

# Perceived Source of Stress and Associated Stressors among Medical and Dental Students of in a Medical College of Chitwan

Rosina Bhattarai,<sup>1</sup> Anisha Pandey,<sup>2</sup> Prabhas Roy,<sup>1</sup> Sweta K.C<sup>3</sup>

<sup>1</sup>Department of Community Dentistry, <sup>2</sup>Department of Prosthodontics, <sup>3</sup>Department of Community Medicine, College of Medical Sciences, Bharatpur, Nepal.

## ABSTRACT

### Introduction

Medical and dental students are subjected to high level of stress whether academic, social or health related. Stress is manifested as fatigue, tension, dizziness, inability to fall asleep, irritation, anxiety, suicidal thoughts thereby degrading their quality of life. Therefore, this study was conducted with an objective of assessing perceived stress, stressors and the severity of the stressors. The objective of this study is to find the perceived stress was measured in Medical and Dental Students.

### Methods

A cross-sectional study was conducted among 272 medical and dental students of College of Medical Sciences. Perceived Stress Score (PSS) scale with 10 items questions was used for identifying perceived stress. 32 potential stressors whose severity was rated using Likert scale using score 1 for never/rarely, score 2 for sometimes and score 3 for often/always was used. Ethical clearance was obtained from College of Medical Sciences Teaching Hospital - Institutional Review Committee.

### Results

Using mean of PSS score, it was found that 74.26% of the students were stressed. Statistically significant difference was found between gender and stress score. The most frequently occurring academic stressors was reported to be performance in examination (37.9%). Similarly, the most commonly occurring psycho-social stressors was found to be relation with opposite sex (44.5%) which covered the greatest percentage among all stressors.

### Conclusions

A large proportion of students in both dental and medical studies are experiencing stress especially on academic and psycho-social aspects. All the stressors must be addressed and students should be taught stress management techniques.

**Keywords:** academic stressors; psycho-social stressors; PSS-10.

**Correspondence:** Dr. Rosina Bhattarai, Department of Community Dentistry, College of Medical Sciences, Bharatpur-10, Nepal. Email: rosinabhattarai@gmail.com. Phone: +977-9841 390383.

## INTRODUCTION

It is widely agreed upon that medical and dental education is highly stressful with students being subjected to academic pressures, adjustment in new environment along with social, emotional and physical problems leading to negative impact in their learning ability, academic performance and day to day lifestyle.<sup>1</sup> Stress begins from the start of their academic journey itself. Not many see it in a motivational and constructive manner as expected in the past. Stress brings about the feeling of fear, anger, helplessness, guilt and sense of incompetence likely to be associated with physical and psychological morbidity.<sup>2</sup>

Sources of stress have been categorized into three areas based on academic pressure, psycho-social pressure and health related issues.<sup>1</sup> Stress in students is manifested as fatigue, tension, dizziness, inability to fall asleep, irritation, anxiety, suicidal thoughts thereby degrading their quality of life.<sup>3,4</sup> Medical and dental students are exposed to a competitive environment with regular exams, assessments, postings and practicals causing changes in their dietary and sleep pattern often resulting in substances abuse to cope up with the stress.<sup>5</sup>

Students from different parts of the country as well as international students have been a part of medical and dental schools in Bharatpur, Chitwan since a long time. These students are constantly adjusting to their new environment and social circles. No study have been conducted in this region regarding the stressors among medical and dental students. Therefore, this study was conducted with an objective of assessing perceived stress, stressors and their severity.

## METHODS

A cross sectional study was conducted among MBBS and BDS students of College of Medical Sciences, Bharatpur using self-administered questionnaire from February 2023 to April

2023. Prior to data collection, students were informed about the purpose of the study and only those who gave consent participated in the study. Ethical clearance was obtained from College of Medical Sciences - Teaching Hospital Institutional Review Committee (Reference number: COMSTH-IRC/2022-079). MBBS and BDS students from first year to final year were included in the study whereas those who were not willing to participate in the study were excluded from the study. Perceived stress was measured using Perceived Stress Scale (PSS) comprising of 10 questions with responses varying from 0 to 4 (Never, almost never, sometimes, often and very often). It is a widely used scale with internal consistency of 0.85 (Cronbach alpha coefficient) and test-re-test reliability of 0.85.<sup>4</sup> The score ranges from 0 to 40 where higher the score, greater is the level of stress. Questionnaire included 32 potential stressors whose severity was rated using Likert scale using score 1 for never/rarely, score 2 for sometimes and score 3 for often/always. Data analysis was done using Statistical Package for Social Sciences version 21. The mean score of perceived stress was calculated. The frequency and percentage of students subjected to stress were calculated. Percentage frequency of stress occurrence was calculated for the stressors from academic, psycho-social and health domain. Perceived stress or stressed participants were considered as dependent variable while stressors were considered as independent variable.

