

Prevalence of stress in MBBS medical students

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Abstract

Background: Stress is defined as a body's non-specific response or reaction demands made on it, or to disturbing events in the environment. Stress is defined as "a state of psychological and physiological imbalance resulting from the disparity between situational demand and the individual's ability and motivation to meet those needs." MSSQ having a high score in particular student group generally indicate that the subject perceived events, conditions or situations from the particular group as causing the subjects stress. **Aims:** To the study the prevalence and degree of stress in MBBS students and find out specific domain of Stress in MBBS student **Materials and Methods:** Study design: Cross-sectional study. No of Participants: 200. Study Period: December 2017- January 2018. Study area: Medical College in Navi Mumbai. The students who consented to participate in the study were included and were asked to complete self-administered questionnaire includes socio demographic profile and MSSQ. Study was conducted using Medical Students Stress Questionnaire (MSSQ) Statistical analysis used: Analysis was done by Kruskal-Wallis test to find out the difference of stress amongst first, second, third and fourth year MBBS Students. Results: Mild level of stress was found between the students, among MBBS students, third year students having a high level of stress. Conclusions: Overall stress domain is Academic related stress domain that is relieved only by adding extracurricular activities like conferences, music, dance and gatherings for undergraduate students. Counselling cells can be established for both students and parents. Study was approved by Institutional ethical committee.

Key-words: Stress, psychological, MSSQ.

Key Messages: Healthy life style and healthy environment is very necessary while studying higher education. Its responsibility of all including the higher authority, medical education system while structuring the MBBS course.

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INTRODUCTION

Stress is defined as a body's non-specific response or reaction demands made on it, or to disturbing events in the environment. Stress is defined as "a state of psychological and physiological imbalance resulting from the disparity between situational demand and the individual's ability

and motivation to meet those needs". In medical academic years while going through the academic years, MBBS students faced many problem and due to that there is high chances that they may land up into anxiety, depression etc. High stress levels leads to tiredness, loss of sleep and general irritability and moodiness. 'Most stressful' professions are characterized as having a high level of responsibility and little control over the outcome. Studying MBBS certainly fits that description and is consistently on the short list of professions with the highest inherent stress levels. Medical college is recognized as a stressful environment and exerts a negative effect on their academic performance, physical health and psychological well-being. MSSQ score system, having a high score in particular student group generally indicate that the subject perceived events, conditions or situations from the particular group as causing the subjects stress. The scores, however, do require frank and lowest response in order for

it to be of any case. The scores are also affected by factors which can falsely increase or lower the scores but generally the validity and reliability studies have indicated that the scores from questionnaire are highly trustworthy,¹ Stressors of medical students is generally divided into Six categories. Academic Related Stressor (ARS), Interpersonal and intrapersonal related stress(IRS), Teaching and Learning related Stressor (TLRS), Social related Stressor (SRS), Drive and Desire related Stressor (DRS), Group Activity related Stressor (GARS). MBBS students were always under stress for their future, pg preparation, lonely environment and again long hours of studies make them more anxiotic. This study is mainly to focus on the stress level among the MBBS students, as today's youth is a future of tomorrow so, management has to be done at early level.

MATERIALS AND METHODS

Study design: Cross-sectional study. **Study Period:** December 2017- January 2018. **Study area:** Medical College. **No of Participants:** 200 [1st years = 40, 2nd =49, 3rd years = 51, 4th = 50]. **Inclusion criteria:** Students from all the semesters who has completed at least 6 months in medical college and all selected individuals who gave consent were included in the study. **Exclusion criteria:** Students who were absent on the day of data collection or three consecutive days were excluded. They were asked to complete self-administered questionnaire includes sociodemographic profile and MSSQ(The reliability and validity of test were good.² Socio-demographic details were collected using a semi structured questionnaire. The questions describe any situation or activity and the students are asked to grade the level of stress they will experience if they are engaged in that particular activity. Study was conducted using Medical Students Stress Questionnaire (MSSQ).^{3,1} The questionnaire covers 6 domains of stressors. Total of 40 questions are there to assess stress. The Questionnaire was distributed among 1st, 2nd, 3rd and 4th year MBBS students of Medical College.

