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AWARENESS ABOUT CROSS INFECTION AMONG DENTISTS

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ABSTRACT: Aim and Objective: A survey on awareness among dentists about cross infection with questionnaires was conducted. **Materials and Methods:** A self-administered questionnaire was prepared and given to 100 dental students in Saveetha dental college, Chennai. A set of 15 questions were given in the questionnaire. The results were analyzed and demonstrated in the form of pie charts. **Results:** Out of 100, 69% of the students knew about cross infection, 100% of the students wore mask while doing a procedure, 100% of students changed their gloves after each check-up, 97% of the students washed their hands after degloving and when the students were asked to rate themselves on a scale of 10 based on the awareness they had about nosocomial cross infection, 18% the students rated them between 7-10 and the rest 82% rated them between 5-7. **Conclusion:** From the results, it was evident that the students had sufficient knowledge about cross-infection and the only need was to apply the knowledge in their daily practice.

Keywords: Cross infection, Awareness, Dentists, Mask, Gloves

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INTRODUCTION: Cross infection can be defined as the transmission of infectious agents between patients and staffs within a clinical environment¹. The spread of infection can occur between people or from a piece of equipment. The most common infection is the nosocomial infection, which is acquired at hospital. Dentists are frequently exposed to infectious materials and organisms via water or air while doing procedures. Cross infection can be prevented by many barriers such as head cap, mask, gloves, and protective eyewear. These are the basic barriers which will help in preventing cross infection.

The route of transmission of infection is of two types- direct and indirect. Direct contact transmission involves a direct body surface-to-body surface contact and physical transfer of microorganisms between a susceptible host and an infected or colonized person, such as when a person performs patient care activities that require direct personal contact. The direct-contact transmission also can occur two patients, with one serving as the source of the infectious microorganisms and the other as a susceptible host.

Indirect contact transmission involves contact of a susceptible host with a contaminated intermediate object, usually inanimate, such as contaminated instruments, needles, or dressings, or contaminated gloves that are not changed between patients. The most human microbial pathogens are isolated from oral secretion. This can be considered as a valid reason to know about cross infection and to take necessary measures to prevent cross infection.

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MATERIALS AND METHODS: The study was conducted as a descriptive survey in Saveetha Dental College, Chennai. A self-administered questionnaire was designed to obtain information about procedures used for the prevention of cross-infection in dental practices and determine the attitudes and perceptions of respondent dental practitioners to their procedures. The questionnaire was given in a printed format among 100 students on the clinical side. The questionnaire requested respondents to provide data about the knowledge and practice of infection control measures.

Respondents were asked if they used each of the following infection control practices: wore and changed gloves and masks during and between patients used autoclaves for sterilisation of hand pieces; used rubber dams; touched sterile instruments with bare hands; used mobile or iPad while wearing gloves; washed their hands after degloving; cleaned their hand-piece after each procedure; if disinfection of dental chair, dental office was necessary; gave goggles to patients during procedure; if the respondents or the patients could be a potential threat if they did not wear head

cap, mask or gloves; if they changed saliva ejectors after each patient; they were also asked to rate themselves based on their knowledge about cross infection.

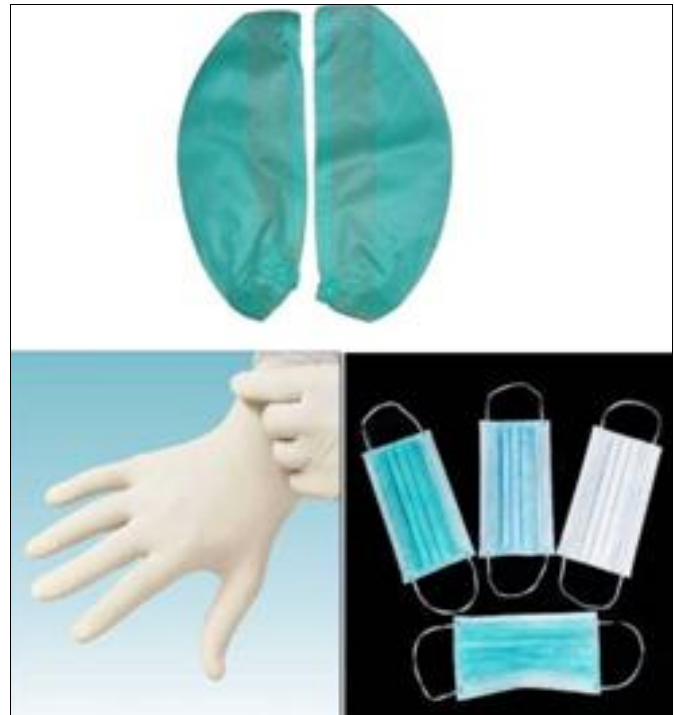


FIG. 1: WEARING GLOVES

RESULTS:

