



Assessment of Knowledge of Registered Nurses Regarding Needle Stick Injuries

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ABSTRACT

A registered nurse needs to have enough knowledge about Needle stick injury, its cause, and how to prevent such injuries by using appropriate precautions because it has the potential to cause life-threatening diseases. This study sought to assess the knowledge of registered nurses regarding Needle stick Injuries. A descriptive cross-sectional study was performed. The nurses were interviewed using a self-administered questionnaire to collect the data. The collected data was analyzed by using SPSS version 20. The findings showed that the registered nurses have good knowledge regarding needle stick injury. In conclusion to the findings of this study, nurses possess the necessary information regarding the different causes of needle stick injuries such as recapping, inadequate light, and patient non-cooperation. However, our institutions and authorities must continue their efforts to keep their healthcare force updated by providing continued education and required resources in the clinical areas

Keywords: needle stick injury, registered nurses, knowledge

Introduction

Needle Stick Injury (NSI) or sharp injury is probably the most prevalent hazard in the medical profession. It is any percutaneous injury caused by sharp equipment used in medical care such as hollow bore needles, suture needles, scalpels, etc. Approximately 600,000 to 800,000 needle injuries are reported annually among U.S Health Care Workers HCWs (Qazi et al., 2016). These injuries can happen anywhere in the world but in Pakistan, we have a lack of awareness about NSI and its reporting. HCWs are at great risk of needle stick injury especially those associated with surgical fields and are at considerable risk of blood-borne diseases during their practice. Pakistan is a developing country and does not have a proper system for determining factors that cause NSI its prevalence, reporting, and the reasons behind not reporting the injuries (Younis et al., 2019). Needle stick injuries and sharp injuries are essential elements of public health and also should be monitored closely. It is important to address the failure to report injuries and also find out the actual number of sharp injuries among healthcare workers (Garus-Pakowska & Górajski, 2019). Every year a huge number of nurses suffer from blood-borne diseases (hepatitis b, hepatitis c, human immunodeficiency virus) due to needle stick injuries while performing their clinical tasks. Needle stick injuries could be preventable if nurses adopt comprehensive safety measures (Dilie et al., 2017). Workers of clinical laboratories face many threats like needle stick injuries daily. In this study, the frequency of occupational infection and needle stick injuries are examined in clinical laboratory workers in Al-Madina; Saudi Arabia. Needle stick injury and frequency of occupational infections are at a high rate in laboratory workers. Needle stick injuries are controlled by biosafety and infection control departments, by proper training skills, and by using needle stick prevention devices these devices are very helpful in reducing the frequency of needle stick injuries (Khabour et al., 2018). Needle Stick Injuries are an important issue among healthcare workers because they get exposed to pathogens like the Hepatitis B virus, and Hepatitis C virus which can cause corporeal distress and can lead to corrosion. Needle Stick Injuries are common during clinical it is experienced once at least. A decade ago previous studies had low response rates and were not to be reported. Often such events are not reported because of the barriers in organizations. However, these findings and studies help to reduce the needle stick injury among trainees and encourage reporting to give care within time. Early identification and reporting initiate rapid treatment and expenses are also made sure to be covered by employers. Furthermore, because of these survey studies duty hour policies and the wellness of Health Care Workers are a focus now (Yang et al., 2019). There are certain types of needles such as hypodermic needles, blood collection needles, and intravenous stylets by which needle stick injuries occur. This occupational event among Health care workers is preventable. Guidelines and safety measures should be practiced by Health care workers. Though the knowledge and implementation are very little. It is vital to train Health Care Workers to handle sharp objects. Reporting should also be effective and must be done to address the problem (Sriram, 2019).

Problem Statement

Needle stick is the genuine reason behind the blood-borne infections transmitted to human beings. According to a WHO survey in 2002, more than 3 million healthcare workers suffered an injury through a contaminated sharp object, which resulted in about 16,000 occupational HCV infections, and 1,000 HIV infections that had led to about 1,000 and significant disabilities.

The purpose of the study was to explore the knowledge regarding needle stick injuries among registered nurses of a private hospital in Lahore.

Methodology

Research Design: A descriptive Cross-sectional study design was used to conduct this study.

Setting: The study was conducted at a private tertiary care hospital of Lahore city.

Population and sampling: This study was conducted among registered nurses of 20 to 50 years of age. A sample of 40 registered nurses was recruited by using a convenience sampling technique

Inclusion Criteria: Registered nurses between 20 to 50 years of age who were willing to participate were included.

Exclusion Criteria: Nurses having any physical or mental ailment were excluded from the study.

Ethical Consideration: All the participants were explained the importance of the study and an informed consent form was given to them. The study was conducted only on those people who were willing to participate. Participants were asked to sign the informed consent forms to confirm that they had obtained all the necessary information regarding the study before it was used. Participants were also assured that anonymity and confidentiality would be maintained.

