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Original Research Paper

Microbiology

KNOWLEDGE ATTITUDE AND PRACTICES REGARDING NEEDLE STICK INJURIES AMONGST HEALTHCARE PROVIDERS

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ABSTRACT

Objective: This study aimed for assessment of knowledge, attitude and practices amongst health care workers on needle stick injuries. **Study Design:** Cross sectional (Knowledge Attitude Practices) study. **Setting & Duration:** Departments of KIMS AND RF HOSPITAL , Amalapuram from February to March 2025. **Methodology:** A 11 questionnaire was provided to hundred health care workers including doctors, nurses and paramedical staff from various to assess knowledge, attitude and practices regarding needle stick injuries. Results were calculated on the basis of frequency and percentages using SPSS. **Inclusive Study:** Hundered Health care workers who were given consent for study. **Exclusive Study :** members who weren't given consent.

KEYWORDS : Needle Stick Injuries, Hepatitis B, Hepatitis C, Universal Precaution Guidelines

INTRODUCTION

Needle stick injury (NSI) means the par literal introduction into the body of healthcare worker, during the performance of their duties, of blood or other potentially hazardous material by a hollow bore needle or sharp instruments, including, but not limited to, needles, lancets, scalpels, and contaminated broken glass.2

Potential exposures are not limited to needle sticks alone, because manipulation of other sharp instruments or mucous membrane exposures to infected bodily fluids also can result in the transmission of infectious diseases. Quantifying the precise risk for disease transmission following muco-cutaneous exposures is difficult because many go unreported. House staff; for example, fail to report between 60% and 95% of exposures.3 Even though the risk of injury per use is low, so many needles are used in health care settings that even a very low injury rate translates into an imposing number of injuries.4

The World Health Organization defines 'a safe Injection' as one that does not harm the recipient, does not expose the provider to any avoidable risk, and does not result in any waste that is dangerous to the community. Irrational and unsafe injection practices are rife in developing countries.5 More than 80% of the needle stick injuries can be prevented through the use of safety devices and effective safety programmes.2 Needle stick injuries can be prevented by applying "Universal precautions" as a safety measure

METHODOLOGY

After taking informed consent, epidemiology of needle stick and sharp injuries was investigated among a crosssection of 100 health care workers including doctors, nurses and paramedical staff: laboratory workers and operation theatre technicians working in various departments of KIMS AND RF HOSPITAL one of the tertiary level healthcare facility and a teaching hospital of KIMS Medical College, AMALAPURAM from February 2025 to March 2025

A 11-item questionnaire based on Universal precaution guidelines was given to the health care providers. Knowledge about needle stick injuries, the commonest workplace, post exposure protocol of Needle stick injury and preventing and management of needle stick injury and correct disposal of objects after usage (sharps and needles) and participation risk assessment programms about needle stick injury, personal protective equipment usage,awareness about universal precaution guidelines was assessed.

The data was analyzed in SPSS frequency and percentages.

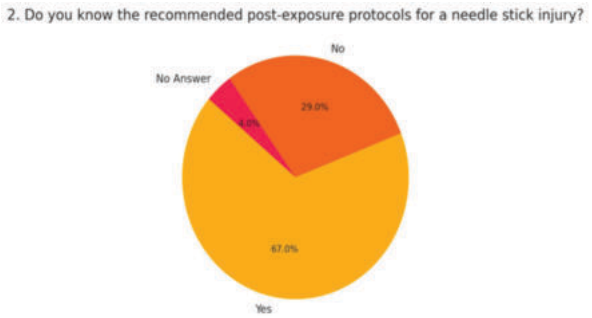
RESULTS

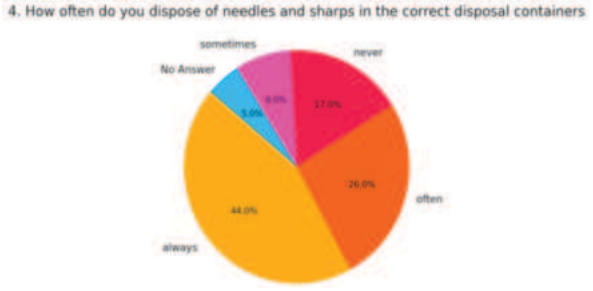
One hundred members were included in the study among them 35%(n=35)were doctors, 25%(n=25) were nurses, 20%(n=20) were lab technicians,20%(n = 20) were OT technicians