Statistics: Analysis was done by Kruskal-Wallis test.⁴ to find out the degree of stress amongst 1st, 2nd, 3rd and 4th year MBBS Students.

OBSERVATIONS AND RESULTS

Out of 200, 2nd MBBS students have enrolled more in no. i. e 30%, followed by 25.5%. Overall female admissions to MBBS course were more i.e.52.5% as compare to male i.e. 47.5%. Mean age of students from 1st year to final year, was from 17 years to 23 years.[Table no.1] Overall academic related stress was found to be more in 2nd year.

Rather than 1st and 3rd MBBS. This is because of many extracurricular activities were planned in this year. [Table no.2] There is no significance of Interpersonal and Intrapersonal related stress among the MBBS students. Stress level of intrapersonal and interpersonal increases as they pass from 1st year to final year, this is because of more interaction among and out of class with other students and peer pressure due to that. Among the intrapersonal and interpersonal stress domains verbal and physical abuse by teacher is the main significant factor. [Table no.3] Teaching and learning related stressor was the one of important significant factor of stress among the students. Uncertainty of what is expected from me, teacher lacking, teaching skills and lack of recognition for work done were important factors. Its more in 2nd and 3rd year students. Overall score is significant in MBBS students regarding teaching and learning. [Table no.4] Social stress don't affect students much as they are more secluded from life outside the college. Overall score significance of social stress is very less. It is 0.97 in third year MBBS students, which is relatively high than other MBBS years students. [Table no.5] Social related stress is present among the MBBS students, it is high in 3rd year students (0.72) as compare to other years. Overall social related stress is significant among MBBS students. Unwillingness to study medicine is major factor. [Table no.6] Overall score for group activities is more in MBBS students its highly significant among all stress factors. Third year students were more affected (score 0.97) as they all groom in college life and stress, peer pressure is more at this age. Participation in class activities is highly significant. [Table no.7] Overall domain of stress among all four years of MBBS is seen in academic related stress domain. [Table no.8] Among all the other stressors Academic Related Stress was found to be highest in 2nd MBBS students. Score ranged from 1.01-2.00 that is Moderate level stress and is statistically significant. For other Stressors the score is <1.00, which signifies Mild stress. Study has revealed that for all stressors 2nd and 3rd year MBBS students are most affected. Even, after 1st year MBBS they become well acquainted with the amount of effort requires and take their studies more seriously, thereby causing positive stress. There was no difference at different level of MBBS regarding academic factors. However academic related stress found to be more in 2nd year MBBS students. Interpersonal and in intrapersonal related stress was found to be lesser in 1st year MBBS students since they spend lesser time at college. Though girls show higher stress level than boys, there is no statistically significant difference among gender.

Table 1: Age (years) and Sex of MBBS Students

Observation	MBBS				
	1 st MBBS	2 nd MBBS	3 rd MBBS	4 th MBBS	TOTAL
N	40(20%)	60(30%)	49(24.5%)	51(25.5%)	200(100%)
Age(Mean ± SD)	17.20±0.41	18.97±0.32	21.27±0.57	23±0.60	20.21±2.19
Sex					
Male	21(22.1%)	30(31.57%)	18(18.9%)	26(27.36%)	95(47.5%)
Female	19(18.09%)	30(28.57%)	31(29.52%)	25(23.80%)	105(52.5%)