## RESULTS

Total of 272 students from MBBS and BDS participated in the study, out of which 127 of them i.e. 46.7% were males while 145 of them i.e. 53.3% were females. The mean age of the total study participants was 21.54 years, where mean age of males was 21.88 while mean age of female was 21.16. Majority of the students participating in the study were basic science students i.e. from 1<sup>st</sup> and 2<sup>nd</sup> year. 94.1% of the study participants

were Nepalese with 52.2% MBBS students and 47.8% BDS students.

**Table 1.** Showing demographic information of participating students.

Variable	Frequency (Percentage)
<b>Gender</b>	
Male	127 (46.7)
Female	145 (53.3)
<b>Year</b>	
1 <sup>st</sup>	81 (29.8)
2 <sup>nd</sup>	88 (32.4)
3 <sup>rd</sup>	47 (17.3)
4 <sup>th</sup>	20 (7.4)
Final	36 (13.2)
<b>Nationality</b>	
Nepali	256 (94.1)
Foreign	16 (5.9)
<b>Course</b>	
BDS	130 (47.8)
MBBS	142 (52.2)

Table 2 shows the responses of students to perceived stress scores. Students with PSS score of 20 and above were considered to be stressed. Out of total participants, 202 of them i.e 74.26 showed PSS score of 20 or more suggesting that they were stressed whereas 69 participants i.e 25.4% showed PSS score less than 20. Among this, 76.8% of the BDS students were stressed which was slightly more than MBBS students where 71.5% reported presence of stress.

Perceived Stress Score was calculated and mean PSS score in the study population was found to be 21.24±4.18. Mean PSS score in female was found to be more in female than male. Independent t-test was applied between gender, course of study and nationality. Statistically significant difference was found between gender and stress score.

**Table 2.** Student's responses to the perceived stress scale.

Statement	Never	Almost never	Sometimes	Often	Very often
Upset In the last month because of some unexpected event	14 (5.1)	37 (13.6)	142 (52.2)	53 (19.5)	26 (9.6)
Unable to control the important things in the life in the last month	23 (8.5)	39 (14.3)	138 (50.7)	54 (19.9)	18 (6.6)
Felt nervous and stressed In the last month	7 (2.6)	24 (8.8)	116 (42.6)	78 (28.7)	47 (17.3)
Felt confident about ability to handle personal problems in the last month	7 (2.6)	22 (8.1)	80 (29.4)	109 (40.1)	54 (19.9)
Felt that things were going your way in the last month	21(7.7)	51(18.8)	128 (47.1)	59 (21.7)	13 (4.8)
Could not cope with all the things that you had to do in the last month	27 (9.9)	57 (21.0)	132 (48.5)	42 (15.4)	14 (5.1)
Able to control irritation in your life in the last month	9 (3.3)	45 (16.5)	112 (41.2)	84 (30.9)	22 (8.1)
Felt that on the top of things in the last month	34 (12.5)	65 (23.9)	130 (47.8)	32 (11.8)	11 (4)
Angered because of things that were outside your control in the last month	15 (5.5)	48 (17.6)	121 (44.5)	57 (21)	31 (11.4)
Felt difficulties were piling up so high that you could not overcome them in the last month	13 (4.8)	61 (22.4)	127 (46.7)	54 (19.9)	17 (6.3)

Variables	Mean PSS score	P value
<b>Gender</b>		
Male	20.68±3.89	<b>0.018*</b>
Female	21.88±4.42	
<b>Course</b>		
MBBS	21.23±3.78	0.95
BDS	21.26±4.60	
<b>Nationality</b>		
Nepali	21.20±4.24	0.38
Foreign	21.93±3.15	

\*Statistically significant, Independent t-test applied

Table 4 shows frequency and severity of various stressors. Severity was rated in a ten point Likert scale for each stressors. The most frequently occurring academic stressors was reported to be performance in examination (37.9%) followed by academic curriculum and performance in practicals. Similarly, the most commonly occurring psycho-social stressors was found to be relation with opposite sex (44.5%) followed by lack of time for recreation (31.3%). The most commonly occurring health related stressors was found to be sleeping difficulties as mentioned by 16.2% of the study participants.

