

## Original Article

# Assessment of perceived stress and stressors among medical and dental undergraduate students

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Received: 19-01-2019

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Accepted: 18-05-2019

### Abstract:

**Background:** Stress is an inseparable part of life in current scenario. Stress has made its presence very obvious among students also. Early detection and prevention of stressors may inhibit the emergence of mental illnesses in productive population.

**Objective:** To assess perceived stress using perceived stress scale (PSS) to recognize the level of stress and related aspects like sleep disturbance and anxiety.

**Methods:** This cross-sectional study was conducted amongst MBBS and BDS students of medical and dental colleges of Udaipur, Rajasthan. Data was collected by pre-validated online questionnaire comprised of perceived stress scale and sleep related questions over a duration of 2 months (May – June 2018). Data of 171 students of medical and dental colleges of all semesters was obtained for statistical analysis.

**Results:** Total of 171 students responded out of 300 students i.e. 57% response rate of online questionnaire. Out of total respondents 137 were medical and 34 were dental students. Male female ratio came out to be 1:1.3. In terms of perceived stress majority students (80.1%) perceived moderate stress, low stress was perceived by 11.1% students while 8.8% students felt high level of stress.

**Conclusion:** Medical students perceived higher degree of stress and showed much more sleep related problems. Inclusion of stress relievers and early intervention may play significant role in inhibition of depression and mental health issues.

**Key words:** Perceived stress scale, undergraduate, students, medical, dental, stress, stressors.

### INTRODUCTION:

Stress is an event caused as a result of some stressor or stressful event which leads to some biochemical, psychological changes ultimately triggering pathological changes. The changes in the body are not due to stress but the individual capacity of a person to cope with the situation of stress or any existing stressor.<sup>1</sup> Medical Education system evidences stress among medical students due to many reasons and enormous syllabus is one amongst the long list of stressors present.<sup>2</sup> Social pressures, peer pressure, lack of support from family and performance pressure to perform in

examinations is prevalent among medical students now a days. Students of Bachelor in Medicine; Bachelors of Surgery (MBBS) and Bachelor of Dental Sciences (BDS) experience stress which may be due to academic reasons, peer pressure and may affect the health and performance of students. Sleep disturbance is also common amongst stressed individuals. Many tools are available for assessment of stress<sup>2,3</sup> and PSS-10 has been used in this study to assess the stress among undergraduate students. Keeping these facts in mind the current study was planned with the objective to assess perceived stress using perceived stress scale (PSS) to recognize the level of stress and related aspects like sleep disturbance and anxiety among undergraduate students.

## METHODS:

This cross-sectional study was conducted amongst MBBS and BDS students of medical and dental colleges of Udaipur, Rajasthan. Data was collected by pre-validated online questionnaire comprised of demographic details of participants, perceived stress and sleep related questions over a duration of 2 months (May – June 2018).

Questions were related to demographic details of the students, place of stay, last academic performance, their perception regarding stress using Perceived Stress Scale (PSS) and difficulties related to sleep. The 10-item PSS measures global perceived stress experienced across the past 30 days on a 5-point scale (0 = never, 1 = almost never, 2 = once in a while, 3 = often, 4 = very often) (4). The scores ranging from 0-40 are classified as 'Low perceived stress' (0-13), 'Moderate perceived stress (14-26) and 'High perceived stress' (27-40).

Three hundred medical and dental undergraduates were contacted through email regarding the study and were sent the online questionnaire of the study after the consent. Out of 300 students, 171 students responded i.e. 57% response rate. Data of 171 students of medical (6<sup>th</sup> semester) and dental colleges (4<sup>th</sup> semesters) was analysed using descriptive and inferential statistics. Chi square test was applied when applicable.

## RESULTS:

Total of 300 students were contacted and questionnaire was sent to them via email and 171 responded i.e. 57% of response rate.

Out of total respondents MBBS undergraduates were 137 i.e. 80.1% (M67, F70) and BDS undergraduates were 34 i.e. 19.8% (M5, F29) (figure 1).

Medical curriculum consists of 9 semesters where students appear for professional wise exams while Dental curriculum has 8 semesters. All the participants of medical were students of 6<sup>th</sup> semester and dental students were studying in 4<sup>th</sup> semester.

As per the last academic performance, 161 (94.2%) students were successful to pass the exams while 10 (5.8%) students were not able to clear the exams. Out of total participants 137 (80.1%) were residents of hostel.

