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ASSESSMENT OF KNOWLEDGE, ATTITUDES AND PRACTICE REGARDING NEEDLES STICKS INJURIES AMONG NURSES IN DISTRICT PESHAWAR

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ABSTRACT

Introduction: *Needle stick an injury is a wound or cut that is generated by needles that accidentally rip or puncture the skin. This can result in contact with tainted blood and the fluids of the body. Needle stick injuries are very harmful for the health care workers and it may cause severe infections diseases.* ***Objective:*** *The study aims is to categorize and identify the knowledge, practice and attitudes about needle stick injuries among nurses.* ***Methodology:*** *a cross-sectional study was carried out in district Peshawar. Participants were recruited from LRH, KTH and HMC. Data was collected from overall, 230 nurses. Permission was granted from the university and participants before collecting of the data. Data was collected using an adopted questionnaire.* ***Results:*** *Overall, 230 participants were recruited in the study. The majority of the participants were from the age group 20 to 30 years.136 of the participants were female while the majority (59%) of the nurses was holding BSN degree. Overall, 71% participants were reported Poor knowledge, 70% participants were reported unsatisfactory practices and 74% participants were reported unsatisfactory attitude regarding needle stick injuries.* ***Conclusion:*** *The findings of the study concluded that the nurses had poor knowledge towards needle stick injuries; also they have unsatisfactory practices and attitude towards needle stick injuries.*

Keywords: *Needle Stick Injuries, Knowledge, Practices, Attitude*

INTRODUCTION

Needle stick an injury is a wound or cut that is generated by needles that accidentally rip or puncture the skin. This can result in contact with tainted blood and the fluids of the body (1). The analysis consisted of a total of 87 investigations, which were carried out on a combined total of 50,916 Health care workers throughout 31 nations around the world. The worldwide pooled estimate of the prevalence of Needle stick Injuries (NSIs) among Health care workers(HCWs) after one year was 44.5 percent. The South East Asia area has the highest prevalence of NSIs, coming up at 58.2 percent. The prevalence of non-

work-related injuries was highest among dentists at 59.1 percent. The usage of hypodermic needles was the leading cause of non-work-related injuries at 55.1 percent (2).

NSIs are the source of not only physical injuries but also emotional affects and financial losses as well (3). It is estimated that injuries caused by needle sticks that occur while insulin is being administered cost the National Health Service in the United Kingdom approximately 600,000 pounds per year. These costs include post-needle stick injury prophylaxis, laboratory tests, counseling, treatment of transmitted diseases, and litigation (4). The financial cost of controlling NSIs is high, ranging from US$51 to US$3,766 (USD) for every incidence of NSIs in the United States (5).

Needle stick injuries, also known as NSIs, are one of the dangers and difficulties that might put healthcare workers at risk of contracting infections (6). The health of thousands of people who work in healthcare is put at risk by a number of biological hazards, including HIV, hepatitis B and c, and others. Injury caused by the accidental insertion of a needle into the skin is the most prevalent route of transmission for these infections (7). It is estimated that between 600,000 and one million needle sticks take place annually in the United States, and that around 16,000 of these needles carry the virus that causes HIV. The Centers for Disease Control and Prevention claim that just 10 percent of incidents of this kind are ever recorded (8).

According to the World Health Organization (WHO), the average number of non-fatal injuries that occur in the health care sector each year across Asia, Africa, and the western Mediterranean region is four per person(9). According to the World Health Organization (WHO), the term "safe injection" refers to an injection that does not cause any harm to the person receiving it, does not put the person administering it in any unnecessary danger, and does not produce any waste that could endanger the community. In many impoverished countries, irrational and sometimes dangerous injection practices are widespread (10).

Needle stick injuries can be prevented by applying “Universal precautions” as a protection measure (11). The risk of infection with blood-borne pathogens among healthcare workers is significantly increased when they are exposed to blood and other body fluids through the use of contaminated needle sticks and sharp equipment. This poses a significant professional danger (12).

