

A QUESTIONNAIRE STUDY ON ATTITUDE, KNOWLEDGE AND PRACTICE OF INFECTION CONTROL AMONG BDS UNDERGRADUATE STUDENTS IN A PRIVATE DENTAL COLLEGE

Fahmida binti Abd Rahman and Jayalakshmi Somasundaram

Department of Botany, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043, Tamilnadu, India

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ABSTRACT

Aim: To assess knowledge, attitude and practice of infection control among undergraduate dental students.

Material and methods: A questionnaire survey consists of 10 multiple choice questions related to knowledge, attitudes and practices of infection control was conducted among undergraduate dental students. The sample size included 120 participants who were first, second, third and final year students. The questionnaires were assessed by online survey (www.surveypplanet.com). Data management and statistical analysis were shown.

Result: Dental health are at high risk of getting infection as they are continually exposed to blood and saliva. This study reports the overall knowledge, attitudes and practices among dental students in a private hospital in Chennai. Majority of the students are likely to depend on universal barriers in protecting themselves from getting infection. Washing hands using antiseptic soap with water is the most practicable among dental students based on this study. Also, most of them had a good knowledge on color codes whereas others still unaware about it.

Conclusion: To conclude, a good level of knowledge and positive attitudes towards infection control can be seen amongst candidates in this present study. However, they should practice it in their daily lives especially when they are in clinical environment. Seminars or lectures on universal infection control measures each academic year can be used to improve and refresh students knowledge about infection control.

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INTRODUCTION

Infection can be refers to a condition in which microorganisms such as viruses, bacteria and parasites develops in our body which can be considered as abnormal because normally they are absent. Infection can be due to various microorganisms such as mycobacterium tuberculosis, hepatitis B and hepatitis C, staphylococci, and rubella¹. Transmission of these microorganisms due to special circumstances and opportunities in a dental setting to dental healthcare professionals. For example, potentially infectious droplets can be produced by high-speed dental instruments through air or water irrigation systems. Therefore, mask and goggles are compulsory in controlling infection by microorganisms². Dentists are more susceptible to infection compared to other health care professionals because they are directly exposed to blood and saliva during dental procedure³. These infections can be avoided by practicing safety precautions and implementing infection control guidelines together with vaccination. Cross infection can be referring as

transfer of infectious agents between patients and health professionals in a clinical environment⁴. Implementation of standard universal precautions in dentals is the most successful method to control cross infection as most of the carriers of infectious cannot be identified clinically^{5, 6}. The purpose of this study is to conclude and report the results evaluating knowledge, attitude and practice of infection control among BDS undergraduate student in a private dental college in Chennai.

MATERIALS AND METHOD

The present questionnaire based study was conducted amongst undergraduate dental students in a private dental college. The study sample included a total of 120 students of first, second, third and final year. The respondents in the study was completely voluntary. The questionnaire composed of 10 multiple choice questions related to attitude, knowledge and practise of infection control. The questionnaires were assessed by online survey (www.surveypplanet.com). Data management and statistical analysis were shown.

*Corresponding author: **Fahmida binti Abd Rahman**

Department of Botany, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043, Tamilnadu, India

RESULTS AND DISCUSSION

Question	n =120 (%)
1. Are you aware about methods to control infection?	
a. Yes	53(44)
b. No	38(32)
c. I'm not sure	29(24)
2. Based on the following, which is not the routes for disease transmission in dentistry ?	
a. Sexual contact	78(65)
b. Direct contact	10(8)
c. Indirect contact	28(24)
d. Cross infection	4(3)
3. Based on your knowledge, which one is not the colour codes of plastic bag to dispose clinical waste in dentistry?	
a. Yellow	36(30)
b. Red	11(9)
c. Blue	31(26)
d. Green	42(35)
4. Do you know what is the difference between disinfection and sterilization?	
a. Yes	46(38)
b. No	32(27)
c. I'm not sure	42(35)
5. Which of the following chemical is not used for high level disinfectants?	
a. Hydrogen peroxide	30(25)
b. Phenolic disinfectants	33(27)
c. Peracetic Acid	30(25)
d. Formaldehyde	27(23)
6. How do you normally wash your hands in clinic?	
a. Using povidone iodine (betadine)	15(13)
b. Using antiseptic soap with water	29(24)
c. Using handwash with water	53(44)
d. Using plain water	23(19)
7. Do you change your gloves and mask after each patient ?	
a. Yes	37(31)
b. Sometimes	44(37)
c. No	10(8)
d. I'm not sure	29(24)
8. Do you think application of goggles in dental treatment can prevent infection of microorganisms ?	
a. Yes	79(65)
b. No	3(3)
c. Sometimes	37(31)
d. Not sure	1(1)
9. Which of the following is classified corectly?	
a. Critical –Chairs, benches, floors , walls	1(1)
b. Semi-critical –Mouth mirrors, amalgam condensers, suction tip	88(73)
c. Non-critical-Forceps, surgical instruments and scalers	31(26)
10. Do you think by wearing a surgical gown during procedures that are likely to generate splashes or sprays of blood and bloody fluids can control infection ?	
a. Yes	107(89)
b. No	2(2)
c. Sometimes	10(8)
d. I'm not sure	1(1)

