

Abstract

Factors Associated With Sharps Injury Rates in California Hospitals in 2001

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Among the hazards to healthcare workers are percutaneous injuries (PI) caused by devices such as needles, scalpels, and suture needles (often categorized as sharps) capable of cutting or penetrating the skin. Hospitals are the largest employer and highly technological hospital care frequently exposes workers to a variety of devices capable of causing injury.

Aims: The objective of the study was to examine the relationship between hospital, market, and population characteristics that may be associated with sharps and needlestick injury rates in hospital-based healthcare workers in California hospitals in 2001.

Methods: A cross-sectional secondary data analysis was performed to examine the relationships between factors which may be associated with sharps injury rates in hospital staff and nurses working in California acute care hospitals in 2001. Two analyses were performed
1) Sharps Injury Rates in All Staff (n=207) and
2) Sharps Injury Rates in Nurses (RN and LVN) (n=160).

Analysis included correlations, non-parametric testing, and multiple regression.

Results: In the all staff model, the R^2 was .412 ($F_{13, 193} = 10.395$; $p < .0005$), with an adjusted R^2 for .372, indicating that approximately 41% of the variance in rate in injuries to all staff was accounted for by the combination of the independent variables. Three of the 12 independent variables (percent of discharges by Medi-Cal, Medicare, and daily hospital expenses) provided a significant, unique contribution to the model. The second analysis, Sharps Injury Rates in Nurses, had a R^2 for the overall model of .284 ($F_{10, 149} = 5.917$; $p < .0005$), with an adjusted R^2 of .236, indicating that approximately 28% of the variance in needlestick and sharps injury rates reported in nursing staff in 2001 was accounted for by the combination of predictor variables. Two of the variables (hospitals that received greater levels of reimbursement from Third Party sources as contrasted with those that received Medicare as the major source and higher RN productive hours) provided a significant, unique contribution to the model.

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