Research Article

Infection Control Practice in Dental Clinics

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ABSTRACT

Introduction: Oral and dental diseases have become a major public health concern in both developed and developing countries. Nepal does not have adequate financial or human resources or the capacity to manage the epidemics of the infectious and communicable diseases. Dental surgeons have to work in a pathogenrich, often blood, andcontami- nated environment.

Objective: To assess the current practice of sterilization among the private dental clinics of Kathmandu valley.

Materials and Method: A sample of dental surgeons owning their private dental clinics were interviewed and their responses were carefully and systematically noted.

Results: The survey revealed that only 34% of the dentists were using the-autoclave in their clinics while maximum (40%) used hot air ovenand quarter of the clinics used boiling water devices as the sterilizing instrument.It was found that 90°/0 of the dental surgeons washed their hands before the examination and majority (64%) washed it with water and antiseptic. It was found that 33°/1 of the dentists were using soap and water for hand washing which was adequate forexamination of the patients and while doing non-surgical procedures as soap and water will remove transient microorganisms acquired directly or indirectly from patient contact.

Conclusion: The present study found that most dentists comply with the guidelines; however, many do not utilize the full range of recommended infection control procedures that are necessary to minimize the risk of cross infection in dental practice.

Keywords: Dental clinics; cross infection; infection control; standard precaution.

INTRODUCTION

Diseases are widespread and so are infections. Not a single human seems to be free from health problems and when it comes down to oral and dental diseases, hardly anyone regardless of the age, sex and socio-economic factors is spared. In addition, dental workplaces can be potential sites for the spread of various infectious, communicable and incurable diseases, both to and from the patients. Such diseases may range from viral hepatitis, herpes, syphilis, gonorrhea, tuberculosis, Acquired Immunodeficiency Syndrome (AIDS)[1] and many others. That being stated are most doctors whom we consider as healers really doing justice to their profession?

Oral and dental diseases have become a major public health concern in both developed and developing countries. As one of the least developed countries in South Asia, Nepal does not have adequate financial or human resources or the capacity to manage the epidemics of the infectious and communicable diseases. In addition, oral health care workers are ill equipped to protect themselves, their families, patients and the community from contracting infectious diseases. Dental surgeons have to work in the pathogen-rich, often blood contaminated environment. The fact that they are exposed to a variety of microorganisms present in blood and saliva coupled with possible injury from the sharp instruments while treating the patients, doctors themselves become susceptible to different infectious diseases.[2]

There are effective infection control procedures[3] and universal precautions for dental clinics and dental operatories to prevent cross contamination which could be extended to dentists, dental hygienists, dental chair-side assistants, dental lab technicians and the patients.[4]

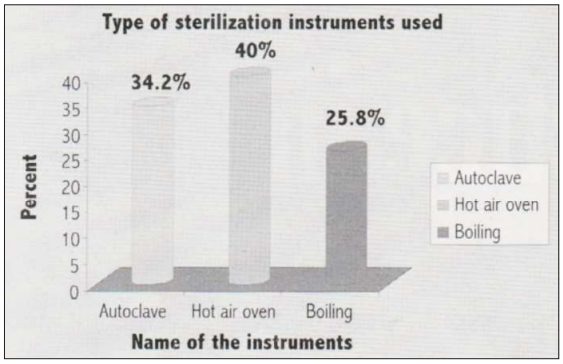
As one might be aware of the magnitude of the risk, take AIDS forexample, is s/he practicing the infection control protocol optimally?

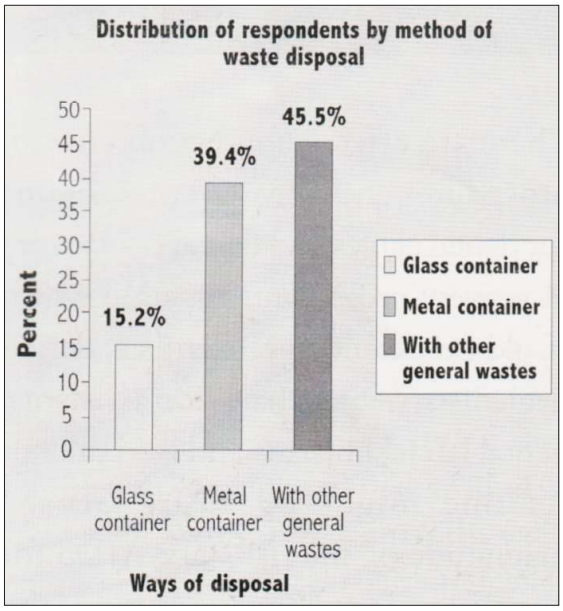
Thus, all concerned must assess the current state of dental safety and analyze it in order to improve the present situation.

