

A Study to Assess the Knowledge Regarding Needle Stick Injuries among Staff Nurses in Selected Hospitals at Bangalore with a View to Develop an Information Booklet on Prevention of Needle Stick Injuries

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Abstract:-

➤ *Significance of the Problem*

Needle stick injuries and cuts are the common occupational accidents exposing health care workers to blood and body fluids. These preventable injuries expose workers to over 20 different blood borne pathogens and result in an estimated 1000 infections per year. The most common being hepatitis B, hepatitis C, and human immune deficiency virus.¹ Even in developed countries, needle stick injuries are frequent among nurses due to their neglect in safety practices. India is a developing country with scarcity of skilled human resources in hospitals; nurses are exposed to needle stick injuries due to work load, lack of knowledge regarding preventive practices and fatal diseases.² Knowledge is a necessity in prevention and control of needle stick injuries. Thus the investigator felt the need to take up the study to assess the knowledge of staff nurses regarding needle stick injury, so that effective measures can be taken as required and thus reduce cross contamination of diseases not only from patients to nurses but also from nurses to patients too.

➤ *Objectives*

- Assess the knowledge of staff nurse regarding prevention of needle stick injury
- To find association between knowledge regarding prevention of needle sticks injury and selected socio – demographic factors.

➤ *Hypothesis*

H1:- There is a significant association between levels of knowledge of staff nurse regarding prevention of needle stick injury with their selected socio-demographic variables.

➤ *Methods and Material*

A descriptive approach with a descriptive design was used for the study. The researcher himself developed a questionnaire on prevention of needle stick injury among the staff nurses. The tool was validated by nine experts. Reliability of the knowledge tool ($r= 0.86$) was

tested by split half technique with application of pearson's and spearman Brown's prophecy formula. The data is collected using structured closed ended self-administered questionnaire. Data was analyzed by using descriptive and inferential statistics. The description of socio-demographic variables and level of knowledge of staff nurses regarding prevention of needle stick injury was done by frequency distribution, percentage, arithmetic mean and standard deviation and the association between knowledge and socio demographic variables was found by chi square test.

➤ *Result*

Percentage wise distribution of sample showed that 56% of subjects were between 26- 30 years of age, 34% were 22-25 years of age, 8% were 31-35 years of age and remaining 2% were between 36-40 years of age. 40% were males and 60% were females. Most of them had (88%) educational qualification of GNM, 8% had Post Basic BSc Nursing and remaining 4% Basic BSc Nursing. 42% had 4-6 years of experience as Staff nurse, 40% had 1-3 years experience, 16% had 7-9 years of experience and only 2% had 10-11 year of experience. 74% of study subjects sustained 1 time needle stick injury, 26% had 2-4 times of experience of needle stick injury. Assessment of knowledge reveals that out of 50 subjects 42% had average knowledge followed by 58% had poor knowledge regarding needle stick injury.

The study reveals that overall mean knowledge score was 11.48 and SD was 2.62. Chi square test was conducted to find the association between level of knowledge and socio-demographic factors. The findings reveal that there was no significant association between the knowledge and selected demographic variable of staff nurses like, age, educational status, Experience of needle stick injury. Whereas there was a significant association found between the knowledge and selected demographic variable of staff nurses: years of experience as staff nurse. Thus H1:- There is a significant association between levels of knowledge of staff nurses

regarding prevention of needle stick injury with their selected socio-demographic variable was accepted.

➤ *Interpretation and Conclusion*

The present study had been supported by a series of other studies which confirmed that knowledge regarding needle stick injury among staff nurse in the Vani Vilas hospital was average and this needs to be improved through organizing various educational programs.

Keywords:- PTP: NSI: Needle stick injury, Knowledge, Staff nurse.

I. INTRODUCTION

A Needle stick Injury is a percutaneous piercing wound typically set by a needle point ,but possible also by other sharp instruments or objects . Commonly encountered by people handling needles in the medical setting, such injuries are an occupational hazard in the medical community. Occupational needle stick injuries are mainly focused on the health care environment, but law enforcement is at particularly high risk for incidental needle sticks, through this population is commonly overlooked. This events are of concern because of the risk to transmit blood born diseases through the passage of the organisms like hepatitis B virus (HBV), the hepatitis C virus (HCV), and the human immunodeficiency virus (HIV)³.

