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ORIGINAL ARTICLE

Assessment of Knowledge, Awareness and Attitude of COVID-19 among Pakistani Dental Students: A Cross-Sectional Study

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ABSTRACT

Objective: To assess the knowledge, awareness and attitude of covid-19 among Pakistani dental students.
Design of the Study: It's a cross-sectional study.
Study Settings: This study was carried out at HBS Dental College, Islamabad & Rawal Institute of Health Sciences (RIHS), Islamabad from August 2020 to January 2021.
Material and Methods: For collection of data, a validated close-ended questionnaire was used. Response of dental students was taken using an electronic based questionnaire distributed through E-mails, Whatsap and Google forms. A total of 305 dental students completed the questionnaire. The questionnaire contained of three demographic features, 21 questions about knowledge, seven items about attitudes, and seven items about preventive measures, adapted from an earlier published questionnaire about corona virus. Convenience sampling technique was applied for collection of data and a response of respondents was presented as %. Data was entered and analyzed using SPSS V-23 taking value of $p<0.05$ as significant.
Results of the Study: Present study included a total of 305 participants out of which 120 dental students (39.34%) were males and 185 (60.65%) were females. The majority of the participants i.e., 160 of them belonged to the age group of 17-24 years (52.40%). Almost 60.65% respondents correctly answered about statement of incubation period "2-14 days", and 83.60% replied that COVID-19 might be present without symptoms. Out of 305 students 97.70% have replied that frequent washing of hands with soap or alcohol mixed hand sanitizer are satisfactory methods to avoid transmission of Corona virus.
Conclusion: In this study dental students are satisfactorily aware from the pandemic and its promising consequences. However in this study fear of transferring the COVID-19 infection to their families and friends was a significant concern. Majority of the dental students looked to have adequate awareness about corona virus and precautionary steps taken to avoid from COVID-19 transmission for both patients and dental students.
Keywords: COVID-19, corona virus, awareness, knowledge, dental students, questionnaire.

INTRODUCTION

The coronavirus 2019 (COVID-19) newly identified viral and contagious disease which create alarming situation globally and in very short time it developed into crisis of public health. As from its beginning it has spread very speedily and became the cause of mortality and morbidity globally. Its etiology is "severe acute respiratory syndrome (SARS) corona virus 2", which is a 60 nm to 140 nm size RNA having single strand and member of the genus β – Corona virus.[1,2]

COVID-19 is transmitted from one person to other person via droplets which is mostly spread in result of coughing, salivary contamination, sneezing, ingestion/inhalation /direct mucous connection with droplets of saliva, aerosols and respiratory fluids.[3,4] Several studies have observed that during the incubation phase asymptomatic patients or even healthy subjects can spread the virus.[5] The spread of COVID-19 through human to human contacts created an alarming condition globally.[6] As viral load in saliva of humans is very high so it can become a major reason of infection in dentistry practitioners and due to this dentists at very high risk of infection.[7]

Some other symptoms which are not common are feeling of headache, production of sputum, diarrhea, loss of smell and taste and dyspea.[8]

Almost the normal incubation time of COVID-19 varies from 4-14 days, however in some research papers it's reported to 24 days. Comparatively elderly patents are more susceptible to getting infected as compare to younger patients having devastating disease.[9,10]

To reduce the chances of getting infected with COVID-19 "American Dental Association (ADA)" recommended some precautions which contain checking the fever of patients, emphasizing the significance of usage of rubber dam and suction in optimum volume in the course of procedures of dentistry and washing with one percent H_2O_2 (hydrogen peroxide) and cleaning of all surfaces of clinic specially chairs, handles of doors with high quality of disinfectants.[10]

Currently many dental graduates feel fear of being infected with COVID-19 or spread this disease to others in dental procedures. This anxiety or fear might be because of being unaware about the preventive measures of infection control that should be followed by dental practitioners to keep the patients safe and reduce the chances of infection

among them. This indicate the significance of awareness of the guidelines of COVID-19.[11]

Therefore current study was undertaken to assess the awareness and knowledge of dental students related to the signs & symptoms of (C⊙VID-19) and to check awareness of undergraduate students related to the required preventive measures that should be followed during the dental procedures to avoid the transmission of CȮVID-19.

