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Research Article

**STUDY TO KNOW THE FREQUENCY OF NEEDLE STICK
INJURIES AMONG HEALTH CARE WORKERS WORKING AT
TERTIARY CARE HOSPITALS AND ITS ASSOCIATED
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Objective: The aim of our study is to identify the prevalence and associated factors that cause needle stick injuries in Health care workers work in the tertiary care hospital of Bahawalpur.

Study Design: A descriptive cross-sectional study.

Place and Duration: The study was performed in the Bahwal Victoria Hospital, Bahawalpur for the period of one year from August 2016 to August 2017.

Methods: After approval of the ethics committee, 285HCWs were selected randomly and selected for the study. The informed consent was obtained from the participants enrolled in the work. He was asked about his personal experiences with NSI. A pre-designed questionnaire was used as a data collection source. The standard version of SPSS was used to interpret the data. Counts and percentages of answers for all variable frequencies are calculated. Cross-tabulation was then performed to analyze the data. P values of 0.05 were statistically significant.

Findings: Total no. Of the HCW included in the study, 285 were found to have 60% (171) doctors, 40% (n = 114) nurses and other paramedical staff (Figure 1). Among these participants, 64.9% (n = 185) were exposed to NSI. 57.3% (n = 106) doctors, 42.7% (n = 79) nurses and other paramedical personnel. 48.6% (n = 90) men and 51.4% (n = 95) women. The majority (63.2%, n = 117) had less than 5 years of experience and 9.2% (n = 17) had more than 15 years of experience. Single needle puncture was performed in 25.9% (n = 48) of the health care workers and 3 or more punctures were performed in the study period of 43.2% (n = 80) (Table 1). Health workers were responsible for more than one factor at a time from NSI (Table 2).

Conclusion: In our study, health workers were found to be at increased risk for hepatitis B, C and HIV infections, especially in their pathogenicity compared to the general population. For this reason, strict measures must be taken to limit the spread of bloodborne diseases through needle injuries.

Key words: needle injury (NSI), health worker (HCW).

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INTRODUCTION:

Occasional needle stick injuries (NSI) in health workers (HCW) are occupational hazards. These workers are more likely to transmit various infections from blood-borne hospitals such as hepatitis B, C and HIV, malaria, infectious mononucleosis, diphtheria, herpes, tuberculosis, brucella, spotted fever and syphilis. In 2002, WHO reported that 2 million of 35 million health workers were exposed to needle injuries every year. Although the incidence of needle puncture injuries is around 40-70%, no cases have been reported. In the United Kingdom, the rate of sharp injuries that occur annually per year varies from 0.8 to 5 per 100 people, 5.5 per 100 people in the United States. The annual incidence rate in Pakistan is very high at 12 to 27 NIS per 100 doctors. The risk of HBV transmission from 6% to 30% due to needle injuries is 3% and 0.3% for hepatitis C virus (HCV) and human immunodeficiency virus (HIV). respectively. In addition, the risk of hepatitis B, C and HIV / AIDS transmission among healthcare workers worldwide is 37.6%, 39% and 4.4%, respectively, due to needle puncture injuries. 2.7 There are many reasons for needle shaft injuries, but the most important are insecure assembly, removal of sharp starches, two hand wrapped needles and excessive workload. Sicknesses (72%), nurses (67%) and especially those in the surgical department are more prone to needle injuries leading to injury in Pakistan. The injury of the needle is the damage caused by accidental drilling / drilling needles.

