

A Study to Assess the Knowledge Level of Staff Nurses regarding Post Exposure Prophylaxis of Needle Stick Injury at Era Hospital, Lucknow

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Abstract: A needle stick injury is defined as a penetrating wound with an instrument that is potentially contaminated with the body fluid of another person. In health care sectors, although nurses and doctors are more exposed to needle stick injury, many health care workers did not have sufficient level of knowledge to protect themselves from needle stick injury and they did not take the necessary precautions. **Objectives:** To assess the knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury, and find out the association on post exposure prophylaxis with the selected demographic variable. **Methodology:** This study was conducted using quantitative approach at Era Hospital, Lucknow. Descriptive research design has been adopted. The total sample size was 60. Non-Probability Convenient sampling was used. Data collection was done using structured questionnaire to assess knowledge level of staff nurse regarding post exposure prophylaxis of needle stick injury. **Result:** This study showed that overall knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury, shows 6 staff nurses (10%) had adequate knowledge, 20 staff nurses (33.30%) had inadequate knowledge and 34 staff nurses (56.70%) of the staff nurses had moderate knowledge. **Interpretation and Conclusion:** The study revealed that on knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury is effective. The nurses have lack of knowledge about post exposure prophylaxis of needle stick injury. In future, various measures should be taken to improve nurse's knowledge level regarding post exposure prophylaxis of needle stick injury.

Keywords: Needle Stick Injury, Staff Nurses, Knowledge, Post Exposure Prophylaxis

1. Introduction

“Needle stick injury - “Sleeping threat to health care workers”

Needle stick injury can happen in the blink of an eye, but the consequences could last a lifetime. Just one moment of interrupted focus, one reflexive sudden movement, one miscalculation in a usually effortless passing of an instrument between two trusted hands, and a healthcare worker suddenly becomes the patient, in need of treatment rather than providing it for others. Needle stick injuries, sharps injuries, and percutaneous injuries are among the numerous labels used in reference to penetrating stab wounds that can occur in a healthcare setting caused by needles or other sharp objects, resulting in exposure to blood or body fluids and possible infection with harmful pathogens. Although the true magnitude of the problem is difficult to assess, needle stick injuries among healthcare workers are more common than one might think, perhaps more common than many who work in a healthcare setting might be willing to admit.

Needle stick injuries are wounds caused by needles that accidentally puncture the skin. Injuries caused due to needles are very common in hospitals. Generally in a hospital one third of nursing and laboratory staff are suffering such injuries every year. Thousands of healthcare workers get needle sticks because they fail to use the safety locks installed on the needles.

Occupational accidents are common in any area of work, including hospitals. Practices that control or prevent

transmission of infection help to protect clients and health care workers from diseases. Health care workers can protect themselves from contact with infectious material or exposure to communicable diseases by having knowledge of the infectious process and appropriate barrier protection.

Needle stick injuries present a major risk for infection with hepatitis B virus, hepatitis C virus and HIV.

According to American Nurses Association (ANA) only about 1,000 healthcare workers actually contract an infection that of the numerous needle stick injuries that occurs in hospitals. Nurses get exposed not only to blood borne pathogens but also there are possibilities for about 20 other infections, including tuberculosis, syphilis, and malaria. The National Institute of Occupational Safety and Health (NIOSH) and United States Centers for Disease Control and Prevention (CDC) together issued a report in 2000 stating that sharps should be eliminated from use whenever possible. Post exposure prophylaxis, also known as post exposure prevention is any preventive medical treatment started after exposure to pathogen, in order to prevent the infection from occurring.

Post Exposure Prophylaxis should be recommended to health care workers if they have had a significant occupational exposure to blood or another high-risk body fluid from a patient or other source either known to be HIV infected, or considered to be at high risk of HIV infection, but where the result of an HIV test has not or cannot be obtained, for whatever reason.

2. Material and Method

A quantitative, descriptive study, one group pre-test and post-test design was followed. The study was conducted between 15-07-19 to 22-07-19 in Era Medical College and Hospital, Lucknow. The Institutional Ethical Committee approval was obtained before the study. Population of the study was staff nurses working in Era Hospital, Lucknow, and who are willing to participate in the study. Non-Probability convenient sampling was carried out on 60 samples. Informed consent of the participants was obtained. **Demographic variable** such as Age, Gender, Qualification profile, working area, Exposure of needle stick injury, previous knowledge. **The Structured questionnaire** was prepared by the researcher to assess the knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury working in Era Hospital, Lucknow. The questionnaire consists of a set of 20 multiple choice questions. Each item has one correct response among 4 options and it is awarded a score of 1 for the correct response.

3. Data Analysis and Interpretation

Description of subjects

During the study period, 60 staff nurses were enrolled in the study based inclusion criteria. **Table: 1** Table summarized that among 60 respondents regarding age between 21-30 years of age with frequency of 43 (71.76%). Majority of respondent were female with frequency of 51 (85%). Majority of respondent were belonging to GNM with the frequency of 41 (68.33%). Majority of respondent were of general ward with the frequency of 33 (55%). Majority of respondent with the frequency of 22 (36.67%) were having <1 year work experience. Majority of respondent with the frequency of 36 (60%) were not having exposure about any needle stick injury. Majority of respondent with the frequency of 44 (73.33%) were having previous knowledge about needle stick.

