

# Knowledge, Attitude and Practices Regarding Needle Stick Injuries among Dental Students

Karthavya .S

**Aim:** This study aimed to assess the knowledge, attitude and practices amongst dental students on needle stick injuries. **Method:** A cross section study was carried out among dental college students in saveetha dental college .100 students participated for this study **Result:** Needle stick injury was observed among dental college students. There is a scope for improvement in safety protocols. Preventive strategies have to be devised and reporting of Needle stick injury need to be made mandatory.

**Keywords:** potentially hazardous material transmission of infectious diseases, hepatitis B vaccination is mandatory

## 1. Introduction

Health care professionals are most negligent as far as their own health is concerned. They are exposed to high risk of various infections and also become victims of lifestyle diseases due to their stressful schedules and high degree of professional responsibility. Increase in the incidence of deadly infections due to greater exposure to micro-organisms and viruses that cause blood-borne diseases, such as the human immunodeficiency virus (HIV) and the Hepatitis B and C viruses, has led the medical community to initiate efforts to prevent and limit exposure among health care workers.(1)

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(3)

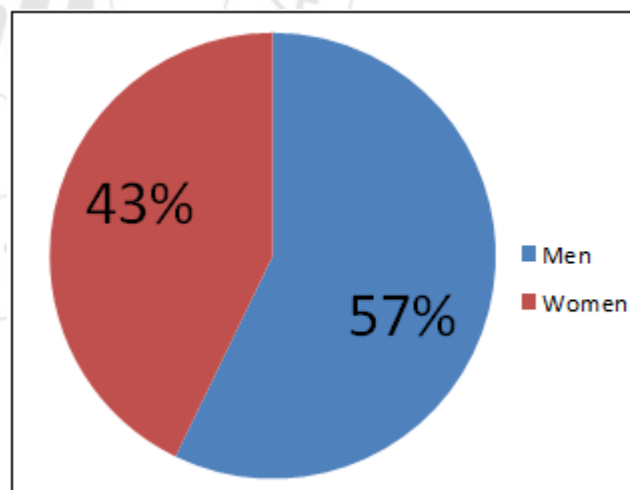
The World Health Organization defines ‘a safe injection’ as one that does not harm the recipient, does not expose the provider to any avoidable risk, and does not result in any waste that is dangerous to the community. Irrational and unsafe injection practices are rife in developing countries.5 More 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.

## 2. Methods

A cross sectional study was carried out among dental students of Saveetha Dental College .The data comprised of

one fifty (100) dental students. The questionnaire was selected from a previous research on relevant topic and few amendments in the questionnaire were made with the help of professional. The questions in the questionnaire were related to knowledge, practices regarding needle stick injuries of their dental curriculum. The study population of 100 dental students voluntarily completed a questionnaire consisting of twenty three (23) close ended questions. The dental students were given the questionnaire in the lecture hall and asked to fill it out without conferring it with their fellow students. Statistical analyses for knowledge, attitude and practice descriptive statistics were computed. Data management and statistical analysis were performed using the statistical software SPSS version 20.0. Frequencies and percentages were calculated.

Year of study		Percentage
3 <sup>rd</sup> year	31	31%
Final year	42	42%
Intern	27	27%



Questions	Options	Participants	Percentage
Did you ever have [contaminated] Needle Stick Injury?	Yes	35	35%
	No	65	65%
If yes, have you reported the incident of Needle Stick Injury to the health care department/head of department	Yes	85	85%
	No	15	15%
Needle Stick Injury are reported	Always	30	30%
	Sometimes	55	55%
	Never,it goes unnoticed	15	15%

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Do you know about universal/standard precaution guideline?	Yes No	37 63	37% 63%
Are you aware about the disease caused by Needle Stick Injury?	Yes No	72 28	72% 28%
The commonest clinical activity to cause Needle Stick Injury?	Dental wiring Suturing Recapping the needle Passing the instrument All the above	11 27 43 19 0	11% 27% 43% 19% 0%
What type of measures much be taken after Needle Stick Injury?	Squeeze the blood Washing the site with water Washing the site with soap water Washing the site with alcohol	9 48 35 8	9% 48% 35% 8%
Do you use gloves while treating the patient?	Yes No	92 8	92% 8%
Do you have habit of recapping the needle after injection?	Yes No	76 34	76% 34%
Which of the following technique is safe while recapping used needle	Single-handed Double handed	82 18	82% 18%
Are you aware about post exposure prophylaxis[PEP]	YES No	67 33	67% 33%
Have to attended any infection control programme in your college/conferences held?	Yes No	38 62	38% 62%
Which diseases are transmitted by Needle Stick Injury?	Hepatitis B Hepatitis C HIV Tuberculosis	63 11 20 6	63% 11% 20% 6%
Have you been vaccinated against hepatitis B virus?	Yes No	87 13	87% 13%
If yes, how many dose of hepatitis B vaccination you had?	Less than 3 doses 3 doses 3 doses followed by booster dose Don't remember	13 55 32 0	13% 55% 32% 0%
Have you been tested for post HBV immunization?	Yes No	47 53	57% 53%
Do you think hepatitis B vaccination is mandatory for all dental practitioners?	Yes No	93 7	93% 7%
Do you bend used needles before disposal?	Yes No	88 12	88% 12%
Are you aware of the proper biomedical waste disposal methods?[colour coded bags to dispose different type of waste]	Yes No	95 5	95% 5%
Improper waste disposal methods can cause infection due to sharps/needles/blades?	Yes No	83 17	83% 17%
Do you practise proper waste disposal methods?	Always Sometimes Never	68 21 11	68% 21% 11%
Do you use personal protective equipments to prevent Needle Stick Injury?	Yes No	78 22	78% 22%
Do you think there should be more emphasis and training on infection control during dental curriculum and continuing dental education programme on the same should be conducted?	Yes No	89 11	89% 11%

### 3. Discussion

This questionnaire evaluated the knowledge, attitudes and practise regarding needle stick injuries among Dental students and interns in Saveetha dental college and hospital. There are about 100 students were participated in this study. Among 100 dental students and interns, 57 males and 43 females filled the questionnaire. 35% of dentist has the history of needle stick injury. In that 85% of dentist reported the incident of needle stick injury to health care department. 87% of students were vaccinated against hepatitis B virus. 13% were not vaccinated against hepatitis

B virus. 93% of students thought the hepatitis B vaccination is mandatory for all dental practitioners. 88% of students bend needle before disposal and 12% students are not bend the needle before disposal. 83% of students believe that improper waste disposal methods can cause infection due to sharps/needle/blades. 68% of students are practising proper waste disposal method. 63% of dentist think that hepatitis B virus more frequently affected from infected patient and 20% think that HIV is frequently affected from infected patient. 43% of dentist says that failure to recapping the needle is the commonest causes for needle stick injury. 67% of dentist are aware about post exposure prophylaxis. 89% of

dental students think that there should be more emphasis and training on infection control during dental curriculum and continuing dental education programme on the same should be conducted.

#### 4. Result

Needle stick injury was observed among dental college students. There is a scope for improvement in safety protocols. Preventive strategies have to be devised and reporting of Needle stick injury need to be made mandatory. Issues requiring attention include use of safety engineered devices (SED), recording and reporting of incidents, training for handling and disposal of sharps, establishing a staff student health service

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