MATERIAL AND METHODS

Before starting the study permission from Institutional Ethical Committee was obtained. This study was carried out at HBS Dental College, Islamabad & Rawal Institute of Health Sciences (RIHS), Islamabad from August 2020 to January 2021. The study design was descriptive cross-sectional. Population of study was contained undergraduate dental students and postgraduate dental students studying at HBS Dental College, Islamabad. Sample size was calculated taking alpha 0.05, 95% a confidence interval, and a power of 0.85. The main estimation was depending on sample size which is targeted and was calculated to 305 respondents, as reported by Pourhoseingholi et al. in his study.[21]

For study a close ended self-designed questionnaire was made in English language. It was further distributed into three sections: Section A which contained information of socio-demographic characteristics (age, educational status and gender), Section B contained evaluating knowledge and awareness related to the CȮVID-19, Section C comprised attitude of the dental students about this pandemic. The questionnaire was distributed to the study participants via Google forms, WhatsApp (Application of Social Media) and email and not distributed by hand due to the current protocols of social distancing. The collected data was entered and analyzed by using SPSS V-23. Data was presented in form of frequencies, percentages for the knowledge, attitude, and awareness scores. Chi-square test was applied to compare categorical variables in genders. P-value < 0.05 as considered as statistically significant.

RESULTS

The present study included a total of 305 participants out of which 120 students (39.34%) were males, and 185 (60.65%) were females. The majority of the participants i.e., 160 of them belonged to the age group of 17-24 years (52.40%), while 125 of them were between 24-28 years (40.98%) and 20 were above 28 years old (6.55%). 240 participants were undergraduate students pursuing BDS (78.68%) while 65 of them were postgraduate students pursuing MDS (21.31%).

Almost 60.65% respondents correctly answered about statement of incubation period “2-14 days”, and 83.60% replied that CoVID-19 might be present without symptoms. Table 3 represented the students’ response about the transmission preventive measures about CȮVID-19. Out of 305 students 97.70% have replied that frequent washing of hands with soap or alcohol mixed hand sanitizer are satisfactory methods to avoid transmission of Corona virus.

Table 1: Socio demographic characteristics of the respondents

	Category	Percentage (%)	Number
Age	17-24 years	52.40	160
	24-28 years	40.98	125
	>28 years	6.55	20
Gender	Male	39.34	120
	Female	60.65	185
Education	Under graduate (BDS) students	78.68	240
	Postgraduate (MDS) students	21.31	65

Table 2: Knowledge of awareness students of dentistry about corona virus

	Type	Percentage %	Number (n)
Incubation phase of COVID-19 (days)	1 to 14 days	60.65	185
	2 to 7 days	1.96	6
	7 to 14 days	26.22	80
	7 to 21 days	11.14	34
Symptoms of corona virus	Runny nose	27.54	84
	Cough	94.42	288
	Rash	6.88	21
	Joint / muscle pain	52.78	161
	Sore throat	83.60	255
	Fever	92.45	282
	Diarrhea	44.26	135
	Shortness of breath	94.09	287
	Red eyes	13.4	41
	May exist without any symptoms	83.60	255
Transmission Mode	Touching to the surfaces like tables, chairs and doorknobs	94.09	287
	Via sneezing and coughing	86.88	265
	Hand shaking	88.52	270
Tests for screening of corona virus	Polymerase chain reaction (PCR-Real time) with swab of respiratory material	90.16	275
	Real time polymerase chain reaction with sample of serum	47.54	145
	X-ray of chest	36.72	112
Is there a vaccine available for corona virus	Yes	97.37	297
	No	2.62	8
Antibiotics are useful for the treatment of COVID-19	Yes	24.95	75
	No	86.88	265
Total		100%	305

