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"A Study To Assess The Knowledge Regarding Needle Stick Injury Among B.Sc. Nursing Students College Of Nursing, Llrm Medical College, Meerut"

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ABSTRACT

With view to a study to assess the knowledge regarding Needle stick injury among B.Sc. Nursing Students, College of Nursing, LLRM Medical College, Meerut. A descriptive research approach was used. The data was collected from 50 students through the simple random sampling technique. Study reveals that 6% of the students had inadequate knowledge, 94% had moderately adequate knowledge. The mean and standard deviation of the students knowledge is 15.2 +-3.48.

INTRODUCTION

A Needle Stick Injury is the penetration of the skin by a hypodermic needle or other sharp object that has been in contact with the blood, tissue or to the body fluids before the exposure even the acute physiological effects of a needlestick injury are generally negligible, these injuries can lead to transmissionof blood-borne disease, placing the exposed at increased risk of infection from disease – causing pathogensuch as Hep B, Hep C and HIV.

Needle-stick injury and exposure to blood products is perhaps the most common professional hazards in the field of medicine and health care. Health care workers (HCWs) are at risk of contracting transmissible blood- borne viruses, like human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV) and others while performing routine hospital activities. The frequency of such incidents depends on the work load, use of universal precautions, safety devices and medical discipline.

Among healthcare workers and laboratory personnel worldwide, more than 25 blood borne virus infection has been reported to have been caused by needle stick injuries. In addition to needle stick injury, transmission of these virus can also occur as result of contamination of the mucus membrane, such as thoseof the eyes, blood or body fluids, but needle stick injuries make up more than 80% of all percutaneous exposure in the United States.

Whenever a needle or other sharp device is exposed, injuries can occur. Data from Nash show that approximately 38% of percutaneous injuries occur during use and 42% occur after use and before disposal.

Causes of percutaneous injuries with hollow-bore needles are shown in Figure 2. The circumstances leading to a needlestick injury depend partly on the type and design of the device used. For example, needle devices that must be taken apart or manipulated after use (e.g., prefilled cartridge syringes and phlebotomy needle/ vacuum tube assemblies) are an obvious hazard and have been associated with increased injury rates [Jagger et al. 1988]. In addition, needles attached to a length of flexible tubing (e.g.,winged-steel needles and needles attached to IV tubing) are sometimes difficult to place in sharps containers and thus present another

injury hazard. Injuries involving needles attached to IV tubing may occur when a health care worker inserts or withdraws a needle from an IV port or tries to temporarily remove the needlestick hazard by inserting the needle into a drip chamber, IV port or bag, or even bedding.

Ensuring health care workers are properly trained in the safe use and disposal of needles. Health care workers and students in the health professions should be trained to use needle devices properly and to maximize their personal protection throughout the handling of these devices. As safer devices are introduced, worker training is essential to ensure proper use [Ihrig et al. 1997]

OBJECTIVES

1. To assess the knowledge regarding Needle Stick Injury among B.Sc Nursing students.
2. To find-out the association between the level of knowledge regarding Needle Stick Injury amongBSc nursing students with their selected demographic variables.

HYPOTHESIS

Hypothesis will be tested at 0.05 level of significance.

H_1- There will be a significant association between the level of knowledge regarding Needle Stick Injury among BSc Nursing Students with their selected demographic variable

MATERIAL AND METHODOLOGY

A descriptive research approach was used to carry out the study. The study population comprised of B. Sc.Nursing students of College of Nursing, LLRM Medical College, Meerut. The sample size was 50.

Simple random sampling technique was used for selecting the sample of the study. The tools used for studywere a questionnaire. It consists of three parts

Section 1: Distribution of demographic variables.

Section 2: Description of level of knowledge on Needle stick injury.

Section 3: Association between the level of knowledge on Needle stick injury with selected demographic variables.

Section 1: Distribution of demographic variables

Table 1. Frequency and percentage distribution of demographic variables among B.Sc. Nursing third semester students.

(N=50)

S.No	Demographic variable	Category	Frequency (f)	Percentage %
1	Age	18-19 years	7	14%
		20-21 years	24	48%
		22-23 years	17	34%
		24-25 years	02	04%
2	Locality	Urban	31	62%
		Rural	19	38%
3	Type of family	Nuclear family	33	66%
		Joint family	17	34%
4	Father's occupation	Medical cum Paramedical Profession	05	10%
		Non- medical profession	45	40%
5	Mother's occupation	Medical cum paramedical profession	04	08%
		Non-medical profession	46	92%
6	Previous knowledge	Yes	44	88%
		No	06	12%
7	Previous exposure	Yes	14	28%
		No	36	72%

Section 2: Description of level of knowledge on Needle stick injury among B.Sc. Nursing third semester students.