In Pakistan the reported incidence of needle stick injuries is 0.29% in consultants, 24.5% in trainees, 44.7% in house officers and 16.3% in nurses Reported and non-reported needle stick injuries are highly common in medical injuries especially in nurses (13). Awareness about the severity of needle stick injury, blood borne pathogen and infections must be provided to nursing students, staff and professionals by organizing workshops and seminar to decrease the risk of Needle Sticks injuries (14).

Objective of the study:

The study aims is to assess the level of knowledge, determine attitudes and observe practice about needle stick injuries among nurses.

Methodology:

This was a cross-sectional study carried out in the province of Khyber Pakhtunkhwa, data was gathered at the Lady Reading Hospital, the Hayatabad Medical Complex, and the Khyber Teaching Hospital. The data collection was place in several departments throughout these hospitals.

Sample size was calculated using online sample size calculator. With 95% confidence interval and Marion of error of 5%, with previous proportion of 82% the anticipated sample size was calculated to be 227. Eventually, a sample size of 230 was selected for the collection of data. The sample size was divided on all the hospitals and 76 participants were selected from each HMC and KTH and 77 participants were selected from LRH. Using methods of sample random sampling technique. All the available participants who working in LRH, HMC and KTH Peshawar from at least one year were included in the study. Consents were granted from all the participants before collection of the data. Data was gathered using an adoptive questionnaire. There were four sections to the questionnaire. Socio-demographic information on the nurses was included in Section "A." section “B” was consisting of

seven questions regarding Knowledge, section "C" was consisting of 7 questions regarding Attitude and section "C" was consisting of 7 questions regarding practices towards needle stick injuries. All the questions were responded as yes and No.

Results:

Socio-demographic profile:

A total of 230 participants were recruited for the study, with the majority 58.69% belonging to the age group of 20 to 30 years, followed by 31 to 40 years (21.30%) and 41 to 50 years (20%). Of the total participants, 136 were female, and the remaining 94 were male. Regarding qualifications, most participants (59%) held a BSN degree, while 41% had a diploma in nursing. In terms of professional experience, the majority (72%) had 1–5 years of experience, followed by 6–10 years (15%) and 11–15 years (13%). Table 01.

Table 1: Socio-Demographic profile of the Participants, n=230

	Frequency	Percent	Valid Percent	Cumulative Percent
Age of the Participants				
20 to 30 Years	135	58.69	58.69	58.69
31 to 40 Years	49	21.30	21.30	80.0
41 to 50 Years	46	20.0	20.0	100.0
Total	230	100.0	100.0	
Gender of the participants				
Male	136	59.13	59.13	59.13
Female	94	40.87	40.87	100.0
Total	230	100.0	100.0	
Qualification of the participants				
Diploma in nursing	136	59.0	59.0	59.0
BSN degree	94	41.0	41.0	100.0
Total	278	100.0	100.0	
Experience				
1 to 5 year	166	72.1	72.1	72.1
1 to 6 year	35	15.2	15.2	87.4
11 to 15 year	29	12.6	12.6	100
Total	**230**	**100.0**	**100.0**	

Knowledge Attitude and Practices towards Needle Stick Injuries:

