

To Study The Knowledge, Attitude And Practice Of Dental Students Jnims About The Infectious Diseases During The Clinical Postings.

¹Dr Sneha Singgam, Assistant Professor, Conservative and Endodontics, Dental College, JNIMS

²Dr Laitonjam Jonita Devi, Post Graduate Trainee, Department of Pharmacology, JNIMS

³Dr Oinam Joychandra Singh, Associate Professor, Department of Pharmacology, JNIMS

Corresponding Author: Dr Laitonjam Jonita Devi, Post Graduate Trainee, Department of Pharmacology, JNIMS

Citation of this Article: Dr Sneha Singgam, Dr Laitonjam Jonita Devi, Dr Oinam Joychandra Singh, “To Study The Knowledge, Attitude And Practice Of Dental Students Jnims About The Infectious Diseases During The Clinical Postings.”, IJDSIR- December - 2020, Vol. – 3, Issue - 6, P. No. 281 – 286.

Copyright: © 2020, Dr Sneha Singgam, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License. Which allows others to remix, tweak, and build upon the work non commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: The incidence of transmission of infectious disease among the dental students is occurring on many occasions. Therefore the study of the knowledge, Attitude, Practice (KAP) of the dental students is mandatory.

Procedure: Thirty questionnaire on the KAP (K 10, A 10, P 10) is developed by referring the guidelines of the Centre for disease control and prevention and previous investigators. Out of 142 questionnaire which is distributed, only 100 questionnaire is properly responded by the students and valid. The result is analysed by using descriptive statistic and also spearman’s correlation.

Result: The 3rd year student aware the definition of infectious disease (88.8%), nosocomial infection (52%), microorganism (virus 77.7%), and airborne (47.2) respectively. Similarly the 3rd year students have the attitude of oral mouth rinsing (80%) and also the existence of infection control program 91%). The 3rd year (100%) intended the practice of hand washing with plain water

and antiseptic solution(100%) before and after examination of patient and any procedure. But regarding the practice of disposal of fomite (72%) and post exposure monitoring (86%) is not to the mark. On statistical analysis about correlation of the knowledge-attitude and attitude-practice is significant whereas knowledge-practice is insignificant.

Discussion: The findings in this study support the report of the previous investigators. This shows that the students aware the KAP of infectious disease as they are promoted to higher classes with clinical posting.

Conclusion: Therefore the dental students should be addressed through educational initiatives about the infection control program existed in their parent institution.

Keywords: infectious disease, microorganism, mouth rinsing, hand washing, dental students

Introduction

Infectious diseases & their spread to the health care providers is a health problem. To control this problem is a big challenge all over the world in any situations. Dental students are constantly exposed to certain pathogenic microorganisms which can cause severe diseases.^{1,2,3} These disease are spread mainly through blood and saliva during dental procedure practiced by the dentists and students . The mode of transmission is either direct contact or through droplet or air borne.⁴ The importance of preventing the transmission of infectious diseases in dental setting and the risk of cross infection between the patients and health care providers is well documented.⁵ It is mandatory for the students to aware about the infectious disease and their mode of transmission. Therefore the objective of the present study is to assess the KAP of the students and also to highlight the area of deficiency along with the suggestion for improvement the present dental setting and practice.

Material and Method

Study design: It is a cross-sectional, non interventional, questionnaire based study among the Dental students

The students who give their positive verbal consent will be included in the study. .

The questionnaire was designed on the basis of questionnaire of previous investigators^{6,7} and CDC guidelines⁷. It has three parts- knowledge- 10 questions, attitude-10questions, and practice- 10 questions. The study also got the approval of the institutional ethical committee with protocol no.230/05/2020

Procedure: A briefing was done about the questionnaire and time factors for answering the questionnaire i.e 10

minutes and incomplete response. Otherwise the questionnaire was excluded from the study. Accordingly 142 questionnaire were distributed. Descriptive statistical analysis was applied through SPSS(version 22) and Microsoft excel.

