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Research article

**NEEDLESTICK INJURIES AMONG HEALTHCARE  
PROFESSIONALS IN DIFFERENT HOSPITALS OF LAHORE**<sup>1</sup>Ayesha Riaz, <sup>2</sup>Fauzia Hayat, <sup>3</sup>Barzah Durrani<sup>1</sup> Sir Ganga Ram Hospital Lahore, <sup>2</sup> Lahore General Hospital Lahore, <sup>3</sup> Shaikh Zayed Hospital Rahim Yar Khan.**Article Received:** July 2019**Accepted:** August 2019**Published:** September 2019**Abstract:**

**Objective:** To determine the ratio of needlestick injuries among different healthcare professionals working in different hospitals of Lahore.

**Material and Methods:** A total of 120 doctors and female nurses from different hospitals were included in this cross-sectional study. A predesigned questionnaire was served. Data was collected and analyzed in SPSS 23.0.

**Results:** There were 39 male doctors, 43 female doctors and 38 female nurses in the study. The mean age was 33.42±6.69 years. A total of 51 professionals (42.5%) had suffered from the needlestick injury during their routine work.

**Conclusion:** Professionals who are less trained or have not educated about the safety measures while handling needles undergo more needlestick injuries.

**Keywords:** Needlestick, blood-borne diseases, nurses, health professionals.

**Corresponding author:****Ayesha Riaz,**

Sir Ganga Ram Hospital, Lahore.

QR code



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**INTRODUCTION:**

In medical field, healthcare professionals perform a lot of procedures i.e. minor surgery or a major surgery. Needle stick injuries occur when a healthcare professional encounters a needle prick stained with blood or other infectious as well as non-infectious body fluids. According to the World Health Organization (WHO), in 2007, around 2 million needlestick injuries were globally [1,2]. As per the US Occupational Safety and Health Administration (OSHA) around 5.6 million individuals are at risk of blood-borne diseases due to occupational exposure or percutaneous injuries [3].

After a needle stick injury, acute symptoms are insignificant and minor, but these type of injuries are responsible for the transmission of blood-borne virus i.e. Human immunodeficiency virus (HIV), Hepatitis C (HCV), and Hepatitis B (HBV). In the year 2000, one thousand cases of HIV, sixteen thousand cases of Hepatitis C and sixty-six thousand cases of Hepatitis B were reported by WHO due to needlestick injuries [4]. According to some studies, these type of injuries transfer more than twenty-five blood-born infectious viruses.

These type of injuries are usually common in health professionals because they deal with the needles frequently i.e. in wards, operation theaters, and outdoor departments, etc. But persons from the other occupations can also suffer from these type of injuries, for example, tattoo artists, laborers or agricultural persons [5].

This study was conducted in order to determine the frequency of needlestick injuries among healthcare

professionals working in different hospitals of Lahore. This study will help us in exploring the risk factors for these type of injuries and formulating the safety measures in order to reduce these injuries.

**MATERIAL AND METHODS:**

A total of 120 doctors and female nurses from different hospitals were included in this cross-sectional study. The purpose of the study was explained and informed consent was taken from them. A predefined questionnaire was served. The data was collected and analyzed with SPSS Ver. 23.0. The qualitative variables were presented as numbers and percentages. The quantitative variables were presented as mean and standard deviation.

**RESULTS:**

There were 39 male doctors, 43 female doctors and 38 female nurses in the study. The mean age was  $33.42 \pm 6.69$  years. The mean age of male doctors was  $34.37 \pm 7.71$  years. The mean age of female doctors was  $33.32 \pm 5.98$  years and the mean age of female nurses was  $31.23 \pm 5.98$  years. Minimum age noticed was 22 years and maximum age noticed was 45 years.

Out of 120, total of 90 professionals (75%) reported that they were trained for the safety measures in order to prevent needlestick injuries and rest of the professionals (n= 30, 25%) were not trained regarding safety measures. A total of 51 professionals (42.5%) had suffered from the needlestick injury during their routine work. Out of these 51 professionals, 29 (56.86%) were female nurses, 16 (31.37%) were female doctors and 6 (11.76%) were male doctors.

Procedure while having injury	Number of professionals injured
Passing intravenous lines	14
Drawing blood samples	13
Surgical procedure	15
Waste disposal	9
<b>Total</b>	<b>62</b>

**Table: Distribution of needlestick injuries among healthcare professionals**

**DISCUSSION:**

In our study, 51 professionals (42.5%) sustained needlestick injuries. According to the literature most of the healthcare professionals are likely to sustain needlestick injuries. Different studies have documented different ratios of needlestick injuries i.e. thirty percent in Turkey, sixty-eight percent in Jordan and seventy-four percent in South Korea [6].

In our study, 90 professionals (75%) were trained about the safety measures. Even after the proper training and education, this high ratio of needlestick injuries among nurses brings our attention to the importance of adherence to the infection control precaution and implementation of these guidelines among the health professionals.

In our study 30 professionals (25%) didn't receive this education throughout their professional career. This

includes nurses as well as doctors. In a study by Manzoor et al, this ratio was found to be 8% only<sup>7</sup>. The reason for this difference might be studying setting or inclusion criteria of the researchers.

Ayub Medical College Abbottabad. 2010 Sep 1;22(3):174-8.

There are certain limitations to our study i.e. we included a smaller number of healthcare professionals in this study. A study with a greater number of health professionals including doctors, medical technicians, and waste management staff should be conducted in order to analyze this problem deeply and set suitable guidelines to prevent this.

### CONCLUSION:

Professionals who are less trained or have not educated about the safety measures while handling needles undergo more needlestick injuries.

### Contribution of authors:

Ayesha Riaz: Data Collection, writing limitations and conclusion section

Fauzia Hayat: Writing the results and discussion section

Barzah Durrani: Writing the introduction and Methodology section

### REFERENCES:

1. Alamgir H, Yu S. Epidemiology of occupational injury among cleaners in the healthcare sector. *Occupational medicine*. 2008 Mar 19;58(6):393-9.
2. Wicker S, Ludwig AM, Gottschalk R, Rabenau HF. Needlestick injuries among health care workers: Occupational hazard or avoidable hazard?. *Wiener Klinische Wochenschrift*. 2008 Aug 1;120(15-16):486-92.
3. Kirchner B. Safety in ambulatory surgery centers: occupational safety and health administration surveys. *AORN journal*. 2012 Nov 1;96(5):540-5.
4. United States General Accounting Office. Occupational Safety: Selected Cost and Benefit Implications of Needlestick Prevention Devices for Hospitals.
5. Elmiyeh B, Whitaker IS, James MJ, Chahal CA, Galea A, Alshafi K. Needle-stick injuries in the National Health Service: a culture of silence. *Journal of the Royal Society of Medicine*. 2004 Jul;97(7):326-7.
6. Smith DR, Leggat PA. Needlestick and sharps injuries among nursing students. *Journal of Advanced Nursing*. 2005 Sep;51(5):449-55.
7. Manzoor I, Daud S, Hashmi NR, Sardar H, Babar MS, Rahman A, Malik M. Needle stick injuries in nurses at a tertiary health care facility. *Journal of*