

Factors Influencing Nurses' Use of Hazardous Drug Safe-Handling Precautions

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Purpose/Objectives: To identify factors associated with oncology nurses' use of hazardous drug (HD) safe-handling precautions in inpatient clinical research units.

Design: Descriptive, cross-sectional.

Setting: The National Institutes of Health Clinical Center in Bethesda, Maryland.

Sample: 115 RNs working on high-volume HD administration units.

Methods: Survey data were collected online using the Hazardous Drug Handling Questionnaire. Data were analyzed using descriptive statistics and multiple regression analysis.

Main Research Variables: Exposure knowledge, self-efficacy, barriers to personal protective equipment use, perceived risk, conflict of interest, interpersonal influences, workplace safety climate, and total mean HD precaution use.

Findings: Participants demonstrated high exposure knowledge, self-efficacy, perceived risk, interpersonal influences, and workplace safety climate. Participants demonstrated moderate barriers and conflict of interest. Total mean HD precaution use proved highest during HD administration and lowest for handling excreta at 48 hours. Average patients per day significantly influenced total HD precaution: nurses exhibited more HD precaution use when assigned fewer patients.

Conclusions: Despite high exposure knowledge, barriers to personal protective equipment use and conflict of interest may contribute to reduced adoption of personal protective practices among oncology nurses.

Implications for Nursing: Hospital and unit-specific factors captured by the predictor variables could contribute to institutional HD policy.

Hazardous drugs (HDs) are defined by the National Institute for Occupational Safety and Health ([NIOSH], 2004) using one or more of the following criteria: carcinogenicity, teratogenicity, reproductive toxicity, genotoxicity, organ toxicity at low doses, and drugs that mimic existing HDs in structure or toxicity. Most of the drugs that match the HD description are cytotoxic antineoplastic agents; however, other classes of drugs are included in this category, such as antivirals, antibiotics, and hormones (NIOSH, 2004).

According to the Centers for Disease Control and Prevention ([CDC], 2012), about 8 million healthcare providers in the United States work in environments that could increase their risk of HD exposure. Exposure occurs via inhalation, dermal absorption, ingestion, or contact with conjunctiva (NIOSH, 2004). HD exposure risk occurs during drug-handling activities, such as administration, preparation, and disposal of the drug and patient excreta (Polovich & Martin, 2011). Nurses working in oncology settings frequently handle chemotherapeutic agents, making the nurses particularly vulnerable to exposure.