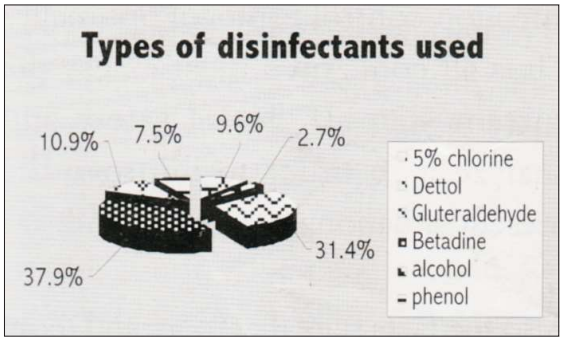
Also the facts state that more and more people are being exposed to dental treatment, including the dental surgical procedures where sterilization is of prime importance. However, this sensitive issue has not been adequately considered. So, to pioneer the step, a survey to assess the current practice of sterilization among the private dental clinics of Kathmandu valley was done. A sample of dental surgeons owning their private dental clinics were interviewed and their responses were carefully and systematically noted. The relevant data was edited, compiled and analyzed using appropriate statistical methods. Back up and cross-checking were done on a regular basis to nullify any error.

Table 1: Infection control measures practiced in dental clinics.

	Frequency	Percent
Hand washing before the examination		
No	13	9.8
Yes	119	90.2
Item used for Hand washing		
Water		43.4
Water and soap	39	32.8
Water and antiseptic	76	63.9
Use of gloves		
No	2	1.5
Yes	130	98.5
Item used to sterilize the reused gloves		
Detergent and water only	48	65.8
Autoclave	25	34.2
Wearing of apron		
No	3	2.3
Yes	129	97.3
Wearing of face mask		
No	21	15.9
Yes	111	94.1
Cleaning of operatory surface		
No	20	15.2
Yes	112	84.8







DISCUSSION

Dental diseases are the most prevalent and the most neglected of all chronic diseases affecting mankind. We are still falling behind in our effort to protect people's oral health and still undoubtedly continue to fail until the fullest utilization of all methods available for the prevention of oral disease. In a developing country like Nepal, oral diseases are one of the common problems of health due to lack of education and awareness. More than 75% of the population is deprived of oral health services and education and of those who receive also there is no guarantee that the procedures are practiced safely.

The survey revealed that only 34% of the dentists were using the-autoclave in their clinics while maximum (40%) used hot air ovenand quarter of the clinics used boiling water devices as the sterilizing instrument. However, studies on efficacy of boiling water show that 81 of the microorganisms still remained viable prior to treatment.Considering the fact that boiling does not even disinfect and many doctors are still using the boiling method for sterilization exposing the patients to the continuous risk of cross infection.[5] Among the disinfectants[6] used in the clinics, the most common one to be used was betadine (38%) and gluteraldehyde (32%). According to CDC guidelines (Centre for Disease Control),[7] betadine, phenol alcohol provides low disinfection. The recommended disinfectants are gluteraldehyde and chlorine solutions, which are found to be least, used. It was also seen that the person involved in sterilization was mostly (82%) the dental assistant in the clinic rather that the dentist themselves.

It was found that 90% of the dental surgeons washed their hands before the examination and majority (64%) washed it with water and antiseptic. It was found that 33% of the dentists were using soap and water for hand washing which was adequate for examination of the patients and while doing non-surgical procedures as soap and water will remove transient microorganisms acquired directly or indirectly from patient contact. Almost 99% of the dentists were reported using the glove which is a good practice but the remaining 1% cannot be neglected in any way.

CONCLUSION

This report provides unprecedented an insight into the dental practice in public health context. The present study found that most dentists comply with the guidelines; however, many do not utilize the full range of recommended infection control procedures[4] that are necessary to minimize the risk of cross infection in dental practice. As the infectious status of the patient is often unknown to prevent contamination and cross infection either to the patient or to the dentist it is necessary to treat all patients as potentially infectious.

In the light of current findings, following recommendation scan be made:

1. The "Standard Precaution" should be followed strictly by all dental professionals and their implementation should be ensured.
2. Dental institutions should provide training programs for dental auxillaries, and should include adequate content on "Infection Control" in their curriculum.
3. Related organizations including Ministry of Health, Nepal Medical Council, Nepal Dental association etc should regularly implement and monitor the optimum clinical practice standards.
4. Additional studies and monitoring are needed to assess the risk of transmission during dental procedures, as well as compliance with proper safe practice guidelines.

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