Results

Out of 142 questionnaires distributed only well respond 100 questionnaires are qualified and selected. The questionnaires belong to 36 students of 1st year, 31 students of 2nd year, and 33 students of 3rd year respectively Table 1

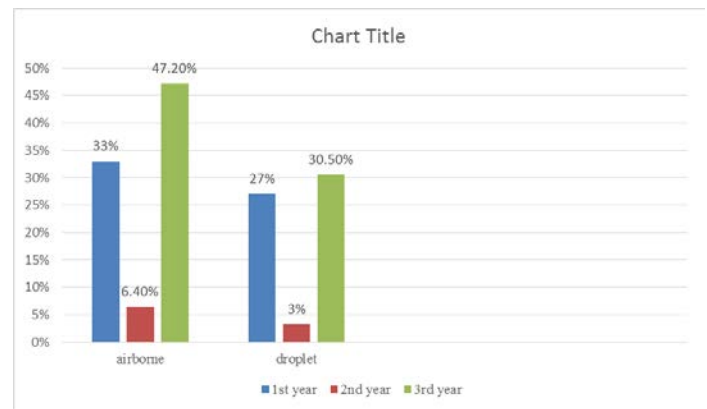
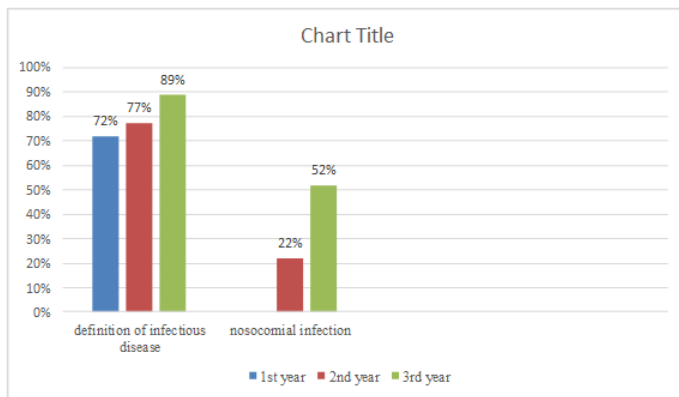
Table 1: Distribution of dental students

Group	Male	female	total	%
1 st yr	17	19	36	36%
2 nd yr	12	19	31	31%
3 rd yr	07	26	33	33%
Total	36	64	100	100%

The number of participants who know the definition of infectious disease is 80 (3rd year-32(88.8%); 2nd year-24(77.4%); 1st year-24(72.7%) and the definition of nosocomial infection is 26 (3rd year -19(52%). 2nd year -7(22%); 1st year-0) . The students of 3rd year encountered the transmission of virus (28,77.7 %) through droplet (11,30.5 %). The results show that as the students are promoted their knowledge about the awareness of the infectious disease and the mode transmission is also increased. Table -2

Table 2: Knowledge

Parameter		3 rd year	2 nd year	1 st year	N
Definition of infectious disease		32 (88.8 %)	24 (77.4 %)	24 (72.7%)	= 80 (80 %)
spread of infectious disease	Airborne	17 (47.2%)	11(33%)	2(6.4%)	=30(30 %)
	Droplet	11 (30.5%)	9(27.2%)	1(3.2%)	=21 (21%)
	Direct contact	3(8.3%)	22(70%)	11(33%)	=36(36 %)
	Fomite	6(19.3%)	4(11.11%)	2(10%)	=12(12%)
Most common microorganism					
	Virus	28(77.7%)	15(48.3%)	13(39.3%)	= 56(56%)
Definition of Nosocomial infection		19(52%)	7(22%)	0	= 26(26%)

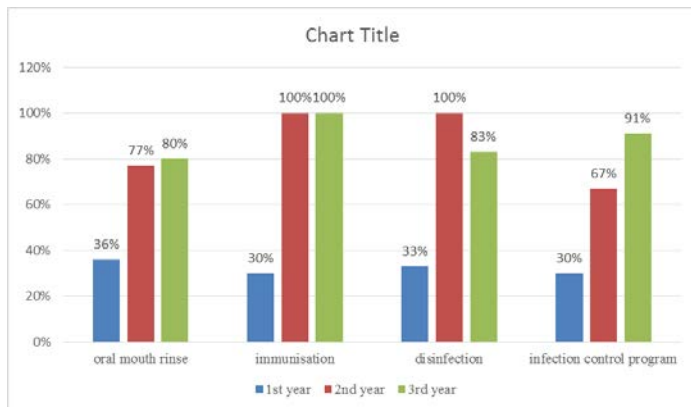


Among the 3rd year students 17(47.2%) participants responded airborne as most common type of spread of infectious disease during dental practice while 11(30.5%) participants responded as droplet. Among the 2nd year student,2(6.2%) participants responded as airborne while 1(3.2%) participant droplet and among 1st year, 11(33%) participant responded as airborne and 9 (27.2%)responded as droplet.

