

**Original article:**

## Effect of stress on academic performance in first year dental students

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### Abstract:

**Introduction:** A commonly seen view is that chronic stress has an adverse affect on academic performance. Because dental students typically report high levels of stress, they may be at particular risk. <sup>1</sup> Stress affects an individual's productivity either by increasing it ('eustress') or decreasing it ('distress'). It is widely acknowledged that the dental fraternity is predisposed to enormous stress.

**Material and methods:** This was Descriptive cross-sectional study carried out in Department of Physiology. 60 first year dental undergraduates were assessed for the common sources of stress and the level of stress using semi-structured Performa and stress scale. The results was compared and correlated. First BDS students with age of 18-20years both male and female healthy students with volunteer participation only were included in the study.

**Results :** On the basis of stress levels, maximum number of students 63.33% (38 ) students showed medium level of stress) while 35% (21) students who showed high level of stress . In general, overall female students showed higher level of stress. A total of 43.33% (26) students earned more than 50% of cumulative grade points in Ist professionals. Female students had better attendance as compared to male students

**Conclusion:** From this study, we may conclude that High level of attendance and better day to day performance in female medical students was associated with more the stress when compared to the male students.

**Keywords:** Stress scale, Dental students

### Introduction:

A commonly held view is that chronic stress has an adverse affect on academic performance. Because dental students typically report high levels of stress, they may be at particular risk. <sup>1</sup> Stress affects an individual's productivity either by increasing it ('eustress') or decreasing it ('distress'). It is widely acknowledged that the dental fraternity is predisposed to enormous stress. The same may be true for the budding medicos- the undergraduate dental students.<sup>1</sup> Evaluating the factors influence student perception, might allow programmatic changes designed to enhance students' psychosocial well-being and academic performance. The purpose of this study was to investigate perceived sources of stress on dental students and the role of parents in their career choice decisions.<sup>2</sup> With this view

, In our study, we identified situation that predispose dental students to stress and studying their effects on academic performance and suggest certain coping mechanisms.

**Material and methods:**

This was Descriptive cross-sectional study carried out in Department of Physiology. Sample size was estimated with the help of expert statistician and using open online estimation calculator.

**Inclusion criteria:**

60 first year dental undergraduates were assessed for the common sources of stress and the level of stress using semi-structured Performa and stress scale. The results was compared and correlated . First BDS students with age of 18-20years both male and female healthy students with volunteer participation only were included in the study.

**Exclusion criteria:**

Students suffering from diabetes mellitus, hypertension and psychological disorders.

Stress assessment in first year Dental students of 2018-19 Batch(August 2018- July 2019). Department of Physiology, Rural Medical College, PIMS, Loni was done.

After obtaining ethical clearance from the Institutional Ethics Committee at the commencement of the study, all first year dental students were taken up for the study with above inclusion – exclusion criteria.

Following a written consent from students, they were given a self designed semi structured performa which included socio-demographic details including age, sex, domicile, current residence, stress score & Cumulative grade points, during their practical hours in the department of Physiology.

**Results:**

**Table 1) Gender wise distribution in present study**

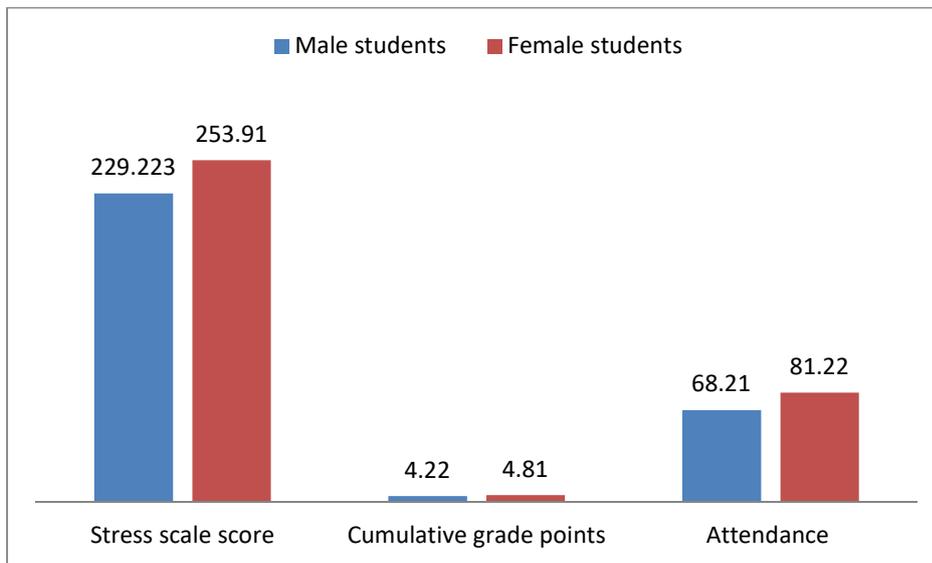
	<b>Number of students ( n= 60)</b>	<b>Percentage</b>
<b>Male students</b>	24	40
<b>Female students</b>	36	60
	60	100

