

Original Article

DOI: <https://doi.org/10.47648/jswmc2022v1201-01>

Factors Affecting Stress among the Selected Dental College Students in Dhaka

Rani J¹, Hossain KJ², Pinki SS³, Mostarin S⁴, Akter F⁵, Nurunnabi M⁶, Rahman M⁷, *Abbas MG⁸

Abstract

Background: Bachelor of Dental Surgery (BDS) course is a long course for undergraduate level in the medical sciences, which causes different types of stress among the significant number of students. Those stresses critically affect the physical and mental health of the students, which also effects on their academic performance and professional practice.

Methods: A cross sectional study was carried out to determine the factors affecting stress among 174 undergraduate dental students of selected three dental medical colleges in Dhaka through a pretested semi-structured questionnaire with the modified version of the Dental Environment Stress (DES) questionnaire.

Results: Half of the undergraduate dental students (49.4%) were found in moderately stressful. As a sources of stress, personal factors were highly stressful, training factors were slightly stressful and academic environment were moderately stressful among the dental students. Level of stress were statistically significant with age group (0.001), marital state (0.047), studying class (0.001), conflict with parents over career (0.031) and reduced sleeping times (0.001).

Conclusion: The study shows that a proper academic environment needs to be formed for dental students through modifying the academic curriculum and evaluation systems and proper counseling program to improve their motivation, self-confidence and productivity in their performance.

Keywords: Stress, dental college students, dental environment stress questionnaire, moderately stressful.

JSWMC 2022 [12(01)] P: 12-17

Introduction

Stress defined as the pressure or worry initiated by problems in one's life.

Corresponding author: Md Golam Abbas PhD

Assistant Professor, Department of Occupational and Environmental Health, National Institute of Preventive and Social Medicine, Dhaka 1212, Bangladesh.

Email: abbasgolam@yahoo.com

1. Jhumpa Rani, MPH Fellow, Department of Health Education, National Institute of Preventive and Social Medicine, Dhaka 1212, Bangladesh.
2. Kazi Jahangir Hossain PhD, Principal and Professor, Shaheed Monsur Ali Medical College, Dhaka 1230, Bangladesh.
3. Sadia Sobhan Pinki, Medical Officer (OSD), Directorate General of Health Services, Dhaka 1212, Bangladesh.
4. Somaya Mostarin, MPH Fellow, Department of Health Education, National Institute of Preventive and Social Medicine, Dhaka 1212, Bangladesh.
5. Farzana Akter, Dental Unit, Sylhet MAG Osmani Medical College, Sylhet 3100, Bangladesh.
6. Mohammad Nurunnabi, Assistant Professor (CC), Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.
7. Mijanur Rahman, Director and Professor, MIS & Line Director, HIS & e-Health, Directorate General of Health Services, Dhaka 1212, Bangladesh.
8. Md Golam Abbas PhD, Assistant Professor, Department of Occupational and Environmental Health, National Institute of Preventive and Social Medicine, Dhaka 1212, Bangladesh.

The perception of stress, in fact is frequently by one's personal scheme of beliefs and attitudes. Self-cognitions, mediate the perceived stressor and student behavior. Academic performance improved, if stress and distress levels became lower by controlling the self-cognition associated with self-efficacy.¹ Student's performances again drop due to added stresses in their life, study and academic stresses.² Stress among the first and second year dental students are mainly academic in comparison to mainly clinical and interpersonal relationship related stress among students during clinical years due to the pressures of starting clinical practices, financial problems, social issues with colleagues or patients, and the stress of practice management.³ It seems that some of

the stressors of dental educational environment are common and subjective.⁴ The origin of these stresses may also present in the process of dental education.⁵

High levels of stresses are associated with dental practice, it appears to induct during dental college and is manifested differently during different years of study. Most common stressors in dental practices are time and schedule, management of nervous patients, financial involvement, non-cooperative patients, problems with staffs and equipment's, and last but not the least, environment of the workplace. These stressors can lead to development of substance abuse, anxiety, depression, absenteeism, decrease work efficiency etc.⁶

Lack of relaxation and adequate sleeping are the common causes of stress and affect the quality of the student life. It also causes hyper arousal, which makes the balance between sleep and restlessness distressed.⁷ Stress among dental students, considering distinct instants of the academic trajectory and grasp the perception of the subjects face this prospect.⁸

Methods

Study design and settings

This cross sectional study was conducted to determine the factors affecting stress among 174 undergraduate dental students (3rd and 4th year BDS course). The study was commenced in the purposively selected three Dental Medical Colleges named Dhaka Dental College, Dental unit of Shaheed Suhrawardy Medical College and Marks Dental College located in Dhaka, Bangladesh.