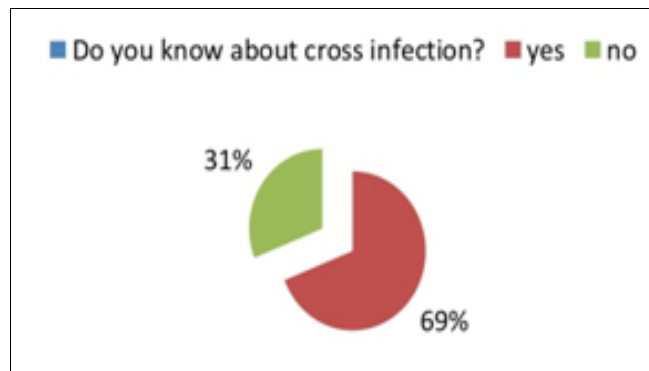


FIG. 2: DO YOU KNOW ABOUT CROSS INFECTION?

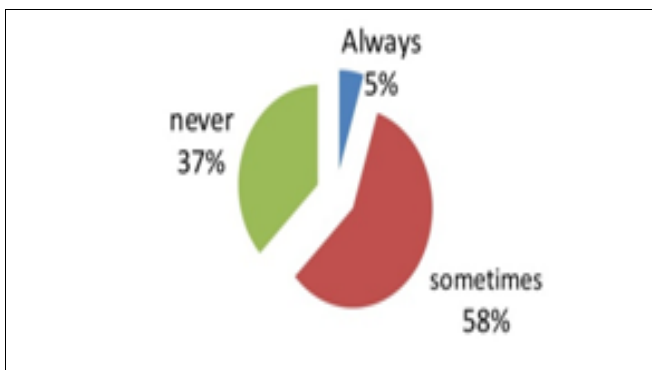


FIG. 3: DO YOU TOUCH STERILE INSTRUMENTS WITH BARE HANDS?

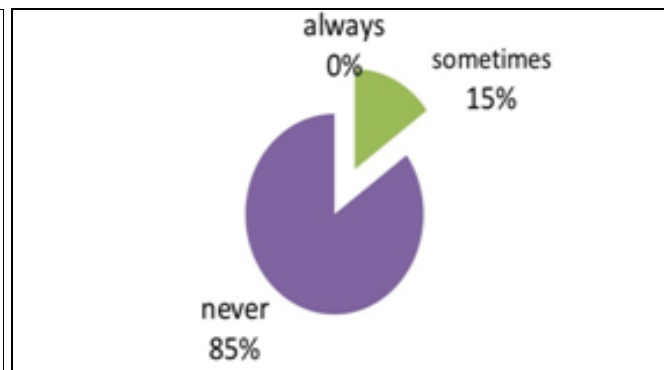


FIG. 4: WHILE WEARING GLOVES, DO YOU USE YOUR IPAD OR MOBILE



FIG. 5: DO YOU CHANGE YOUR GLOVES AFTER EACH CHECK UP?

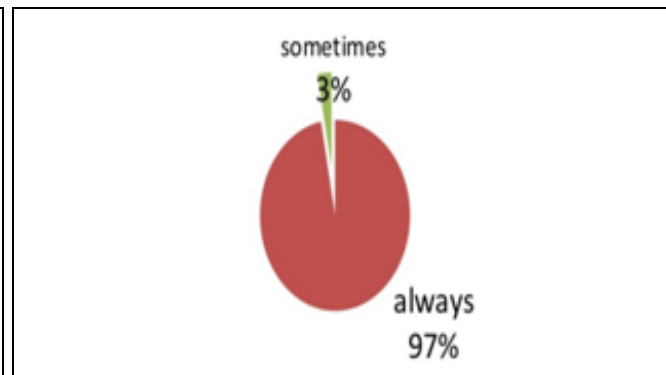


FIG. 6: DO YOU WASH YOUR HAND AFTER DEGLOVING?

