

Approaches to Prevent and Mitigate Needlestick Injury:

Literature Review

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Needlestick injuries (NSIs) are a significant occupational hazard for healthcare workers. These injuries are common worldwide, with as many as 800,000 cases in the United States annually (Rapparini, 2006, as cited in Akhuleh et al., 2019). Moreover, injury from sharp instruments puts workers and their families at risk for contracting bloodborne infections like HIV and Hepatitis C (Akhuleh et al., 2019). Although NSIs are a risk to any healthcare worker who comes in contact with needles, the available literature indicates that nurses have the highest exposure incidence; Garus-Pakowska & Górajski (2019) found that nurses and midwives reported NSIs more than twice as frequently as physicians. Given the incidence of and potentially serious consequences from exposure to needlesticks for nurses, it is worth considering methods to reduce occurrences and, if exposed, to mitigate risk.

Needlestick and Sharp Injuries Among Registered Nurses: A Case-Control Study

In this study, d'Ettore (2017) performs a cross-sectional case-control analysis to identify any relationship between the schedules of Registered Nurses (RNs) and their exposure to needlestick and sharp injuries (NSSIs). Specifically, this research aimed to determine if the shift, number of hours, or the number of consecutive days worked by RNs influenced their risk of NSSIs (d'Ettore, 2017). The researcher selected 765 RNs for inclusion in the study and generated all statistical analyses using SPSS software (d'Ettore, 2017). Using logistic regression, the author determined that RNs who worked more frequently than their peers had increased odds ratios for NSSIs (d'Ettore, 2017).

Key Points

This study's essential findings fall under two categories; factors that increase the apparent risk of NSSIs and those that are not associated with an increased risk of NSSIs. The former

category included working three or more night-shifts in seven days or working nine or more night-shifts in 28 days (d'Ettore, 2017). These results seem to be consistent with those of related research efforts. Gabr et al. (2018) found that working more than two night-shifts in a month was associated with a greater risk of NSI. The data analysis performed in this study did not indicate a link between increased incidence of NSSIs and the total hours or number of consecutive shifts worked in 28 days (d'Ettore, 2017). More relevant to the purpose of this literature review is the question of how the results should inform efforts to prevent NSIs. Based on the findings, d'Ettore (2017) recommends that RNs not work more than two night-shifts weekly or eight night-shifts monthly. Furthermore, the author proposed that employers utilize a forward-rotating schedule for shift work as a preventative measure against NSSIs (d'Ettore, 2017).

Assumptions

The study selected its subjects from a single hospital in Italy (d'Ettore, 2017). Ergo, there is an implied assumption that RNs at this hospital are similar to RNs elsewhere. Furthermore, the author used control comparison figures expressed as NSSIs per 100 full-time equivalent positions, which suggests an assumption that part-time workers are substantially similar to full-time employees (d'Ettore, 2017).

Deficit/Conclusion

In terms of problems with the study, d'Ettore (2017) conceded that the data collection interval of two years and the sample size of 765 RNs are relatively small. Furthermore, the investigation scope included only NSSIs and not other work-related injuries (d'Ettore, 2017). Therefore, it is faulty to assume factors with no link to increased NSSIs are not associated with injury in general.

The question addressed by this article is justifiable based on the available literature concerning shift-work and job performance. For example, Ball et al. (2017) found that nurses who worked night-shift self-reported delivering poor nursing care, feeling patient safety was compromised, and dissatisfaction with their jobs at higher rates than nurses working day-shift. The research by d'Ettore (2017) tests the inference that working night-shift, which is associated with diminished job performance, may also be associated with the frequency that NSSIs occur. Serious consideration of this study's results suggests that effective prevention of NSSIs requires calling for changes in scheduling practices at the institutional level. However, scheduling changes may not be a practical approach; though adopting the author's recommendations may be desirable, organizations must also balance their staffing needs and their employees' preferences. On the other hand, failing to consider the studies' results seriously risks ignoring significant risk factors for a widespread problem and inhibiting finding solutions.

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