



A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF NEEDLE STICK INJURY AMONG GNM STUDENTS OF SELECTED NURSING COLLEGE IN JAMMU

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ABSTRACT

Needle stick injury is a common event in the health care environment when drawing blood, administering an intramuscular or intravenous drug, performing other procedures involving sharps, the needle can slip and injured the health care workers. This sets the stage to transmit viruses from the source person to the recipient. These injuries also commonly occur during needle recapping and as a result of failure to place under needles in approved sharps containers. Needle stick injuries are not limited to the medical community. Any environment where sharps are encounter poses a risk. Needle stick injuries may occur not only with freshly with the contaminated sharps but also after some time with needles that carry dry blood.

Aim: Aim of the study is to enhance the knowledge of students regarding prevention of needle stick injury and in turn, help the students to reduce the risk of getting needle prick.

Materials and Methods: An evaluative approach with one group pre-test, post-test design was used for the study. The sample consisting of 50 students, they were chosen by convenient sampling technique. The study was conducted at Rajiv Gandhi College of Nursing, Jammu. The data was collected prior and after the structured teaching program by a structured questionnaire.

Results and conclusion: The overall mean knowledge score is 39.70 obtained by the subject in post-test was higher than mean knowledge score 23.95 obtained in pre-test and with the improvement score as 15.75. The results of the study revealed that the structured teaching program was significantly effective in improving the knowledge of students regarding prevention of needle stick injury. Hence the study concluded that the improved knowledge regarding prevention of needle stick injury helps the students to reduce the risk of getting needle stick injury, which will, in turn, help the students to improve the quality of life by controlling the spread of various blood borne pathogens which can be exposed by needle stick injury and thus prevents various fatal infectious diseases and this all is possible when the students promote the safety awareness among the public.

KEYWORDS : Structured teaching programme, Effectiveness, Knowledge, Nursing college. Prevention of needle stick injury.

INTRODUCTION**“REJECT YOUR SENSE OF INJURY AND INJURY ITSELF DISAPPEAR”**

(MARCUS AURELIUS)

A needle stick injury is a percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instrument or objects commonly encounter by people handling needles in the medical settings, such injuries or an occupation hazards in the medical community. These events are of concern because of the risk to transmit blood borne disease through the passage of hepatitis B virus (HB-V), the hepatitis C virus (HC-V) and the human immunodeficiency virus (HIV), the virus which cause AIDS. Despite their seriousness as a medical event, needle stick injuries have been neglected. “Most go unreported needle stick have remained recognized as occupational hazards”.¹

Needle stick injury is a common event in the health care environment when drawing blood, administering an intramuscular or intravenous drug, performing other procedures involving sharps, the needle can slip and injured the health care workers. This sets the stage to transmit viruses from the source person to the recipient. These injuries also commonly occur during needle recapping and as a result of failure to place under needles in approved sharps containers.²

Needle stick and sharp injuries can result in the transmission of serious diseases to staff nurses such as HIV Hepatitis B and C from contacts with deep body fluids and blood. The risk of being infected following a single needle stick from a source patient with blood borne infection ranges as low as 0.3% from immunodeficiency virus (HIV) and 3% to 10% for hepatitis C to as a high as 40% for hepatitis B.³

Needle stick injuries most frequently occur during drawing blood and intramuscular or intravenous drug or performing other procedures involving sharps were the needle can deviate and injure the nursing staff during their duties. For sharp injuries sutures and use of sharp tools are most common equipment's that causes injuries. Other important causes of needle stick injuries and sharp injuries were high workload, working hastily fatigue and a crowded work environment also performing some activities as two handed recapping, unsafe sample collection, disposal of sharp waste and washing contaminated instruments.⁴

Need For The Study**“Advice after injury is like a medicine after death”**

Health care workers always have been at risk of contracting infections

from their patients. During the past two decades this risk has become even more significant as the HIV epidemic has been growing and the prevalence of hepatitis B and C has increased significantly. Each percutaneous injury, where contamination with patients' blood occurs, can be a source of an acute/chronic disease, which may leads to disability or death of health care workers.⁵

Needle stick injuries are a common event in the health care environment. When drawing blood, administering an intramuscular or intravenous drug, or performing other procedures involving sharps, the needle can be slip and injure the health care worker. This sets the stage to transmit viruses from the source person to the recipient. These increases also commonly occur during needle recapping and as a result of failure to place used needle in approved sharp container.⁶

