

Original Article**KNOWLEDGE REGARDING NEEDLE STICK INJURY AMONG NURSES IN TERTIARY CARE HOSPITAL JHAPA NEPAL*****Ganga Adhikari, Kiran Kumari Yadav***Department of Nursing, B & C Medical College Teaching Hospital and Research Center, Birtamode, Jhapa, Nepal***Submitted: 11-April-2022, Revised: 16-July-2022, Accepted: 20-October-2022****DOI: <https://doi.org/10.3126/mjen.v1i02.51156>****ABSTRACT****Background**

Needle Stick Injury (NSI) is the wound or cut caused by the needles that unintentionally tear/puncture the skin that may result in exposure to contaminated blood and the body fluids. Nursing workers are on high risk of exposure of blood borne germs i.e. HIV, HBV and HCV. According to WHO study, the annual estimated proportions of health-care workers (HCW) exposed to blood-borne pathogens globally were 2.6% for HCV, 5.9% for HBV, and 0.5% for HIV, corresponding to about 16,000 HCV infections and 66,000 HBV infections in HCW worldwide.

Methods

The quantitative research for approach was adopted for this study and descriptive survey research design was selected for this study. A study to assess knowledge regarding needle stick injury among nurses in tertiary care Hospital, Jhapa Nepal was conducted among the nurses from 13th March 2022 to 20th March 2022. Hundred nurses were selected by using convenient sampling. SPSS Version 20 was used for data analysis.

Results

The collected data was analyzed by using descriptive and inferential statistics. This study result showed that 73% had average knowledge, 7% had good knowledge and 20% had poor knowledge respectively. Chi-square value revealed that there was significant association between knowledge with demographic variables of educational qualification and working experiences, where p value was less than 0.05 ($p < 0.05$).

Conclusion

This study concluded that the majority of nurses having average knowledge. They need to improve their knowledge.

Keywords: Knowledge, Needle stick injury, Nurses

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***Corresponding Author:**

Ganga Adhikari
Email: gangabpkmc@gmail.com
ORCID: <https://orcid.org/0000-0001-5050-2306>

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INTRODUCTION

Needle stick injuries (NSI) are one of the common health hazards among health care workers (HCWs) in health care settings. Health care workers are at risk of blood borne diseases and the psychological consequences of these injuries. It not only carries a risk of transmission of blood borne pathogens but also symbolizes quality health care services. There are three most common diseases - hepatitis B, hepatitis C, and HIV/AIDS are of greatest concern because of their morbidity, complications including death.¹ the most common of the NSI happen during recapping, opening of ampoule or vial, during procedure or during disposal of syringes.²

Reported and non-reported needle stick injuries are highly common in medical injuries especially in nurses. Awareness about the severity of needle stick injury, blood borne pathogens and infections must be provided to medical students, staff nurses and professionals by organizing workshops and seminars to decrease the risk of Needle Stick injuries.³

Needle Stick Injury is a common event in the health care environment while drawing blood, administering intramuscular or intravenous drugs, or performing procedures involving sharp instruments. This sets the stage to transmit viruses from the same person to the recipient. These injuries also commonly occur during needle recapping and as a result of failure to place used needle in approved sharps containers.

The main goal of current study was to assess the level of knowledge regarding needle stick injury among nurses. Needle stick injury training program should be conducted to minimize the risk of needle stick injury. Hence, this study aim is to assess the knowledge regarding needle stick injury among nurses in Tertiary care Hospital, Jhapa Nepal.

METHODS

The quantitative research for approach was adopted for this study and descriptive survey research design was selected for this study. A study to assess knowledge regarding Needle Stick Injury among nurses in Tertiary Care Hospital, B& C Medical College Teaching Hospital and Purbanchal Cancer Hospital Birtamode-5, Jhapa Nepal was conducted among the nurses from 13th March 2022 to 20th March 2022. Hundred nurses were selected by using convenient sampling. A total of 25 item questionnaire was used for data collection. Which comprised of 2 parts; Demographic data & questionnaire. Demographic data was collected from sample which including Age, sex, marital status, educational qualification and working experiences. Structured questionnaire used to assess the Knowledge regarding needle stick injury among Nurses.

RESULTS

Table 1 shows demographic data of participants, the majority of participants (58%) were in the age group of 20- 24 years. All the participants were female and 74% were unmarried. Sixty percent of the participants had the academic qualification of PCL nursing. Among the participants 56% had working experience of more than 1 year and only 10% had more than 4 years of working experiences.

Table 1: Description of samples according to their Frequency and Percentage distribution of demographic variables (N = 100)

S. N	Demographic variables	Frequency/ Percentage
Age in years		
1.	20 – 24	58 (58%)
2.	25 – 29	37 (37%)
3.	30 – 34	4 (4%)
4.	> 35	1 (1%)
Gender		
1.	Male	0 (0%)
2.	Female	100 (100%)
Marital Status		
1.	Married	26 (26%)
2.	Unmarried	74 (74%)
Educational Qualification		
1.	PCL Nursing	60 (60%)
2.	Senior Staff Nurse	11 (11%)
3.	B.SC Nursing	24 (24%)
4.	BNS Nursing	5 (5%)
Working Experiences (years)		
1.	1	56 (56%)
2.	2	20 (20%)
3.	3	14 (14%)
4.	>4	10 (10%)

Table 2 and fig 1 shows that percentage and frequency distribution of participants based on level of knowledge, in which the majority of participants 73% had average knowledge and only 7% participants had good knowledge. The mean of knowledge score was 1.87 and Standard deviation was 0.506.