Figure 2 shows the perceived stress among the study participants according to PSS. Total 8.8% students found to have high perceived stress, 80.1% as having moderate perceived stress while 11.1% had low perceived stress. High stress was only found amongst MBBS students, while moderate and low stress affected both MBBS and BDS students (figure 3).

Table 1 shows the relation of variables like gender, last academic performance, their stream i.e. MBBS or BDS and current place of stay with perceived stress.

When participants were asked whether they feel stressed or not, 41 (23.9%) stated that they don't feel stressed while Perceived Stress Scale categorised 34 (19.8%) out of them as having moderate stress and 7 (4.1%) as having low stress. 130 (76.0%) participants felt stressed and out of those 15 (8.7%) were categorised as having High stress (according to PSS), 103 (60.2%) as having moderate stress while 12 (7.0%) were found to have low stress (table 2).

Students reported various perceived causes of their stress. Study related being the commonest followed by causes related to family and friends, college, health and finances (table 3)

When students were asked the activities, which help them to overcome the stress caused by above mentioned causes, they described that listening to music and sharing with family/friends are the most common methods of coping up (figure 4).

In this study 68.42% students were sleep deprived and only 31.58 had adequate sleep i.e. sleep for 8 hours or more. Out of total, 23.66% reported 'stress' as the cause of sleep deprivation, followed by gaming and social networking using internet (21.51%), anxiety (16.67%), assignments/ studies (14.52%), socializing with friends (11.83%) and other causes like late night partying etc. Out of total, 119 (69.6%) participants experienced negative mood/behavioural changes as a result of sleep deprivation.

## DISCUSSION:

In this study 171 participants of MBBS and BDS were enrolled. Perceived stress was 88.9% which includes both high (8.8%) and moderate stress (80.1%). It was found that females were affected more commonly as compared to male students. Another study conducted in Indian setting at Seth G.S. Medical College, supports similar findings although incidence was found to be 73.5% among medical students.<sup>3</sup> Other Indian studies stand in consensus with the findings of current study<sup>5, 6, 7</sup> in contrast to one of the Indian study which found stress among medical students but no specific relation between stress and gender etc.<sup>3</sup> The findings of current study were in consensus with international studies where medical students were found to be stressed, common in females and due to academics.<sup>8, 9, 10, 11</sup>

The felt stress by the students (69.0%) was found statistically significant when assessed using PSS but this finding is lower than the findings of other Indian studies.<sup>6</sup> Students of 6<sup>th</sup> semester of MBBS were found to be more stressed as compared to 4<sup>th</sup> semester BDS students and findings were in agreement with other studies.<sup>2, 5, 6, 7</sup> Students who were hostelers were stressed as compared to non-hostelers and stress was also affected by last academic performance.<sup>2</sup>

The sources of stress were found to be study related and some of the participants reported health related issues as the cause of stress. To cope up with stress or stressful conditions students preferred sharing with family and friends and activities like indulging in music etc.

In current study sleep disturbance was attributed by stress (23.66%) and affected students experienced negative mood and behavioural changes due to lack of sleep.

### CONCLUSION:

The stress is part and parcel of the current medical and dental education system. Students enrolled in this educational ritual experiences stress due to numerable stressors and try to cope with the situation as well. But due to lack of support system, counselling and good mentoring students are compelled to face the consequences of stress like poor academic performance, depression, suicidal thoughts etc. This twitches a vicious cycle of stress and development of further stressors. It is the responsibility of parents, guardians, medical faculty and mentors to help the students in need of help and break the myth that stress is natural.

### ACKNOWLEDGEMENTS:

Authors would like to acknowledge the students who participated and contributed to this study.

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Figure 1: Gender distribution of participants