Data processing

A pre-tested semi-structured questionnaire was used for data collection through face to face interview after obtaining informed written consent from each participant. Modified version of the Dental Environment Stress (DES) questionnaire used for assessment of stresses.

Data analysis

The data were checked and cleaned followed by making a template, categorizing data, coding and recoding into IBM SPSS v20. The analysis was carried out by using both descriptive and inferential statistics, and presented with frequency tables and chart.

Ethical approval

Ethical approval was obtained from the Institutional Review Board (IRB) of National Institute of Preventive and Social Medicine (NIPSOM), Dhaka 1212, Bangladesh.

Results

Table 1 depicts the socio-demographic characteristics of the undergraduate dental students. The mean age of the students was 22.62 years with standard deviation (SD) ± 0.79 years. Two- third of the students (67.8%) from 4th year and three-fifth of them (59.2%) in the age group 23-24 years. Three-fourth of the students (74.7%) were male. Regarding marital state, one- tenth of the students (9.8%) were married and two- fifth of the students (39.1%) were not living with their parents among the total. Majorities of the students (70.1%) came from middle income families (20,001-50,000 BDT).

Table 2 describes the stress related factors which are composed of personal, training and academic environment related factors among the dental students. Lack of time for relaxation, reduced holidays, reduced sleeping times and fear of unemployment after graduation found as highly stressful personal factors. Inadequate time for exercise, personal physical health, financial responsibilities, lack of confidence to be a successful dental student, lack of confidence in self to be a successful dentist and conflict with parents over career were slightly stressful. Responsibilities for comprehensive patient care, confidence in own clinical decision making, difficulty in learning clinical decision, difficulty in learning precision manual skills required in preclinical and laboratory works and the atmosphere created by teaching or clinical staffs were found as slightly stressful training factors.

Competition for grades and examinations & grade system were found as moderately stressful academic environment related factors.

Figure 1 illustrates the level of stress among the students. Moderate stress found within 86(49.%) and high stress found within 23(13.2%) students.

Table 3 interprets that level of stress were statistically significant with age group (0.001), marital state (0.047), studying class (0.001), conflict with parents over career (0.031) and reduced sleeping times (0.001).

Table 1: Socio-demographic state of the students (n=174)

Variables		n(%)
Age (years)	21-22	71(40.8)
	23-24	103(59.2)
	Mean±SD=	22.62±0.79
Sex	Male	130(74.7)
	Female	44(25.3)
Studying class	3 rd Year	56(32.2)
	4 th Year	118(67.8)
Marital state	Unmarried	157(90.2)
	Married	17(9.8)
Living with parents	Yes	106(60.9)
	No	68(39.1)
Average monthly family income (BDT)	≤20,000	19(10.9)
	20,001-50,000	122(70.1)
	>50000	33(19.0)

Table 2: Stress related factors among the dental students (n=174)

	Not stressful n(%)	Slightly stressful n(%)	Moderately stressful n(%)	Highly stressful n(%)
Personal factors				
Lack of time for relaxation	13(7.5)	51(29.3)	46(26.5)	6(36.8)
Reduced holidays	3 (1.7)	30(17.2)	46(26.4)	95(54.4)
Reduced sleeping times	10(5.7)	44(25.3)	56(32.2)	64(36.8)
Inadequate time for exercise	30(17.2)	79(45.4)	40 (23.0)	25(14.4)
Personal physical health	41(23.6)	76(43.7)	42(24.1)	15(8.6)
Financial responsibilities	62(35.6)	65(37.4)	33(19.0)	14(8.0)
Lack of confidence to be a successful dental student	41(23.6)	88(50.6)	23(13.2)	22(12.6)
Lack of confidence in self to be a successful dentist	36(20.7)	89(51.1)	24(13.8)	25(14.4)
Fear of unemployment after graduation	9(5.2)	38(21.8)	40(23.0)	87(50.0)
Conflict with parents over career	103(59.1)	28(21.8)	11(6.3)	22(12.6)
Training factors				
Responsibilities for comprehensive patient care	36(20.7)	100(57.5)	23(13.2)	15(8.6)
Confidence in own clinical decision making	44(25.3)	96(55.2)	21(12.1)	13(7.5)
Difficulty in learning clinical decision	41(23.6)	91(52.3)	29(16.7)	13(7.5)
Difficulty in learning precision manual skills required in preclinical and laboratory works	57(32.8)	69(39.7)	34(19.5)	14(8.0)
Difficulties in communicating with teaching or clinical staffs	81(46.6)	60(34.5)	21(12.1)	12(6.9)
The atmosphere created by teaching or clinical staffs	56(32.1)	66(37.9)	35(20.1)	17(9.8)
Shortage of allocated clinical times	11(6.3)	39(22.4)	48(27.6)	76(43.7)
Academic environment related factors				
Amount of assigned class works	33(19.0)	77(44.3)	26(14.9)	38(21.8)
Lack of time to do assigned class works	26(14.9)	72(41.4)	43(24.7)	33(19.0)
Difficulty of assigned class works	20(11.5)	90(51.7)	35(20.1)	29(16.7)
Rules and regulation of classes	71(40.8)	58(33.3)	22(12.6)	23(13.2)
Examinations and grade system	19(10.9)	47(27.0)	57(32.8)	51(29.3)
Competition for grades	20(11.5)	46(26.4)	55(31.6)	53(30.5)
Fear of failing in examinations	2(1.1)	26(14.9)	21(12.1)	125(71.8)
Discrimination between students due to class performance	95(54.6)	41(23.6)	22(12.6)	16(9.2)