Research Tool: A close-ended survey questionnaire was used to assess the knowledge regarding Needle Stick Injuries.

Data Collection and Analysis: The data was collected from Fatima Memorial Hospital, Lahore. A Self-administered questionnaire was used to conduct this study. Statistical Package for Social Sciences (SPSS) Version 20 was used to analyse the collected data.

Results

A total of 50 eligible registered nurses were included in the study and out of these only 40 RNs responded to the self-administered questionnaire, and the remaining 10 refused of had submitted incomplete questionnaires. Moreover, the age of the participants included in this study ranged between 20 to 50 years with a mean age of 35 years.

Table 1. Demographic characteristics of participants

		Frequency	Percentage
Age	20-30	23	57.5%
	31-40	11	27.5%
	41-50	6	2.4%
Gender	Male	5	12.5%
	Female	35	57.5%

Table 2.1 shows that among the respondents, 87.5% agreed that needle stick injuries occurred due to patient non-cooperation, and 80% agreed that needle stick injuries due to recapping and inadequate lightning. 57.5% agreed that needle stick injuries took place due to stress and anxiety. The study found that factors associated with needle stick injury included recapping, job-related stress, inadequate light, patient non-cooperation, etc.

Table 2. Participants' response for items in the questionnaire

No	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Healthcare workers follow precautions for Needle stick injury	40.0%	50.0%	0.00%	0.00%	0.00%
2.	Every health care worker has chance to get needle stick injuries	40.0%	42.5%	12.5%	5.0%	0.00%
3.	You have enough knowledge about reporting needle stick injury	37.5%	40.0%	12.5%	10.0%	37.5%

4.	Your hospital embraces a proper sharp policy	45.0%	47.5%	5.0%	2.5%	0.00%
5.	Most needle stick injuries are often neglected and unreported	35.0%	47.5%	7.5%	2.5%	7.5%
6.	Inadequate or short staffing is a reason for needle stick injuries	45.0%	27.5%	7.5%	10.0%	10.0%
7.	Reporting after needle stick injury is not useful	2.5%	20.0%	12.5%	22.5%	42.5%
8.	If health care worker gets infected with HIV infection due to needle stick injury, they should resign from their profession	2.5%	15.0%	12.5%	15.0%	55.0%
9.	Needle stick injuries cause stress and anxiety in persons who are exposed to needle stick injuries	15.0%	42.5%	25.0%	10.0%	7.5%
10.	When needle stick injury occurs squeezing or pressing the wound is a right practice	12.5%	10.0%	10.0%	17.5%	50.0%
11.	Recapping the needle before throwing away is right	30.0%	50.0%	15.0%	2.5%	2.5%
12.	You have enough knowledge about preventive measurements of Needle stick injury	47.5%	45.0%	7.5%	0.00%	0.00%
13.	Inadequate light and patient non-cooperation prevalent factors in causing needle stick injuries	32.5%	50.0%	15.0%	2.5%	0.00%
14.	Patient non-cooperation is a factor in causing needle stick injuries	25.0%	62.5%	10.0%	0.00%	2.5%

Discussion

In the health care system, every health care worker has a chance to get sharp injuries or needle stick injuries but most needle stick injuries occur in the emergency department because of workload or maybe due to a shortage of staff. According to the urban emergency department, three times more emergency department staff were affected due to NSIs. In which also they said if provide proper staff training then the frequency of NSIs was decreased. In our study, needle stick injury is caused by stress and anxiety and also caused by due to recapping the needle before throwing away but in another study needle stick injury is caused by different devices such as syringe needles, such as suture needles and intravenous cannula. In our study, 57.5% NSIs occurred during recapping the needle before throwing away and due to stress and anxiety but in other studies, 39% in India NSIs occurred due to not wearing gloves (Wilson et al.,2015).

In our study factors that are associated with NSIs are anxiety, stress, shortage of staff, patient non-cooperation, and inadequate light as well. But another study needle stick injuries are associated with the long shift duties and also due to their carelessness or maybe due to gender differences, women were mostly experiencing NSIs than men (Yang et al., 2019).

In our study 55% population of a private hospital, Lahore is awarded by HIV infection due to NSIs but in another study, 10.6% were still unaware about HBV/HIV infection occur due to NSIs and 13.6% are unaware of HIV and HCV in Holy family hospital in Rawalpindi (Qazi et al.,2016).

Conclusion

In conclusion to the findings of this study, nurses possess the necessary information regarding the different causes of needle stick injuries such as recapping, inadequate light, and patient non-cooperation. Nurses follow precautions to prevent needle injuries and adhere to techniques that reduce the chance of getting injured and it also shows that they have ample awareness about the aftercare of injured sites to prevent blood-borne infections i.e. HIV, Hep B, Hep C. They also know when and how to report if any incidence of Needle stick injury occurs. However our institutions and authorities must continue their efforts to keep their healthcare force updated by providing continue education and required resources in the clinical areas.

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