



## Knowledge of Sterilisation Protocol in Dental Office among Dental Practitioners

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### ABSTARCT

**AIM:** *The aim of the study is to evaluate the knowledge of sterilisation protocol in dental office among general dental practioners.*

**MATERIALS AND METHODS:** *A questionnaire was designed to obtain information about knowledge of sterilisation among dental professionals. The sample size was 50. The questionnaires were filled by the dentists. The questions include knowledge about sterilisation, and sterilisation protocol.*

**RESULTS:** *The most common method of sterilization reported by the respondents was autoclaving 74%. In this dry heat 6% was used by and boiling method by 20%. The use of disinfectants was higher with phenol-based disinfectants, which is 56% in this study. According to the survey 54% do sterilise files whereas 26% sometimes do. The method of sterilisation used commonly is chemical which is 46%. 74% used sterlium after attempting a patient. 46% sterilise their instruments once daily and 40% sterilise twice daily. 46% disinfect sometimes or the clinic is not disinfected. Whereas, 16% do disinfect which is comparatively less in number. Study says 78% chose automated method as the best method of cleaning instruments. 58% sterilise their handpiece and burs while and 36% sometimes and 6% doesnot sterilise their handpiece and burs. 76% doesnot sterilise suction tips that is being used.*

### INTRODUCTION

Oral and dental diseases have become a major public health concern in both developed and developing countries. <sup>[1]</sup> The dental health-care settings is an environment where disease transmission occurs easily. Prevention of infection and control is an important part of safe patient care. Concerns about the possible spread of blood-borne diseases, and the impact of emerging, highly contagious respiratory and other illnesses, require practitioners to establish, evaluate, continually update and monitor their infection control strategies and protocols. <sup>[2]</sup> Strategies to

prevent dental patient infections have focused on disinfection and sterilization.

The use of procedures to control infection and universal precautions in dental surgeries is effective in preventing microbial pollution and cross-contamination, and is strongly supported by organizations such as the Centers for Disease Control and Prevention, the American Dental Association, schools of dentistry, and many other health agencies and professional associations <sup>[3]</sup>. Universal precautions consider that all patients have to be accepted as an infectious patient and apply these precautions to all patients <sup>[4]</sup>.

However, infection control policies in developing countries have not been widely documented <sup>[5]</sup>. Most hospitals have no infection control programs due to the lack of awareness of the problem or absence of properly trained personnel <sup>[6]</sup>

These studies indicate that there are gaps in some dentist's knowledge regarding modes of transmission of infectious diseases so the objective of this study was to increase the awareness and importance of sterilization in reducing the communicable diseases among dental faculty and to identify the areas where improvements can be made in dental OP.

## MATERIALS AND METHODS

A questionnaire was designed to obtain information about knowledge of sterilisation among dental professionals. The sample size was 50. The questionnaires were filled by the dentists. The questions include knowledge about sterilisation, and protocol followed in their practice.

A self-administered, close-ended questionnaire was given to the voluntary respondents and the information about their knowledge, practices and attitude was evaluated. Questionnaire elicited information on demography and perception on the disinfectants in the regular dental practice, methods of sterilization and knowledge about the waste management.

1. What kind of sterilization equipment used in your clinic
  - a. Autoclave b. Hot air oven c. Boiler
2. What type of disinfectant used in your clinic
  - a. Halogen based disinfectant b. Phenol based disinfectant c. Alcohol based disinfectant
3. Do you sterilize your root canal files
  - a. Yes b. no c. sometime
4. If yes how do u sterilize your files
  - a. Using glass bead steriliser b. using chemicals methods c. using spirit
5. Do you use hand sterilization agent sterileum after attempting the patient
  - a. Yes b. no

6. How often you sterilize your instruments in your clinic
  - a. Once daily b. once in a week c. twice in a day
7. Is disinfection procedure followed in your clinic
  - a. Yes b. no c. sometime
8. which is the best method for cleaning instruments
  - a. Manual b. automated
9. Do you sterilize your handpiece and burs?
  - a. Yes b. no c. sometimes
10. Do you sterilise your suction tips?
  - a. Yes b. no