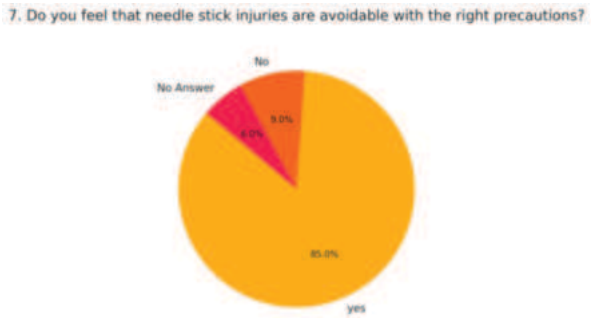
Among the 100 health care workers majority of members 87%(n=87)were aware of knowledge about needle stick injury where as 13%n=13 were unaware of needle stick injury .67%(n=67) members were aware of recommended post-exposure protocols for needle stick injury where as 33%(n=33)members were unaware about post Exposure protocols of NSI.60%n=60 had received training on preventing and managing needle stick injury where as 40% (n=47) were not received.

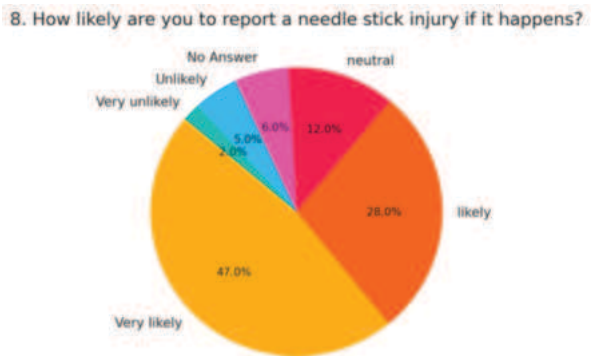
44%(n=44)were disposing needles and sharps in the correct disposal container where as 26%(n=26) were doing it often,8%(n=8)were doing it sometimes 17%(n=17)were unaware of correct way of disposal .

36%(n=36)were frequently using personal protective equipment such as gloves ,face shield ,or gowns during procedures 24%(n=24)were often using PPE20%(n=20)were sometimes using PPE15%(n=15) weren't using PPE during procedures



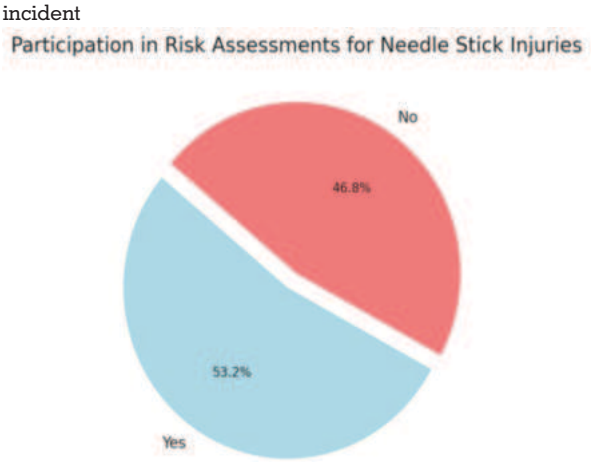






85(n=85%)were saying yes to needle stick injuries were avoidable with the right precautions 9%(n=9) were saying no where as 5 members were not given answer.

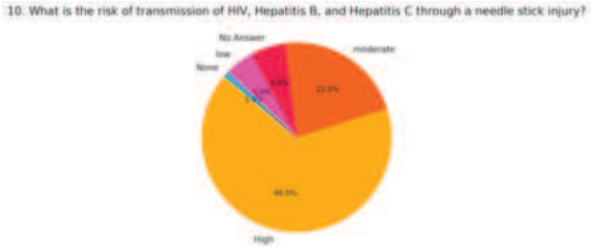
47(n=47%)were vereylikely to report a needle stick injury if it happens, 28%(n=28)likely to report a needle stick injury if ithappens(12%n=12)were neutral about reporting the incident, 7%(n=7)were unlikely according to reporting the incident



According to the study 66%(n=66) aware of high risk of transmission of HIV, HEPATITIS B, HEPATITIS C through a needle stick injury where as 22%(n=22) had knowledge of moderate risk about transmission.

The commenest work place where needle stick injury occurs were emergency casualty 67%(n=67) second highest 17%(n=17) , labour room 7 %(n=7).

According to the study assessment of confidence Among 100 HCW 37%(n=37)were neutral about confidence in managing a NSI when it works, 31%(n=31)were agree in managing a NSI ,20%(n=20) strongly agree in confidence towards managing NSI,7%(n=7)were disagree about confidence in management of NSI.