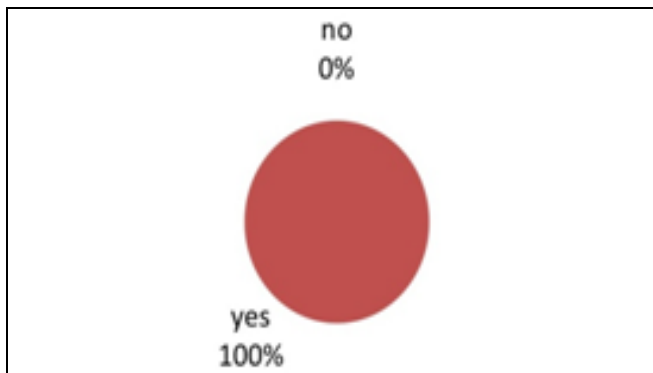


FIG. 7: DO YOU ALWAYS WEAR A MASK WHILE DOING PROCEDURE?

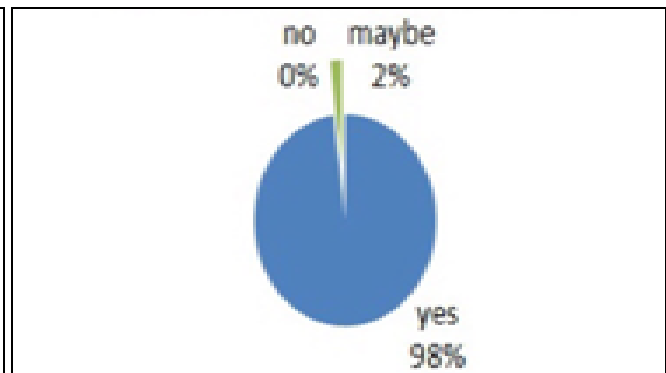


FIG. 8: DO YOU THINK THAT THE PATIENT COULD BE A POTENTIAL THREAT TO YOUR HEALTH IF YOU DON'T WEAR A MASK OR GLOVES DURING A PROCEDURE?

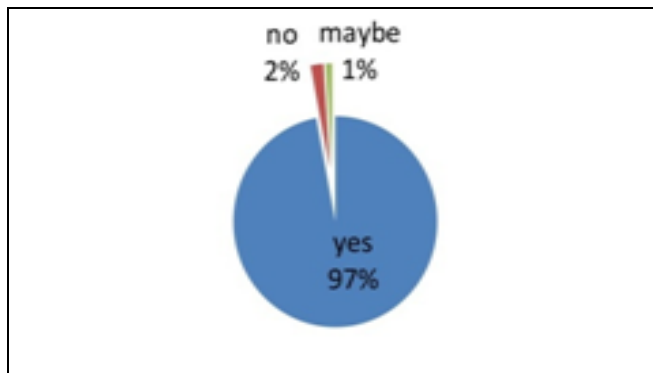


FIG. 9: DO YOU THINK YOU COULD BE A POTENTIAL THREAT TO THE PATIENT IF YOU DON'T WEAR A GLOVES OR MASK?

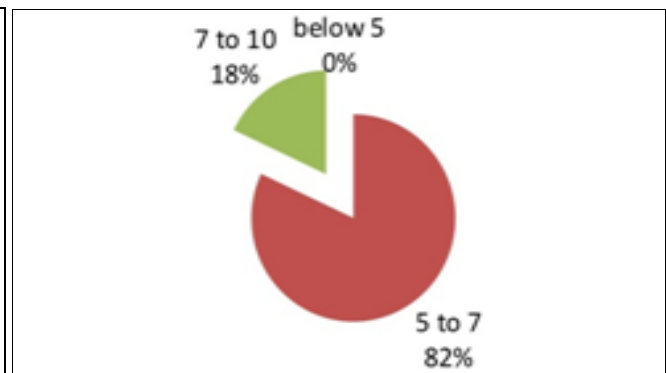


FIG. 10: RATE YOURSELF (ON A SCALE OF 10) ON THE AWARENESS YOU HAVE ABOUT NOSOCOMIAL CROSS INFECTION?