(N=60)

S.No	Demographic Data	Category	Frequency	%
1	Age (in year)	a. <21	5	8.33
		b. 21-30	43	71.76
		c. 31-40	8	13.33
		d. >41	4	6.67
2	Gender	a. Male	9	15
		b. Female	51	85
3	Qualification	a. A.N.M	8	13.33

Table 4: Table showing association between knowledge level scores of staff nurses regarding post exposure prophylaxis of needle stick injury with their selected demographic variables

Demographic Variables	Inadequate		Moderate		Adequate		Chi Square Value	Df	P Value
	F	%	F	%	F	%			
Age									
• <21	1	1.66	3	5	1	1.66	4.502	6	0.609
• 21-30	13	21.66	26	43.33	4	6.66			
• 31-40	4	6.66	4	6.66	0	0			
• >41	2	3.33	1	1.66	1	1.66			
Gender									
• Male	3	40	6	33.33		1.67	1.246	2	0.536
• Female	17	13.33	28	8.33	0	3.33			

	profile	b. G.N.M	41	68.33
		c. Post Basic B.Sc. Nursing	5	8.33
		d. B.Sc. Nursing	6	10
4	Area of working	a. General ward	33	55
		b. Critical Care Unit	27	45
		c. Out Patient Department	0	0
		d. O.T	0	0
5	Work experience (in year)	a. Less than 1 year	22	36.67
		b. 2-3	15	25
		c. 4-5	10	16.67
		d. More than 5	13	21.67
6	Exposure any needle stick injury	a. Yes	24	40
		b. No	36	60
7	Previous knowledge	a. Yes	44	73.33
		b. No	16	26.67
8	If, yes how the knowledge obtain	a. Seminar	5	8.33
		b. Workshop	13	21.67
		c. In-service education	16	26.67
		d. Other sources	10	16.67
Total			60	100%

Table 2: Table showing the knowledge level of staff nurses regarding post exposure prophylaxis, (N=60)

S. No.	Knowledge Level	Scores	Knowledge Score	
			Frequency	Percentage %
1	Inadequate knowledge	0 - 10	20	33.30
2	Moderate knowledge	11-15	34	56.70
3	Adequate knowledge	16-20	6	10
Total			60	100

Table revealed

The table indicates the overall knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury, it shows 6 staff nurses (10%) had adequate knowledge, 20 staff nurses (33.30%) had inadequate knowledge and 34 staff nurses (56.70%) of the staff nurses had moderate knowledge.

Table 3: Table showing overall mean score on knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury, (N=60)

Category	Max Score	Range	Mean	SD	Mean %
Total knowledge score	20	(7-18)	12	2.8	60

Table revealed

The table depicts that overall mean score on knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury was 12 shows moderate knowledge.

Qualification Profile									
• A.N.M	3	5	4	6.66	1	1.66	2.304	6	0.890
• G.N.M	12	20	24	40	5	8.33			
• Post Basic B.Sc. Nursing	2	3.33	3	5	0	0			
• B.Sc. Nursing	3	5	3	5	0	0			
Area of Working									
• General ward	15	25	17	28.3	1	1.66	7.138	2	0.028
• Critical care unit	5	8.33	17	28.3	5	8.33			
• OPD department	0	0	0	0	0	0			
• O.T	0	0	0	0	0	0			
Work Experience									
• <1	4	6.66	13	21.6	4	6.66	11.039	6	0.087
• 2-3	6	10	8	13.3	1	1.66			
• 4-5	7	11.6	3	5	0	0			
• >5	3	5	10	16.6	1	1.66			
Exposure of Needle Stick Injury									
• Yes	7	11.6	13	21.6	4	6.66	2.03	2	0.362
• No	13	21.6	21	35	2	3.33			
Previous Knowledge									
• Yes	13	21.6	28	46.6	3	5	3.795	3	0.061
• No	7	11.6	6	10	3	5			

*NS-no significant*s-significant *0.05

Table revealed

The above table depicts that there was significant association exists between the area of working and their knowledge level scores of staff nurses regarding post exposure prophylaxis of needle stick injury at 0.05 level of significance.

4. Discussion

The present study focuses to assess the knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury. The discussion about the study findings are presented in this chapter. This chapter deals with the discussion of the data analyzed based on the objectives of the study. The overall knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury, it shows 6 staff nurses (10%) had adequate knowledge, 20 staff nurses (33.30%) had inadequate knowledge and 34 staff nurses (56.70%) of the staff nurses had moderate knowledge.

Among the demographic variables analysed in this study, area of working on post exposure prophylaxis of needle stick injury and knowledge scores is found to have high significant association with knowledge scores. There was no significant association between age, gender, qualification profile, work experience, exposure of any needle stick injury, and previous knowledge on post exposure prophylaxis of needle stick injury and knowledge scores.

5. Conclusion

The study findings revealed that there was a knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury. The provision of post exposure of prophylaxis will motivate staff nurses and help them to improve the knowledge level.

6. Implications

Needle stick injury can affect the individual living condition the psychological, emotional, and physical situation. The

chance of knowledge can improve with update guidelines of needle stick injury show improving knowledge level of staff nurses regarding post exposure prophylaxis of needle stick injury among the respondent. The present study has several implications in Nursing practice, nursing education, Nursing administration and Nursing Research.

7. Financial Support and Sponsorship

Nil

8. Conflicts of Interest

There are no conflicts of interest.

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