

Research Article

A study to assess the knowledge regarding needle stick injury among B.sc Nursing 1st year students at Sir Issac Newton college of Nursing in Nagapattinam

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ABSTRACT

Background: The issue of needle stick injuries constitutes a risk of occupational injury among nursing students in clinical practice. These injuries put the students at a risk of blood-borne diseases such as Hepatitis B, Hepatitis C as well as HIV. The right information about the precautions and the safety measures regarding the needles should also be established in order to stem out the occurrence of such injuries.

Aim: The aim of the study was to establish the level of knowledge of the B.Sc. Nursing first-year students on the subject of needle stick injury. **Methodology:** The research was done in terms of descriptive survey design. It was conducted among 60 B.Sc. Nursing first year students in John Sir Isaac Newton College of Nursing, Nagapattinam. A convenient method of selection was applied in selecting the participants. Data was collected using the self-administered questionnaire of demographic variables and questions of multiple choices regarding the knowledge on needle stick injury. **Result:** The results showed that 42 (70) students were ill informed and 18 (30) students were moderately informed on needle stick injury with none of the students being well informed. **Conclusion:** The findings indicate that the majority of the nursing students were not well knowledgeable with regard to needle stick injury and its prevention.

Keywords: Needle stick injuries, Nursing students, Knowledge.

INTRODUCTION

Needle stick injuries (NSIs) are likely to occur among nursing students in clinical practice due to the high frequency they encounter when using needles and other sharp objects in the administration of medications, blood collection, and procedures. NSIs are inadvertent injuries that involve the skin, which are penetrated by needles or sharp objects, but contaminated with blood or body fluids. These occupational health risks pose a severe risk to healthcare professionals since they may be sources of blood-borne pathogens, including Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV). Clinical experience, lack of training, work load and poor management or disposal of sharp present a major risk to the students. Research across the globe indicates that a significant percentage of nursing students suffer NSI and most of them go unexamined. Unsafe practices are usually linked to the occurrence of NSIs including recapping the used needles, improper disposal of sharps, procedural error, and accidental contacts in the process of clinical practices. Such injuries could cause severe infection and even psychological stress and anxiety among the healthcare workers.

Transmission risk after a needle stick injury is dependent on the pathogen of the stick wound. The threat of having Hepatitis B is the greatest, and then Hepatitis C, and the chances of HIV getting infected are likewise less significant. Other infections that can be transmitted by NSI are syphilis, malaria and human T-cell leukemia virus. NSIs prevention is necessary and can be implemented by educating people, following universal precautions, using safety-engineered equipment, and disposing of sharps in a safe manner. Medical staffs ought to recap needles no more than once, discard used needles as soon as possible in puncture proof sharps containers and adhere to safety measures at the institution. Some of the ways to minimize the risk of NSIs are hepatitis B vaccination, frequent safety training, and appropriate supervision during clinical procedures. Wound needs to be washed with soap and water immediately in case of any injury and the incident needs to be reported so that it can be examined and handled by the relevant medical staff.

METHODOLOGY

The descriptive research design was adopted to establish the level of knowledge about the needestick injury of B.Sc. Nursing first year students in Sir Isaac Newton College of Nursing, Pappakovil, Nagapattinam. The research was done using descriptive survey design. The number of samples used in the research was determined using the number of students of the targeted college in Nagapattinam studying in nursing. The target population was first year B.Sc. Nursing students in Sir Isaac Newton College of Nursing, Pappakovil, Nagapattinam. The participants used in performing the study were B.Sc Nursing first-year students of the same institution. A total of 60 students were used as a sample of the study. Data collection was covered over a period of time during which a convenient sampling method was used to select the participants.

The instrument was divided into two parts. Section A comprised some demographic variables of age, gender, religion, knowledge, and experience. Section B was composed of multiple choices questions which were aimed at determining the knowledge of nurse students on needle stick injury. The tool had a total of 60 questions. The degree of knowledge was explained according to the sum of the scores provided by the students: the scores 1-20 were regarded as insufficient knowledge, 21-40 were regarded as medium knowledge, and 41-60 were regarded as sufficient knowledge. In this research, the dependent variable was the needle stick injury and the independent variable was taken to be knowledge among the students.

RESULTS

The demographic data of the participants is indicated in the table. Most of the students (88.3) fell in the age group of 17-18 years with 11.7% in the age group of 19-20 years. On religion, the majority of the students were Hindus (86.7%), then Christians (10.0%), and Muslims (3.3%). On the experience of needle stick injury during the clinical posting, 13.3% said that she had experienced needle stick injury, and 86.7% said that she had not experienced needle stick injury. Approximately 41.7 percent of the students had attended a needle stick injury conference or seminar on the prevention of the same as opposed to 58.3 percent of the students that had not been to one. Regarding hepatitis B status of vaccination, only 10,000 percent of the students have had the hepatitis B vaccination with majority having not received the vaccination (90,000).