About 800000 needle stick injury occur each year out of which 16,000 are likely to be contaminated by HIV, as many as 12000 the injury result in the transmission of Hepatitis B and C. Sixty injuries in a year result is the transmission of Hepatitis B and C. Sixty injuries in the transmission of HIV. According to CDC American health care workers suffers between 600000 to one million needle stick injuries. Thirty needle stick injury occur per 100 hospital beds.⁴ Knowledge is a necessity in prevention and control of needle stick injuries. Thus the investigator felt the need to take up the study to assess the knowledge of staff nurse regarding needle stick injury, so that effective measures can be taken as required and there by reduces cross contamination of diseases not only from patients to nurses but also from nurses to patients too.

II. OBJECTIVES OF THE STUDY

- To assess the knowledge regarding needle stick injuries among staff nurses in selected hospitals of Bangalore
- To determine the association between knowledge of staff nurses regarding needle stick injuries with selected socio demographic variables.
- To develop information booklet on knowledge regarding prevention of needle stick injuries

III. METHODS AND MATERIAL

A descriptive approach with a descriptive design was used for the study. The researcher himself developed a questionnaire on prevention of needle stick injury among the staff nurses. The tool was validated by nine experts. Reliability of the knowledge tool ($r= 0.86$) was tested by split half technique with application of pearson's and spearman Brown's prophecy formula. The data is collected using structured closed ended self-administered questionnaire. Data was analyzed by using descriptive and inferential statistics. The description of socio-demographic variables and level of knowledge of staff nurses regarding prevention of needle stick injury was done by frequency distribution, percentage, arithmetic mean and standard deviation and the association between knowledge and socio demographic variables was found by chi square test.

IV. RESULTS

➤ *Section 1:- Description of Socio Demographic Variables*

SL NO	Demographic variables	Frequency	%
1	Age(in year)		
	20-25	34	34%
	26-30	56	56%
	31-35	8	8%
	36-40	2	2%
2	Gender		
	Male	40	40%
	Female	60	60
3	Educational status		
	GNM	88	88%
	Basic B SC Nursing	4	4%
	Post Basic B SC Nursing	8	8%
	MSc in Nursing	0	0%
4	Experience(in year)		
	1-3	40	40%
	4-6	42	42%
	7-9	16	16%
	10-12	2	2%
5	Experience of needle stick injury		
	Never	0	0
	1	74	74%
	2-4	26	26%

Table 1:- Description of the Subjects According to Socio – Demographic Variables

➤ *Section 2: Assessment of Knowledge of Staff Nurses Regarding Needle Stick Injury*

Knowledge area	Max. score	LEVEL OF KNOWLEDGE		
		Mean	S D	Mean %
General information about needle stick injury	12	4.62	1.7	38.5
Causes of needle stick injury	4	1.6	0.64	15
Prevention of needle stick injury	14	3.82	1.5	27
Total	30	9.04	4.06	50.05

Table 2:- Area Wise Mean, Standard Deviation, Mean Percentage of the Knowledge Score

➤ *Section: 3 Associations between the Socio Demographic Factors and Knowledge of Staff Nurses Regarding Needle Stick Injury.*

Sl No	VARIABLES	X ²	TABLE VALUE	df	5% level of significance
01	Age	0.216	3.84	1	Not significant
02	Gender	0.069	3.84	1	Not significant
03	Educational status	.09	3.84	1	Not significant
04	Year of experience	5.44	3.84	1	Significant association
05	Experience of needle stick injury	0.43	3.84	1	Not significant

Table 3:- Association between knowledge regarding NSI and selected socio demographic variables (N=100)

V. CONCLUSION

The overall conclusion of the study is that staff nurses being an important member of the patient health care team always stand at a risk of needle stick injury. The study results show that the nurses’ possess average knowledge regarding prevention of needle stick injury. The knowledge of staff nurses should be updated with educational programmes to safeguard them from injury.

RECOMMENDATIONS

- Nurses can use planned teaching programme to educate other health professionals regarding prevention of needle stick injury.
- Opportunity has to be provided to the students to participate in workshops, training program related to prevention of needle stick injury.
- Nurse administrator can organize in service education program for the nurses to abreast their knowledge regarding “prevention of needle stick injury”.

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