Table 2: Frequency and Percentage distribution based on Level of Knowledge (N=100)

Knowledge Level	Scoring Criteria	Frequency/ Percentage	Mean	Standard Deviation
Good	15 - 20	7 (7%)	1.87	0.506
Average	8 - 14	73 (73%)		
Poor	0 - 7	20 (20%)		

Table 3 shows that Chi – square value revealed that there was significant association between knowledge with demographic variables of educational qualification p value 0.013 and working experiences p value 0.003. In this study, where p value was less than 0.05 (p<0.05). Hence, research hypothesis was accepted.

Table 3: Association between Knowledge regarding Needle Stick Injury with selected demographic variables i.e. Educational qualification and Working experience. (N = 100)

S.N	Demographic variables	Frequency of Knowledge Score			Chi-square value (χ^2)	P Value
		Poor	Average	Good		
1.	Educational Qualification					0.013 S
	PCL Nursing	16	44	0	16.072	
	Senior staff nurse	2	8	1		
	B.SC Nursing	2	17	5		
BNS Nursing	0	4	1			
2.	Working Experiences					0.003 S
	1 year	16	40	0	19.648	
	2 year	3	15	2		
	3 year	1	9	4		
	>4 year	0	9	1		

($p < 0.05$ significant level); S – Significant and NS – Non significant.

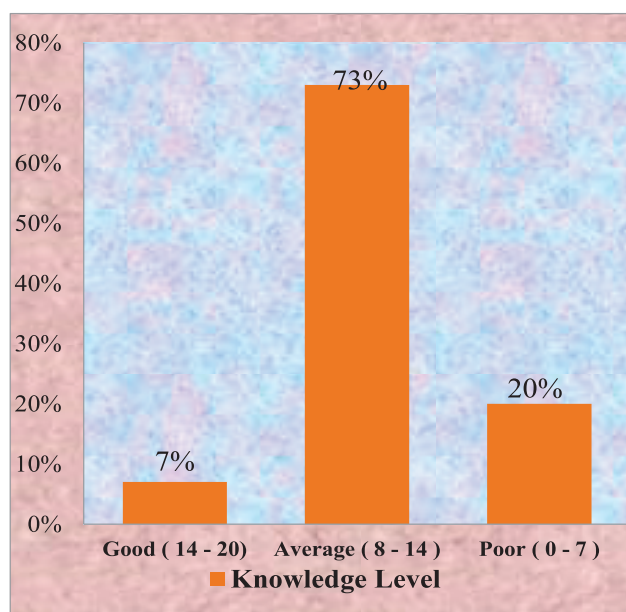


Figure 1: Percentage distribution based on level of knowledge

DISCUSSION

The present study⁷ supported by assessment of knowledge and practices regarding needle stick injury Allied Hospital Faisalabad, India. In this study majority of participant 30 (60%) of 26-30 years and minority of 4(8%) participants of 31-40 years of age group. All participants were female nurses in which 32(64%) were of diploma nursing holder. The results of the current study showed that the nurses have deficit knowledge and practice regarding needle stick injury. Forty-six (46%) nurses showed sufficient knowledge and remaining 54% have insufficient knowledge. Nurses showed good practice were 36% and 64% with poor practice regarding needle stick injury.

The present study¹⁰ was supported by assessment of knowledge regarding needle stick injury among health care workers in tertiary care hospital Belagavi. The total 400 study participants, the majority of participants 314 (78.5%) were in the age group of 21-30 years and 247(61.7%) of the HCWs were female 79.8% were Hindu, 59.2% were staff nurse, 76.8% were having 0-5 years of work experience. The mean(\pm standard deviation) knowledge score of HCWs regarding needle-stick injuries was 6.8 ± 1.52 and 268(67.0%) study participants had average knowledge score.

The present study³ was supported by assessment of knowledge and practice about needle stick injury among nurses at Bahawal Victoria hospital Bahawalpur. Total sample size was 360 nurses. In this study result showed that 76.6% of nurses have good knowledge that needle stick injury is a percutaneous injury while 57.8% have poor knowledge that it is the risk of transmission of blood-borne disease. Chi square for nurses knowledge and age group represent strong association with for different questions like Needle sticks injury cause transmission of pathogens P value < 0.001 . Improved engineering control devices reduce the risk of needle stick injury P value = 0.03.

Similarly, the present study⁸ was supported by assess for knowledge and practice approaches among health care workers regarding needle stick injuries at a tertiary care centre of Central Nepal. The total sample 165 health care personnel of working experience of more than 6 months were included in the study. The result showed that Prevalence of needle stick injury was found to be 703 per 1000 health care worker (70.3%) during their working tenure and majority of the injury happened among nurses ($p < 0.05$) besides other professions. The practice of needle recapping is still prevalent and 80% participants often use single handed technique. Vaccination against hepatitis B virus was not completed by 31% health workers. Inadequate knowledge about post exposure prophylaxis for HIV was reported by 46% participants.

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Conflict of interest: None

Ethical approval: Yes

CONCLUSION

The present study was concluded that knowledge regarding needle stick injury among nurses showed that, the majority of nurses 73% had average knowledge. There was significant association between level of knowledge with educational qualification and working experiences. The knowledge was found to be very low in most of the nursing staffs. Therefore, it should be made compulsory for all nurses in every department at the time of employment by providing training program regarding needle stick injury to improve the level of knowledge and ensure safe practices.

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