

# AWARENESS OF INFECTION CONTROL AMONG UNDERGRADUATE IN DENTAL OFFICE- A SURVEY

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## ABSTRACT

*Objective: To assess the level of knowledge, attitudes, and practices regarding infection control procedures among undergraduate dental students.*

*Methods: A validated questionnaire of 10 questions regarding the basic knowledge, attitude, and practices regarding infection control in dental clinics was distributed among 100 students randomly belonging to third year, final year, and internship of undergraduate dental program in Saveetha Dental College and Hospital, Saveetha University, Chennai. The data extracted were tabulated, statistically analyzed, and results obtained. Results were calculated on the basis of frequency and percentages using SPSS.*

**KEY WORDS-** *infection- management- questionnaire- awareness*

## INTRODUCTION

Infection is one of the most crucial problems in health care services worldwide. It is considered one of the most important causes of morbidity and mortality associated with clinical, diagnostic and therapeutic procedures [1]. Infection control is defined as “Measures practiced by health care personnel to reduce the risks of transmission of infectious agents to patients and employees (e.g. proper hand hygiene, scrupulous work practices, use of personal protective equipment (PPE), such as masks or respirators, gloves, gowns and eye-protection)” (Centers for Diseases Control and Prevention 2005). Infection control measures include contact, droplet and airborne precautions based on how an infectious agent is transmitted [2]. In general, health care workers that do not use proper infection control procedures while providing patient care are more susceptible to infectious diseases [3]. A paper written by Laheij et al., in 2012, evaluated the literature to determine the risk of infection and cross-transmission by bacteria and viruses and that are of particular relevance in the dental practice environment (e.g. Hepatitis B, C and D viruses, HSV, VZV and HIV). The paper concluded that the transmission of, and infection with, Hepatitis B virus poses the greatest risk for both the dental team and the patients. However, the literature on the transmission of the other viruses and bacteria is scarce and the risk for transmission resulting in an infection with these microorganisms seems low [4]

During dental procedures, transmission of infections could occur either through direct contact with blood, saliva or contaminated treatment water from dental units, injury with an anesthetic needle or splash exposure of the mucous membranes, droplets, and aerosols or indirect contact with contaminated instruments and surfaces. By

using safety precautions at work and implementing infection control guidelines, accidental exposure to infections in dental settings can be avoided [5,6]

## METHODS

This study was conducted during the academic year in March 2021 among the undergraduate dental students of Saveetha Dental College, Saveetha University, Chennai. 100 students were randomly enrolled in the study including third year, final year, and intern students. All students in the study, voluntarily completed a questionnaire consisting of 10 close-ended questions. The questionnaire was selected from previous research on relevant topic and few amendments in the questionnaire were made with the help of professionals. The questions in the questionnaire were designed to assess their basic knowledge, attitude, and practices toward infection control in dental clinics. Data collected and analysed for knowledge, attitude and practice and results obtained.

## RESULTS

Out of the total study subjects, 45 (44.5%) were female and 55 (55.5%) were male. A comparison between dental faculty members and students was made based on their knowledge, attitude, and compliance, which resulted in almost equal percentages of knowledge (49.6 and 49.0%) respectively. There is no significant difference in the knowledge students regarding infection control guidelines ( $p > 0.05$ ). However, internship students had good knowledge about the proper type of solution for washing their hands in the dental clinic (antiseptic solution) was significantly higher than that of the students ( $P = .003$ ). There was a significant difference in needle stick injury occurrence among the dental students ( $p = .007$ ) with fifth-year students showing the highest percentage of needle stick injuries. Almost all female and male students wear and change gloves between patients that accounted for 98.4%. Upon comparing 3rd, 4th and 5th-year students regarding their knowledge, attitude, and compliance, it was found that 3rd-year students have the highest level of knowledge and compliance (54.2 and 77.6%) respectively. On the other hand, 5th-year students showed the most positive attitude.

## DISCUSSION

Our study showed an overall good adherence to standard isolation precautions among dental faculty members and students Saveetha Dental College and Hospital. While the attitude and compliance levels were acceptable, the knowledge was fair. The deficit of knowledge could be due to the inadequacy of infection control educational materials during years of study. Another reason might be the lack of belief that practice of standard precautions may interfere with patient health and care. A similar result was found in a study by Abhinav Singh et al. in 2011, regarding dental students in Central India. Their study showed that "The level of knowledge regarding infection control measures was poor among dental students. The attitude towards infectious control measures was positive. The outcome of 3rd-year students having the highest scores of knowledge and compliance could be because it is their first clinical year in the field where the basics of infection control are overemphasized on both theoretical and practical levels. Having much heavier load in the year of graduation could explain the decrease in compliance toward infection control precautions while still obtaining a good attitude. When compared to faculty members, compliance was found to be higher in students. This may be attributed to the fact that students work under the supervision of instructors during their clinical sessions. The difference in attitude of participants may go back to the variation in person's beliefs, thoughts, and behavioral aspect.

One of the limitations of this study was the method for assessing the practice of infection control guidelines. We could not supervise the responders' practice and had to rely on their subjective self-assessment. Therefore, the responses might have not accurately reflected the true knowledge, attitude, and compliance. Another limitation was the absence of qualitative data that could have helped us in understanding and accessing the thoughts and feelings of the research participants. The main reason for the lack of qualitative data is the limited time available during data gathering.

Our study showed that a positive attitude and compliance toward infection control measures does not guarantee having a good level of knowledge as demonstrated in our results.

## CONCLUSION

The dental faculty members and students at Saveetha dental college reported a good adherence to infection control precautions. The results of this study motivate for an evaluation of the taught curriculum, means of assuring compliance and an audit of whether the resources available supports the use of appropriate infection

control guidelines. This evaluation could provide information of at what level changes are required in the dental curriculum. In addition, emphasizing the importance of continuous-based infection control lectures and training could help in raising the level of knowledge regarding the subject.

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