



THE KNOWLEDGE, ATTITUDE AND PRACTICES OF NURSES REGARDING NEEDLE STICK INJURY

Najeeb ur Rehman^{1*}, Humaira Saddique², Syeda Sidra Tasneem³

Abstract

Background Needle stick injury is a cut or wound cause by needles that accidentally tear or puncture the skin and may expose the nurse to contaminated blood and body fluids is known as a needle stick injury.

Objective: The aim of the study was to assess the knowledge, attitude and practice of nurses regarding needle stick injury”.

Methodology: A descriptive cross-sectional study design was used.

Results: The study reported that the participants have poor knowledge were 55(42.3%), The participants have positive attitude were 69(53.1%), the practice of nurses have good were 96(73.8%) regarding needle stick injury.

Conclusion: The study concluded that the majority of nurses having poor knowledge, positive attitude and good practice regarding needle stick injury.

key words: Needle stick injury, hepatitis B, hepatitis C, HIV.

*Department of Nursing, the Superior University Lahore, Pakistan

²Faculty of the Superior University Department of Nursing

***Corresponding Author:** Najeeb Ur Rehman

*BSN (Generic) Students,Email. najeebsami@949gamil.com

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INTRODUCTION

Needle stick injury is the penetrating injury by different type of contaminated needles due to their frequent working exposure. Nurses are more likely to contact blood-borne diseases because of job description. Nurses in medical setting have been found have higher rate of needle stick injury than the other healthcare professionals (Ji et al., 2022). Nurses are most affected by the needle stick injury. Needle stick injury is the most efficient way to transfer blood borne diseases between the nurses and the patients (Hassanipour, S.,2021). According to the WHO, four injuries per person are reported annually in the health care sector in Asia, Africa, and other countries (Bouya et al., 2020). The worldwide needle stick injury prevalence is 40.97% among nurses' the highest prevalence in Southeast Asia 49.9%, and the lowest in the United States of America 25.1% (Abdelmalik, et al 2023). Nursing staff have a serious risk of infection from blood-borne diseases due to contaminated needles. (Bekele, Gebremariam, Kaso, & Ahmed, 2015). In Pakistan the reported incidence of needle stick injuries is 16.3% in nurses. Reported and non-reported needle stick injuries are highly common in nurses (Pervaiz, M., Gilbert, R., & Ali, N. 2018). The knowledge of nurses they have to know that the most common life -threatening blood-borne pathogen is Hepatitis B which is most common in the overall globe that increases risks to the nurses and general public health (Hassan et al., 2016). For HCV the transmission rate is around 3-4% and 0.3%, risk of transmission is lowest for HIV Horak. et al, (2023). HBV and HCV infections are among the biggest health challenges facing the developing world today. Attitude of nurses may change due the high prevalence of the needle stick injury. The nurses in operation theater, and emergency wards have greater risk of exposure and they experience significant fear, anxiety and emotional distress, which may result in behavior

changes as well as patient care can be compromised (Galehdar, Kamran et al. 2020). The nurses practice regarding needle stick injury is not up to the mark because majority of needle stick injuries happened during medication administration, medication preparation, recapping, transporting syringes without the appropriate container, improper disposal of needles, removal of needle caps, patient movement during injection, blood sampling, and suturing (Elagib et al., 2022). While several studies have explored the knowledge, attitude and practice of nurses regarding needle stick injury but there remains a noticeable gap in understanding the specific factors to enhance the knowledge, implement the safety protocols and long-term impact of educational intervention. Therefore, there is the need of study to enhance the knowledge of nurses regarding needle stick injury.

METHODS:

A descriptive cross-sectional study design was used. The setting of the study was tertiary care hospital Lahore Pakistan. The study population was staff nurses of tertiary care hospital Lahore. Convenient sampling technique was used to gather the sample from the number of populations. The duration of this study was 9 months. The sample size of my study were 130 staff nurses of Jinnah hospital Lahore and sample size was calculated by solving's formula to find out the sample size of the study population. The study used are adopted version of questionnaire regarding knowledge, attitude and practice of staff nurses. The ethical consideration was followed which is set by the committee of superior university nursing department. Participants was ensured for data privacy and they are not forced to participate in the study. There was no harm and the confidentiality of participants was maintained.

