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PERCEIVED STRESS AMONG FINAL YEAR MEDICAL STUDENTS.

Dental Science

Dr Shodan M* MDS, (PhD), Associate Professor, Dept of Public Health Dentistry, SDM college of Dental Sciences and Hospital, Sattur, Dharwad *Corresponding Author

Dr Srinath Thakur MDS, FDSRCPS(UK), Principal, Professor, Dept of Periodontics, SDM college pof dental sciences and hospital, Sattur, Dharwad

Dr H L Jaykumar MDS, Professor and Head, Dept of Public Health Dentistry, Dr Sayamala reddy dental college and research centre, Bangalore

ABSTRACT

Aim: To Evaluate the perceived stress among final year medical students **Methodology:** A Perceived Stress Scale self-administered questionnaire by Cohen and a self-administered potential stress factor questionnaire and was given to a convenient sample of 69 study subjects to assess perceived stress and possible potential factor3 in an private medical college and hospital to assess perceived stress and possible potential factors. **Results:** Around 85% of them were stressed according to Perceived stress score by Cohen and possible potential factors; Pearson Correlation test showed a Significant correlation and positive corelation between Cohen stress scale scores with all Potential stress factor scores; t test showed that hostellers experienced more stress according to cohen stress score . **Conclusion:** Final year medical students showed high perceived stress; among which students staying in hostel experienced more stress. Potential factors like academic stress, interpersonal relations and clinical stress showed a positive relation with over all stress.

KEYWORDS

Potential stressors, Medical Students

Introduction

Medicine is one of the most stressful fields of education because of its highly demanding professional and academic requirements. Extensive medical curricula, frequent examinations and fear of failure are sources of constant stress and anxiety for medical students[1] who may cut short their leisure activities and hours of sleep in order to achieve their desired goals.

In the current scenario the prevalence of perceived stress is very high among medical students, which directly affects not only their academic performances but all aspects of health also.[2] This stress can lead to depression, daytime sleepiness, sleep deprivation and overweight.[3]

The stress reaction includes activation of the hypothalamus-pituitary-adrenal cortex (HPA) axis, with release of corticotrophin-releasing hormone from the hypothalamus, and glucocorticoids, including cortisol from the adrenal cortex 4[3]. In the HPA system, cortisol secretion is regulated by the adrenocorticotropic hormone from the pituitary gland. Salivary cortisol levels are closely correlated to blood cortisol levels and, therefore, reliably reflect HPA activity[5].

Medical education stands out as a distinctive educational procedure and is perceived as being stressful, and a high level of stress may have a negative effect on cognitive functioning and learning of students in a medical school [6]. It involves the acquisition of required academic, clinical and interpersonal skills within educational programs.

The potential negative effects of emotional distress on medical students include impairment of functioning in class-room performance and clinical practice, stress-induced disorders and deteriorating performance [6] Otherwise the consequences of chronic stress perceived during the whole training period will reduce their work efficiency and indirectly it will become a public health problem.

Final year is the period just before they qualify to become doctors and is reported to be highly stressful compared to first MBBS and second MBBS. The population under study is the privileged medical student community who are future doctors. The present study looked into the modifiable and non-modifiable factors associated with stress.

There by the present study aimed to assess the prevalence of perceived academic stress among final year medical students

Methodology

Medical students involved were from a private medical college and hospital. Also the study was approved from institutional ethical review board and being conducted with the ethical principles of the World Medical Association Declaration of Helsinki.

After informing the students about the study procedures, students voluntarily who got involved and gave written informed consent were taken into the study.

A Perceived Stress Scale self-administered questionnaire by Cohen and a self-administered potential stress factor questionnaire and was given to a convenient sample of 69 study subjects to assess perceived stress and possible potential factors.

Results

Among 69 final medical study subjects, who were in age group of 20-22 years, majority were females 62.3%(n=43); 69.6%(n=48) study subjects were having an single parent; whereas ,majority were staying with nuclear family 84.1% (n=58) (Table 1)

Table 1: Gender, Parent working status, Family and Stay wise Distribution of study subjects

	Frequency (Out of 69)	Percent (%)
Females	43	62.3
Males	26	37.7
Both Parent Working	21	30.4
Single Parent Working	48	69.6
Subject from Joint Family	11	15.9
Subject from Nuclear Family	58	84.1

Perceived stress scale self-administered questionnaire by Cohen, showed that majority were stressed (score>13) 83% (n=57). Among this majority were females 51 %(n=35); 70% (n=48)of study subjects were having single parent as working, among which, majority58% (n=40) study subjects were stressed, followed by 31% study subjects having with both parents working, 25 study subjects were stressed;84% of study subjects were having a nuclear family among which majority of study subjects (n-70) were stressed, followed by 16% study subjects having joint family a total of 11 subjects were stressed. (Table 2)