In the present study, we can see that 38% of respondents had reported that they were aware about difference between disinfection and sterilization while 35% of respondents still unaware about this matter. Based on Figure 1 also, majority of respondents (44%) mentioned that they were aware about methods to control infection. This might be due to their knowledge that they got through seminars or lecturers during college session. They may also get information about these through internet or from seniors.

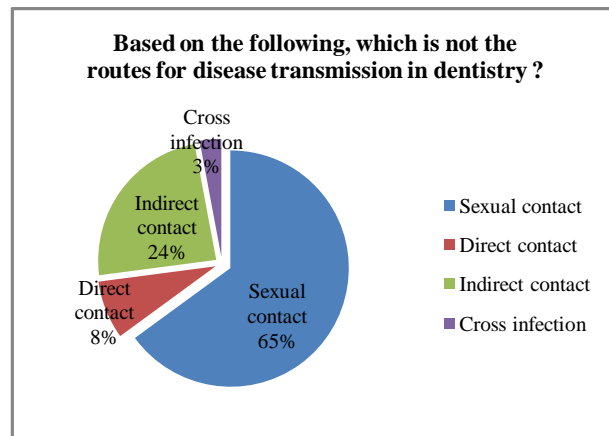


Figure 2

Based on Figure 2, 65% of respondents stated that sexual contact is not the routes for disease transmission in dentistry while 24% of them reported that indirect contact is not regard as the routes for disease transmission. There was also insignificant percentage (3%) for cross infection. These findings showed that there is need to inform all dental students regarding routes of disease transmission in dentistry.

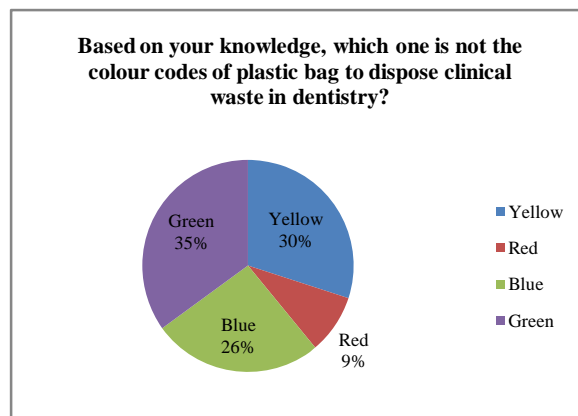


Figure 3

According to Figure 3, only 35% of the candidates respond with the right answer which is green in colour. Green is not the colour codes of plastic bag to dispose clinical waste in dentistry. This shows that there is lack of knowledge about color coding system for disposing waste materials. Yellow bags should be filled by human anatomic waste such as body parts, biopsy tissues and extracted teeth⁷. Other than that, contaminated waste like tubing, intravenous tubes should be dispose into red bags while blue bags should be filled with broken or discarded glass.

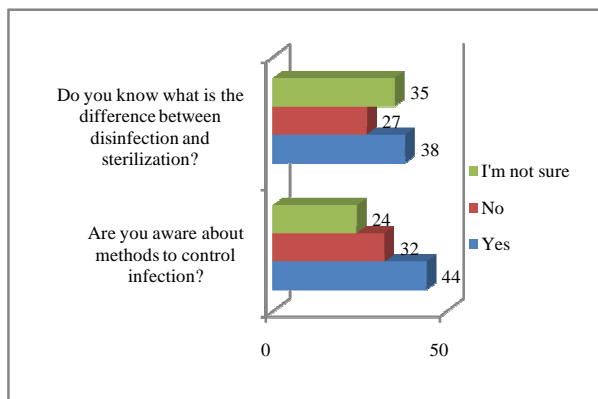


Figure 1

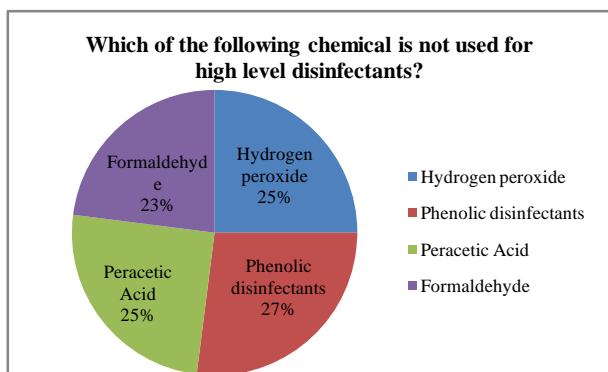


Figure 4

In this study, it was reported that only 27% of candidates noticed about proper chemical used in high level of disinfectants. This is an alarming condition as disinfectants is one of the most successful method in controlling infection control. Disinfectants can be categorized into three level which are low, moderate and high level of disinfectants. Disinfection was done by inserting contaminated dental instruments in chemical disinfection solution before cleaning process. The purpose of disinfection is to reduce exposure of pathogens towards dentists.