Source of stress	Frequency of occurrence			Severity	
	Never / Rarely	Sometimes	Often / Always	Median	IQR
<b>Academic stressors</b>					
Frequency of examination	42 (15.4)	143 (52.6)	87 (32)	3	2-3
Performance in examination	38 (14)	131 (48.2)	103 (37.9)	3	2-4
Academic curriculum	50 (18.4)	134 (49.3)	88 (32.4)	3	2-4
Dissatisfaction with class lectures	58 (21.3)	143 (52.6)	71 (26.1)	3	2-4
Non availability of adequate learning material	102 (37.5)	128 (47.1)	42 (15.4)	4	3-8
Performance of practicals	54 (19.9)	130 (47.8)	88 (32.4)	3	2-4
Lack of special guidance from faculty	91 (33.5)	125 (46)	56 (20.6)	3	2-3
Difficulty reading textbooks	96 (35.3)	149 (54.8)	27 (9.9)	4	2-5
Class attendance	127 (46.7)	84 (30.9)	61 (22.4)	3	2-4
<b>Psychosocial stressors</b>					
Pressure of becoming a doctor	116 (42.6)	110 (40.4)	46 (16.9)	1	1-8
Lack of time for recreation	45 (16.5)	142 (52.2)	85 (31.3)	3	3-4
Competition with peers	127 (46.7)	112 (41.2)	33 (12.1)	3	2-4
High parental expectations	132 (48.5)	107 (39.3)	33 (12.1)	3	2-5
Loneliness	90 (33.1)	120 (44.1)	62 (22.8)	3	3-4
Family problems	160 (58.8)	94 (34.6)	18 (6.6)	4	2-5
Accommodation away from home	110 (40.4)	106 (39)	56 (20.6)	4	2-5
Political situation in the country	179 (65.8)	62 (22.8)	31 (11.4)	3	2-4
Relation with opposite sex	37 (13.6)	114 (41.9)	121 (44.5)	3	2-5
Lack of entertainment in the institution	126 (46.3)	101 (37.1)	45 (16.5)	4	3-6
Difficulty in the journey back home	132 (48.5)	108 (39.7)	29 (10.7)	1	1-4
Quality of food in mess	83 (30.5)	126 (46.3)	63 (23.2)	1	1-2
Inability to socialize with peers	111 (40.8)	130 (47.8)	31 (11.4)	4	4-6
Living conditions in the hostel	164 (60.3)	81 (29.8)	27 (9.9)	4	3-8
Member of fraternity or sorority	155 (57.0)	103 (37.9)	14 (5.1)	3	2-3
Lack of personal interest in medicine/dentistry	204 (75)	61 (22.4)	7 (2.6)	4	2-5
Adjustment with roommate/s	172 (63.2)	84 (30.9)	16 (5.9)	3	2-3

<b>Health related</b>					
Sleeping difficulties	104 (38.2)	124 (45.6)	44 (16.2)	4	4-5
Nutrition	153 (56.3)	103 (37.9)	16 (5.9)	1	1-4
Exercise	139 (51.1)	110 (40.4)	23 (8.5)	3	2-3
Quality of food	135 (49.6)	108 (39.7)	29 (10.7)	4	4-5
Physical difficulties	230 (84.6)	38 (14)	4 (1.5)	3	2-5
Alcohol/Drug abuse/Smoking	239 (87.9)	32 (11.8)	1 (0.4)	4	2-5

## DISCUSSION

Medical and dental students are subjected to a great deal of stress as they are expected to gain so much of knowledge along with mastering their clinical skills as well. Our study revealed that 74.3% of the students are feeling stressed, which is alarmingly high compared to study in Uttar Pradesh (48%)<sup>5</sup>, Surat (41.2%)<sup>6</sup>, Iran (44%)<sup>6</sup> and Malaysia (41.9%)<sup>7</sup>

Statistically significant difference was found in stress scores among males and females. Mean PSS score was found to be more in females which is similar to the study by Chaudhary et al.<sup>5</sup> and Shah et al.<sup>8</sup>

Most of the students had experienced academic as well as psycho-social stressors compared to health related stressors. This finding corroborates with the finding by Chandrashekhar Shreemaeddy<sup>1</sup> where most students had experienced either academic or psycho-social stressors. Among the academic stressors 'dissatisfaction with the class lectures', 'vastness of academic curriculum/syllabus', 'frequency of examinations' and 'performance in the examinations' occurred more frequently and also the students rated these stressors as severe. Other studies have also reported that academics/exams are common sources of stress among medical students like Chaudhary et al.<sup>5</sup>

There was no statistically significant difference with year of study and stress according to our study which was in contrast to study by Paudel et al.<sup>9</sup> which was conducted among BDS students only. Our current study successfully supports

the existing body of research suggesting different work related and academic stressors affect the physical and psychological health.

This study showed that among all the three types of stressors, the most common stressors was relation with the opposite sex, as reported by 44.5% of the study participants. Relation with opposite sex is not restricted to dating, it includes friendship, support, companionship needed on a day to day basis for studies and academics as well as to cope with other stressors along the way. However, this along with others being the stressors for students suggests need of helping the students by equipping them with practical skills to cope up with the stress.

For academic stressors, there may be a need to revise the teaching schedule providing sufficient to the students apart from their academia for recreation and extracurricular activities. Regular feedback from students regarding their teaching learning activities must be made mandatory. Students must be provided enough opportunities to socialize and learn about community and how people around them live in the society. Also, in order to deal with the health related stressors, regular health check-up and counseling might be needed.

## CONCLUSIONS

Significantly both dental and medical studies are experiencing stress especially on academic and psycho-social aspects. Which is highly detrimental to student's day to day lifestyle as well as academic performance. These stressors need to be addressed individually and

coping mechanisms need to be advised. Stress management techniques should be taught to the students along with academics and students should be facilitated for recreational and extra-curricular activities.

**Conflict of interest:** None

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