Table 2 Stress scale scores (Cohen) among various factors

Gender	< 13(Not stressed)	>=13(Stressed)
Female Count	12(8)	51(35)
Male Count	6(4)	32(22)
Total Count	17(12)	83(57)

Type of parents working status		
Both	6(4)	25(17)
Single	12(8)	58(40)
Total Count	17(12)	83(57)
Type of family		
Joint	3(2)	13(9)
Nuclear	14(10)	70(48)
Total Count	17(12)	83(57)

Pearson Correlation test showed a Significant correlation and positive corelation between Cohen stress scale scores with all Potential stress factor scores at 5% level of significance.(Table 3)

Table 3: Correlation between Cohen stress scale scores and Potential stress factor scores

Potential stress factors	Pearson Correlation between Cohen stress scores with	
	r-value	p-value
Academics	0.395	0.001*
Inter personal relationship	0.402	0.001*
Miscellaneous	0.347	0.004*
Clinical skill stress score	0.438	0.000*

Stay wise Comparison of study subjects with various variables by t test showed that there is a Significant difference between students staying in hostels and day boarders(Non hostellers) in respect to Cohen stress scores (i.e Hostellers are having more Cohen stress scores). (Table 4)

Table 4. Stay wise Comparison of study subjects with various variables by t test

Variables	Hostellers		Non-hostellers		t-value	p-value
	Mean	Std.Dev.	Mean	Std.Dev.		
Cohen stress scores	18.41	4.896	12.70	6.075	3.291	0.002*
Academics stress	6.68	3.674	4.30	4.057	1.865	0.067
Inter personal relations stress	1.88	2.198	0.50	1.269	1.926	0.058
Miscellaneous stress	7.80	4.172	6.00	4.269	1.255	0.214
Clinical skills stress	3.92	3.142	2.10	2.234	1.749	0.085

*p<0.05

Discussion

Perceived stress was determined with the help of Cohen's Perceived Stress Scale (PSS) questionnaire, which has been used in many studies[7,15] and a modified questionnaire based on previous studies [7,13,15] was used to asses possible potential stressors of perceived stress.

The perceived stress component, was estimated with the help of CSS, which showed that majority 83% (n=57) were stressed (i.e. having score more than 13) followed by 17% (n=12) who were not stressed. Among this, majority of the stressed subjects were females 51 %(n=35) followed by males 32 %(n=22) (Table 4). The results of the present study are in accordance with most of the other studies [21,30,33,34,]; and this is perhaps an indication of the strength of students' feelings and their perceived need for a medical education curriculum that minimizes their stress during the course of medical studies.

Around 70% of study subjects were having single working parent, among which, majority 58% (n=40) study subjects were stressed This implies that, in the modern era with rising cost of living, single parent working status as observed by their wards makes them to analyze the things as stressful . This might be because, a single working parent has responsibilities of looking after the entire family which increases the burden and probable emotional stress among the other family members. Around 84 % of study subjects were having a nuclear family among which majority of study subjects 70% (n=48) were stressed, this might be due to lack of interaction and coordination within the family members; by which they can't share and discuss their problems which can in turn relieve stress; and these findings were in accordance with other studies [32]. In the joint family as members are more, probably frequent discussions among the family members would reduce the same. Likewise, Stay wise Comparison of study subjects with various variables as tested by t-test showed that, there is a significant difference between students staying in hostels and day boarders (Non hostellers) in respect to Cohen stress scores.

Whereas Pearson Correlation test showed positive corelation between Cohen stress scale scores with all Potential stress factor scores like academic, inter personal relations and clinical stress scores at 5% level of significance. (i.e cohen stress scores increases with factors like academics, inter personal relations and clinical stress); Medical students showed more academic stress, which might be due to intense pressure of being performing well in the exams and interpersonal relations stress might be due to social, cultural background of individuals. Moreover this study was performed at a point in time that is not during exams.

Also present study showed more clinical stress, this could be attributable to the fact that in the clinical years, the students undergo clinical rotations that include clinical teachings, numerous hours of patient clerking, observation and investigations on the wards. Furthermore, the work-load of the clinical students involves hours of clinical schedules in the hospital after the routine working hours.

One of the limitation of the present study is , as it is a questionnaire based cross sectional study , reporting bias can't be eliminated, thereby longitudinal study would be minimize bias.

Medical students will be going to be the future doctors, who provide physical and mental wellbeing of the patients. To ensure the same it's much essential to focus on the mental health of them.

It should be accepted that total elimination of stress from medical colleges is impossible. Anyhow more leisure time activities, advisory services, spending more time on social lives and peer counseling could do a lot to reduce the stress.

Conclusion

Final year medical students showed high perceived stress; among which students staying in hostel experienced more stress. Potential factors like academic stress, interpersonal relations and clinical stress showed a positive relation with over all stress.

There by the students should be taught different stress management techniques to improve their ability to cope with a demanding professional course

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