6th WORLD CONFERENCE

Injury Prevention and Control

6e CONFÉRENCE MONDIALE

Prévention et contrôle des traumatismes

ABSTRACTS • RÉSUMÉS

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MAY 12 TO 15, 2002

Montreal Convention Center

DU 12 AU 15 MAI 2002

Palais des Congrès de Montréal

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INJURIES, SUICIDE AND VIOLENCE:
Building Knowledge, Policies
and Practices to Promote a Safer World

TRAUMATISMES, SUICIDE ET VIOLENCE :
Construire un savoir, des politiques
et des pratiques pour promouvoir
un monde en sécurité

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isbn : 2-7606-1845-5

Imprimé au Canada

MINNESOTA NURSES' STUDY: RISK FACTORS FOR WORK-RELATED VIOLENCE

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PROBLEM UNDER STUDY: The Minnesota Nurses' Study is a two-phase study focused on occupational violence.

OBJECTIVES: This study was designed to estimate the extent of, and to identify specific risk factors for, work-related violence among Minnesota Registered Nurses (RNs) and Licensed Practical Nurses (LPNs).

METHOD OR APPROACH: In *Phase 1*, a comprehensive survey identifying those who worked as nurses and experienced work-related violence in the past year was sent to a random sample (n=6,300) of licensed Minnesota nurses. Work-related violence was defined as the intentional use of physical force or emotional abuse, against an employee, that resulted in physical or emotional injury and consequences. This included physical assault and non-physical violence (threats, sexual harassment, and verbal abuse). *Phase 2* utilized a nested case-control design to examine the relation between potential risk factors and work-related physical assault. Cases (n=475) comprised nurses who reported physical violence in the previous 12 months. Controls (3:1; n=1425) were selected based on months with no physical assaults. The cases were surveyed about personal and environmental exposures and characteristics of others in the environment for the month before and during the assault; controls about their exposures for a random one-month period. Both univariate and multiple regression analyses were performed to describe the distributions of individual exposures, and to estimate odds ratios and confidence intervals for individual exposures as risk factors or potential confounders. Based on a directed acyclic graph of the conceptual model, variables were selected for the multivariate model analyses to investigate the relation between specific exposures and the occurrence of work-related violence. Horvitz-Thompson reweighing was used to adjust for unknown eligibility and non-response.

During Phase 1, 74% of the nurses responded to the full comprehensive survey. The respective rates per 100 persons per year and 95% confidence intervals for physical assault and non-physical violence were 13.2 (12.2, 14.3) and 38.8 (37.4, 40.4). Physical assault rates per 100 persons per year were increased for LPNs compared with RNs (16.4 vs. 12.0, respectively), and for males vs. females (19.4 vs. 12.9, respectively); non-physical violence rates (per 100 persons per year) were 39.7 for LPNs, and 38.5 for RNs; 45.0 for males, and 38.5 for females. For Phase 2, 324 cases and 946 controls responded (67%). Among the total

environmental exposures examined, key findings from the logistic regressions included the following results. A typical lighting level of anything less than "bright as daylight" increased nurses' odds of physical violence (OR 2.2, 95% CI 1.7, 2.9), as did the presence of any physical barriers that blocked nurses from seeing others in their work environment (OR 1.3, 95% CI 1.0, 1.7). Personal protective devices carried by nurses, such as cell phones/personal portable alarms, decreased the risk of physical violence (OR 0.69, 95% CI 0.50, 0.96). If nurses provided their own cell phones or personal portable alarms (compared with someone else providing the device), the decreased risk was even greater (OR 0.3, 95% CI 0.2, 0.6). The risk of physical assault was increased with the presence of a security alarm/panic button (OR 1.7, 95% CI 1.2, 2.4).

CONCLUSION: This is one of the first major case-control studies to document the extent of the work-related violence within a population of workers and to identify potential risk factors for violence.

LIMITS: Participants self-reported violence and relevant exposures; thus, there was potential for recall bias, measurement error, and selection bias. Attempts to minimize bias included limiting recall to the previous 12-months, and conducting validation sub-studies relevant to health care treatment, environmental exposures, and non-response.

CONTRIBUTION OF THE PROJECT TO THE FIELD: Through the incorporation of a comprehensive theoretical model, a case-control design, and validation of medical outcomes and workplace exposures, this study will fill critical gaps in the literature. From this effort, more realistic prevention and control strategies can be developed.