Original Article

Assessment of the Level of Stress among Dental Students During Covid-19 in Teaching Hospital of Sialkot, Pakistan

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ABSTRACT

Objective: The check the level of stress due to COVID-19 in dental students.

Study Design: Descriptive cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Oral Biology, Islam Dental College, Sialkot for a period of 06 months from June to November 2020.

Materials and Methods: The sample size has calculated with the help of Rao software. The total number of samples were 319 and recruited based on purposive sampling method. The data had analyzed descriptively.

Results: Out of 319 students, 123 were male and 196 of female. The average age of the students are 21.7 years. Maximum number of responders were having severe stress i.e. 186. Four different doubts were asked from the students. Out of 319 responders, 281 were replied no in response of "will you feel comfortable after COVID-19 pandemic" and 38 said yes. Five different questions were asked from the students i.e. Handwashing, using sanitizers, surgical masks, avoid social gathering and hand shaking. 271 replied yes in response of "Handwashing" and 48 said no. While the level of stress was also measured among the responses. 162 students who had severe stress were categorized in yes response, 62 students who had moderate level of stress were categorized in yes response and 47 students who had mild level of stress were categorized in yes response.

Conclusion: The present study explored the levels of stress among the dental students. The finding of the study indicated that the student in a teaching hospital needs the appropriate counselling and professional knowledge regarding the pandemic to deal with the current scenario of COVID-19.

Key Words: Stress, COVID-19, Dental, Pakistan

INTRODUCTION

The world health organization (WHO) defined the pandemic is a spread of any disease or infection in a certain community, or worldwide. [1]

The pandemic infections and a disease travel the across the globe hence appears to be prevailed internationally.[2]

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The COVID-19 is a newly discovered infection of corona viruses, which started in late 2019, from city of china named Wuhan.

Later on, in the year 2020 the disease was declared as a "public health emergency" of the international concern[3]. The Crisis caused by COVID-19 were multiple during the year 2020, and it showed the multiple factors effecting the mental health of people.

The most common term during that phase was Depression due to the scenario and stress of getting effected. Plomecka et al, addressed the psychological symptoms associated with the pandemic among the students are responsible people of family.

The earliest spot of stress due to COVID-19 was China, Although the situation was getting worse among every part of the world. The focused was made on health care workers, children and elder patients during the epidemic. The students and general population are the most vulnerable group with surprised levels of stress during the quarantine period.[4]

The pandemic of COVID-19 effected almost every concern of life, closing the public places, roads, and markets hence the educational system. The education system of entire world transferred to virtual learning [5] The Medical students of Universities perceived being stressful due to tough schedule and competent professional life [6]. The previous studies show that the outbreak of a certain disease effects the mental health of wellbeing. There are many factors involves in developing the stress, but the pandemic related stress is predominant among students [7]. The psychological stress during the pandemic has been studied by many researchers, which showed a positive response against pandemic situation [8]. Many studies shown that stress may have negative impact on the cognitive functioning and learning of medical students. [9-10] The outbreak of COVID-19 had significant psychological stress on the students [11] Many studies in the past found that he stresses and anxiety are more prevalent among other mental disorders with more burden of illness [12]. The crisis of COVID-19 pandemic has intense the situation with multiple risks like exposure to the infection, the limitation to access the educational institutes, unable to access the medical practice and complicated virtual learning has great impact on the student's mental health [13] As the highlighted facts above assessed in different countries, and data available on the mental stress level of dental students it is an urgent need to assess the stress and associated factors. The current study aims to assess the levels of stress among the dental students during COVID-19, in a teaching hospital of Sialkot and Abbottabad, Pakistan.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted in the Department of Oral Biology at Islam dental college Sialkot, Pakistan for a period of 06 months from June to November 2020. The sample size has calculated with the help of Rao software. The total number of samples were 319 and recruited the help of purposive sampling method. Before starting the study, consent were taken from the student voluntarily without any financial benefits and conflict of interest. Dental students from first year to final year had enrolled in the study. The response was collected with the help of different sources i.e. physically taken the data from the students and online google form. There are various sections of the questionnaire such as Demographic, dental health during COVID-19, problems face in study during COVID-19 and anxiety/stress related questions. In questionnaire, 5-point Likert scale was also used to assess the responses. The questionnaire had run in 20 participants for validation. Based on the responses, the modifications took place in the questionnaire. The data had analyzed descriptively with the help of statistical software.

RESULTS

Table 01 described the demographic information of enrolled dental students. Out of 319 students, 123 were male and 196 of female. The students are of various classes from first year to fourth year and house job interns. Maximum number of students were from fourth year i.e. 89 followed by third year i.e. 63 and house job interns are 62. The average age of the students are 21.7 years.