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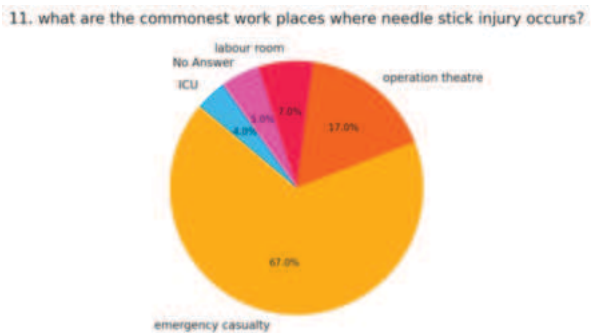

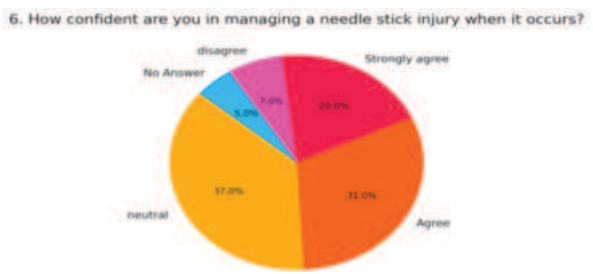

DISCUSSION

Needle stick injuries are one of the major issues needed to be addressed for preventing various blood borne diseases among Health care workers.Health Care providers who have occupational exposure to blood are at increased risk for acquiring blood-borne infections.

The level of risk depends on the number of patients with that infection in the health care facility and the Precautions the health care workers observe while dealing these patients.(7). This study had shown that 70%(n=70) were aware of high risk of transmission of HIV HCV B ,HCV C and other blood borne diseases through needle stick injury where as remaining 30%(n=30). Were comparatively unaware of transmission risk of this blood borne diseases through needle stick injuryas compared to a study con ducted by Gurubachariya in

Kathmandu which showed that 4% and 61% of health care workers,Respectively, were unaware of the same.(8).

In this study we had done among hundred health care workers 28 %(n=28)were likely to report NSI. In a study conducted in USA, about half of all injuries were never reported to the employee health service, although residents did report 84% of injuries associated with high-risk patients. Lack of time was listed as the major reason for failing to report the injury.(12). According to safe work practices personal protective equipment usage, 37%(n=37)are always using 25%(n=25) were often using PPE 20%(n=20)were sometimes using PPE where as 15%(n=15) weren't using any PPE during phlebotomy procedures etc. While a study conducted by Gurubachariya in Kathmandu 23% HCW were in the habit of using gloves for phlebotomy procedures all the time.(8).

In this study we had done 67%(n=67)were aware of post exposure protocols where as 33 (n=33) were unaware of post exposure protocols. In a survey at Armed Forces Hospital, Sarourah, 61% HCW were aware about the Universal precaution guidelines.(17) In a study conducted at Armed Forces Hospital, Sarourah, 93% HCW were unaware about PEP.(17)

In order to increase awareness amongst health care workers of the dangers of sharp injuries and other types of disease transmission, the Centers for Disease Control (CDC) and the Occupational Safety and Health Administration (OSHA) in 1985, in United States introduced the "Universal Precaution Guidelines," which have become the worldwide standard in both hospital and community care settings.(24) Universal precautions, which in reality is the set of work practice recommendations designed to help minimize occupational exposure to blood borne pathogens, have been shown to be very effective.(25)

Some health care workers are very irresponsible towards proper disposal of sharp objects or needles after procedures.

Some people might be possessing stigma regarding reporting the NSI.

Some people think that for small injuries no need of post exposure prophylaxis especially those who lack of knowledge in risk assessment of needle stick injury .In a study from Pakistan, 83.2% of HCWs reported experiencing NSIs, with nurses and doctors being the most affected groups(10).

Strict implementation of regular post exposure prophylaxis programs, learning the techniques of safe disposal of sharp objects and vaccination knowledge in preventing this blood borne diseases through NSI neseccary.

CONCLUSION

Study that we had conducted among hundred health care workers about knowledge attitude and practice of needle stick injury amongst health care workers revealed that the commonest work place is emergency casualty, awareness about NSI not up to the mark as expected.

Post exposure prophylaxis programs has to be implemented strictly to HCW.

Importance of preventing NSI should be learnt by HCW.

Inadequate knowledge regarding NSI universal guide lines among the HCW need to be improved by repeated NSI programs .

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