The number of participants who preferred oral mouth rinse before commencement of procedure is 65(3rd year- 29(80%), 2nd year-24(77%) and 1st year -12(36.3%). The number of participants who strongly agreed with immunisation is 77 (3rd year-36(100%) and 2nd year- 31(100%) & 1st year -10 (30%). The number of participants who desire the disinfection of dental chair is 72 (3rd year -30(83%), 2nd year-31(100%) and 1st year - 11(33%). The number of participants who is aware of infection control program in JNIMS is 64(3rd year- 33(91%), 2nd year-21(67%) and 1st year -10(30%). The attitude towards the control and prevention of the infectious disease is enhanced as the students are promoted from lower class to higher class. Table 3

Table 3: Attitude

Parameter	3 rd year	2 nd year	1 st year	=N
oral mouth rinse before treatment	29 (80%)	24(77%)	12(36.3%)	65(65%)
Immunization is important	36(100%)	31(100%)	10(30%)	77 (77%)
Disinfection of dental chair	30(83%)	31(100%)	11(33%)	72 (72%)
infection control program in institute	33(91%)	21(67%)	10(30%)	64 (64%)

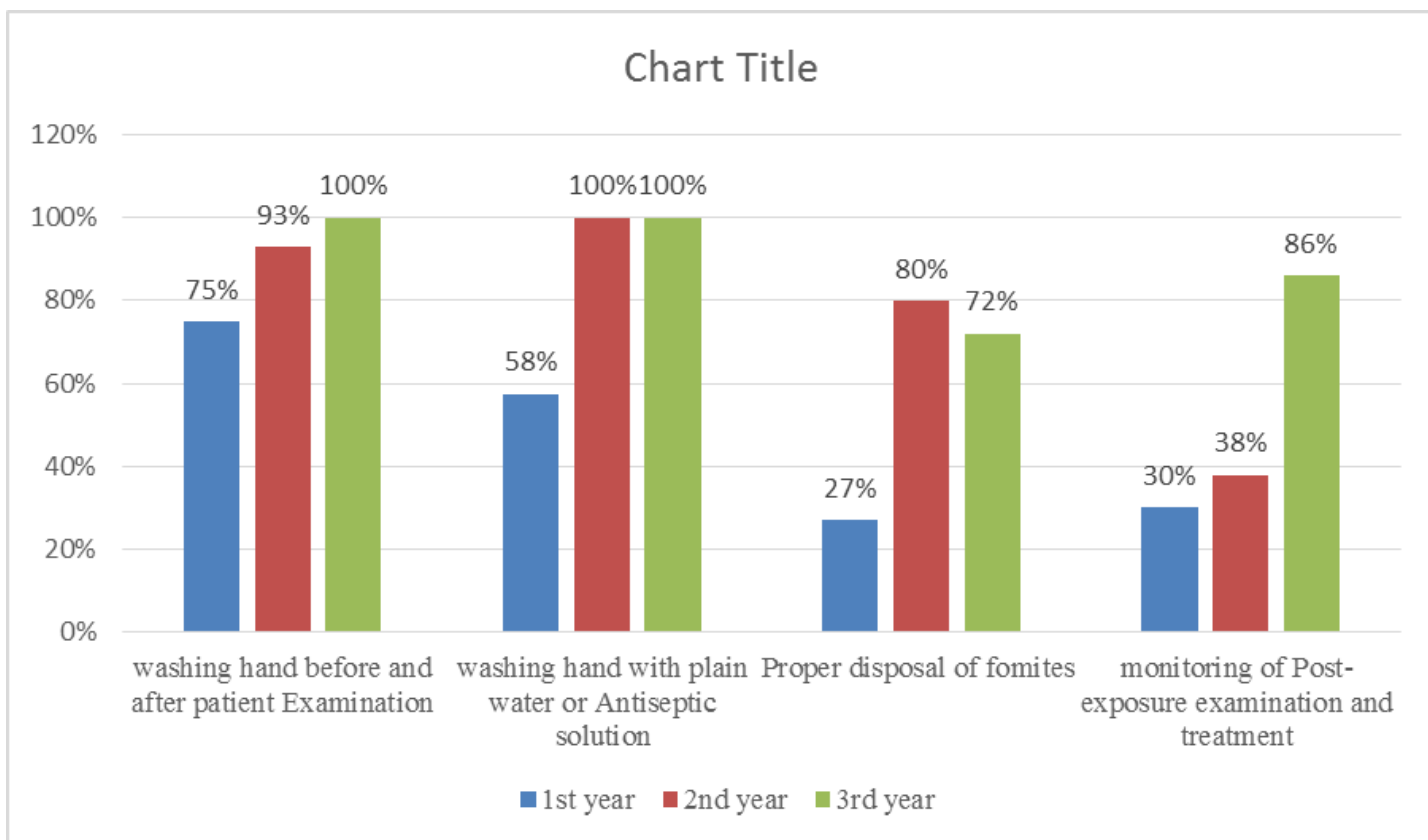


The number of participants who strongly recommend the hand wash with plain water or antiseptic solution before and after the procedure is 86- 90 (3rd year -36 (100%). 2nd

Table 4: Practice

Parameter	3 rd year	2 nd year	1 st year	N
Washing of hand before and after patient Examination	36(100 %)	29(93%)	25(75%)	90 (90%)
Washing of hand with plain water or Antiseptic solution	36(100%)	31(100%)	19(57.5%)	86 (86%)
Proper disposal of fomites	26(72%)	29(80%)	9(27.2%)	64(64%)
Monitoring of Post-exposure examination and treatment	31(86%)	14(38%)	10(30%)	55 (55%)

year -29 -31(93-100%), 1st year 19- 25 (57.5-75%). They also wish to dispose the fomites in proper places 3rd year - 26(72%), 2nd year -29(80%), 1styear -9(27.2). Over & above the process for practicing during the procedure , the participants stress the importance of monitoring of post exposure to the infectious organisms -3rd year 31(86%), 2nd year -14(38%) 1st year-10(30%) . The process for prevention of the transmission of the infectious diseases is practiced by the 3rd year students more than the 2nd year student and 1st year students . Table 4.