Table 2. frequency and percentage, mean, mode, median and standard deviationon level of knowledge regarding needle stick injury

(N=50)

S.No.	Level of knowledge	Frequency (f)	Percentage (%)	Mean	Mode	Median	Standard deviation
1	Inadequate knowledge	03	6%	15.2	17	16	3.48
2	Moderately adequate knowledge	47	94%				
3	Adequate knowledge	00	00				
Total		50	100%				

Data represent that 03 (6%) of participants had inadequate knowledge, 47 (94%) had moderately adequate. The Mean of the level of knowledge is 15.2, Mode is 17, Median is 16, Standard deviation is 3.48.

Table 3. Association between the level of knowledge regarding needle stick injury among B.Sc. Nursing studentswith their selected demographic variable

(N=50)

Variable		Adequate knowledge >22		Moderate knowledge 8-22		Inadequate Knowledge <7		Df	Table value	Chi square value	Inference
		f	%	f	%	f	%				
Age	18-19 years	0	0%	7	14%	0	0%	6	5.991	9.86	S*
	20-21 years	0	0%	23	46%	1	2%				
	22-23 years	0	0%	16	32%	1	2%				
	24-25 years	0	0%	1	2%	1	2%				
Locality	Urban	0	0%	31	62%	0	0%	2	5.991	5.16	NS
	Rural	0	0%	16	32%	3	6%				
Type of family	Nuclear family	0	0%	33	66%	0	0%	2	5.991	6.41	S*
	Joint family	0	0%	14	28%	3	6%				
Father's occupation	Medical cum paramedical profession	0	0%	5	10%	0	0%	2	5.991	0.342	NS
	Non-paramedical profession	0	0%	42		3	6%				
Mother's occupation	Medical cum paramedical profession	0	0%	4	8%	0	0%	2	5.991	0.33	NS

	Non-medical profession	0	0%	43	86%	3	6%				
Previous knowledge	Yes	0	0%	44	88%	0	0%	2	5.991	23.32	S*
	No	0	0%	3	6%	3	6%				
Previous experience	Yes	0	0%	14	28%	0	0%	2	5.991	1.26	NS
	No	0	0%	33	66%	3	6%				

Table 3 shows that there is a statistically significant association found between the level of knowledgeon Needle stick injury and age, type of family and previous knowledge. Hence the research hypothesis (H1) is accepted only for the demographic variables Age, type of family, previous knowledge and fails to accept for rest of the variables (locality, mother's occupation, father's occupation, previousexperience).

DISCUSSION

The findings of the present study discussed with other related studies and organized under the following discussion.

Description of demographic data of the sample

- Regarding Demographic variable of students, the total number of students is 50.
- Regarding age, 14% of the students were 18-19 years, 48% were 20-21 years, 34%were 22-23 years and 4% were 24-25 years of age.
- Regarding locality, 62% were from urban locality and 38% were from rural locality.
- Regarding type of family, 66% belongs to nuclear family and 34% belongs to joint family.
- Regarding father's occupation, 10% having medical cum paramedical profession and90%having non-medical profession.
- Regarding mother's occupation,8% having medical cum paramedical profession and92%having non-medical profession
- Regarding previous knowledge, 88% student's had previous knowledge on needle stickinjury while 12% of them didn't have the previous knowledge on needle stick injury.
- Regarding previous experience, 28% students had previous experience and 72% did not have it.

Assessment of knowledge regarding needle stick injury

After the assessment of knowledge regarding needle stick injury, the knowledge score of the participants were 6% had inadequate knowledge, 94% had moderately adequate knowledge.

Finding the association between level of knowledge of B.Sc. Nursing third semester students with their selected demographic variables

Chi square test was used to find out the association between the level of knowledge of B.Sc. Nursing third semester students with their selected demographic variable.

The finding reveals that there is a significant association between the level of knowledge regarding Needle Stick Injury for the demographic variable (Age, Type of family and Previous knowledge) and reveals no significant association between (Locality, Father's occupation, Mother's occupation and Previous exposure)

A comparative analysis is done with cross-sectional retrospective analysis conducted by Ananya Arora et.al. (2024) to evaluate knowledge about needle stick injuries and to study factors leading to such incidents of nursing staff in a tertiary care hospital Punjab, India to show the congruency.

The result of our study shows that the students 6% have inadequate knowledge, 94% have moderately adequate knowledge and 0% have adequate knowledge and the results of the comparative study shows that overall NSI prevalence among nursing staff and students was 51.6% whereas in more exposed and less exposed group was 47.45% and 10.16% respectively. The most common cause of NSI incident was recapping of needle (38.5%) followed by transferring needle to sharp container (35%).

CONCLUSION

The finding reveals that there is a significant association found between the level of knowledge regarding Needle Stick Injury for the demographic variable Age, Type of family and Previous knowledge whereas no significant association found with rest of the variables include Locality, Father's occupation, Mother's occupation and Previous exposure. Hence thestated hypothesis (H1) is accepted with demographic variables Age, Type of family, previousknowledge and fails to accept rest of the variables Locality, Father's occupation, Mother's occupation and previous exposure.

RECOMMENDATION

To improve the knowledge regarding Needle Stick InjuryFollow general guidelines of Post Exposure Prophylaxis

CONFLICTS OF INTEREST : Nil

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