**Table 2) Stress scale score, Cumulative grade points and attendance**

	<b>Stress scale score</b>	<b>Cumulative grade points</b>	<b>Attendance</b>
<b>Male students</b>	229.223±77.01	4.22±1.67	68.21±9.35
<b>Female students</b>	253.91±95.52	4.81±1.22	81.22 ±14.91

**Table 3) Grade wise distribution of stress level**

	<b>Number of students ( n= 60)</b>	<b>Percentage</b>
<b>High level</b>	21	35%
<b>Medium level</b>	38	63.33%
<b>Low level</b>	1	1.67



Graph 1: Stress scale score , cumulative grade points & Attendance in male and female students.

In our present study , 60 students (males-24 females-36) who gave the informed consent and fully completed the performa were taken up for the study.

The mean age of male students was  $19.37 \pm 1.46$  and  $19.01 \pm 1.88$  years in case of female students. The Stress scale scores were found to be  $229.223 \pm 77.01$  in males and  $253.91 \pm 95.52$  in females. Cumulative grade points were  $4.22 \pm 1.67$  in males and  $4.81 \pm 1.22$  in females, attendance  $68.21 \pm 9.35$  in males and  $81.22 \pm 14.91$  in females. Thus, all in three parameters- stress scale scores, cumulative grade points and attendance, female students scored higher points .

On the basis of stress levels, maximum number of students 63.33% (38 ) students showed medium level of stress) while 35% (21) students who showed high level of stress .

In general, overall female students showed higher level of stress.

A total of 43.33% (26) students earned more than 50% of cumulative grade points in Ist professionals.

Female students had better attendance as compared to male students.

### **Discussion:**

The perception of stress, in fact is frequently by one's personal system of beliefs and attitudes. These self-cognitions mediate the perceived stressor and consequent student behaviour. Self-cognitions associated with control and self-efficacy tend to lower stress and distress levels resulting in improved academic performance.<sup>3</sup>

Present work had been completed in our Department . In our present study , 60 students (males-24 females-36) who gave the informed consent and fully completed the performa were taken up for the study. The mean age of male students was  $19.37 \pm 1.46$  and  $19.01 \pm 1.88$  years in case of female students. The Stress scale scores were found to be  $229.223 \pm 77.01$  in males and  $253.91 \pm 95.52$  in females. Cumulative grade points were  $4.22 \pm 1.67$  in males and  $4.81 \pm 1.22$  in females, attendance  $68.21 \pm 9.35$  in males and  $81.22 \pm 14.91$  in females. Thus, all in three parameters- stress scale scores, cumulative grade points and attendance, female students scored higher points . On the basis of stress levels, maximum number of students 63.33% (38 ) students showed medium level of stress) while 35% (21) students who showed high level of stress .

In general, overall female students showed higher level of stress. A total of 43.33% (26) students earned more than 50% of cumulative grade points in Ist professionals. Female students had better attendance as compared to male students.

Stress has been described as a double-edged sword that can either stimulate and motivate the students to peak performance or reduce the students to ineffectiveness.<sup>4</sup>

An understanding of stress levels is of paramount importance to provide professional bodies with relevant information on students' well-being. Typically, it will enable the policy makers, and administrative and academic staff to reduce stressors, to adopt stress-coping strategies among students, and to modify teaching curriculum and teaching environment in order to alleviate perceived stresses. Regarding students, being aware of the stress-inducing circumstances and behaviors will motivate them to adopt more positive coping strategies.<sup>5</sup>

Stress is primarily a physical response and is defined as a condition typically characterized by the symptoms of mental and physical tension or strain, as depression or hypertension, which can result from a reaction to a situation in which a person feels threatened or pressured or sometimes both.<sup>6</sup>

Based on the definitions of stress, it is difficult to draw a conclusion that the effects of stress are negative, because nothing is good or bad but by conditions. In our present study, with higher level scale stress , found more attendance by female students and greater cumulative score. However policy makers should think while assessing students in academic especially in first year of their professional education life. Our intention was to highlight this important issue in dental specialty at undergraduate level.

### **Conclusion:**

From this study, we may conclude that High level of attendance and better day to day performance in female medical students was associated with more the stress when compared to the male students.

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Was informed consent obtained from the subjects involved in the study? Yes

For any images presented appropriate consent has been obtained from the subjects: NA

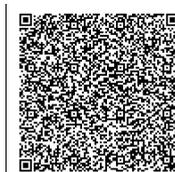
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