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Sharp objects injury occurrence and management: knowledge and practices of student nurses in South Africa

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Purpose:

Sharp object injuries are part of some of the occupational health hazards that nursing students are likely to be exposed to during their clinical practice. Despite the possibility of eliminating such injuries, they remain reported across many categories of health care workers. The purpose of this study was to determine nursing students' knowledge and practices related to sharp objects injury and management at a university in the Western Cape Province, South Africa. The objectives of the study included determining the occurrence of sharp object injuries among nursing students, risk knowledge of nursing students on sharp object injuries, as well as their reporting and management following an incident of a sharp object injury. The Haddon's matrix was adopted as a guiding framework for the study, and presented three phases related to the phenomenon, namely pre-injury phase, injury phase and post injury phase.

Methods:

Founded on a post positivism paradigm, a quantitative research approach and a cross-sectional descriptive survey design were applied in conducting this study. The study was conducted in 2017 at a university based in the Western Cape, South Africa. The target population was comprised of 563 nursing students registered for the 2nd, 3rd and 4th year undergraduate nursing degree. The study applied a proportional quota sampling technique to select the calculated sample size of 252 nursing students, with a confidence level of 95%. Respondents were recruited at the end of their class session in the absence of responsible lecturers. Based on literature information, a survey questionnaire was developed, covering the study objectives and fitting the three phases of the adopted framework. In addition to demographic data, the questionnaire had items covering the three phases of Haddon's matrix. The pre-injury phase was covered by 13 items, injury phase was covered by 6 items and 10 items were for the post injury phase. The data collection tool was piloted twice until a Cronbach's alpha of 0.706 was obtained. Data were collected over a period of one month. Validity and reliability were attained, and ethical principles were adhered to. The statistical analysis was done by Statistical Package (SPSS version 24)

Results:

The average age of the respondents in the study was 24 years, ranging from 19 years to 46 years, and female students made 83.7% of the respondents. These characteristics are similar to the statistics of nursing students registered with the South African Nursing Council. Gaps in knowledge were noted. Respondents recognized the risk of contracting blood borne diseases during clinical training, and although all respondents knew that SOIs can result in transmission of blood borne diseases, 24% did not know that needles should not be recapped after use, and 16% indicated always recapping needles before disposal (49%). It was noted that over a quarter of respondents (77%) did not complete their Hepatitis B vaccine as a prevention for Hepatitis B. Over 90% of respondents were aware of universal precautions, however the practice of universal precautions was not that high as only 66% indicated always using personal protective equipment (PPE) and the reasons included lack of supply of protective equipment, or sense of discomfort in handling instruments. In this study, 25% (n=63, N=252) of the respondents indicated having sustained at least one needle stick injury, and the distribution was similar across the three year levels. 76% of needle stick injuries occurred during the administration of injection, followed by 44% reports of needle stick injuries when recapping used needles. Fear and anxieties followed needle

stick injuries events, being reported by 67% and 49% respectively, with only two third (n=42, N=63) of those who sustained the injury reporting the incidents. Lack of perception of risk accounted for the main reason for non-reporting of the SOI, with stigma and absence of reporting system being report by one respondent each, as reasons for not reporting the injury.

Only 67% of respondents who had a needle stick injury correctly squeezed the puncture site, while 8% did not act at all. Up to 65% of respondents who reported sustaining a needle stick injury did not go for blood test as part of further management, and only 25% (n=16, N=63) accessed post exposure prophylaxis following a SOI, with only one respondent indicating complete the PEP course.

Conclusion:

Gaps in knowledge and practice with regard to prevention and management of sharp object injuries were noted in this study. Such continued gaps put the nursing students at risk acquiring of blood borne diseases, a situation that is avoidable if the correct universal precautions are applied. Nursing students are to be encouraged to apply the universal precautions. It is crucial to ensure correct knowledge is acquired and correct practice is maintained as a measure to ensure safe practice upon completion of their training.

Title:

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Keywords:

nursing, sharp object injury and student

References:

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Abstract Summary:

The session will present nursing students' knowledge and practices related to occurrence, prevention and management of sharp object injuries (SOIs) during clinical practices. 25% of the respondents reported having sustained at least one SOI. Low reporting rates of SOI incidents, knowledge and practice gaps will be highlighted. Recommendations are included.

Content Outline:

Outcome of the session:

Attendees to the session will be able to understand the knowledge gaps related to the prevention and management of sharp objects injuries among nursing students

Attendees will be able to indicate practice gaps related to the prevention and management of sharp objects injuries among nursing students

Introduction

Nursing students are professionals in training. They are exposed to health hazards like other health care workers, and their novice state is linked to their increased risk of needle stick injuries especially when they start performing invasive procedures such as giving injection and drawing blood. Work related physical and psychological stressors have been linked to the occurrences of sharp objects injuries (SOIs). Experiences of fear, anxiety and depression have been noted following a SOI. Despite the possibility of eliminating SOIs, literature has noted occurrences of SOIs among nurses and student nurses in other countries, but limited information is available with regard to SOIs among student nurses in the Western cape, South Africa

Body:

- Similar to the population of nurses in South Africa, 84% of respondents were female, with an average age of 24 years.
- Many respondents indicated being knowledgeable on some aspects related to prevention and management of SOIs.
 - The risk of acquiring blood borne diseases is known by the respondents with 97% indicating that they considered SOIs as risk for harm, and everyone aware that SOIs can result in the transmission of diseases. Additionally, needle stick via skin was correctly identified as an example of a SOI
- However, there are still some gaps in knowledge that were noted:
 - 24% of respondents did not know that they should not recap needles
- Unsafe practices are still reported among nursing students:
 - 16% of respondents indicated always recapping used needles
 - Non-adherence to prevention measures: Hepatitis B vaccine not completed, and PPE are not always used
- SOIs occurrence remains:
 - 25% of respondents reported at least one injury; administration of injection remains the main activity involved in SOIs incidents
- Reporting of SOI can be improved, and implementation of management guidelines can be strengthened:
 - 1/3 did not report the incident, and only 25% of respondents accessed PEP following a SOI

Conclusion:

Gaps in knowledge and practices are evident, but the situation can be improved. The use of retractable needles would reduce the incidents of SOIs considerably. Students nurses need to improve their practice for prevention and management of SOIs, as this is crucial for future practice as professional nurses

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