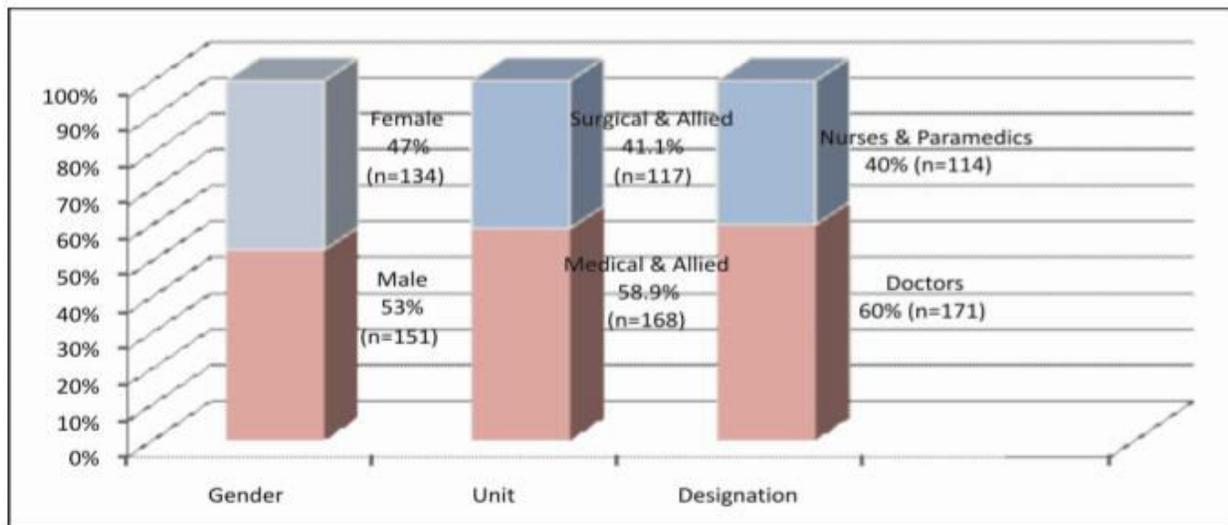
MATERIALS AND METHODS:

This descriptive cross-sectional research was conducted in the Bahwal Victoria Hospital,

Bahawalpur for the period of one year from August 2016 to August 2017. Following the approval of the Ethics Committee, 285 health professionals working in BVH Bahawalpur were randomized and employed during the study, which was included in the clinical trial. Prior to the implementation of the questionnaire, informed consent was obtained from all participating participants. All attendees were asked about their experience with NSI during transport. Including health workers Sample selection criteria were taken during randomization, regardless of age and sex during the study period that made the clinical trials. Percutaneous lesions include all depths, ie, surface, of medium and deep. For example, lesions syringes / needles for subcutaneous / subcutaneous or needle injections for various purposes are used to collect IM or IV or blood samples, or to suture needles for the flebotomist, while the stitching needle only includes the injured working needle. in any other way, the criteria for exclusion from exposure to blood or body fluids were not taken, for example, by health workers. Wounded with sharp pieces other than needles, p. Ex. A source is excluded from the scale of the patient's blood, including broken glass and other objects contaminating the blood.

RESULTS:

Total no of HCWs selected for the study were 58.9% (n = 168) of the medicine and allied, and 41.1% (n = 117) and of the surgical department were 41.1% and total number were 285. Among these were 60% (171) and 40% (n = 114), nurses and other medical personnel (Figure 1).



Among these participants, 64.9% (n = 185) were exposed to NSI. 56.2% (n = 104) HCWs were medical and allied and 43.8% (n = 81) and allied surgical department. 57.3% (n = 106) doctors, 42.7% (n = 79) nurses and other paramedical personnel. 48.6% (n = 90) men and 51.4% (n = 95) women. The majority (63.2%, n = 117) had less than 5 years of experience and 9.2% (n = 17) had more than 15 years of experience. There were 3 or more holes in the study, 43.2% (N = 80), 25.9% (N = 48), and the health care workers had a single needle bar. 66.5% (n = 123), this needle and 33.5% (n = 62) were used (Table 1).

Table 1: Characteristics of participants with NSI.

	No. (%)
Participants with NSI	N=185 (64.9%)
Gender	
Male	N=90 (48.6%)
Female	N=95 (51.4%)
Unit	
Medical & Allied	N=104 (56.2%)
Surgical & Allied	N=81 (43.8%)
Experience	
<5 years	N=117 (63.2%)
5 – 10 years	N=43 (23.2%)
11 – 15 years	N=8 (4%)
>15 years	N=17 (9.2%)
Designation	
Doctors	N=106 (57.3%)
Nurses & Paramedical staff	N=79 (42.7%)
Needle at the time of NSI	
Sterilized	N=123 (66.5%)
Used but not blood stained	N=32 (17.3%)
Blood stained	N=30 (16.2%)
Number of times of NSI	
Once	N=48 (25.9%)
Twice	N=57 (30.8%)
Three or more times	N=80 (43.2%)

NSI was responsible for multiple factors together in HCWs. Most injuries (66.5%, n = 122) occurred because of unexpected body movement (35.1%) in patients, workload and fatigue (14.6%) and lack of experience in emergency emergencies (13%). 29.2% and 15.7% of cases, respectively, were injured during or due to sharp stitches placed by others incorrectly. Apart from these, the use of tools in room OT (18.9%), bending of needle (18.6%), needle winding (41.1%) and manual removal of needle from hand (8.1%) between workplace (14.6%) and low illumination.

