

PREVENTION OF NEEDLE-STICK INJURIES AMONG REGISTERED HEALTH CARE PROFESSIONALS

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Abstract

Background: Health care professionals (HCPs) were exposed to pathogens of blood borne diseases such as; Hepatitis B, Hepatitis c, Human immunodeficiency virus (HIV) and other blood borne communicable diseases through work related environment like; needle-stick injuries. It could be prevented through proper technique of handling needles and materials.

Aim: Assess the knowledge regarding awareness of prevention of needle stick injury and determine the understanding of needle-stick injury among registered HCPs. **Materials**

and Method: A descriptive design used with systematic sampling technique among 198 registered staff nurses. A socio-demographic data collected and self-developed guidelines were given to assess their knowledge regarding practice in prevention of needle-stick injury.

Result: Majority of HCPs were age group between 29-32 years, male, Hindu, stays in urban town area, having 3-5.11 years of working experience and had exposure on needle-stick injury prevention programme. 104 (52.53%) had adequate knowledge and remaining 94 (47.47%) had inadequate knowledge on prevention of needle stick injury. **Discussion and conclusion:** There is need of improvement in awareness regarding

prevention of needle-stick injury. Proper guidelines can help to minimize the rate of occurrence regarding NSIs.

Key words: Needle-stick injury, Health care professionals

Introduction

Needle-stick is stab from used needles, and needle-stick injury might cause a serious and deleterious effect on the health of health-care workers.¹ Health care professionals (HCPs) were exposed to pathogens of blood borne diseases such as; Hepatitis B, Hepatitis c, Human immunodeficiency virus (HIV) and other blood borne communicable diseases through work related environment like; needle-stick injuries. It could be prevented through proper technique of handling needles and materials.² Needle-stick and sharp injuries (NSIs) experienced by Health care professionals have been identified as major occupational hazard.³ Blood-borne pathogens from NSIs pose severe physical and mental threats to them and near one's.⁴ World Health Organization (WHO) data shows, 35.9 million health care workers in all around the world are exposed to the risk of NSIs.⁵ Majority of risks occurred among the ancillary staff and handlers of disposal clinical waste.⁶ WHO says, the estimated proportion of HCPs exposed to blood borne pathogens were 0.5% for HIV, 2.6% for HBV and 5.95% for HCV.⁷

Material and method:

A descriptive approach was used to conduct research study, population were HCPs, an accessible sample of population involves HCPs from tertiary care hospital available and interested during course of study. Systematic random sampling technique used with power analysis to select the convincing sample size over the accessible population, 198 registered staff nurses had selected in project. The samples of study were employees of tertiary care hospital.

Self-designed guidelines were provided to selected sample to assess the knowledge regarding awareness of prevention of needle stick injury and determine the understanding of needle-stick injury among registered HCPs and assess reliability of tool. Consent has been taken and employees were assured for confidentiality.

The validity of the content was observed by experts, the reliability was investigated among 20 health care professional by using split half method Spearman Brown Prophecy formula reliability test. The pilot project held down in tertiary care hospital, Vadodara.

Result:

I. Socio-demographic variables:

The majority of HCPs 39.89% age group between 29-32 years and minimum participants 12% from group of ≥ 33 years. Male participants were 68% which is more than the female HCPs, 76% were Hindu, 64% stays in urban town area. The 44% HCPs have 3-5.11 years of working experience and 56% had exposure on needle-stick injury prevention programme.

II. Knowledge on prevention of needle stick injury

TABLE 1: Frequency and percentage distribution on knowledge on prevention of needle stick injury n=198

SR.NO	KNOWLEDGE LEVEL	Frequency	Percentage
1	Adequate(5 to 10)	104	52.53%
2	Inadequate (>5)	94	47.47%
Total		198	100%

Table provides information that; knowledge scores on awareness about prevention of needle stick injury among participants; 104 (52.53%) had adequate knowledge and remaining 94 (47.47%) participants had inadequate knowledge.

Discussion:

The majority of HCPs were age group between 29-32 years, male, Hindu, stays in urban town area, having 3-5.11 years of working experience and had exposure on needle-stick injury prevention programme. 104 (52.53%) had adequate knowledge and remaining 94 (47.47%) staff nurses had inadequate knowledge on prevention of needle stick injury.

A prevalence study conducted by **A. Bhardwaj** et. Al on needle stick injury in Malaysia among 153 Health care professionals, researcher concluded that, health care workers are at risk of needle stick injuries through solid needles during surgical procedures and hollow needles while drawing blood and intravenous cannulation.⁸ A study by **DM Vandijcket**. Al on needle-stick injuries among health care workers; there needlestick injuries are occurs in the daily routine of a hospital at high rate; it depends on medical discipline and Implementation of safety.⁹ A survey study by S. Yadav et. Al on awareness of safety protocols for prevention of needle stick injuries among 403 anaesthesiologists by use of pre-validated 18-item questionnaire using Google forms and the link; result shows that training and education are required in healthcare curriculum.¹⁰ A Descriptive and

Correlation Study conducted by S. Dasgupta et. Al on 100 Staff Nurses Regarding Needle Stick Injuries; knowledge regarding risks and hazards associated with NSI and its management is inadequate.¹¹ S Ledinskiet. Al conducted research on 149 Nursing Student's about Understanding and Prevention of Needle Stick Injury. The results shows appropriate education strategies and awareness of needle stick injuries can minimize the occurrence of these injuries among nursing students.¹²

Conclusion

There is need of improvement in awareness regarding prevention of needle-stick injury. Proper guidelines can help to minimize the rate of occurrence regarding NSIs. Based on the findings of the present study recommendation offered for larger sample this will provide the valuable evidence.

Ethical consideration

A formal ethical approval received from institutional ethical committee. Informed consent was obtained from participants and assured of anonymity.

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Conflict of interest: Author declared no conflict of interest disclosed in this study.

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