## RESULTS

The most common method of sterilization reported by the respondents was autoclaving 74%, which is almost equal to previous studies (Sofola and Savage 84.1%, Sote 92% and Omolara 79.2%). In this dry heat 6% was used by and boiling method by 20%. The use of disinfectants was higher with phenol-based disinfectants, which is 56% in this study. According to the survey 54% do sterilise files whereas 26% sometimes do. The method of sterilisation used commonly is chemical which is 46%. 74% used sterileum after attempting a patient. 46% sterilise their instruments once daily and 40% sterilise twice daily. 46% disinfect sometimes or the clinic is not disinfected. Whereas, 16% do disinfect which is comparatively less in number. Study says 78% chose automated method as the best method of cleaning instruments. 58% sterilise their handpiece and burs while and 36% sometimes and 6% does not sterilise their handpiece and burs. 76% does not sterilise suction tips that is being used.

## DISCUSSION

Due to the nature of their profession, dentists and dental assistants should not forget the risk of treating patients with probability of infectious diseases. Dentists, dental assistants and patients may be exposed to pathogenic microorganisms localized in oral cavity and respiratory tract including cytomegalovirus (CMV), HBV, HCV,

herpes simplex virus, HIV, Mycobacterium tuberculosis, staphylococci, streptococci and other viruses and bacteria <sup>[7]</sup> These microorganisms could be transmitted to the dental health care professionals by direct contact with a patient's saliva, blood, skin, and oral secretions, or by indirect contact through injuries caused by sharp contaminated instruments, or by droplet infection from aerosols or spatter <sup>[7,8,9]</sup>.

Increased awareness about risks of transmission of infection through blood and saliva has led to increased use of protective barrier techniques. The most common method of sterilization reported by the respondents was autoclaving 74% which is almost equal to previous studies (Sofola and Savage 84.1%, Sote 92% and Omolara 79.2%. In this dry heat 6% was used by and boiling method by 20%. The use of disinfectants was higher with phenol-based disinfectants, which is 56% in this study. According to the survey 54% do sterilise files whereas 26% sometimes do. The method of sterilisation used commonly is chemical I. Very few of the respondents had a poor knowledge about the proper sterilization. When asked about an organization about waste management 52.2% was unaware of such organization or institute. 56.2% the staff were vaccinated. This study concluded that knowledge of sterilisation among different levels of dental professionals is adequate but more awareness needs to be made for better future.

## CONCLUSION

This study concludes that knowledge of sterilisation among different levels of dental professionals is adequate but more awareness need to be made for better infection control in the future.

## REFERENCE

1. Sterilizations and Disinfection. Manual of Infection Control Procedure 2nd ed. London (Greenwich Medical Media 2003.

2. Guidelines on infection prevention and control in the dental office, Royal College of Dental Surgeons Ontario. 2012.
3. Centers for Disease Control and Prevention. Recommended infection-control practices for dentistry. MMWR Morbid Mortal Wkly Rep. 1993; 42:1–12. [[PubMed](#)]
4. Centers for Disease Control and Prevention. Update: transmission of HIV infection during invasive dental procedures-Florida. MMWR Morbid Mortal Wkly Rep. 1991; 40:377–381. [[PubMed](#)]
5. Morris E, Hassan FS, Al Nafisi A, Sugathan TN. Infection control knowledge and practices in Kuwait: a survey on oral health care workers. Saudi Dent J. 1996; 8:19–26.
6. Sobayo EL. nursing aspects of infection control in developing countries. J Hosp Infect. 1991; 18(Suppl A): 388–391. [[PubMed](#)]
7. Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchman SD. Guideline for infection control in health care personnel, 1998. Hospital Infection Control Practices Advisory Committee. Am J Infect Control. 1998; 26:289–354. [[PubMed](#)]
8. Centers for Disease Control and Prevention. Recommended infection-control practices for dentistry. MMWR Morbid Mortal Wkly Rep. 1993; 42:1–12. [[PubMed](#)]
9. Verrusio AC, Neidle EA, Nash KD, Silverman S, Jr, Horowitz AM, Wagner KS. The dentist and infectious diseases: a national survey of attitudes and behavior. J Am Dent Assoc. 1989; 118:553–562. [[PubMed](#)]