The students were mostly poor in their knowledge, with 42 students (70%) possessing poor knowledge, and 18 (30) possessing moderate knowledge. There was no proper knowledge among the students about needle stick injury. (Table 2)

The chi-square test indicated that level of knowledge did not statistically significantly correlate with demographic factors which included age ($\chi^2 = 0.008$, $p = 0.930$), religion ($\chi^2 = 4.841$, $p = 0.089$), experience of needle stick injury during clinical posting ($\chi^2 = 0.110$, $p = 0.740$), conferences or seminars about needle stick injury ($\chi^2 = 0.735$, $p = 0.391$), and vaccination against Therefore, none of the chosen demographic characteristics were significantly related to the degree of knowledge about needle stick injury in nursing students. (Table 3)

Table 1: Demographic data of the students. (N= 60)

Demographic data		f	(%)
Age (in year)	a)17-18yr	53	88.3%
	b)19-20yr	7	11.7%
	c)21-22yr	0	0%
	d)above 22yr	0	0%
Religion	a) Hindu	52	86.7%
	b) Muslim	2	3.3%
	c)Christian	6	10.0%
	d)Others	0	0%
Needle stick injury experience during clinical posting	a) Yes	8	13.3%
	b) No	52	86.7%
Attended any conference or seminar	a) Yes	25	41.7%
	b) No	35	58.3%
Hepatitis B vaccination	a) Yes	6	10.0%
	b) No	54	90.0%

Table 2: Level of knowledge regarding needle stick injury among nursing students. (N = 60)

Level of knowledge	f	(%)
Inadequate Knowledge	42	70%
Moderate knowledge	18	30%
Adequate Knowledge	0	0%
Total	60	100%

Table 3 : Association between the knowledge score among school students with their demographic variables.

Demographic data		Knowledge score						Chi-square and X ² and P-value
		Inadequate knowledge		Moderate knowledge		Adequate knowledge		
		F	%	F	%	F	%	
Age (in years)	a)17-18yr	37	88.1%	16	88.9%	0	0%	X ² = 0.008 Df=1 p=0.930 NS
	b)19-20yr	5	11.9%	2	11.1%	0	0%	
Religion	a) Hindu	39	92.9%	13	72.2%	0	0%	X ² = 4.841 Df=2 p=0.089 NS
	b) Muslim	1	2.4%	1	5.6%	0	0%	
	c)Christian	2	4.8%	4	22.2%	0	0%	
Needle stick injury experience during clinical posting	a) Yes	6	14.3%	2	11.1%	0	0%	X ² = 0.110 Df=1 p=0.740 NS
	b) No	36	85.7%	16	88.9%	0	0%	
Attended any conference or seminar on needle stick injury and its prevention	a) Yes	16	38.1%	9	50.0%	0	0%	X ² = 0.735 Df=1 p=0.391 NS
	b) No	26	61.9%	9	50.0%	0	0%	
Vaccinated for hepatitis B	a) Yes	6	14.3%	0	0.0%	0	0%	X ² = 2.857 Df=1 p=0.091 NS
	b) No	36	85.7%	18	100.0%	0	0%	

DISCUSSION:

According to the findings of the study, majority of the nursing students did not have the right knowledge regarding needle stick injury. The ratio of those students which attained poor knowledge was 42 (70 percent) of 60 students and the moderate knowledge was 18 (30 percent) and no student had the adequate knowledge on needle stick injury. The findings reveal that nursing students are not knowledgeable in terms of needle stick injury and prevention. This makes one see the need of the educational programs and training to boost the knowledge level of students and impart safe habits in the clinical settings.

CONCLUSION:

The research has found out that needle stick injury was poorly known among most nursing students. According to the findings, there is the need to enhance the knowledge and awareness of students regarding needle stick injury and its prevention. The importance of educational programs and training sessions involves improving knowledge and adopting safe practices among the clinical-setting nursing students.

RECOMMENDATION:

Educational programs and training should be done on a regular basis to enhance the knowledge on nursing students about needle stick injury and its prevention. Nurses learners ought to be advised to observe best safety measures when handling needles and sharps in hospitals. On areas where future studies can be done include having a larger sample size, and in other institutions, so that more extensive data can be derived.

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