The Coefficient correlation between knowledge-attitude, knowledge-practice and attitude- practice among dental students is shown in table 5

Table 5

Variables	Awareness of infection control program	Hands should be washed before and after procedures	Proper disposal of fomites
Definition of infectious disease	0.356**	×	×
Spread of infectious disease	×	0.044	×
Disinfection of dental equipment.	×	×	0.283**

** Correlation is significant at the 0.01 level (2-tailed).

Results indicate that there is significant association between knowledge -attitude($r_s=0.356, p < 0.000$) knowledge-practice insignificant ($r_s= 0.044$) and attitude-practice significant ($r_s = 0.283 , p < 0.005$)

Discussion

Infectious disease is one of the problem faced in dental practice and during the clinical posting of the students. The problem of the KAP is studied and many similar findings are observed as that of the study of Alharbi et al⁸. The common mode of transmission is airborne(3rd yr

student 47.2%) and droplet (3rd yr student -30.3%) which is conformed to the report of Garner et al⁹

Further, as reported by the students the common organism is virus (3rd yr student 77.7%) followed by bacteria(3rd yr student 48.3%) . This findings support the report of Laheji et al¹. The response on the questionnaire among the 2nd and 1st yr students is insignificant but the results show that the knowledge among the student is progressively increased as the students are promoted to higher classes.

Similarly the attitude of the students attitude towards use of oral mouth rinses (3rd year 80%, 2nd year -77%, 1st year – 36.3%)- which support the report of Singh et al.¹⁰ The 3rd year student (91%) aware the existent of the infection control program in the institute as they are in the clinical teaching schedule.

