Needle Stick Injuries: A Study Among Health Care Workers in Tertiary Care Centre Nepal

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ABSTRACT

Introduction: A needle stick injury is a percutaneous piercing wound typically set by a needle point but possibly also by other sharp instruments or objects commonly encountered by health care professionals because of the risk to transmitting blood borne diseases like Hepatitis B Virus (HBV), Hepatitis C (HCV) and Human Immuno Deficiency Virus (HIV). The aim of this study was to assess the prevalence, causes, awareness and knowledge regarding Needle Stick Injury among health care workers Tertiary Care Centre of Nepal.

Methods: A descriptive cross sectional study was conducted in 350 staffs of Tertiary Care Centre Nepal, from June to August 2013. Data was collected through semi-structured self-administered questionnaire. All the collected data was processed and analyzed by using descriptive statistics namely the frequency and percentage.

Results: The study showed that out of the 350 respondents, 65.1% had there medicinal years of practices extended to five years. Among the responses 44.8% mentioned, highest number of needle prick was observed when recapping the needles due to long working hours. About 64.6% respondents washed their hands with soap, water or other antiseptics for effective post exposure preventive measures and 24.9% had access to infection control protocol.

Conclusions: Despite the awareness regarding needle stick injury and its preventive measures, health care workers are yet bound to face it often during their surgical or medicinal area of practice due to monotonous and long working hours.

Keywords: Awareness, Health Care Workers, Knowledge, Needle Stick Injuries

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DOI: http://dx.doi.org/10.3126/mjsbh.v17i1.18871

Submitted on: 2018-01-01
Accepted on: 2018-02-28
INTRODUCTION

Needle Stick Injury (NSI) is a percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instruments or objects, commonly encountered by people handling needles in the medical settings. Needle stick injury is occupational hazards in the medical areas.¹

NSI means the par literal introduction into the body of the healthcare worker during the performance of his or her duties, of blood other potentially infectious material by a hollow bone needle or sharp instrument, including, but not limited to needles, lancets, scalpels, and contaminated broken glass.²

Needle stick injury is a common event in the healthcare environment when drawing blood, administering intramuscular or intravenous drugs, or performing other procedures involving sharp instruments, the needle can slip and injure the health care worker. This sets the stage to transmit viruses from the same person to the recipient. These injuries also commonly occur during needle recapping and as a result of fracture to place used needle in approved sharps containers.¹

Generally NSI cause only minor bleeding or visible trauma, however in the absence of bleeding the risk of viral infection remains. A NSI may also pose a risk for patients if the injured health care worker carries HBV, HCV or HIV. NSI are not limited to medical community. Any environment where sharps are encountered, poses a risk.¹

METHODS

This was a descriptive, cross sectional study conducted during the months of June to August, 2013 in all OPDs and wards of a Tertiary Care Centre, Nepal. Out of 1204 staffs of this center only 350 were selected for this study. The data collection was done by using the close ended questionnaires. The purpose of the research was to obtain quantitative data on NSI. After data collection, it was compiled and analyzed using SPSS version 17.4.

RESULTS

Out of the 350 respondents, 51.7% were males and 48.3% were females, 48.6% were involved in medical area whereas 49.1% to surgical area of practice. Likewise, 40.6% of the respondents were registered nurses and the nursing assistant constituted 59.4% of the respondents. 34.9% of respondents had less than five years of practice, while 65.1% have practice of more than five years. 88.3% respondents have had at least one NSI, whereas 11.7% respondents have no experience of any NSIs. Among the responses 43.1% respondents had multiple NSIs that is more than two times, whereas 44.9% had less than or equals to two times multiple NSIs. During observation 34.9% were needle pricked while injecting medicine or

| Table 1. Responses of health care workers elements related to standard precautions |
|----------------------------------|--------|------|
| Injecting medicine/ drawing blood | 122  | 34.9 |
| Recapping of Needle               | 115  | 32.9 |
| Surgery suturing                  | 44   | 12.6 |
| Handling uncooperative patient    | 30   | 8.9  |

| Table 2. Reason of needle prick   |
|----------------------------------|--------|------|
| Characteristics                  | Frequency | %    |
| Long working hours               | 156    | 44.8 |
| Inappropriate Environment        | 105    | 30   |
| Stress                           | 26     | 7.4  |
| Inappropriate Training           | 23     | 6.6  |
drawing blood. According to the responses reason behind needle prick was due to long working that is 44.8%, followed by 30% inappropriate environment, 7.4% due to stress and the least that is 6.6% was because of inappropriate training. In terms of post exposure preventive measures, 14.9% knew about patients’ disease, 7.4% allowed injuries to bleed, 64.6% washed hands with soap, water or antiseptics and 1.7% notified infectious control person. Regarding years of experiences 65.5% of the respondents have more than 5 years of experiences.

DISCUSSION

In this study majority (88.3%) of respondents were exposure to NSIs which is similar to the studies carried out in other hospital reveals the incidence of NSIs is around 88.2% (N=350).9 Other study conducted in Delhi also similar to this study which reveals 79.5% of HCWs reported having had one or more NSIs in their career.13 Various other studies in Nepal, among health care workers from tertiary care hospital and a study from rural north has shown similar results to the present study i.e. 70.8% and 73% respectively.4

Long working hours is apparently seems to be the main cause of NSIs among the respondents i.e. 44.8 %. Because of long duty hours staffs became fatigue and cause NSIs. This finding is supported by study done in Delhi, which shows 50.4% of NSI occurs due to fatigue.14

The study shows that 64.6% of the respondents washed the site of injury with soap and water as preventive measure. Previous studies too have shown a similar results i.e. 60.9% had washed the site of injury with water and soap.13

The health care worker who had work experience of five or more than five years were exposed to needle stick injuries than those who had work experience of less than five years. The most common belief is that as the work experience increases the chances of the exposure to needle stick injuries will be decreased, this study is supported by the study done at Egypt and Malaysia.11,12.

CONCLUSIONS

The occurrence of NSI was found to be quite common in all categories of health personnel as well as found more in those who are work for long hours. Avoidable practices like recapping of needles were contributing to the injuries. Registered nurses are more aware and more precautions then nursing assistants for injecting, drawing blood and in other procedures to use needles. Prevention of NSI is an integral part of prevention programs in the work place, and training of HCWs regarding safety practices are essentially need to be an ongoing activity at a hospital.
REFERENCES


   DOI: 10.5539/gjhs.v5n4p85.

   PMID 20418554


   DOI: 10.4103/2141-9248.138046

   DOI: 10.4103/2141-9248.138046

   DOI: doi.org/10.4172/2161-0711.S2-004

    DOI:646-642-1-PB.pdf.

11. Center for Disease Control and Prevention, Recommendations for Post-exposure Prophylaxis (PeP) for exposure to HBV, HCV and HIV, MMWR2001;50:22
    DOI: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm

    DOI: 10.1111/j.1365-2702.2006.01423.x

DOI: 12230-50125-1-PB.pdf.


DOI: 10.4103/0970-0218.62565