Table No.1: Demographic Information of enrolled students

S.No	Gender	Frequency (N=319)	%age
1	Male	123	38.56
2	Female	196	61.44
Year of Students			
3	First year	47	14.73
4	Second Year	58	18.18
5	Third Year	63	19.75
6	Fourth Year	89	27.89
7	House Job Students	62	19.43

Table: 02 described the sources of COVID-19 information by the dental students. Out of 319 students, maximum was getting information from television source i.e. 132 followed by university officials i.e. 84. While 68 students were getting information from their friend and 35 from newspaper. Further the information was also categorized based on four levels i.e. Excellent, Good, Fair and Poor. Maximum number of students were categorized the getting information as excellent i.e. 139 while 69 were categorized as poor information.

Table No.2: Source of COVID-19 Information by the Dental students

S. No	Sources	Frequency	Percentage
1	TV	132	41.38
2	Newspaper	35	10.98
3	University	84	26.33
4	Friends	68	21.32
Categorization of Source of Information			
5	Excellent	139	43.57
6	Good	68	21.31
7	Fair	43	13.47
8	Poor	69	21.63

Table No.3: Level of Stress during COVID-19

S/No	Level	Frequency	Percentage
1	Severe	186	58.30
2	Moderate	78	24.45
3	Mild	55	17.24

Level of stress were also assessed in below table no 03. The stress are divided into three different categories i.e. severe, moderate and mild. Maximum number of

responders were having severe stress i.e. 186 followed by moderate level i.e. 78 and 55 were of mild stress.

Table number 04 explained the individual doubts of dental students regarding their profession in relation of level of stress. Four different doubts were asked from the students. Out of 319 responders, 281 replied no in response of "will you feel comfortable after COVID-19 pandemic" and 38 said yes. While the level of stress was also measured among the responses. 186 students who had severe stress were categorized in no response, 60 students who had moderate level of stress were categorized in no response and 35 students who had mild level of stress were categorized in no response. The details of other doubts were mentioned in below mentioned table.

Table No.4: **Individual doubts concerning the dental profession and its association with stress level**

Doubts	Response	Levels of Stress		
		Severe (N=186)	Moderate (N=78)	Mild (N=55)
Will you feel comfortable after COVID-19 pandemic	Yes=38	0	18	20
	No=281	186	60	35
Will you perform job efficiently after COVID-19 pandemic	Yes=67	10	17	37
	No=252	176	61	18
Can you think for change the profession	Yes=115	65	42	8
	No=204	121	36	47
Will you prefer to postponed the clinical rotations during COVID-19	Yes=279	169	62	48
	No=40	17	16	7

Table number 05 explained the comparative relation of stress with personal hygiene during COVID-19. Five different questions were asked from the students i.e. Handwashing, using sanitizers, surgical masks, avoid social gathering and hand shaking. Out of 319 responders, 271 replied yes in response of "Handwashing" and 48 said no. While the level of stress was also measured among the responses. 162 students who had severe stress were categorized in yes response, 62 students who had moderate level of stress were categorized in yes response and 47 students who had mild level of stress were categorized in yes response. The details of other questions were mentioned in below mentioned table.

Table No.5: **Comparative relation of stress with Personal hygiene during COVID-19**

Personal Hygiene	Response	Levels of Stress		
		Severe (N=186)	Moderate (N=78)	Mild (N=55)
Handwashing	Yes=271	162	62	47
	No=48	24	16	8
Using of Sanitizers	Yes=259	165	58	36
	No=60	21	20	19
Surgical Masks using	Yes=217	152	53	12
	No=102	34	25	43
Avoiding Social Distancing	Yes=185	136	32	17
	No=134	50	46	38
Avoid Hand Shaking	Yes=163	126	28	9
	No=156	60	50	46

DISCUSSION

Stress is sum of mental and emotional tension of a person that has many consequences and response to community. The medical students are the easiest target of emotional stress and physical tiredness, especially females as addressed in a study. [14] The students form fourth professional year were more 27.8% responsive against the stress whereas the least majority of response were collected from the first-year students from the teaching hospital, the students on their house job were approached to assess the stress, hence 19.4% response were collected from them [15] The students were approach to collect the information obtained about the COVID-19, the vast majority 41.3% of students obtained information from the television, as the media plays the important role in delivering the information [16] To assess the stress and its levels the stress was divided into three different categories Maximum number of responders were having severe stress i.e., 186 followed by moderate level i.e., 78 and 55 had mild stress similarly found in a study conducted. The reason behind developing the stress among the students can be physiological strains and hectic schedule, hence during the COVID-19 pandemic the restriction and limited resources during the quarantine period played the vital role similarly showed in a study [17] Many researchers tried to assess the factors hence the proven factors in studies showed that the virtual learning system and complex situation due to COVID-19 has scared the dental student. Presently the situation a developing country like Pakistan, the unavailability of medicines and appropriate vaccines for infected people is the scenario of a big concern, Sanders et al addressed the similar issues that the restriction and limited movement to the institutes has a role to develop the stress in all age groups [18]. The students were also approach to assess the stress regarding their profession. Out of all

responders, the 281 students addressed the uncomfortable situation after COVID-19 pandemic and 186 students had severe stress were categorized in no response, 60 students who had moderate level of stress were categorized in no response and 35 students who had mild level of stress were categorized in no response in accordance to our study [19] The comparative relation of stress with personal hygiene during COVID-19 was the important issue address in researches[20] The regular practices of Handwashing, using sanitizers, surgical masks, avoid social gathering and hand shaking were the main precautionary measure advised to every citizen and the most frequently practiced precaution was "Handwashing. Among those responses the 162 students who had severe stress were categorized for positive response regarding the handwashing, 62 students who had moderate level of stress were categorized in yes response and 47 students who had mild level of stress were categorized in yes response [21-22] The results of the study showed that stress was prevalent among the dental students during the pandemic period due to fear of getting infected, and anxiety levels and emotional stress were among those students with less knowledge and inability to access the appropriate health care system.