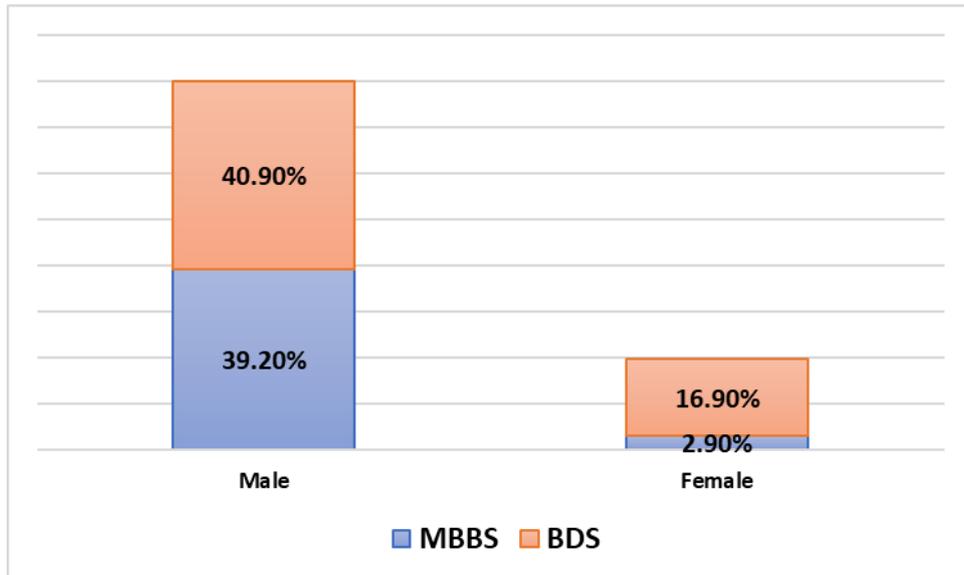


Figure 2: Perceived stress using PSS among participants

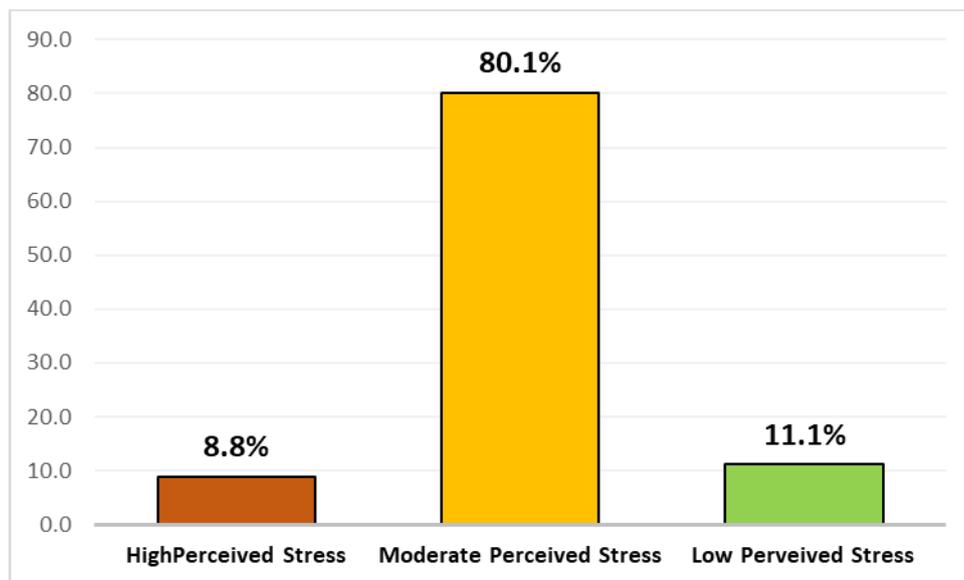


Figure 3: Perceived stress among medical and dental students.