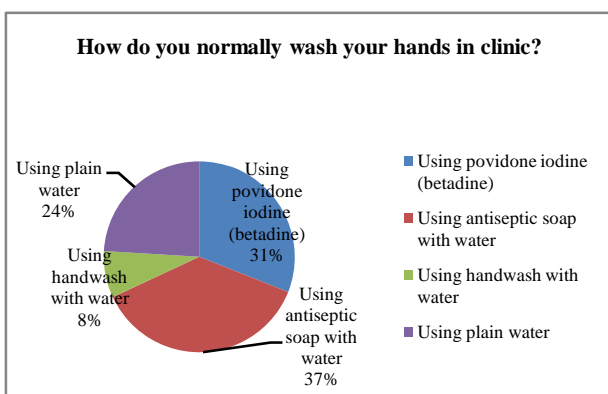


Figure 5

Cross infection can be consider as major concern in infection control. One of the most successful method for prevention and control on infection is by maintaining good hand hygiene ⁸. According to Figure 5, 37%, 31%, 24% and 8% of students wash their hands using antiseptic with water, betadine, handwash mixed with water and using plain water respectively. A study carried out in Italy also shown that the highest percentage of respondents washed their hands is by using antiseptic soap with water.

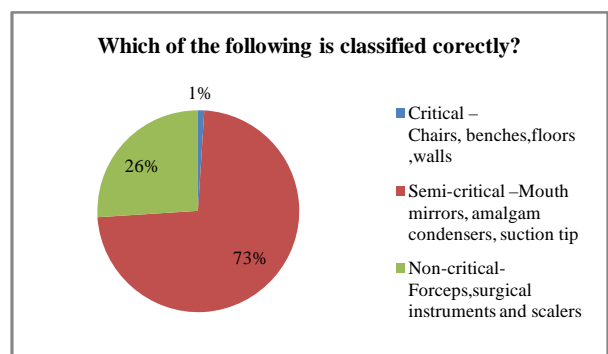


Figure 6

The percentage was 86.5%^{9,10}. Maintaining good hand hygiene is compulsory as the hands of health professionals may acts as reservoir for many pathogens^{11,12}.

Based on Figure 6, the result demonstrated about 73%, 26% and 1% of respondents had chosen option a, b and c respectively. This report showed an adequate knowledge on categories of dental instruments. However, the knowledge should be improved as these instruments need to be sterilized according to the cateogaries. It can be improved through some seminars or lectures on classification of dental instruments.

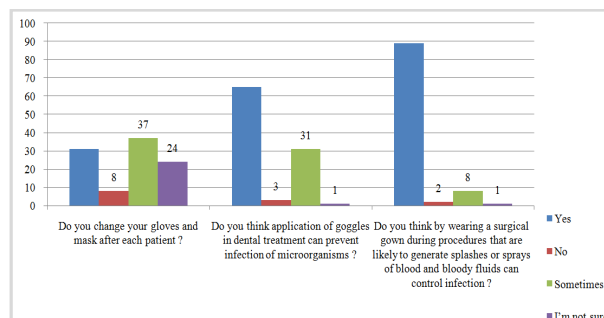


Figure 7

Application of gloves and masks after each patient is quite essential in infection control practises. However in the present study, compliance with changing the gloves and mask after each patient is unsatisfactory as only 31% of the candidates reported wearing new gloves and masks after each patient. Less changing of new face masks and gloves after each patient may indicate a low level of awareness among dental students. Other observations were about wearing of goggles and surgical gown especially in dental procedures that are likely to genrate splashes of blood or saliva. Goggles should be used in clinical practise as blood or foreign particles may accidentally get into our eyes. Majority of the candidates showed a positive attitude on the use of the universal protective barrier.

CONCLUSION

To conclude, a good level of knowledge and positive attitudes towards infection control can be seen amongst candidates in this present study. However, they should practice it in their daily lives especially when they are in clinical environment. Improving compliance towards infection control will remains a challenge if they did not take serious about this matter. Seminars or lecturers on universal infection control measures each academic year can be used to improve and refresh students knowledge about infection control.

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