



Awareness about Postexposure Prophylaxis after Needle Stick Injury among Interns in

Tertiary Care Hospital in Andhrapradesh

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Abstract

Introduction

Medical interns are the most vulnerable group and are at increased risk of accidental needle stick injuries (NSI). This study is to assess awareness among interns about post exposure prophylaxis after needle stick injury.

Methodology

A cross sectional study was done among interns in tertiary care hospital using pre tested self-administered questionnaire sent through Google forms and out of 130 interns 104 responded voluntarily. Descriptive statistics like frequency, percentages, mean, and standard deviation were used. To check the association between the knowledge and other factors,

Chi Square was used; a ‘p’ value of less than 0.05 was considered statistically significant.

Results

In the study females were 51% and mean age of participants was 22.94 ±0.94 years. Among the total participants 81(89.01%) were exposed to NSI. 62 (58.6%) gave correct response for ideal time and 18(17.3%) for maximum time to start PEP and 17(16.4%) for duration of PEP. Diseases transmitted through NSI, first dose of PEP should be available at the casualty, potentially infectious body fluid is blood, were answered correctly by all the interns.

Conclusion

Awareness about PEP among interns was average to above average. Creating awareness about NSI and PEP will prevent diseases transmitted through NSI. Information education and communication material should be displayed prominently at the places of work, emphasizing the point about no recapping. Government must ensure the availability of PEP in all hospitals.

Keywords

Needle sticks injury (NSI), post exposure prophylaxis (PEP), medical interns

Introduction

Injuries from needles used in medical procedures are called “needle stick injuries” [1]. Needle stick injury can lead to serious or fatal infections with blood-borne pathogens such as Hepatitis B, C and HIV [3].

The healthcare personnel are at increased risk of needle stick injury [2] and medical interns are the most vulnerable group to get exposed to accidental needle stick injury. These needle stick injuries have always been one of the most important risk factors for healthcare personnel’s for transmission of various infections such as Hepatitis B, Hepatitis C and Human Immunodeficiency Virus (HIV).

Most injuries can be avoided by simply adhering to general precautions and post-exposure prophylaxis (PEP) for HIV, but health care workers will only be able to protect themselves if they are aware of these precautions [1]. Our study was undertaken to assess the awareness regarding post exposure prophylaxis after needle stick injury among medical interns.

Aims and Objectives

To assess awareness among interns about post exposure prophylaxis (PEP) after needle stick injury and to determine the factors affecting the awareness of post exposure prophylaxis after needle stick injury.

Methodology

A cross sectional study was conducted among Interns of Viswabharathi Medical College, Kurnool between April and May 2022. The convenient sampling method was used to collect the data among the participants. A total of 104 interns out of 130 were participated in our study. A pre-tested semi structured questionnaire was sent through Google forms.

The questionnaire consists of twelve questions and the one score was given for a correct response and zero for an incorrect response. The scoring was categorized into two categories, ≤ 50 percentage of score considered as poor awareness and ≥ 50 percentage of score as good awareness.

Statistical analysis was done by importing data from Google Forms to MS Excel and analysed using SPSS 21 trial version. Descriptive statistics like frequency, percentages, mean, and standard deviation were used. To check the association between the knowledge and other factors, Chi square was used, a ‘p’ value of less than 0.05 was considered statistically significant.

The Institutional Ethics Committee (IEC/VBMC/37/2021-22) has given its approval for the study. We followed the ethics norms throughout the study.

Results

Of the 104 respondents, 51 (49 %) were male and 53 (51%) were female. The age ranged from 21 to 26 with a mean age of participants was 22.94 ± 0.94 years (Table 1).

Table 1: Sociodemographic Features of Respondents

Variable	Frequency	Percentage
AGE		
21-23	81	77.8
24-26	23	22.1
GENDER		
MALE	53	51
FEMALE	51	49

Knowledge Regarding Needle Stick Injury

Majority of the interns 91 (87.5%) had heard about needle stick injury. Among them 81(89.01%) were exposed to needle stick injury and among them only 62 (76.5%) reported to casualty medical officer.

Among those exposed to needle stick injury, 64(79.01%) received injury while recapping and followed by 40 (49.38%) while doing injection.

All the participants were aware about the diseases transmitted through needle stick injury.

Table 2: Knowledge Regarding Post Exposure Prophylaxis

Knowledge	Correct response
1) What should be the response immediately after NSI?	27 (26%)
2) Ideal time to start PEP?	62 (58.6%)
3) Maximum time to start PEP?	18 (17.3%)
4) Duration of PEP?	17 (16.4%)
5) If mucous membrane is involved, what precautions do you take?	69 (66.3%)
6) Where to avail emergency dose of PEP apart from ART centre?	84 (80.7%)
7) Potentially infectious body fluids considered at risk?	90 (86.5%)

More than half 62 (58.6%) of the interns were aware about ideal time to start PEP (within two hours) after NSI. Maximum time to start PEP is (72 hrs) and only 18 (17.3%) gave correct response. The duration of PEP was 28 days but only 17 people (16.4%) provided the right answer.

Majority of 90(86.5%) interns correctly identified blood as potentially infectious body fluid. Around 69 (66.3%) people told that when mucous membrane is involved in injury, 'precaution to be taken was rinsing thoroughly with water'.

Apart from Anti-retroviral therapy center, emergency dose to avail PEP is casualty and a majority of 84(80.7%) interns were aware about that.

‘PEP is not 100% effective’ was answered correctly only by 60 (58%) and ‘PEP is not required for all types of exposures’ by 38 (56.5%) interns.

Table 3: Association Of Gender and Age Category with Score

GENDER	SCORE CATEGORY		TOTAL	P VALUE
	BELOW 50	ABOVE 50		
MALE	19(37.25%)	32(62.74%)	51	0.882
FEMALE	19(35.84%)	34(64.15%)	53	
AGE CATEGORY				
21 – 23 YEARS	13(16.04)	68(83.95%)	81	0.358
24 – 26 YEARS	6(26.08%)	17(73.91%)	23	

Awareness about PEP after needle stick injury was good among the females(64.15%) and age group between 21 to 23years (83.95%). There was no significant association between gender(p=0.882), age category(p=0.358) to score category.

Discussion

The majority (86.5%) of the study participants in our study accurately recognized high-risk bodily fluids. In research by Diproseet al.[4] on anesthetists in the UK, 45.2% of high-risk bodily fluids were correctly recognized. One should rinse with soap and water or regular saline when high-risk bodily fluids come in contact with mucocutaneous surfaces or open wounds. After accidental NSI, one must allow to bleed gently and wash with soap and water [5,6]. Only one third of the interns were aware about it.

A study conducted by Jayanth et al.[7].Vellore India showed that most needle stick injuries (75%) occurred while doing recapping in interns in our study 79% injuries occurred while during recapping.

Hanafi et al.[8] in their study on interns in Egypt, found that recapping or disassembly of syringe (36%) was the most common activity, associated with NSI similar to our study(79%). Similar studies conducted in developed countries have shown the same.

In our study majority (80%) of the interns were aware about the place to get emergency dose of PEP was casualty. Whereas in a study on surgeons in USA found that it was only 7.7% [9].

Limitations of our study was the study was conducted among interns only, and thus the findings cannot be extrapolated to health-care professionals.

Conclusion

More than half of the interns were aware about PEP. Knowledge about Needle Stick injury was good among interns.

Information education and communication material should be displayed prominently at the places of work, emphasizing the point about no recapping. Students must be sensitized frequently about practicing the standard precautions after needle stick

injuries. Government must ensure the availability of PEP in all hospitals.

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