Table 3: Knowledge of preventive measures from transmission of coronavirus

Item		%	N
Measures adopted from prevention of transmission of coronavirus confirmed or suspected patients	Regularly wash hands with alcohol mixed hand sanitizer or soap and water	97.70	298
	Ask confirmed or suspected subjects to wear mask	91.14	278
	Keep confirmed or suspected patients in sufficiently ventilated separate rooms	85.24	260
	Members of complete staff wear clothing which are protective	92.13	281
	Don’t move patients out of their specified area if not necessary	86.88	265
	Regularly clean surfaces with disinfectant which are in contact with confirmed or suspected patients	85.57	261
	Isolation and social distancing	83.60	255

Table-IV: Attitude of Dental Students about coronavirus

Items	*Correct Answers %*	
Are you nervous one of your family members possibly will get an infection?	71.4	218
Spread of Covid-19 should be prevented using standard & isolation provisions given by WHO	83.60	255
Prevalence of Covid-19 could be decreased by active contribution of health care workers in hospital infection control program.	81.33	248
Intensive treatment should be given to diagnosed patients	72.13	220
Health care workers must avail themselves of all information about the virus	87.54	267
Is present information in the Pakistani society sufficient?	26.22	80
Are institutions of government capable of contesting the epidemic of coronavirus?	24.91	76

DISCUSSION

Globally millions of peoples affected due to corona virus. By seeing the present mode of transmission of coronavirus, this research was conducted to determine the level of awareness, knowledge and attitude of undergraduate and post-graduate students of dentistry in Pakistan.

By observing response of all respondents an adequate level of knowledge was observed related to the way of transmission and sign & symptoms of corona virus. The finding of our study can be compare with the finding of Khader, et al. in his study in population of Jordanian dentists.[12] We found a conflict in results of our research with the finding of Khader, et al., study was that our study respondent's response that dentists are in danger as prone to corona virus that is a very uncertain while Khader, et al. reported that corona virus is moderately dangerous to dentists.[11] In this study, dental students were well informed about the measures of disease control dental students were informed very well our this finding is matched with Peng Y et al.[13], he also pointed out same. Majority of our participants had positive attitudes and were of the opinion that we could control the spread of disease by observing precautionary measures. Studies carried out in Saudi Arabia& Pakistan have pointed out similar attitudes among medical and pharmacy students.[14,15] Provision of proper knowledge and perceptions are the essential requirements for the proper preparedness of society. Gasch et al., revealed multidirectional efforts to prepare the masses for controlling the epidemic/pandemic situations[16]. Galvin J pointed out the results of ineffective preparedness in nursing students resulting in increased morbidity and mortality in nursing students in Wales, UK.[17] Our study observed that many students were agree on this point that corona virus is very hazardous virus (86.12%) this findings was closely related to the results of Sengupta et al. observed that from various countries dental students response that corona virus is a dangerous disease.

Out of total sample majority (60.65%) were aware that incubation phase of corona virus is 1-14 days similarly majority knew that its mode of transmission (94.09%). In Chinese population similar knowledge like mode of transmission, incubation phase and viral origin of dental students was observed in KAP study.[13] Nearly (95%) respondents were aware that the regularly hand cleaning by soap or sanitizer and proper social distancing prevent coronavirus. Almost (87.5%) respondents were aware that any gathering in group can transmit this epidemic infection. Our these finding are also matched with another Pakistani study which is performed in Lahore.[19] Results of our study are very similar to the study of Alzoubi et al. which is conducted in Jordan which reported that mask wearing and frequent hand wash are shielding measures which are followed by Jordanian population.[20]

Peoples have to adopt (SOPs) "Standard Operating Procedures" issued by the Ministry of Health Government of Pakistan and WHO in their daily routine and work place to protect us and other members of society.

The limitation of current study include that it was questionnaire based study lacking of interviews of dental students which give an over or under approximation of the answers, so the results can't be indiscriminate

CONCLUSION

In this study dental students are satisfactorily aware from the pandemic and its promising consequences. However in this study fear of transferring the COVID-19 infection to their families and friends was a significant concern. Majority of the dental students looked to have adequate awareness about corona virus and precautionary steps taken to avoid from COVID-19 transmission for both patients and dental students.

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