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Research Article

ASSESSMENT OF KNOWLEDGE REGARDING NEEDLE STICK INJURY AMONG STAFF NURSES

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ABSTRACT

Occupational accidents are common in any area of work, including hospitals. One of the most potentially hazardous procedure that health care personnel face is using and disposing of needles and sharps. Needle stick injuries present a major risk for infection with Hepatitis-B virus, Hepatitis-C virus and HIV. The research study titled "A descriptive study to assess the knowledge regarding prevention of needle stick injury among staff nurses working in selected Hospital at Dehradun" was conducted to assess the knowledge of staff nurses regarding prevention of needle stick injuries. A survey was done by using random sampling technique to select the 50 staff nurses. The finding of the study revealed that 20% Nurses have inadequate knowledge, 66% Nurses have Moderate Knowledge and only a few number of nurses (14%) have adequate knowledge regarding prevention of Needle stick injuries. It was also proved that the overall mean knowledge score was 51.5%. The study concluded that staff nurses did not have adequate knowledge regarding prevention of needle stick injuries.

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INTRODUCTION

Needle stick injuries are the primary means of exposure to blood borne diseases for health care workers. These preventable injuries expose workers to over 20 different blood borne pathogens and result in an estimated 1000 infectious per year, the most common being Hepatitis-B, Hepatitis-C and Human immunodeficiency Virus. The centers for disease control and prevention department of health and human services, USA estimated that 0.6-0.8 million needle stick injuries and other percutaneous injuries occur unusually among health care workers, making them susceptible to blood borne pathogens causing Hepatitis-B, Hepatitis-C and Human Immunodeficiency Virus which are life threatening. The best prevention for health care providers is the scrupulous and consistent application of universal precautions for all as recommended by the centers for disease control and prevention. Knowledge and preventive practice is a necessity in prevention and control of needle stick injuries so that effective measures could be taken as required and thereby reduces cross contamination of diseases not only from patients to nurses but also from nurses to patients too.

Objectives

1. To assess the proportion of staff nurse's exposure with needle stick injuries.

2. To assess the knowledge of staff nurses regarding prevention of needle stick injuries.
3. To find out the association between the knowledge of staff nurses regarding prevention of needle stick injuries with selected demographic variables.
4. To find out the deficit area of knowledge among staff nurses.

RESEARCH METHODOLOGY

A descriptive survey design was selected for the study. The structured tool used for data collection was validated by the experts. The sample selected by simple random sampling technique and it was staff nurses who were working in selected Hospital at Dehradun with sample size 50. The tool was comprises of two sections, Section A, demographic variables while Section B, the structured knowledge questionnaire prepared on the basis of knowledge regarding prevention of needle stick injuries. The data collected were organized, tabulated and statistically analysed using Statistical Package for Social Science (SPSS). Mean, Standard deviation and Chi-square were calculated. 95% Confidence Interval was used with P value < 0.05 considered significant.

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RESULTS

Table I Percentage Distribution of Sample Characteristics

S.No	Characteristics	N	Percentage (%)
1.	Gender	13	26.00
1.1	Male	37	74.00
1.2	Female		
2.	3 rd Gender	29	58.00
Age		21	42.00
2.1	≥25		
2.2	≤25	27	54.00
3.	Professional Qualification	23	46.00
4.1	G.N.M		
4.2	B.sc Nursing	29	58.00
4.	Work experience in years	21	42.00
5.1	≥5		
5.2	≤5	18	36.00
5.	Source of information	21	6.00
6.1	Professional Training	29	6.00
6.2	Mass media / T.V	26	52.00
6.3	In-service education		
6.4	All of the above	41	82.00
7.	Exposure to needle stick injury	15	18.00
7.1	Yes		
7.2	No		

Table no.1 depicts the sample characteristics of staff nurses, shows that according to gender, majority of nurses were female (74%) and rest were male (26%). As per age, majority of the nurses were above 25 years of age (58%) followed by below 25 years of age (42%). According to professional qualification, majority of nurses were GNM (54%) followed by B.sc Nursing (46%). As per work experience (58%) had ≥ 5 years of experience followed by ≤ 5 years of experience (42%). According to source of information, (36%) of nurses had professional training followed by (6%) had mass media exposure followed by (6%) had in-services education and (52%) with all of the above. According to exposure to needle stick injury, majority of nurses (82%) said ‘Yes’ followed by (18%) with response ‘No’.

Table 2 Overall knowledge level of staff nurses regarding Needle Stick Injuries.

Level of Knowledge	Range	Frequency	(%)
Inadequate	1-21	10	20
Moderate	22-31	33	66
Adequate	31-42	7	14

Table no.2 and fig no. 1 depict that 20% Nurses have inadequate knowledge, 66% Nurses have Moderate Knowledge and a few number of nurses(14%) have adequate knowledge regarding Needle stick injuries.

