

A Study to Assess the Knowledge of Nursing Students Regarding Needle Stick Injury at Selected Nursing College

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Abstract--- Background: *Needle stick injuries (NSIs) are the injuries that are caused by needles, such as hypodermic needles, blood collection needles, intravenous styles, and needles used to connect parts of intravenous delivery systems. NSIs are very common and in many instances unavoidable among healthcare providers when they are delivering patient care. Around 75% of the NSIs in developing countries are not reported.*

Aim: *This study is aimed to assess the knowledge level regarding needle stick injury among Nursing Students. It also finds out if any association is present between knowledge scores on needle stick injury Demographic Variables of the samples*

Material and Methods: *This study has applied the descriptive research design to collect data related to knowledge regarding Needle Stick Injury among 60 Nursing Students in the selected Nursing Institutes. A structured knowledge questionnaire had been utilized to collect the data and the thus collected data had been analyzed using descriptive and inferential statistics.*

Results: *The results revealed that about 23.34% of the Nursing students in the selected Nursing college were exposed to needle stick injuries. In the further assessment of knowledge it was found that 6.67%, 75% and 18.33% of the nursing student were having good, moderate and poor knowledge regarding needle stick injury respectively. During the association of the knowledge and demographic variable, it was revealed that the variables of Sex, Type of Nursing Course, Previous training taken for needle stick injury and previous encounter with needle stick injury were non-significant and the remaining variables of age and the resources of previous information were significant with the knowledge of samples.*

Conclusions: *We can thus conclude that the nursing students are having only moderate knowledge regarding Needle Stick Injury and there is a need to provide more knowledge to them and create awareness among them.*

Keywords--- *Knowledge, Needle Stick Injury, Nursing Students.*

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I. INTRODUCTION

A needle stick injury, percutaneous injury, or percutaneous exposure incident or sharps injury is explained as the penetration of the skin by a needle or other sharp object, which has previously been in contact with blood, tissue or other body fluids before the exposure.^[1] Even though the acute physiological effects of a needle stick injury are generally negligible, these injuries may lead to transmission of various blood-borne diseases, placing those exposed at increased risk of contracting infectious diseases like hepatitis B (HBV), hepatitis C (HCV), and the human immunodeficiency virus (HIV). As per recent data Among healthcare workers and laboratory personnel worldwide, more than 25 blood-borne viruses have been reported to be caused by needle stick injuries.^[2]

Needle stick injuries (NSIs) are considered as the injuries that are caused by needles, such as hypodermic needles, blood collection needles, intravenous styles, and needles used for intravenous access of patients.^[3] NSIs are very common and in many instances unavoidable among healthcare providers when they are providing patient care. According to various reports, about 75% of the NSIs in developing countries are not reported.^[4] In addition to needle stick injuries, transmission of these viruses can also occur as a result of contamination of the mucous membranes of the body, with blood or body fluids but needle stick injuries make up more than 80% of all percutaneous exposure incidents worldwide.^[5] Various other occupations are also at increased risk of needle stick injury, which includes law enforcement personnels, labourers, tattoo artists, food preparers, and agricultural workers, police officers and so on^{[6][9] [7]}

II. MATERIAL & METHODS

A Descriptive Research Design was considered appropriate to conduct this study which was ultimately aimed to assess the knowledge of Needle Stick Injury among the Nursing students. Using the Probability Sampling technique involving the Lottery method, 60 Nursing students were selected from a selected Nursing Institution. The Inclusion criteria which was applied in the selection of the samples included that that the Nursing students should be enrolled in B.Sc or GNM programme, and that they should be physically be present during the conduction of the study. The Tool used for this study contained 2 sections which included the collection of data related to the demographic variable and also the knowledge regarding NSI.

The scoring was given as 01mark for the correct answer in the knowledge questionnaire section. 10 samples were selected to conduct a pilot study which was successfully completed. The tool was adequately validated by 5 experts of the medical and nursing fraternity and the reliability had been also checked by the test re-test method. The formal permission was obtained from the concerned authority of the institute prior to the actual data collection. Thereafter the data was collected from samples after explaining the various aspects of the study with the samples and getting a well formulated written consent from them. The data was collected in this manner and the analysis was done by applying the various statistical methods. For the easy interpretation of the results, the samples having score between 1-8 were considered to have poor knowledge, 9-16 were considered to have poor Average score and 17-25 were considered to have good knowledge regarding the needle stick injury.