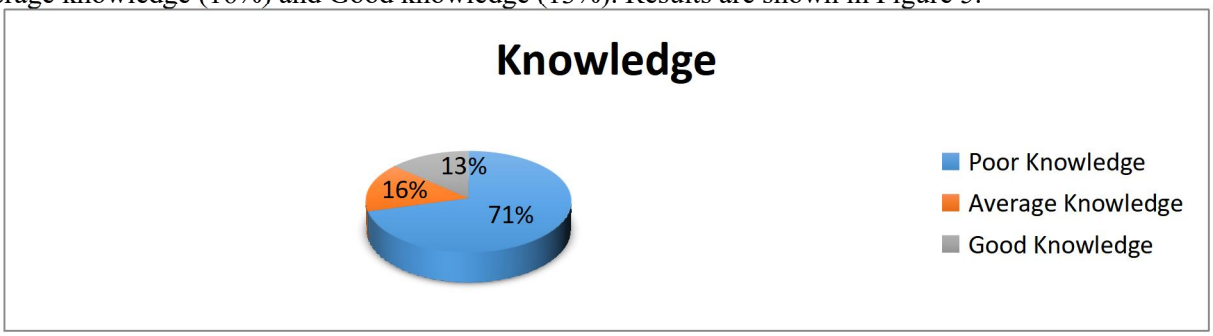
The study assessed nurses' knowledge, attitudes, and practices regarding needle stick injuries (NSIs). A majority (71.3%) recognized NSIs as percutaneous wounds, and 86.1% agreed that tetanus vaccination is necessary after exposure. However, 56.6% believed there is no risk of HIV transmission from NSIs, while 97% noted the absence of an HCV vaccine and believed infections from NSIs are not life-threatening. Most participants (75.2%) emphasized washing the affected area with soap and water.

Regarding attitudes, 63.9% disagreed that post-exposure prophylaxis should begin within an hour, and 67.8% found NSIs avoidable. All participants linked increased workload to NSIs, while 67.8% cited the lack of protective equipment as a contributing factor.

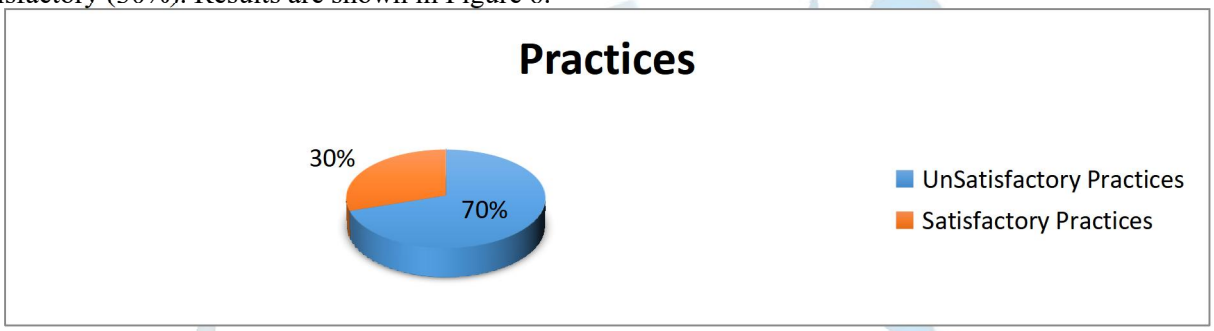
In terms of practices, all participants acknowledged the importance of health education to reduce NSI prevalence, and 80.9% believed confidence and skillfulness can prevent injuries. However, 53.9% admitted to not learning about standard precautions, and 66.1% opposed needle recapping. Finally, 60.8% disagreed with encouraging bleeding at the injury site.