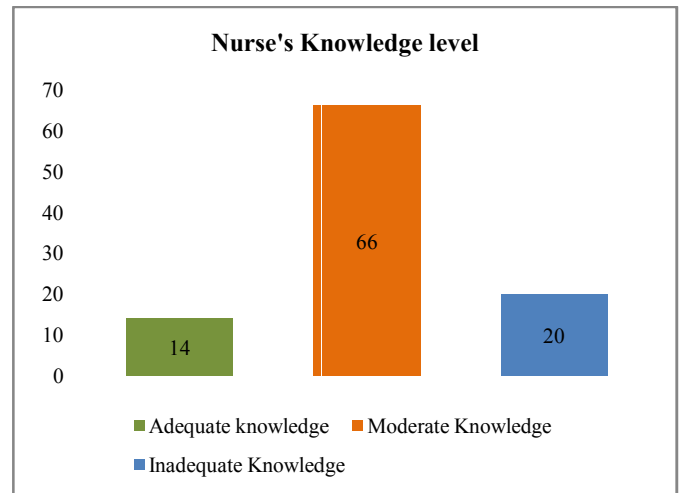


Fig 1 Depicts the staff nurses overall level of knowledge regarding Prevention of Needle Stick Injuries.

Table 3 Mean, Mean Percentage of staff nurses regarding deficit area in knowledge

Deficit Area	Maximum Score	Mean	Mean%
Concept of needle stick injury	8	4.70	59%
Administering parenteral drugs to clients	10	5.32	53.2%
Collecting blood and body fluids	8	3.98	49.75%
Handling surgical equipment	8	3.74	46.75%
Universal precaution	8	3.88	48.5%
Total	42	21.62	51.5%

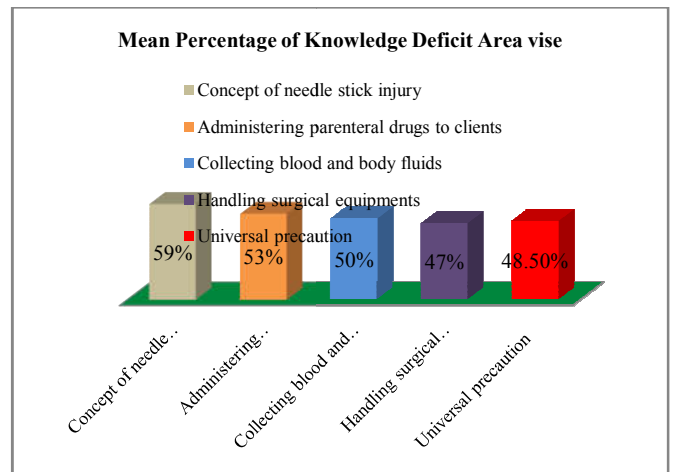


Fig I Mean, Mean Percentage Total knowledge score of staff nurses regarding deficit area in knowledge of staff nurses

According to areas of knowledge regarding prevention of needle stick injury, mean and mean percentage of knowledge score was 59% in the area of concept of needle stick injury followed by 3.98(53%) in the area of collecting blood and body fluids, 5.32(53%) in the area of administering parenteral drugs to clients, 3.88(48.5%) in the area of universal precaution and 3.74(47%) in the area of handling surgical equipment. All the five areas of knowledge score were lower by 60% than the expected score of 80% for knowledge score. The overall mean knowledge score was 51.5%.

DISCUSSION

An attempt has been made to discuss the finding of the study in accordance with the objective of the research.

The first objective was to assess the proportion of staff nurse's exposure with needle stick injuries, the result found that majority of nurses (82%) said 'Yes' they exposed with needle stick injuries in the last year and followed by (18%) with response 'No'. They said that they didn't know exactly what to do after accidental needle injury.

A similar prospective descriptive study was conducted by Syed F Shah, among health care workers including nurses to know the incidence of needle stick injuries at three hospitals, Qatar. The study included 1022 subjects in which 214 (20.9%) were victims of the needle stick injuries could pose the greatest risk of blood borne virus transmission.

The second objective was to assess the knowledge of staff nurses regarding prevention of needle stick injuries, the result showed that 20% Nurses have inadequate knowledge, 66% Nurses have Moderate Knowledge and a few number of nurses(14%) have adequate knowledge regarding prevention of Needle stick injuries.

A similar study was conducted by Moon Faichan, to examine the relationship on knowledge, attitude and practice level of operating room staff towards the standard precautions and transmission based precautions. Two step cluster analysis yielded two clusters. Cluster 1 (50.4%) were young, had a higher educational attainment level and a positive attitude and practice. Cluster 2 (49.6%) characterized by poor knowledge, negative attitude and knowledge.

The third objective was to find out the deficit area of knowledge regarding prevention of needle stick injury among staff nurses. The mean and mean percentage of knowledge score was 59% in the area of concept of needle stick injury followed by 3.98(53%) in the area of collecting blood and body fluids, 5.32(53%) in the area of administering parenteral drugs to clients, 3.88(48.5%) in the area of universal precaution and 3.74(47%) in the area of handling surgical equipment. All the five areas of knowledge score were lower by 60% than the expected score of 80%. The overall mean knowledge score was 51.5%.

CONCLUSION

The study concluded that staff nurses did not have adequate knowledge regarding prevention of needle stick injuries though prevention of NSI is the best way to prevent several diseases in health care workers so the nurses should be acquainted with knowledge about preventive strategies of NSI and should have a training regarding safety practices.

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