III. FINDINGS OF THE STUDY

- A. The table below showing the **Frequency and percentage Distribution of Demographic Variables** reveals that the mean age of study samples is 21-24 years and majority of them i.e. 83.34% were Female. Also it shows that 50% samples were students of 3rd year GNM and Final year B. Sc. Nursing course each. 68.37% samples had not taken any training for NSI, and 16.66% samples were having knowledge of NSI from various hospital resources and also 76.68% of the samples were never encountered with NSI.

n = 60

Sr No.	Demographic Variables	Frequency(f)	Percentage (%)
1.	Age		
	17 – 20 Year	21	35 %
	21 – 24 Year	38	63.34 %
	25 – 28 Year	1	1.67%
	29 and above	0	0 %
2.	Sex		
	Male	10	16.67%
	Female	50	83.34%
3.	Type of Nursing Course		
	3 rd Year G.N.M	30	50%
	Final year B.SC Nursing	30	50 %
4.	Any Previous training taken for NSI?		
	Yes	19	31.67%
	No	41	68.37%
5.	If yes, than which are the resources...		
	Hospital	10	16.66%
	College	5	8.33%
	Seminar	4	6.66%
6.	Previous encounter with NSI?		
	Yes	14	23.34%
	No	46	76.68 %

- B. The below table which is depicting the **Mean, Mean Percentage And Standard Deviation of Knowledge Score Of Nursing Students** describes that the mean score for the knowledge questionnaire was 12.8, and the mean percentage was 51.2% and standard deviation of the knowledge score of the students is 3.46.

n = 60

Mean Knowledge Score	Mean Percentage	Standard Deviation
12.8	51.2%	3.46

- C. The below table indicating the **Association between Knowledge Score of nursing students regarding Needle Stick Injury and Socio-Demographic Variables of Samples** reveals that the demographic variables of age and resources of previous information are significant with the knowledge of samples and other demographic variables are not significant.

<i>Sr. No</i>	<i>Variable</i>	<i>Chi-Square value</i>	<i>Df</i>	<i>Table Value</i>	<i>Result</i>
1.	Age	15.29	6	12.59	Significant
2	Sex	0.85	2	5.99	Not Significant
3	Nursing Course	1.84	2	5.99	Not Significant
4	P Previous Training taken for NSI	4.91	2	5.99	Not Significant
5	Resources for previous I Information or Training	11.25	4	9.49	Significant
6	Previous Encounter with NSI	1.87	2	5.99	Not Significant

IV. DISCUSSION

In This study the investigator has researched to assess the knowledge of 60 nursing students regarding Needle Stick Injury from a selected Nursing College. One of the collected demographic data shows that out of 60 samples 14(23.34%) samples were encountered with NSI and 46(76.68%) were not encountered with NSI. A similar study shows that a large percentage (79.5%) of HCWs have reported of having one or more NSIs in their career. The average number of NSIs ever was found to be 3.85 per HCW (range 0-20). A study result shows that 72 samples (22.4%) reported having received a NSI within the last working month. Most of the injuries (34.0%) of it occurred during recapping the needles.^[11] Another similar study showed that out of total 378 HCWs comprising of 49(12.96 %) resident doctors, 98 (25.39%) interns, 195(51.58%) staff nurses and 36 (9.52%) technicians , a total of 96 cases of NSI were reported leading an overall incidence of Needle Stick Injury of 25.39%.^[12] A similar study was conducted by Salekar S which revealed that around 34.8% (200/575) of the Health care workers had experienced a needle stick injury in the last one year of working.^[10]

The data analysis of the present study showed that out of 60 samples, 6.67%, 75% and 18.33% of Nursing student have good, moderate and poor knowledge regarding needle stick injury respectively. A similar study was conducted by Sharif F in 2017 and his study also had concluded that the nursing students were having very less knowledge regarding the NSI^[8] Also it showed that the demographic variables of age and resources of previous information are significant with the knowledge of the samples.

V. CONCLUSION

Needle stick injuries are one of the most common occupational exposures that can occur to the Nursing Students which can prove harmful to their health. The nursing students are having only moderate knowledge regarding the needle Stick Injuries, So further efforts should be taken to increase their knowledge regarding it.

Ethical Clearance

The ethical clearance and the concerned permission was taken from Instructional Ethical committee of the Concerned Institute. Apart from this a written consent also was taken from the Nursing students to maintain the ethical standard of the research study.

Conflict of Interest

This study at present does not face any conflict of Interest

Source of Funding

The source of funding for this research study was completely borne by the investigators.

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