An assessment on the prevalence and correlates of psychological morbidity in 2nd-year undergraduate medical students in a medical college in Odisha

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Abstract

Introduction: Stress perceived by medical undergraduate students is a matter of concern. Sustained stress can lead to various psychological disorders like; withdrawal behavior, suicidal ideation and constant anxiety. Therefore it is essential that perceived stress must be resolved timely so as to avoid any untoward incidents among the medical students.

Objective: To study the correlation of perceived stress and various socio-demographic variables in 2nd year undergraduate medical students.

Materials and Methods: A cross–sectional study was carried out in 2nd year undergraduate medical students in a medical college, and hospital in Odisha. A total of 107 students participated in the study. The SRQ-20, questionnaire of WHO was used to collect data on stress. Written informed consent was obtained from all the participating students, after ensuring them of the confidentiality, and anonymity of the study.

Results: Analysis showed 40.19% of students had stress, the gender distribution of stress being 25.23% for females and 14.96% for males. The stress level as per residence was found in day- scholars to be 52.62% as compared to hostilities to be 37.49%; and students from joint family to be 49.99% as compared to students from Nuclear family as 37.62%. A total of 43.82% of students who are unable to cope with vastness of MBBS course, were stressed compared to 56.15% of students who were not stressed, despite being unable to cope with MBBS syllabus.

Conclusion: The fact that a substantial proportion of students are stressed, timely intervention, to prevent any untoward incidents among the students must be carried out.

Keywords: Stress, Medical students, Gender, Residence.

Introduction

Hans Selye, an endocrinologist was the first to employ the term stress in the year 1930.[1] A stress essentially is a cognitive (through) process, in response to any event, which is perceived to alter or threaten, one's well-being. Stress is often defined as a nonspecific response of body to any demand for change in the physical, mental or emotional milieu. The pursuit medical studies, requires unfailing commitment to rigorous academic exercise, as well as a deep empathetic demeanor, on the part of the medical student, so as to become a successful medical professional well versed in the art and science of healing. The demands of a rigorous training schedule in medical college, often leads to burn out and chronic stress in medical students. Chronic stress, can affect medical students, at any stage of their study and more often than not gets manifested as sleepless night, depression,[2] suicidal ideation,[3] and addiction to dependence producing drugs, in them. Unresolved, persistent stress, in medical students can lead to anxiety or withdrawal (depression) behavior.[4] The stress that had started during studentship of the medical graduate, may continue to future life, eventually leading to a "correction", which takes the form of "burn out" or physical and or mental impairment.[5]

The present study is an attempt to analyze the overbearing effect of stress in the medical students' community, by using a self-reporting questionnaire (SRQ-20).

Materials and Methods

A cross-sectional study, was carried out among the 2nd year medical students of a medical college and hospital in Bhubaneswar, Odisha. A total of 107 students participated in the study. Written Informed consent was obtained from all the 107 students, after assuring them of the anonymity and confidentiality of the collected date. SRQ-20, was used to collect date regarding mental distress.

The SRQ-20, is an instrument that was developed, to screen for general psychiatric disturbances (WHO-20). The SRQ-20, is a useful instrument and its reliability, validity and adaptability for screening mental disorders, has been established in many countries.[6] Cutoff point of 10 was taken to consider mental distress. Data comprising sex, place, place of residence, family type (nuclear or joint), and ability to cope with vastness of MBBS course were collected using a carefully prepared questionnaire, to find for correlation with stress. The students were given a questionnaire and were asked to fill it, with an open mind, after a due explanation of the reasons of the study. The study design was approved by the ethics and research committee of the Institute.

Data Analysis

Data were analyzed using percentage and tables in the study. Tests for descriptive statistics were also applied for evaluation.

Results

Overall stress

The overall prevalence of stress was found to be 40.19% in our study group. In our study, we found 25.23% of females and 14.96% of males were stressed. Though greater percentage of females were found to be in stress in comparison to males, the chi-square statistic was found to be 0.2652 and the gender-wise distribution of stress was found to be statistically insignificant with p= 0.6065. (Table 1).

The residence of students either in hostel or home, does not have a statistically significant bearing on stress. Our study shows a chi-square statistic of 1.4885, with p=0.2224, for the correlation between stress and residence. (Table 2). Family structure from which the students hail, seem to have some bearing on the stress level. Our study found a prevalence of stress in 37.64% students from nuclear family while 62.36% students are stress free. It is also found that 50% of students from Joint families were stressed while other 50% students are stress free. The students from joint families, tend to be under more stress, probably because of economic and social dynamics prevailing in their families. The bearing of family type on stress is however statistically insignificant, in our study, the chi-square statistic being 1.1095, with p=0.2921. (Table 3). The student group in our study, were found to have a cavalier attitude towards their approach to academic excellence, as for as many as 56.15% of the students being unable to cope with the vast syllabus of MBBS, was not a reason for stress. The correlation between ability to cope with the vastness of MBBS syllabus and stress level in students was however found to be statistically insignificant with the chi-square statistic being 1.2724, with p=0.2593. (Table 4).