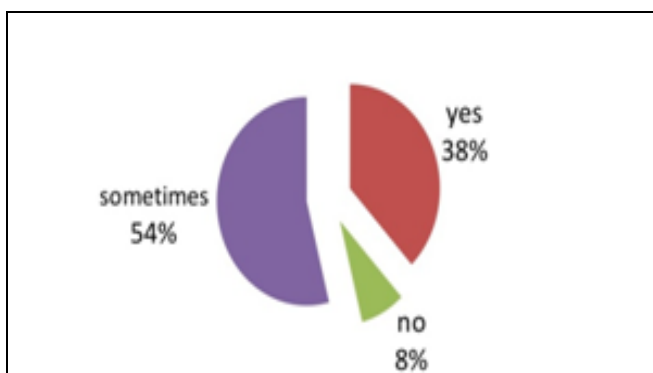


FIG. 11: DO YOU CLEAN YOUR HANDPIECE AFTER EACH PROCEDURE?

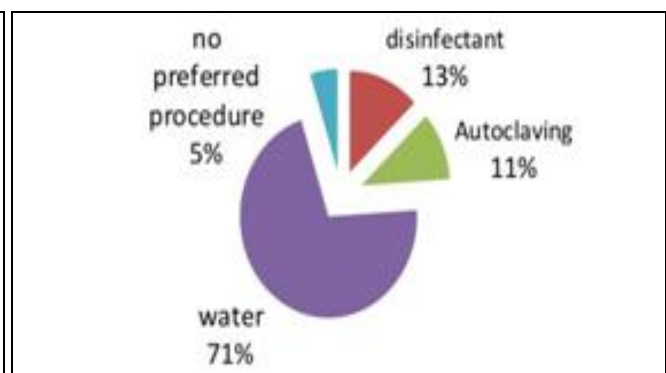


FIG. 12: DO YOU CLEAN YOUR HANDPIECE?

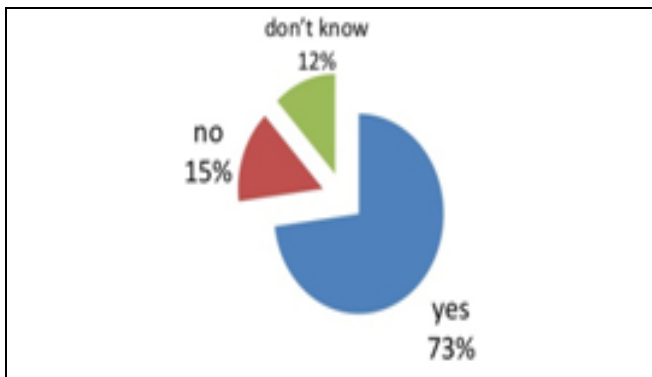


FIG. 13: OTHER THAN STERILIZATION OF INSTRUMENTS, DO YOU THINK STERILIZATION OF DENTAL CHAIR IS NECESSARY?

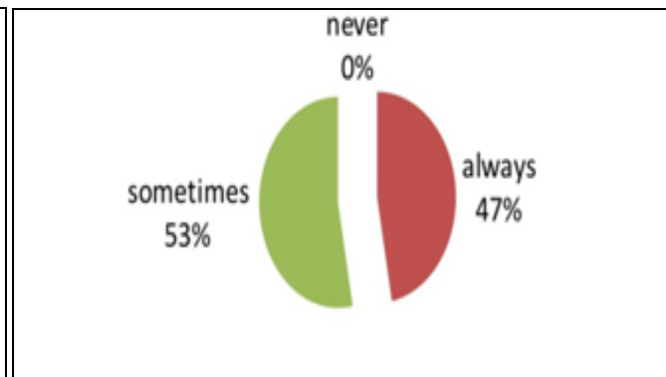


FIG. 14: DO YOU ISOLATE THE TOOTH WHILE DOING RESTORATIVE PROCEDURE?