Regarding the practice performed by most of the students is hand hygiene properly(3rd year -100% , 2nd year-93%; 1st year-75%) which is quite inconsistent with the report of Halboub es et al¹¹ Over and above they are not properly practice the disposal of waste products and fomites (3rd year-72%,) and also post exposure monitoring (3rd year 86%).

On analysis the important and selected data through the bivariate spearman's coefficient ,the correlation between the knowledge and attitude ; the knowledge and practice and the attitude and practice indicate that there is significant association between knowledge & attitude(rs=0.356, p < 0.000) and attitude & practice (rs = 0.283 , p < 0.005) whereas the knowledge and practice is insignificant (rs= 0.044) . These findings are almost similar to the findings of Oscar silva et al¹².

Conclusion

The present study shows the KAP of the students. The students who are just entering the course may not have adequate KAP about the infectious diseases . As they learned & promoted to higher classes along with clinical

posting their KAP is likely improved. Therefore the dental students should be addressed through educational initiatives about the infection control program existed in their parent institution.

Acknowledgements: The authors thank the Principal, Dental College JNIMS for allowing the KAP study of the Dental students.

References

1. A.M.G.A. Laheji , J.O. Kistler , G.N. Belibasakis , H. Va` limaa, and J.J. de Soet , European Oral Microbiology Workshop (EOMW) 2011 Healthcare-associated viral and bacterial infections in dentistry. Journal of oral microbiology 2012,4:17659
2. Twitchell KT. Blood borne pathogens. What you need to know–Part II. AAOHN J. 2003;51(2):89-97
3. Beltrami EM, Williams IT, Shapiro CN, Chamberland ME. Risk and management of blood-born infections in health care workers. Clin Microbiol Rev 2000; 13:385- 07
4. Anders PL, Drinnan AJ, Thines TJ. Infectious diseases and the dental office. N Y State Dent J 1998; 64:29-34.
5. Araujo MWB, Andreana S. Risk and prevention of infectious diseases in dentistry. Quintessence Int 2002; 33:376- 394
6. Mehrdad Askarian, MD, MPH; Kamran Mirraei, MD, MPH; Behnam Honarvar MD, MPH; Mahyar Etminan, PharmD MSc; Marcelo W. B. Araujo, DDS, MS, PhD . Knowledge, Attitude and Practice Towards Droplet and Airborne Isolation Precautions Among Dental Health Care Professionals in Shiraz, Iran Journal of Public Health Dentistry Vol. 65, No. 1, Winter2005
7. Centers for Disease Control and Prevention. Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care. Atlanta, GA:

- Centers for Disease Control and Prevention, US Dept of Health and Human Services; October 2016. And 2003.
8. Ghada Alharbi , Noura Shono , Lamy Alballaa and Alaa Aloufi .Knowledge, attitude and compliance of infection control guidelines among dental faculty members and students in KSU :BMC Oral Health (2019) 19:7
 9. Garner JS. Guideline for isolation precautions in hospitals. The Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol 1996;17(1):53-80
 10. Singh, M. Purohit, A. Bhambal, S. Saxena, A. N. Singh, and A. Gupta, “Centers for disease control and prevention. knowledge, attitudes, and practice regarding infection control measures among dental students in central India,” Journal of Dental Education, vol. 75, no. 3, pp. 421–427, 2010
 11. Esam Saleh Halboub¹ , Sadeq Ali Al-Maweri^{2,3}, Aisha Ahmed Al-Jamaei⁴ , Bassel Tarakji⁵ , Walid Ahmed Al-Soneidar Knowledge, Attitudes, and Practice of Infection Control among Dental Students at Sana’a University, Yemen Journal of International Oral Health 2015; 7(5):15-19
 12. Oscar Silva,¹ Silvia Palomino,¹ Ada Robles,^{1,2} Jorge Ríos,^{2,3} and Frank Mayta-Tovalino . Knowledge, Attitudes, and Practices on Infection Control Measures in Stomatology Students in Lima, Peru. Journal of Environmental and Public Health Volume 2018, Article ID 802713