

Practice of Nurses Regarding Prevention from Needle Stick Injuries in Tertiary Care Hospital Lahore Pakistan

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ABSTRACT

Needle sticks injury considerably affects nurse's wellbeing while performing routine patient's care. Thus, nurses are at risk of exposure to various kinds of infectious diseases.

Objectives: To analyze the practice of nurses regarding prevention from needle stick injury in Tertiary Care Hospitals of Lahore.

Study Design: Cross-sectional study.

Methodology: Study setting was tertiary care hospitals of Lahore, Pakistan after ethical review committee's (ERC) approval. Data was collected from nurses by using tool used in this study was check list for observation of Nurses practice related to sharps and needles. This check list contains fourteen criteria for observation of Nurses' practice. Whether they were doing; yes or no. sel. convenient sampling technique was used, and sample size was 93.

Statistical analysis: SPSS 21 was utilized for the data analysis.

Results: It was observed that 03(3%) Nurses were performing Safe Needle Handling Technique in procedure room while 90(97%) Nurses were not performing it. It was observed that 91(98%) Staff Nurses wash hands before and after use of syringes while only 02(2%) Nurses were not performing it.

Conclusion: We concluded that nurses have ignorance of the protocols become the reason of such incidents even now. It is the need of time to implement appropriate strategies for precaution and intervention through hospital administration to avoid the needle stick injuries.

Key Words: Needle Stick Injury, Re-capping of needles and Knowledge.

INTRODUCTION

In today's life nurse's occupational safety is a matter of special attention. While doing their routine jobs health care providers are more prone to get different types of infectious diseases along with exposure to various types of hazards such as chemical, radiation and physical related to their job and environment. Needle stick injury is the parenteral introduction into the body of a health care worker during the performing duties or using other potentially infectious material. Especially, nurses are exposed to the sharp injuries due to direct interaction with patients. Such sharp injuries become the reason of higher prevalence of Hepatitis C, Hepatitis B and HIV. The study shows that one million annually in Europe and 5.6 million such injuries annually in US occur.¹

Nurses are responsible for the medication which becomes the reason of greater probability of the sharp injuries. However, guidelines and protocols are there to avoid such injuries. Similarly, post exposure prophylaxis may minimize the infection. In the same manner, careful practices have key importance to avoid the sharp injuries. That's why they need to learn the strategies to protect themselves from occupational exposure especially needle stick injuries which is most common among health care providers. Different health-based model has been utilized to enhance the awareness of standard practices to avoid the sharp injuries and understanding of the life threatening outcomes of sharp injuries. Previously, studies have

mentioned that nurses experience infection as well as blood transmitted diseases and the prevalence of such injuries is 45% which is quite high.^{2,3}

Previously, studies have emphasized the importance of KAP regarding needle stick injuries but still the prevalence of such injuries is quite high and becomes the reason higher mortality of the health care workers. The study noted that prevalence of sharp injuries in Assam is 21.1% even most of the health care workers were aware of the spread of diseases like HIV and Hepatitis C due to needle stitch injuries.⁴ Similarly, the study was conducted to assess the knowledge and practice of protocols regarding needle stick injury (NSI) among nursing students in Sudan, which demonstrated that 23% of the nursing students suffered NSI and knowledge of prevention from sharp injuries among the nurses of hospitals in Yemen was 44%.⁵ the study noted the frequent incidents of sharp injuries among the nurses of Turkey.⁶ Likewise, prevalence of sharp injuries among the nurses of public hospitals of Lahore, Pakistan is 44% and among the private hospitals is 26.4% and majority of the incidents happened while disposing and recapping of needle.

Moreover, knowledge regarding the prevention measure from such injuries has key importance. The study investigated the awareness of prevention measures among the health care staff and reveal that 51% were aware of standard practices and 80.3% were still ignoring the standardized protocols.⁷ Moreover, Ghurki Trust Teaching

Hospital, Lahore, a cross-sectional descriptive study was conducted on nurses highlighted the poor knowledge and higher incidence of NSIs among nurses.⁸ In the light of above description and increasing incidence of needle pricks among health workers especially nurses, we planned the current project to analyze the practice of nurses regarding prevention from needle stick injury in Tertiary Care Hospitals of Lahore.

OBJECTIVES

To analyze the practice of nurses regarding prevention from needle stick injury in Tertiary Care Hospitals of Lahore.

Methodology: The cross-sectional study design was used, and study setting was tertiary care hospitals of Lahore, Pakistan after ethical review committee's (ERC) approval. In this study, nurse's practice was assessed. The data was collected from 93 registered nurses in emergency department, Intensive Care Units, Surgical wards, medical wards and operation theatres of tertiary care hospitals of Lahore. A self-administered check list was floated through convenient sampling. The nurses fulfilling the inclusion criteria were included in this study from three tertiary care hospitals of Lahore. The researcher has to assess their practices from nurses on morning and evening shifts.

Statistical Analysis: Data was analyzed by using SPSS 21. Results were presented as frequency and percentages (%) for different parameters.

RESULTS:

Distribution of nurses among different tertiary hospitals with varying work experience duration was presented as frequency and percentage in table-1.