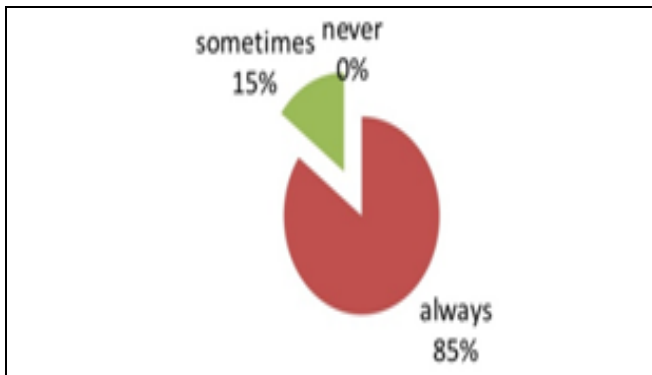


FIG. 15: DO YOU CHANGE SALIVA EJECTORS AFTER EACH PATIENT?

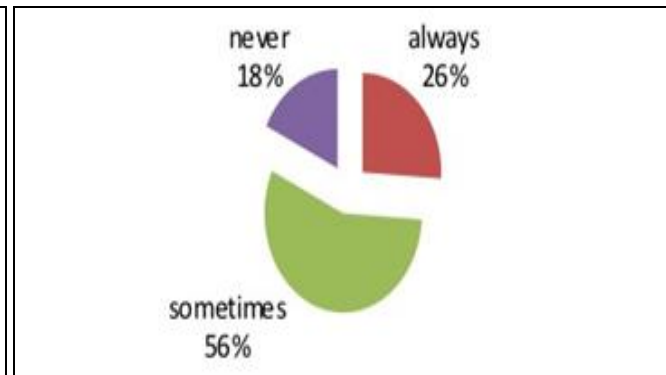


FIG. 16: DO YOU GIVE YOUR PATIENTS GOGGLES WHILE DOING THE PROCEDURE?

DISCUSSION: Infection control forms an important part of practice for all health care professions and remains one of the most cost-beneficial medical interventions available². Due to the nature of their profession, dentists and dental assistants should not forget the risk of treating patients with the probability of infectious diseases³. There are two reasons why dental health care workers must wear operating gloves: to prevent transmission of infection from the operator's hands to the patients and to prevent contact of blood and saliva with the operator's hands⁴.

In this present study, 100% of dentists preferred to use barrier techniques such as gloves and masks. According to Al-Rabeah and Mohamed⁵, 100% of dentists use gloves, and 90% of them use masks while treating their patients. Al Ruhaimi⁶ stated that between 2%-4% of dental professionals in Saudi Arabia never wore gloves when treating patients. In another study, the authors showed that about 90% of dentists in Kuwait wore gloves, 75% wore masks⁷. Treasure and Treasure⁸ showed that in New Zealand, 42% of dentists wore gloves, 64.8% wore masks. McCarthy and MacDonald⁹

showed that 91.8% of dentists in Ontario, Canada, always wore gloves, 74.8% always wore masks.

In this study, 13% of dentists preferred to clean hand-pieces by wiping them with disinfectants, 11% of them stated that they preferred autoclave for sterilize hand-pieces, 71% preferred water and the rest did not follow any specific method. However, it is known to live blood cells, and bacterial and viral particles can survive inside hand-pieces even after thorough disinfection¹⁰. Many authors have emphasized the hazard of cross-infection by the use of dental instruments¹¹.

Some of these authors showed that 94% of dentists in Kuwait used an autoclave to sterilize hand pieces⁷. Kurdyand Fontaine¹² showed that 30% of dentists in Saudi Arabia had sterilised hand-pieces with autoclave, and 90% of them autoclaved their instruments at the end the day. Al-Rabeah and Mohamed¹³ stated that 37.90% of dentists autoclaved hand-pieces. According to Miller¹¹, the most common reason for not sterilizing hand-pieces is the fear of damage to the equipment.

CONCLUSION: From this study, we conclude that dental students have required knowledge about cross infection and its hazardous nature. Although the result of this study favours knowledge about cross-infection among dental students, it also shows that the only need is to apply the knowledge practically. Education program and courses regarding infection control and cross infection need to be added to the curriculum to improve the knowledge of dentists.

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CONFLICT OF INTEREST: Nil

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