As needle stick injury has been recognized as occupational hazards, their prevention has become the subject of regulations in an effort to reduce and eliminate this preventable event. Investigations estimate the rates of injuries on a global level to affect about 3.5 million individual. Among health care workers nurse and physicians appear especially at risk.⁷

The Centers for Diseases Control (CDC) estimates that about 600,000 to one million needle stick injuries occur each year. The incidence of needle stick injury among medical staff was 59%. The aim of the study was to determine the incidence of cases and episodes of needle stick injury among them in the past year. Therefore some preventive measures should be taken by the management of the universities and medical students to avoid the occurrence of these problems.⁸

The American Nurse's Association (ANA) estimates that the numerous needle stick injuries only about 1,000 health care worker actually contract an infection. The investigator while clinical hours observed that nurses are very careless in handling injection and needle in wards. The manhandling which could be prevented by giving proper guidance and education to them.⁹ Therefore, I as a Researcher felt that above studies were pathway for me to select this problem statement.

Objectives:

1. To assess the level of pre-test knowledge regarding needle stick injury among GNM students of RGCN, Jammu.
2. To assess the level of post-test knowledge regarding prevention of needle stick injury among GNM Students of RGCN, Jammu.
3. To evaluate the effectiveness of an information regarding prevention of needle stick injury among GNM students of RGCN, Jammu.

4. To find out the comparison between the pre-test and post-test knowledge regarding the prevention of needle stick injury among GNM students of RGCN, Jammu.

Hypothesis:

- 1. **H1:** The mean post-test knowledge score of prevention of needle stick injury is significantly higher than the mean pre-test knowledge score.
- 2. **H2:** There is significant association between the pre-test and post-test knowledge with selected demographic variables.

MATERIALS AND METHODS

The research design used in this study was one group pre-test and post test in nature. The study was conducted at Rajiv Gandhi College of Nursing Jammu. The sample of 50 students on the basis of inclusion and exclusion criteria were selected by using convenient sampling technique. The tool used for the study was structured knowledge questionnaire which consists of section I (include demographic data i.e., age, education, family income, marital status and type of family, etc.) and section II (consisting 24 multiple choice questions related to knowledge assessment regarding prevention of needle stick injury). The content validity of structured knowledge questionnaire was ensured by submitting the tool to the experts in the field of Medical surgical Nursing, child health nursing, Obstetrical and Gynecological Nursing. A pilot study was conducted on 10% of total sample size in Rajiv Gandhi College of Nursing Jammu. Reliability of tool was established by Karl Pearson's correlation coefficient formula. The reliability of tool was calculated and it was 1.4.

RESULTS AND FINDINGS:

In this study, 50 students participated. The data and the findings were entered in a master data sheet followed by the analysis and interpretation by using frequency, percentage, mean, median and standard deviation according to the objectives of the study. The analysis of data is organized and presented under following headings:

Section – 1 Characteristics of sample object

Section - 2 Effectiveness of Structured teaching program

Section I: Findings related to Sample characteristics.

Table 1: Shows frequency and percentage distribution of subjects according to the age of the students.

Demographic variables	Population Particulars	Frequency (N=50)	Frequency percentage (%)
Age of GNM students(in Years)	16 – 18 years	1	2%
	18 – 20 years	17	34%
	20 – 22 years	30	60%
	Above 22 years	2	4%
	Total	50	100%

Table 2: Shows frequency and percentage distribution of subjects according to the family income.

Demographic variables	Population particular	Frequency	Frequency percentage
Family income	5000-10000	15	30%
	10000-15000	16	32%
	Above 15000	19	38%
	Total	50	100%

Table 3: Shows frequency and percentage distribution of subjects according to the type of family.

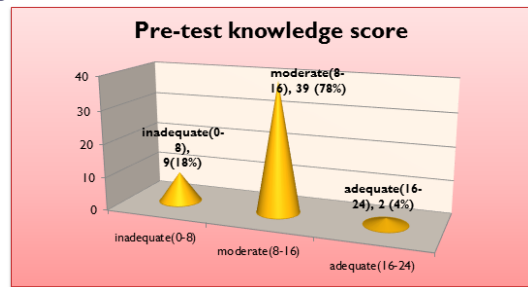
Demographic variables	Population particular	Frequency	Frequency percentage
Types of family	Joint	17	34%
	Nuclear	28	56%
	Extended	5	10%
	Total	50	100%

Section II: Effectiveness Structured teaching program.