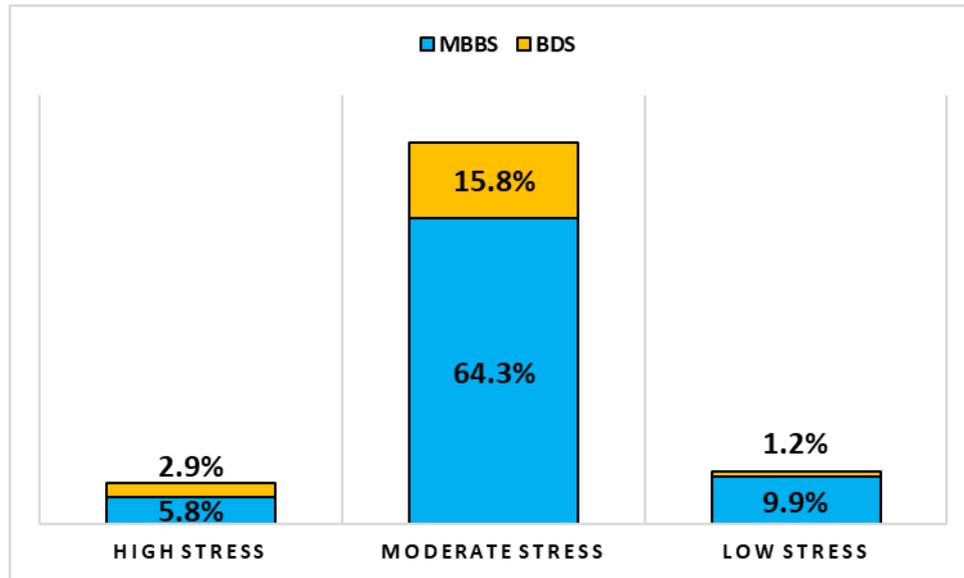


Table 1: Relation of perceived stress with variables

Perceived Stress Scale \ Variables	High stress	Moderate stress	Low stress	p value*
Male	05	55	12	p<0.001
Female	10	82	07	
Pass	12	19	130	p<0.001
Fail	3	7	0	
MBBS	10	110	17	p<0.001
BDS	05	27	2	
Hosteler	13	106	18	p<0.001
Non Hostellers	02	31	01	

\*Applying Chi square test

Table 2: Comparison of felt stress versus perceived stress by PSS

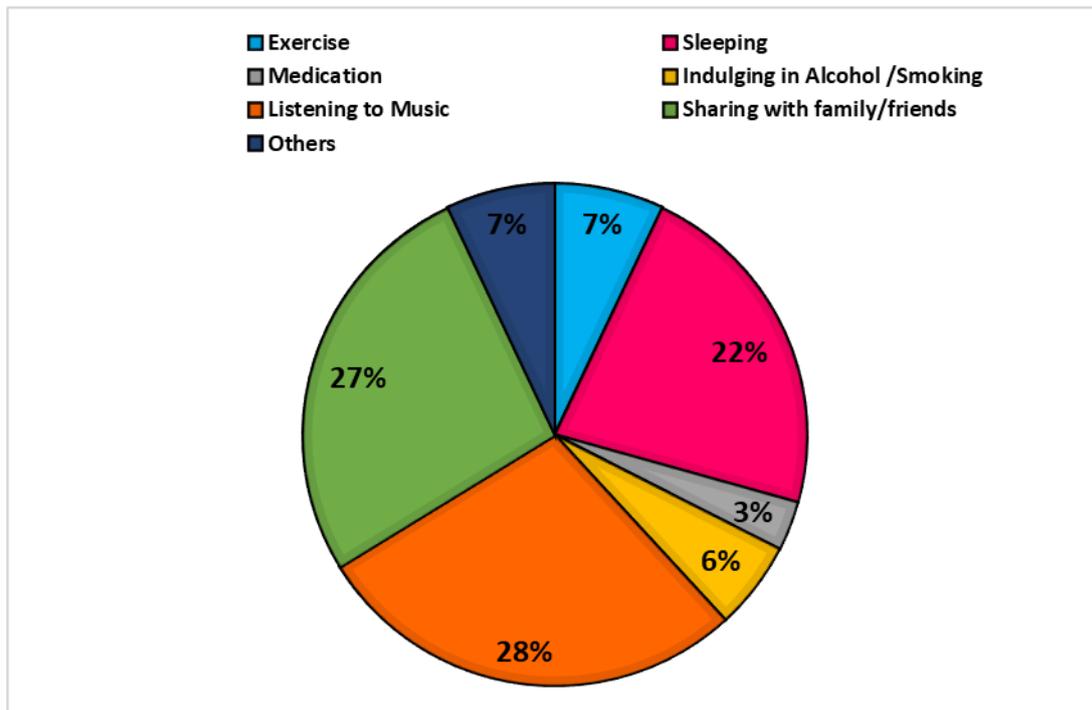
Perceived Stress Scale \ Feeling of stress	High stress	Moderate stress	Low stress
Present	15	103	12
Absent	0	34	7

**Table 3: Causes of stress among the study participants**

Causes / Issues	Frequency*
Study related	63
Family & friends related	53
College related	39
Health related	32
Money related	27
Any other	39

\*multiple responses

**Figure 4: Various methods used by students for coping up with stress**



**Source of Support: Nil. Conflict of Interest: None.**

Cite this article as Mathur M, Sharma T, Mathur N, Chauhan M, Parmar P, Dilip Kumar L, Mangal N, Gaiki V. Assessment of perceived stress and stressors among medical and dental undergraduate students. MRIMS J Health Sci 2019;7(4):111-116.