Table 1: Stress and Gender

Stress	Gender		(Percentage)
Yes	M	16	14.96%
	F	27	25.23%
No	M	27	25.23%
	F	37	34.58%
Total		**107**	**100%**

	Stress	No stress
Male	16	27
Female	27	37
The chi-square statistic is 0.2652. The p-value is 0.606589 This result is not significant at p < .05.		

Table 2: Stress and Residence

Stress	Hostel Dwellers		Home Dwellers
Yes	M	12 (13.63%)	4 (21.05%)
	F	21 (23.86%)	6 (31.57%)
No	M	25 (28.40%)	2 (10.52%)
	F	30 (34.09%)	7 (36.84%)
		n=88	n=19

Hostel Dweller	Home Dweller
33	10
55	9

Table 3: Stress and Family

Stress	Gender	Nuclear	Joint
Yes	M	12 (14.11%)	4 (18.18%)
	F	20 (23.52%)	7 (31.81%)
No	M	21 (24.70%)	6 (27.27%)
	F	32 (37.67%)	5 (22.72%)
Total		**85**	**22**

	Nuclear	Joint
Stress	32	11
Unstress	53	11
The chi-square statistic is 1.1095. The p-value is .292196. This result is not significant at p < .05.		

Table 4: Stress and Coping

Stress		Yes (Cope)	No (Cope)
Yes	M	7 (20.58%)	9 (12.32%)
	F	4 (11.76%)	23 (31.50%)
No	M	9 (26.47%)	18 (24.65%)
	F	14 (41.17%)	23 (31.50%)
Total		**34**	**73**

	Coping	Not coping
Stress	11	32
Unstress	23	41
The chi-square statistic is 1.2724. The p-value is .259317. This result is not significant at p < .05.		

Discussion

There is a prevailing impression that, medical students tend to have higher levels of stress, as compared to the general population.[7,8] Our study, by and large, confirmed this impression.

A high level of stress is a matter of concern, as it can cause a number of ill effects in the students, in the form of behavioral and learning problems, which will affect the efficiency of the students in delivering effective patient care on graduation. Studies conducted in Saudi Arabia,[9] Thailand,[10] Sindh (Pakistan),[11] and Mumbai (India)[12] all found high level of prevalence of distress in medical students.

The setting of a medical college, the curriculum, and assessment system, and finally various parameters used to measure stress, limits the comparability of our study with the studies from these countries. In other studies, the significant factors that cause stress, are

academic stress, financial stress and gender issues.[13,14] Sidana S et al. using the Patient Health Questionnaire-9 (PHQ-9), found prevalence of depressive and Major depressive disorder in medical students to be as 21.5% and 7.6%.[15] Vankar et al using Patient Health Questionnaire-9(PHQ-9) reported the prevalence of self-identified depression as 64%.[16] Gender differences in the prevalence of stress, is a subject of many studies.

Most studies report females tend to be more susceptible to depression and stress, than males. Some studies however present with varied results as regards the depression and stress level of females. That stress and depression was higher in females than males was reported by (Matud, 2004),[17] while the study by (Dyson & Renk, 2006),[18] found no such difference by gender.

This variation in results could be because of the fact that depression and stress is as such not gender specific, but is dependent on the ability of either gender to manage the variables that gives rise to depression and stress. Females tend to be particularly sensitive to the prevailing environment in medical college campus, and thus are more likely to be depressed and stressed.

The study though has an interesting finding in that the prevalence of stress in hostel dwellers was less than the stress level of day-scholars, being 37.49% in hostel dwellers and 52.62% in day-scholars, respectively. This is in contrast to various studies that shows that the stay in the hostel, for the first time, is an important factor for stress.[12,19]

Our study refutes this finding. Students staying in hostel who are in a transitory phase of life, preparing for a life, far removed from the emotional, economic and social stability that their family provided, tend to be more stressful. However, an encouraging, intellectually stimulating and socially cohesive environment in the hostel can reduce stress. Our findings point to presence of such an environment in the hostels, of the medical college.

Conclusion

The tremendous stress, that medical students undergo at various stages of the MBBS course, can become persistent if not resolved through timely intervention. It becomes a matter of great concern, when the chronically stressed medical students, complete the MBBS course, and became a part of the health care delivery system engaging themselves in the care and treatment of patients.

The stress that medical students are subjected to, if within a manageable degree, is helpful in increasing the academic performance, but too much of stress, can cause a lot of discomfort and interferes in the ability of the students to focus and achieve.

Timely intervention, in the form of student counseling, proctorial system in medical colleges, and group discussions, to address the issues of stress in medical students, can go a long way to help the students to manage stress. Foster parenting system, where a particular faculty member adopts a group of students, throughout their stay in medical college, can also help mitigate the stress in medical students.

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