Chapter analysis

Table no 1.0

Variables	Category	Frequency %
Age	20_25 years	28 (21%)
	26_30 years	46 (35%)
	31_35 years	38 (29%)
	41_45 years	13 (13%)
Gender	Male	11 (8%)
	Female	119 (91%)
Marital status	Single	69 (53%)
	Married	61 (46%)
Qualification	Diploma in general nursing	74 (56%)
	Post RN	56 (43%)
Experience	1_5 years	40 (30%)
	6_10 years	51 (39%)

	11_15 years	39 (30%)
Department	Medical wards	62 (47%)
	Surgical wards	68 (52%)

Table no 1. Demographic characteristics

This demographic table shows that majority of age group with 26-30 years 46 (35%). Majority population were female 119 (91%). The Majority with single marital status 69 (53%). Majority of nurses with 6-10 years' experience 51 (39%). Majority with Diploma in Nursing 74 (56%). Majority of nurses working were in surgical wards 68 (52%).

wounds caused by needles that accidentally puncture the skin". Mostly nurses having good knowledge regarding "Three are required for full protection from hepatitis B". Similarly, majority of nurses having poor knowledge regarding "Hepatitis C disease can prevent by vaccine". Moreover, many of them having poor knowledge "In needle stick injury, Hepatitis B carries the greatest risk of transmission".

Table no 2. Knowledge questionnaire

Majority of nurses having good knowledge regarding "Needle stick injury is defined as

Questions	Respond	Frequency %
Needle stick injury is defined as wounds caused by needles that accidentally puncture the skin.	Yes	125 (96%)
	No	4 (.8%)
Three are required for full protection from hepatitis B	Yes	16 (12%)
	No	114(87%)
Hepatitis C disease can prevent by vaccine	Yes	120 (92%)
	No	10 (7%)
In needle stick injury, Hepatitis B carries the greatest risk of transmission	Yes	22 (16%)
	No	108 (83%)

Table no 3 Attitude questionnaire

Majority of nurses having positive attitude towards "Patient care is more important than the safety of nurses". Similarly, majority of nurses having

positive attitude towards "All sharps injuries at work should be reported immediately". Majority of nurses having positive attitude towards needle stick injury.

Questions	Respond	Frequency %
Patient care is more important than the safety of nurses	Strongly disagree	68 (52%)
	Disagree	47 (36%)
	Agree	4 (3%)
	Neutral	11 (8%)
all sharps injuries at work should be reported immediately	Disagree	1 (.8%)
	Strongly agree	33 (25%)
	Agree	62 (47%)
	Neutral	34 (26%)
I think needle stick injury is preventable	Strongly agree	38 (27%)
	Agree	62 (47%)
	Neutral	35 (26%)

Table no 4 Practice questionnaire

The majority of nurses having good practices regarding "Do you recap the needles with 2 hands before disposal". Majority of nurses having bad

practices regarding "Is the safety boxes or disposal containers usually available".

Questions	Respond	Frequency %
Do you recap the needles with 2 hands before disposal	Yes	64 (49%)
	No	66 (50%)
Is the safety boxes or disposal containers usually available	Yes	41 (31%)
	No	89 (68%)

Discussion

The majority of participants who respond to yes option of the question “Needle stick injury is defined as wounds caused by needles that accidentally puncture the skin” were 125(96.2%). Mostly participants who respond to yes to the question “three doses are required for full protection from hepatitis B” were 114(87.7%). Similarly respond of the participants to yes to the question that” Hepatitis C disease can prevent by vaccine” were 120 (92.3%). Majority of nurses choose yes” in needle stick injury; Hepatitis B carries the greatest risk of transmission” were 108(83.1%). majority of the participants select strongly agree” Patient care is more important than the safety of nurses” were 68(52.3%). similarly, majority of Participants respond to agree to the question” all sharps injuries at work should be reported immediately” were 62 (25.4%). Majority of the Participants answer to agree to the question” I think needle stick injury is preventable” were 62 (47.7%). Mostly of the nurses respond to option no to the question “Do you recap the needles with 2 hands before disposal’ were 66 (50.8%). Majority the respond to the option no of the question’ is the safety boxes or disposal containers usually available” were 41(31.5%).

Conclusion

The current study concluded that the nurse’s knowledge regarding needle stick injury was moderate the percentage of knowledge regarding needle stick injury was (42.3%) it showed that they had moderate knowledge regarding needle stick injury, the percentage of practice was (73.8%) showed the practice of nurses regarding needle stick injury is good and attitude of the nurses almost positive towards needle stick injury. It is the need of a time to consider the requirement of knowledge, refresher courses and enhancement of knowledge in this regard. The policy makers or hospital management should take strict actions regarding this issue. There is should be follow up programs to ensure the improvement of knowledge and practice. There is the need of experimental study to check the knowledge.

Limitation:

1. The current study was select only one hospital.

2. This selects weakest study design cross-sectional study design.
3. The sample size and targeted population was very small.

Recommendation:

The current study examined that the knowledge of the nurses regarding needle stick injury was moderate, but the practice and attitude were good and positive so, the future researchers can conduct experimental study to improve the level of knowledge. The results were not generalized because the study was select only one hospital so, the future researchers can select more than one hospital to generalize the findings.

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