Table 2: Prevalence of causative factors:

	% (no.)
Emergency situation	65.9% (n=122)
Suturing	29.2% (n=54)
Unexpected patient movements	35.1% (n=65)
Improper disposable by others	15.7% (n=29)
Heavy work load & fatigue	4.7% (n=87)
Removing needle cap	28.6% (n=53)
Recapping needle	41.1% (n=76)
Bending needle by hand	8.1% (n=15)
Inserting iv line	14.6% (n=27)
Lack of experience	13% (n=24)
Poor lightening at work place	14.6% (n=27)
Handling instruments in OT	18.9% (n=35)

Injuries along the Insert IV line were 14.6% (Table 2).

DISCUSSION:

HCWs may be seriously threatened with increased workload, exposure to many occupational hazards such as direct exposure to air and calm exposure to various pathogens due to very sick and dying diseases, their health and well-being 64.9% of participants (n = 185) & / RTI & gt; compared with various studies in India (53% and 63%). A study on nurses in Iran revealed a similar pattern (63.3%). A NSI prevalence of 41.8% has been reported in Nigeria. A survey of American surgical trainees was conducted and found that about 99% of the respondents were NSI and 83% of the other surveys during the post-graduate training period. In addition, another study in South Africa showed that about 91% of young doctors received NIS diagnosis within the past 12 months. A similar study in Karachi showed that 45% of HCWs is NSI. Another study conducted by Rawalpindi nurses showed 67% of their frequency in a study conducted by Rawalpindi doctor, showing a relatively high percentage of NSI (85.1%) among them. A study from Egypt showed a prevalence of approximately 64%. In an experiment in which 74.1% of participants were exposed to NSI and Rawalpindi nurses conducted a sterilization of the needle and 33.5% of respondents had an NSI of 39.9% and 11% respectively. 66.5%, while an NSI had 16.2% of cases of blood stained needle use whereas the rate of injury for risky patients is much higher than in other studies (53%). 65.6% of the NSI participants had less than 5 years of experience, and the participants with > 15 years of experience had an NSI exposure of 8.4%. A study of Sindh needle injuries showed that most people (28.5%) received NSI medicines (inhabitants and residents). This is mainly due to the fact that NSIs are more common among less experienced health professionals compared to experienced people. Also, NSI differences were observed according to sex. Among men there is a higher chance of NSI (53% Vs 47%) than women, which is similar to the findings of other studies. medical departments and allies working in the TS surgical department had injuries that were more injured compared to the TS and allied with the other studies. In a study conducted on surgical trainees, 83% of needle-stick injuries were seen during training. A high prevalence (93%) was observed compared to our study findings in American surgeons. Most of these participants were young, and older health workers might have a persistent workplace tendency if they had little experience with rotating functions in various parts of the hospital. unusual physical movements (35.1%) were seen in the patient, and Africa (23.9%) in the emergency. The study was conflicting with the emergency surveillance, however, a study contradicts that in the

case of Islamabad, 9% NSI prevalence was seen. Heavy workload and fatigue have contributed up to 14.6% in NSI coverage, while up to 57% have been reported in another study. clinical study and experience (13%) due to lack of experience (13%), immature exposure to inadequacy, and inadequate training program is more likely in our study compared to the other study (1.1%) in our study. On the other side of the world, there are a number of studies showing that all healthcare professionals must first receive adequate training in handling sharp instruments, thus causing the TSC to increase inadequate training and NSI risk.

The injuries occurring when the needle head (28.6%) and recapitulation needle (41.1%) were injured were reported more frequently compared with other studies (4.4% and 7.3%, respectively) .8,12 Compared with iv lesions in the laryngectomy and 14.6% It was 2.2%.

CONCLUSION:

Our study concluded that the risk of needle puncture injuries was significantly higher among health care providers than the general population. They also define common interchangeable factors that can be easily avoided by the knowledge of the TS and provide them with adequate education and training.

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