CONCLUSION

The present study explored the stress the levels of stress and anxiety among the dental students. The finding of the study indicated that the student in a teaching hospital needs the appropriate counselling and professional knowledge regarding the pandemic to deal with the current scenario of COVID-19. It is the emergent time to focus on the appropriate guidance and delivering the enough knowledge to the students and health care professionals as main Participants of the society.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. AlAteeq DA, Aljhani S, AlEesa D. Perceived stress among students in virtual classrooms during the COVID-19 outbreak in KSA. J Taibah University Medical Sci 2020;15(5):398-403.

2. Rehman U, Shahnawaz MG, Khan NH, Kharshiing KD, Khursheed M, Gupta K, Uniyal R. Depression, anxiety and stress among Indians in times of Covid-19 lockdown. Community Mental Health J 2020;1-7.

3. Ellis WE, Dumas TM, Forbes LM. Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement 2020;52(3):177.

4. Husky MM, Kovess-Masfety V, Swendsen JD. Stress and anxiety among university students in France during Covid-19 mandatory confinement. Comprehensive Psychiatr 2020;102:152191.

5. Wang X, Hegde S, Son C, Keller B, Smith A, Sasangohar F. Investigating mental health of US college students during the COVID-19 pandemic: cross-sectional survey study. J Medical Internet Research 2020;22(9):e22817.

6. Schiff M, Zasiekina L, Pat-Horenczyk R, Benbenishty R. COVID-related functional difficulties and concerns among university students during COVID-19 pandemic: A binational perspective. J Community Health 2020;1-9.

7. Son C, Hegde S, Smith A, Wang X, Sasangohar F. Effects of COVID-19 on college students' mental health in the United States: Interview survey study. J Medical Internet Res 2020;22(9): e21279.

8. Nakhostin-Ansari A, Sherafati A, Aghajani F, Khonji MS, Aghajani R, Shahmansouri N. Depression and anxiety among Iranian Medical Students during COVID-19 pandemic. Iranian J Psychiatr 2020;15(3):228.

9. Liu X, Liu J, Zhong X. Psychological state of college students during COVID-19 epidemic 2020. Available at SSRN 3552814.

10. Thawabieh AM, Qaisy LM. Assessing stress among university students. Am Int J Contemporary Res 2012;2(2):110-116.

11. Średniawa A, Drwiła D, Krotos A, Wojtaś D, Kostecka N, Tomasik T. Insomnia and the level of stress among students in Krakow, Poland. Trends Psychiatr Psychotherap (AHEAD) 2019.

12. Ofoegbu F, Nwadiani M. Level of Perceived Stress Among Lectures in Nigerian Universities. J Instructional Psychol 2006;33(1):5-20.

13. Yusoff MSB, Rahim AFA, Yaacob MJ. Prevalence and sources of stress among Universiti Sains Malaysia medical students. Malaysian J Med Sci: MJMS 2010;17(1):30.

14. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Research 2020.

15. Chetterje P. Gaps in India's preparedness for COVID-19 control. Lancet Infectious Diseases 2020; 20(5):544.

16. Cheng V, Wong S, Chuang V, So S, Chen J, Sridhar S, et al. The role of community-wide wearing of face mask for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2. J Infection 2020.

17. Currie C, Molcho M, Boyce W, Holstein B, Torsheim T, Richter M. Researching health inequalities in adolescents: The development of the Health Behaviour in School-Aged Children (HBSC) Family Affluence Scale. Social Science Med 2008;66(6):1429–1436.

18. Sanders J, Monogue M, Jodlowski T, Cutrell J. Pharmacologic treatments for Coronavirus Disease 2019 (COVID-19). JAMA 2020.

19. Dandekar A, Ghai R. Migration and reverse migration in the age of COVID-19. Economic & Political Weekly 2020;55(19):28–31.

20. Goyal K, Chauhan P, Chhikara K, Gupta P, Singh M. Fear of COVID 2019: First suicidal case in India! Asian J Psychiatr 2020;49:101989.

21. Hall R, Hall R, Chapman M. The 1995 Kikwit Ebola outbreak: Lessons hospitals and physicians can apply to future viral epidemics. General Hospital Psychiatr 2008;30(5):446–452.

22. Leung G, Lam T, Ho L, Ho S, Chan B, Wong I, et al. The impact of community psychological responses on outbreak control for severe acute respiratory syndrome in Hong Kong. J Epidemiol Community Health 2003;57(11):857–863.