Incidence and Practices Regarding Needle Stick Injury among Nursing Students at Selected Colleges

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Abstract- Needle stick and sharp injuries are the most significant occupational hazards that threaten the safety of nurses and other healthcare workers inside the hospital since this is the most common cause by which blood borne pathogens can be transmitted between patients, students, and other healthcare personnel. The study aimed at assessing the knowledge level and incidence rates of NSI among nursing students. Quantitative Non experimental descriptive design was used for the study. Complete enumeration was used to select 50 subjects for the study. Majority of them (68%) have average level of knowledge. Out of 50 students around 22% of the students experienced NSI and it was higher during II year (45%) and III year (55%). Majority of the students had NSI while discarding biomedical waste. 18% of the students have not reported to any one. No one has done any blood test after NSI. NSI was very common in wards (73%) followed by Emergency (27%).

Keywords - Nursing, Needle stick injury, Biomedical waste

I. INTRODUCTION

Needle-stick injuries are very common. Such accidents are associated with a small, but significant, risk to our career, health, families. WHO reports in the World Health Report 2002, around 2 million health-care workers experience percutaneous exposure to infectious diseases each year. It further notes that 37.6% of Hepatitis B, 39% of Hepatitis C and 4.4% of HIV/AIDS in health care workers around the world are due to needle stick injuries. Accidental punctures by contaminated needles may inject hazardous fluids into the body. There is a potential risk for injection of hazardous drugs, infected fluids etc. Even small amounts of infectious fluid is sufficient to spread certain diseases effectively. The risk of infection after exposure to infected blood varies by blood borne pathogens. The Ontario Hospital Association/Ontario Medical Association (2012) has estimated that after a needle stick injury from a needle contaminated with hepatitis B virus, there is a 6 to 30% chance, with HIV there is about a 0.3% chance of infection, with hepatitis C there is about a 0.3% chance of infection, that an exposed person will be infected.

Nurses are an integral part of the healthcare team working in clinical units. They face many occupational health hazards. Dement et al. (2004) explained that exposure to human blood and body fluids pose a risk to blood borne infections. Hence, the nursing students need to be cautious in identifying the risks while working in a clinical setting.

II. BACKGROUND OF THE STUDY

Drexler, Schmid, and Schwager (2007) has reported that one half of all medical students and nursing students have experienced an exposure to blood or body fluids during the final two years of study. Elucir Gir et al has reported that only five out of twelve nursing students exposed to biologically hazardous material and they reported the incident. This study also found that students exposed to biological hazards expressed fear of contracting potential infections such as HIV/AIDS, Hepatitis B and C. They also expressed the feelings of fear, insecurity, and low self esteem (Elucir Gir, & Canini, 2004).

Lauren Blackwell (2008) conducted a study on Nursing Students’ Experiences with Needlestick Injuries, to determine the incidence of needle sticks among nursing students at a small liberal arts university and evaluate the circumstances around this situation. The study was conducted by 12 junior and senior nursing students and their clinical instructor. After giving informed consent, (97%) nursing students completed an online survey regarding needle stick injury they had incurred. Of the students surveyed, nine reported that they have experienced a needle stick injury, but only seven of those were in the student role at the time of incident. Surprisingly, none of the injuries were reported to agency personnel. Findings suggest that annual education about the incidence, risks and policies regarding needle stick injury is mandatory for the clinical instructors and nursing students.

Knowledge deficit regarding reporting practices seemed to be a major reason that students do not report any sharp injury. One study found that students did not report needle stick injuries due to lack of knowledge of how to report the injuries (Cervini & Bell, 2005). In another study, Mendias and Ross (2001) identified that having a clear policy pertaining to reporting and postexposure chemoprophylaxis was imperative.
III. MATERIAL & METHOD

The objectives of the present study were to assess the level of knowledge regarding needle stick injury and to describe the incidence rates among nursing students. The study was carried out in a selected College of Nursing, Perinthalmanna, Kerala. Quantitative non experimental descriptive design was used for the study. Target population consisted of IV year BSc nursing students studying in a college of Nursing. Simple random technique was used to select a College of nursing from Malapuram district. Complete enumeration technique was used to select the 50 subjects for the study. In view of the nature of the problem and to accomplish the objectives of the study, the following tool was used and it included. A self-structured questionnaire composed of three parts were used: The first part was about demographic profile of the nursing student. The second part covered questions related to the student’s knowledge of needle stick injury. The third part included questions about NSI events during clinical practice. The content validity of the tools was ensured by obtaining opinion from experts. Data were collected after obtaining permission from the principal ,college of Nursing. The researchers introduced themselves, gave an introduction regarding the study and its objectives to the study subjects. The study subjects were informed that the information would be kept confidential and would be used only for the purpose of research. Data were collected during first week of April. The collected data were tabulated and analyzed using SPSS.

Table 1 displays distribution of study subjects according to the age, gender, Hepatitis B vaccination and Experienced NSI. All the 50 subjects were in the age group of 17-21 years, and majority (90%) of them were females. All the 50 subjects received three doses of Hepatitis Vaccination and no one was followed with booster dose of Hepatitis B vaccination. Among them 22% of the subjects have experienced NSI.

Table: 2
Frequency and Percentage distribution of nursing students knowledge on NSI

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very poor</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Poor</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Average</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Good</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Very good</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Out of 50 students Most (68%) of the nursing students had average knowledge on NSI , 12% had poor knowledge and 10 % of students fall into the category of good as well as poor. None of them had very good knowledge on NSI.

Describe the incidence rates of NSI among nursing students

Out of 50 students around 11 (22%) of the students experienced NSI and it shows higher during II year (45%) and III year (55%) .45% of the students had NSI while discarding biomedical waste, 18% during preparation of medicines and checking blood glucose level, and 9% due to recapping and non cooperation from the patient. Around 64% of the students reported NSI whereas 36% have not reported NSI. Highest percentage have reported to their friends (36%). 27% to the teachers, 18% to the nurses and 18% of the students have not reported to any one. No one has not done any blood test after NSI. NSI was very common in wards (73%) followed by Emergency (27%).

IV. DISCUSSION

This study revealed that about two thirds of the student nurses in Jordan had experienced NSIs, with increased number of incidences among students in the second year of nursing education. Further, around half of the students did not tell anyone about the injuries nor have done any blood test after the NSI incidence. Most of the NSI cases occurred in the emergency units and the medical surgical units. Present study revealed that around 64% of the students reported NSI whereas 36% have not reported NSI. Highest percentage have reported to their friends (36%) and 18% of the students have not reported to any one. No one has not done any blood test after NSI. NSI was very common in wards (73%) followed by Emergency (27%).

V. CONCLUSION
The incidence of needle stick injuries among the nursing students are much higher in comparison with other students. They are at risk of getting infection. Their knowledge concerning universal precautions and hepatitis vaccination, handling of sharp instruments requires further health education reinforcements. Proper awareness has to be given to the nursing students about the dangers and prevention of injuries.

BIBLIOGRAPHY