Table 4: Shows distribution of population on the basis of knowledge regarding prevention of needle stick injury in pre-test.

Pre-test knowledge score	Level of knowledge	Knowledge score (frequency)	Frequency %
	Inadequate (0-8)	9	18%
	Moderate (8-16)	39	78%
	Adequate (16-24)	2	4%
	Total	50	100%

Figure 1:

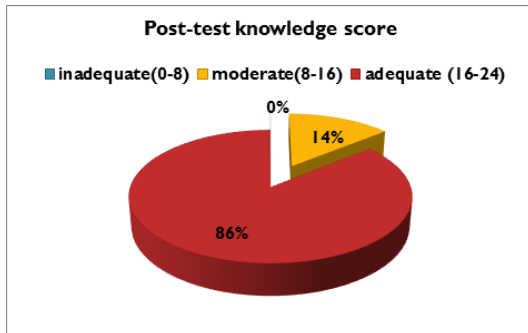


The data in table 4 and in figure 1 showed that the knowledge regarding prevention of needle stick injury in GNM students of RGCN is reflected by pre-test score and it is observed that most of the subjects 39(78%) have moderate knowledge and 9(18%) have inadequate knowledge and 2(4%) have adequate knowledge.

Table 5: Shows distribution of population on the basis of knowledge regarding prevention of needle stick injury in post-test.

Post-test knowledge score	Level of knowledge	Knowledge score (frequency)	Frequency %
	Inadequate (0-8)	0	0%
	Moderate (8-16)	7	14%
	Adequate (16-24)	43	86%
	Total	N=50	100%

Figure 2:



The data in table 5 and in figure 2 showed that the knowledge regarding prevention of needle stick injury in GNM students of RGCN is reflected by post-test score and it is observed that most of the subjects 43(86%) have adequate knowledge, 7(14%) have moderate knowledge and 0(0%) have inadequate knowledge.

Table 6: Shows mean, mean percentage and standard deviation of pre-test and post-test knowledge.

	Mean	Mean %age	Standard deviation
Pre-test	23.95	47.9%	18.59
Post-test	39.70	79.4%	29.93

DISCUSSION

The findings of the study revealed that knowledge level of students regarding prevention of needle stick injury is inadequate and there is a great need to improve this knowledge. In pre-test knowledge score most of the subjects 39(78%) have moderate knowledge and 9(18%) have inadequate knowledge and 2(4%) have adequate knowledge. This reveals that majority of students were having moderate knowledge, so they need to be educated and informed regarding prevention of needle stick injury.

The findings in post-test score revealed that most of the subjects 43(86%) have adequate knowledge, 7(14%) have moderate knowledge and 0(0%) have inadequate knowledge regarding prevention of needle stick injury after implementation of structured teaching programme.

The overall mean knowledge score 39.70 obtained by the students in post- test was higher than mean knowledge score 23.95 in the pre- test and with the improvement score as 15.75. This indicates that Structured Teaching Programme was highly effective in enhancing the knowledge of students regarding prevention of needle stick injury.

From the above findings, it can be concluded that the improved

knowledge regarding prevention of needle stick injury helps the students to reduce the risk of getting needle stick injury, which will, in turn, help the students to improve the quality of life by controlling the spread of various blood borne pathogens which can be exposed by needle stick injury and thus prevents various fatal infectious diseases and this all is possible when the students promote the safety awareness among the public.

RECOMMENDATIONS:

- Similar study may be replicated on large samples to generalize the findings.
- Studies may be conducted to evaluate the effectiveness of information book-let regarding needle stick injury in GNM students.
- A comparative study can be done to assess the knowledge regarding prevention of needle stick injury between students residing in urban and rural areas.
- A similar study can be conducted with different teaching strategies such as SIM. (Self-instructional module), video assisted teaching.

CONCLUSION:

Based on the findings of the study it can be concluded that there was evident increase in the knowledge scores in all the areas included in the study after administration of STP. Thus it was proved that STP was effective for creating awareness regarding prevention of needle stick injury among GNM students of selected nursing college in Jammu.

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