Overall, Knowledge, Attitude and Practices towards Needle Stick Injuries

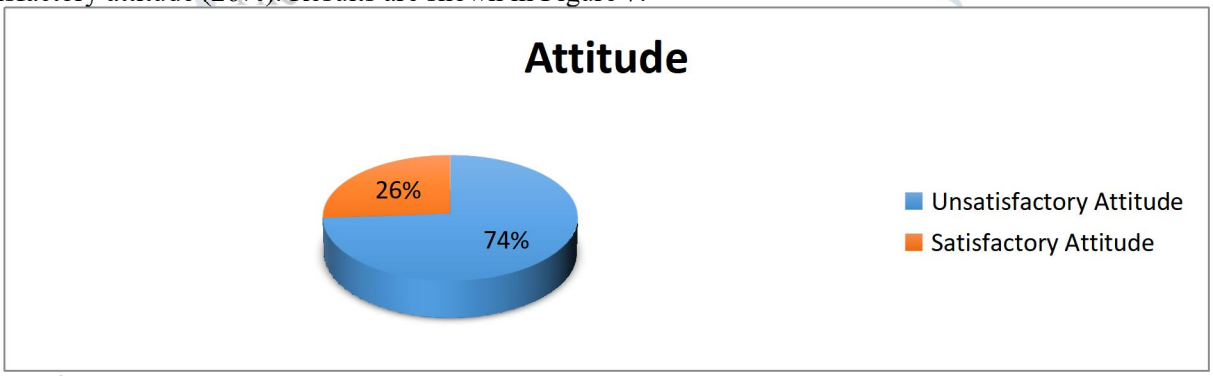
Overall, 71% participants were reported Poor knowledge regarding needle stick injuries, followed by average knowledge (16%) and Good knowledge (13%). Results are shown in Figure 5.



Overall, 70% participants were reported unsatisfactory practices regarding needle stick injuries, followed by satisfactory (30%). Results are shown in Figure 6.



Overall, 74% participants were reported unsatisfactory attitude regarding needle stick injuries, followed by satisfactory attitude (26%). Results are shown in Figure 7.



Discussion:

In the current study knowledge, attitude and practices of the nurses towards needle stick injuries were assessed. Overall, 71% participants were reported Poor knowledge regarding needle stick injuries, followed by average knowledge (16%) and Good knowledge (13%). In addition, 70% participants were reported unsatisfactory practices regarding needle stick injuries; followed by satisfactory (30%) and 74% participants were reported unsatisfactory attitude regarding needle stick injuries, followed by satisfactory attitude (26%) (15).

There are a limited number of studies that explore nursing students' awareness of NSI. The nurses in this study had intermediate knowledge on how to avoid NSIs (6.6 out of 10, SD = 2.1), which is comparable to the findings of other studies (16,17). The results of studies conducted on medical and dental professionals

indicate a moderate to high level of knowledge; however, the level of knowledge displayed by nurses and other healthcare workers was disappointingly low (18–19).

It is essential to keep in mind that the degree of one's knowledge has a considerable bearing on whether or not conventional procedures are followed (20). The lower the level of understanding, the lower the level of adherence; hence, this may lead to a larger prevalence of NSIs. It is necessary to have educational programs that last for an extended period of time and are geared at improving nurses understanding (20).

In the contrast to the findings of the recent study, a study carried out in the United States of America in 2019 to evaluate the knowledge of staff nurses regarding the prevention of needle stick injuries found that 20% of Nurses have inadequate knowledge, 66% of Nurses have Moderate Knowledge, and only 14% of Nurses have adequate knowledge regarding the prevention of needle stick injuries (21).

In a different cross-sectional study that was carried out in Rawalpindi, Pakistan, it was found that the majority of people questioned, or 73.3% were aware of the definition of needle stick injuries and the diseases that are caused by them. However, out of the total number of HCW, 13.3% were unaware of the fact that hepatitis B and hepatitis C can be transmitted by this route Only one in ten health care workers (n=9) were aware that HIV might be transmitted in this manner. A total of 248 healthcare personnel were vaccinated against hepatitis B, which represents an 82.7 percent vaccination rate (22). According to the findings of this Pakistani study, nurses have sufficient information regarding NSIs and the prevention of them.

A study on knowledge and practice concerning needle stick injuries was conducted in Nigeria in 2009, and the results showed that a lack of adherence to safety procedures and a significant lack of expertise among medical workers contribute to the risk of NPIs (23).

Conclusion:

Our study main objective is to identify knowledge, attitude and practice of nurses working in district Peshawar. The findings of the study concluded that the nurses had poor knowledge towards needle stick injuries; also they have unsatisfactory practices and attitude towards needle stick injuries. Educational interventions are needed to educate the nurses regarding the precautions and knowledge towards needle stick injuries.

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