have documented chemotherapy residues on countertops and floors in pharmacy, nursing, and patient care areas (Connor et al., 2010). Eight million healthcare workers are estimated to be exposed to chemotherapy annually, with pharmacists and nurses being among the groups with the highest incidence of exposure