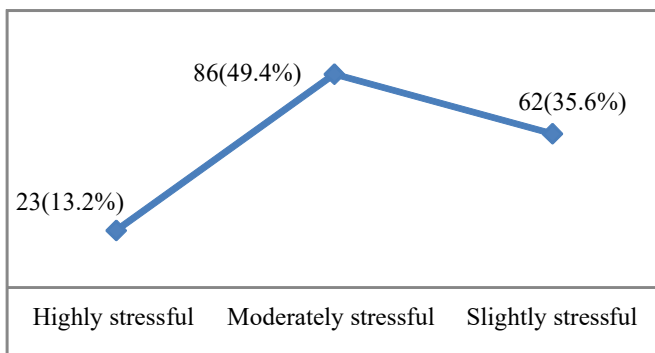


Figure 1: Level of stress among the dental students (n=174)

Table 3: Association of level of stress with different factors (n=174)

	Slightly stressful n(%)	Moderately stressful n(%)	Highly stressful n(%)	Total	P-value
Age group (years)					
21-22	45(63.4)	25(35.2)	1(1.4)	71(100)	0.001*
23-24	40(38.8)	61(59.3)	2(1.9)	103(100)	
Marital state					
Married	5(29.4)	10(58.8)	2(11.8)	17(100.)	0.047*
Unmarried	80(51.0)	76(48.4)	1(0.6)	157(100)	
Studying class					
3 rd year	40(71.4)	16(28.6)	0(0.0)	56(100)	0.001*
4 th year	45(38.1)	70(59.3)	3(2.6)	118(100)	
Living with parents					
Yes	65(61.3)	41(38.7)	0(0.0)	106(100)	0.001*
No	20(29.4)	45(66.2)	3(4.4)	68(100)	
Conflict with parents over career					
By him/herself	58(56.3)	44(42.7)	1(0.9)	103(100)	0.031*
By parents	27(38.0)	42(59.2)	2(2.8)	71(100)	
Inadequate time for exercises					
Yes	19(63.3)	11(36.7)	0(0.0)	30 (100)	0.219
No	66(45.8)	75(52.1)	3(2.1)	144(100)	
Reduced sleeping times					
Yes	38(70.4)	16(29.6)	0(0.0)	54(100)	0.001*
No	47(39.2)	70(58.3)	3(2.5)	120(100)	

*Statistically significant

Discussion

The mean age of the student's was 22.62 ± 0.79 years. There was a study in King Saud University in Saudi Arabia showing nearly similar result. They explored mean age of the respondents was 22 years. In this study, most of the students 90% were unmarried. In King Saud University, Saudi Arabia showing similar result that is 95.7% respondents were unmarried and 4.3% were married.⁹ There was

a study in India about factors related to stress among Indian dental students showing most of the participants were female (57%) like this study.¹⁰

In this study, about personal factors found that most of the students were highly stressed. Lack of time for relaxation, reduced holidays, reduced sleeping times and fear of unemployment after graduation found as

highly stressful personal factors. Inadequate time for exercise, personal physical health, financial responsibilities, lack of confidence to be a successful dental student, lack of confidence in self to be a successful dentist and conflict with parents over career were slightly stressful. In Iran about evaluation of the causes of the stress among dental students they found lack of time for relaxation was the top stressor.¹¹

