

NEEDLESTICK INJURIES: AN ALERT TO DENTISTS

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ABSTRACT

All the health care workers including dentists are constantly at risk of needlestick injuries. These are associated with transmission of blood borne pathogens, when percutaneous exposure occurs. Most of the times these injuries are due to improper work practices. Though each time serious infection does not occur, needlestick injuries can produce emotional impact, which may be severe and long lasting. The present article summarizes the important aspects of needlestick injuries.

Keywords: Blood borne pathogens, Needlestick injury, Occupational hazard.

INTRODUCTION

Needlestick injuries are common in the dental clinics. The first case of needlestick injury was reported in 1830. Needlestick injuries, sharp injuries and mucous and cutaneous exposure to blood and serum are all included in the percutaneous exposure. ^[1,2]

Percutaneous wound by needle point or other sharp instruments like broken glass, lancets and scalpels is called as needlestick injury. The needles may include hypodermic needles; blood collection needles intravenous delivery system needles or intravenous cannulas. These injuries are a type of occupational hazard in the medical field and it is commonly seen in people handling needles or other sharps in the clinics and hospitals. These are usually seen in new or unexperienced staff and it produces wound that contacts blood or other hazardous substances by a hollow bore needle or other sharps. ^[3,4]

Every dental surgeon, who is an employer of health care workers, are in constant risk of exposure to blood and other hazardous material, should know the estimated risk and the precautions and management associated with the needlestick injuries.

Procedures carrying risk of needlestick injuries in dental clinics: Various factors like recapping activity, design of needle, passing/handling devices, during clean-up, handling/transferring specimens, administration of parental injections, collision between health care workers, manipulating needles in patient line related work, or failure to dispose of the needle in puncture proof containers are associated with the increased risk of needlestick injuries. ^[4-6] (Fig. 1)

Various current investigations showed that Oral Surgery clinics and departments are associated with the increased incidence of the needlestick injuries. Most of the times, the health care workers do not always follow the ideal infection control protocols and guidelines. Thus the reasons like ignorance of precautions, habit and forgetfulness are carrying the increased risk. ^[6]

Risk of infection in the dental clinics: The most common threat associated with the needlestick injuries is transmission of more than 1000 hazardous infections caused by about 20 different blood borne pathogens, which mainly includes HBV, HCV, and HIV. The risk of transmission of pathogens by a needlestick injury is estimated to be 6 to 30% for HBV, while the number is 5 to 10% for HCV and 0.3% for HIV. ^[4,7,8]

The other common infections associated with the needlestick injuries are diphtheria, herpes, syphilis, blastomycosis, brucellosis, rubella, cryptococcosis, malaria, TB, rubeola, prions, ebola, mumps, infectious mononucleosis, influenza and swine flu. ^[8]

Prevention of needlestick injuries in the dental clinics:

All the health care workers should be considered at increased risk and universal precautions should be followed each and every time. The following precautions are recommended^[6,9,10]:

1. Workplace design and proper work practices - to reduce the likelihood of a sharps exposure.
2. Anticipation, planning and training - to reduce the incidence of injuries and to minimize their impacts.

3. The training of the dental students should strictly start at the dental colleges during their clinic hours.
4. Each health care worker should be immunized with proper vaccination schedule.
5. Post-exposure safety measures should be taught to every dental surgeon.

Management of needlestick injuries in the dental clinics^[11,12]

An effective management plan should be ready with dentists to avoid the consequences of the needlestick injuries.

- First stop all the procedures.
- Assessment of the injury should be done about the depth, contamination, etc.
- The wound should be washed immediately and thoroughly with soap or disinfectant and water, but do not scrub the affected area.
- Ask patient for the risk factors like presence of history of hazardous infections.
- Adequate protection should be taken according the health care workers immunization status and the risk factors.

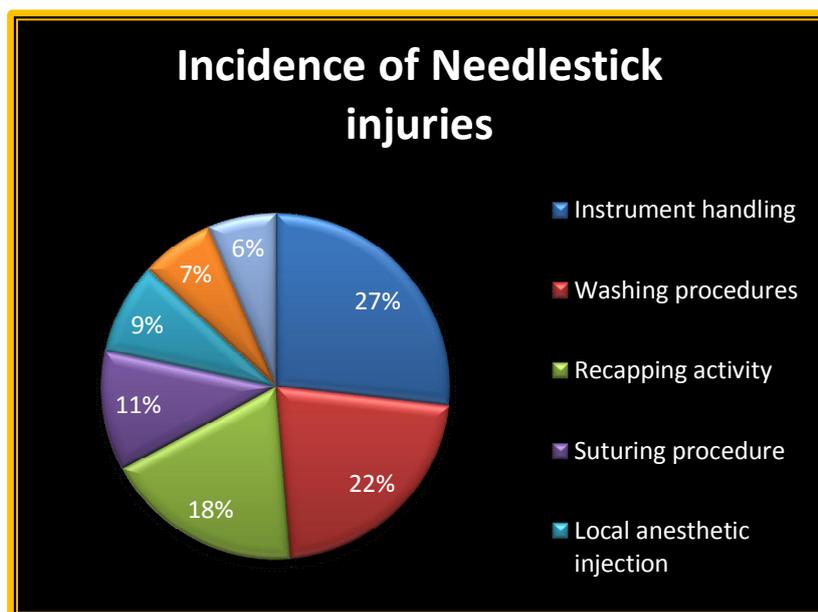


Fig. 1: Frequency of needlestick injuries in dental clinics according to procedures.

CONCLUSION

As the dentists and other health care workers in the dental clinics are always at high risk for the needlestick injuries, we recommend that universal precautions should be followed to minimize the incidence of needlestick injuries.

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