Table-1: Distribution of Nurses Among Tertiary Hospitals (n=93)

Parameters	Hospitals	Frequency	Percentage (%)
Distribution of Nurses According to Hospital	The Children Hospital	31	33.33
	Gulab Devi Hospital	31	33.33
	Sheikh zayd Hospital	31	33.33
Distribution of Nurses According to Work	Emergency Ward	15	16
	Intensive Care Unit	22	24
	Medical Ward	27	29
	Surgical Ward	17	18
	Operation Theatre	22	13
Working Experience (Months)	12-15	13	14
	16- 18	16	17
	19- 21	9	10
	22-24	55	59

This list was self-observational assessment of the nurses working environment. It was observed that there was a written instruction of safe needle handling in procedure room for 07(8%) nurses in different Departments while 86(92%) Nurses had no idea about written instructions. It was observed that 03(3%) Nurses were performing Safe Needle Handling Technique in procedure room while 90(97%) Nurses were not performing it as depicted by table-2.

Table-2: Check list For Observation of Nurses Practice related to Prevention

S. No	Criteria	Yes	No
1.	There is a written instruction of safe needle handling in procedure room	8%	92%
2.	Safe needle handling techniques are demonstrated in procedure room	3%	97%
3.	The staff nurses wash hands before and after use of syringes	97%	3%
4.	Disposable syringes are used when administering injection	100%	0%
5.	Sharps are disposed off in designated container	99%	1%
6.	There is careful use of syringes in stressful or hurried situations	40%	60%
7.	Recapping of used needles in procedure room	86%	14%
8.	Nurses Use one handed scoop techniques of recapping needles competently	14%	86%
9.	Sharps disposable containers are located within a few feet from practice place	98%	2%
10.	Needle cutter is in working condition	100%	0%
11.	Sharp disposable boxes for needle and other sharps are located at the bedside in clinical area	13%	87%
12.	Sharp disposable boxes are properly sealed	92%	(8%)
13.	Sharp disposable boxes are over filled	32%)	68%
14.	The importance of needle safety is stressed in procedure room	22%	88%

DISCUSSION

The check list was self-observational assessment of the Nurses working environment. It was a simple check list which was filled during observation. The result of the check list showed really an alarming situation as no written instructions were provided to Nurses from the institutions regarding prevention from needle stick injury.

The Nurses at large were not demonstrating safe needle handling technique in procedure rooms. One previous study revealed that only 17% respondents were lacking of safety measures regarding needle handlings.⁹ Nurses were found using disposable syringes when administering injections to the patients in the clinical area. Generally, sharps in designated container which was found comparable with an another study conducted in 2013 as 97.1% respondent discarded needles and other sharp objects into the designated sharp container.¹⁰ Majority of the Nurses were not using syringes carefully in stressful or rushed situation which could lead to a NSI as previous literature showed that 9.6% injuries were due to negligence of safe needle handlings.⁹

Generally, used needles in Procedure Room were observed recapped, and only were done through one handed scoop technique. In one previous study, it was estimated that 97.5% respondents practiced recapping techniques in which 69% practiced and followed one handed needle recapping (scoop technique) and 28.5% practiced two handed needle recapping.¹¹ In another study conducted previously showed that 22% workers practices recapping of needles after use.¹² In another study revealed

that 40% nurses has experienced NSIs because of recapping the used needles.¹³

It is an old practice now to do recapping by involving both hands together. Now the modern-day health care workers have correct knowledge regarding, and they know that recap a needle have serious disadvantages, one of them is the risk of needle prick injury. But the literature shows contradictory evidence that beside of this knowledge, numbers of needle prick accidents are reported more in number. So, the main lack in this finding is the gap that health care workers have in practicing these guidelines. With safety features, an increasing number and variety of needle devices are now available. The incidence of needle stick injuries have decreased up to during phlebotomy with SEDs was 4 fold lower than that with conventional device.¹⁴ Nurses must select and evaluate such devices.

There were not any sharp disposable containers at bed side in clinical areas but 100%needle cutters were found in working condition. In another study conducted showed the same results of (97.4%) availability of needle cutters for proper disposal of used needle.⁶ In another contrast study showed the (87%) improper disposal of needles at all time.⁴ Our study showed the availability of needle cutter at working place was 100%, with the use of needle cutter the chances of getting punctured while handling trash is decreased significantly. There are overall encouraging results regarding the availability of the needle cutters in our study as compared to results of other studies. It was observed that head nurses of the ward were not found acknowledging and reinforcing the importance of needle safety in the procedure rooms.

Limitations: Our study had limitations like financial constraints, lack of resources and small sample size.

CONCLUSION

It was discovered that the nurses could try to prevent from NSIs but there are some factors found contributing to needle stick injuries including carelessness in use of syringes/needles in stressed or hurried condition, lack of any written instruction of safe needle handling in the procedure rooms, lack of demonstration of safe needle handling techniques, recapping of needles in the procedure rooms, the pressure of work or work burden and the shortage of time to complete their routine duties. However, poor practices regarding prevention from needle stick injuries among nurses were identified. The study concluded that information on preventive measures should be provided on regular basis in different ways, the extra training programs after their education, like Seminar/Workshop or Conference can be generate positive signs of decreasing the cases of NSIs. So, these trainings should be implemented in the routine professional life which may be productive.

Authors' Contribution

Zarnigar: Conception and design of work

Rehana Elahi: Collecting and analyzing the data

Tabassum Zia: Collecting and analyzing the data

Tahira sagir: Drafting the manuscript

Waqas Latif: Drafting the manuscript

Talha Laique: Drafting and revising the manuscript for intellectual content.

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