Responsibilities for comprehensive patient care, confidence in own clinical decision making, difficulty in learning clinical decision, difficulty in learning precision manual skills required in preclinical and laboratory works and the atmosphere created by teaching or clinical staffs were found as slightly stressful training factors. In this study, limited allocated clinical time was highly stressful. The percentage was 43.7%. There was a study about the factors affecting stress among Indian dental student, he found the increase in stress in the third and fourth years may be due to the clinical training, which leaves less time for academics.¹² There was another study in Iran about evaluation of stress among dental students where they found the transition to clinical years was highly stressful.¹¹

Stress related academic environmental factors were moderately stressful. Competition for grades, and examinations and grade system were found as moderately stressful academic environment related factors. A study conducted in dental college, Chennai showed that, academic items such as the assigned works are highly stressful for the majority of the respondents (56%).¹²

Conclusion

This study was conducted among the dental students of some selected dental colleges in Dhaka, where the half of the dental students were moderately stressful. It is clear that academic requirements and the clinical settings are the most stressful which also affects the personal factors faced by students during the study period. Hence, it is essential to review the curriculum and also to incorporate added training in handling the patients in clinical

settings. Finally, stress cannot be completely removed from dental education system, it can be significantly minimized by proper counseling and promoting productivity.

Acknowledgements

The authors are indebted to all the dental students, who took part in this study and also dental colleges authorities for their kind cooperation.

Competing Interests: The authors declared no competing interest associated with this manuscript.

Funding: This study did not received any fund.

References

1. Paudel S, Subedi N, Shrestha A. Stress and its relief among undergraduate dental students in a tertiary health care centre in Eastern Nepal. *Dentistry*. 2013;3(157):2161-1122.
DOI: <https://doi.org/10.4172/2161-1122.1000157>
2. Kumar S, Dagli RJ, Mathur A, Jain M, Prabu D, Kulkarni S. Perceived sources of stress amongst Indian dental students. *European Journal of Dental Education*. 2009;13(1):39-45.
DOI: <https://doi.org/10.1111/j.1600-0579.2008.00535.x>
3. Babar MG, Hasan SS, Ooi YJ, Ahmed SI, Wong PS, Ahmad SF, Mnm-Rosdy NM, Malik NA. Perceived sources of stress among Malaysian dental students. *International Journal of Medical Education*. 2015;6:56.
DOI: <https://doi.org/10.5116/ijme.5521.3b2d>
4. Mirsaifi R, Daneshkazemi A, Sadeghian HA, Vosooghi MR. Evaluating Stress Level Causes by Studying Environment and Related Factors in Dental Students of Yazd Dental College in 2014. *Avicenna Journal of Dental Research*. 2015;7(1):8.
DOI: <https://doi.org/10.17795/ajdr-25193>
5. Al-Zubair NM, Sultan Al-ak'hali M, Ghandour IA. Stress among dentists in Yemen. *The Saudi Journal for Dental Research*. 2015;6(2):140-5.
DOI: <https://doi.org/10.1016/j.sjdr.2014.09.003>

6. Rafeek RN, Marchan SM, Naidu RS, Carrotte PV. Perceived competency at graduation among dental alumni of the University of the West Indies. *Journal of Dental Education*. 2004;68(1):81-88.
DOI:<https://doi.org/10.1002/j.0022-0337.2004.68.1.tb03741.x>
7. Sardar KP, Bari YA, Akhtar M. Association among improper sleep, stress and parafunctional habits in dental students at Dow University of Health Sciences. *Journal Pakistan Dental Association*. 2015;24(04):194-8.
8. Langoski JÉ, Klipan LB, Bordin D, Ferracioli MU, Pinto MH, Fadel CB. Stress among Brazilian Dental students in different periods: prevalence and perceptions. *Psychology*. 2015;6(03):297-304.
DOI:
<https://doi.org/10.4236/psych.2015.63030>
9. Al-Sowygh ZH. Academic distress, perceived stress and coping strategies among dental students in Saudi Arabia. *The Saudi Dental Journal*. 2013;25(3):97-105.
DOI:
<https://doi.org/10.1016/j.sdentj.2013.05.002>
10. Acharya S. Factors affecting stress among Indian dental students. *Journal of Dental Education*. 2003;67(10):1140-8.
DOI:<https://doi.org/10.1002/j.0022-0337.2003.67.10.tb03707.x>
11. Hamissi JH, Tabatabaei S, Hamissi H, Hamissi Z. Evaluation of the causes of stress among dental students in Iran. *Acta Medica Mediterrane*. 2016;32:1335-9.
12. Sriram K. Stress Experienced by Undergraduate dental Students performing dental treatment for the first time-A cross sectional study. *Journal of Pharmaceutical Sciences and Research*. 2016;8(10):1215-22.