Table 2: Academic related Stress among MBBS students

Academic related Stress	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Test/ Examination	1.33	2.31	2.58	2.20	28.539	<0.001
Quota system in examination	1.25	2.74	2.42	2.37	29.057	<0.001
Need to do well (self expectation)	0.95	2.49	2.31	1.96	44.392	<0.001
Heavy workload	1.53	2.08	2.33	1.86	11.022	0.012
Fall in behind in reading schedule	1.68	2.43	2.69	2.02	20.005	<0.001
Not enough medical skill practice	1.40	2.03	2.19	2.02	14.049	0.003
Learning context-full of competition	1.18	2.00	1.90	1.63	18.197	<0.001
Having difficulty in understanding context	1.13	1.97	1.73	1.73	15.492	0.001
Getting poor marks	1.35	2.08	1.88	1.59	9.276	0.026
Lack of time to review what has been learnt	1.48	2.08	2.04	1.61	11.539	0.009
Unable to answer questions from teachers	1.33	2.25	1.88	1.33	22.726	<0.001
Large amount of content to be learnt	1.20	2.20	2.38	1.49	29.441	<0.001
Unjustified grading process	1.10	1.93	1.73	1.47	10.762	0.013
Discrimination based on caste	1.10	1.77	1.88	1.40	6.719	0.081
Overall Score	1.29	2.17	2.14	1.76	19.37	0.02

Table 3: Interpersonal and Intrapersonal related stress among MBBS Students

Interpersonal and Intrapersonal related stress	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Conflicts with other students	0.53	0.80	0.90	1.12	7.828	0.050
Verbal/physical abuse by other students	0.63	0.98	0.81	0.94	2.986	0.394
Conflicts with personnel	0.73	0.74	0.83	1.12	4.448	0.217
Poor motivation to learn	0.65	0.92	0.94	0.78	1.876	0.598
Verbal/physical abuse by teachers	0.40	0.79	0.52	0.76	8.624	0.035
Conflicts with teachers	0.58	0.93	0.81	0.65	3.644	0.303
Verbal/physical abuse by personnel	0.43	0.66	0.63	0.69	2.623	0.454
Over all Score	0.56	0.83	0.78	0.87	4.58	0.293

Table 4: Teaching and Learning related stress among MBBS student

Teaching and Learning related stress	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Not enough study material	0.28	0.31	0.67	0.43	11.413	0.010
Lack of guidance	0.48	0.80	0.94	0.75	8.262	0.041
Uncertainty of what is expected from me	0.65	0.98	0.88	0.57	10.252	0.017
Teacher -lack of teaching skills	0.33	0.62	0.79	0.53	13.698	0.003
Inappropriate assignments	0.30	0.33	0.46	0.49	5.132	0.162
Not enough feedback from teachers	0.68	0.67	1.02	0.67	7.280	0.063
Lack of recognition for work done	0.68	0.89	1.04	0.78	5.736	0.125
Overall Score	0.49	0.66	0.83	0.60	8.82	0.06

Table 5: Social related stress among MBBS student

Social related stress Parameters	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Talking to patients about personal problems	0.33	0.74	0.83	0.53	9.748	0.021
Lack of time for family and friends	0.48	0.85	0.94	0.67	5.164	0.160

Unable to answer questions from patients	0.55	0.89	1.00	0.61	5.707	0.127
Facing illness or death of the patients	0.83	0.90	1.02	0.65	2.923	0.404
Frequent interruption of my work by others	0.83	0.80	1.08	0.63	4.263	0.234
Working with computers	0.50	0.72	0.98	0.65	4.009	0.261
Difficulty in interacting with colleagues	0.65	0.62	0.94	0.64	4.388	0.222
Over all Score	0.60	0.79	0.97	0.63	5.17	0.20

Table 6: Social related stress among MBBS students

Social related stress Parameters	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Parental wish for you to study medicine	0.23	0.52	0.56	0.49	5.300	0.151
Unwillingness to study medicine	0.25	0.77	0.69	0.47	12.273	0.007
Family responsibilities	0.63	0.69	0.92	0.63	2.346	0.504
Overall Score	0.37	0.66	0.72	0.53	6.64	0.22

Table 7: Group activities related stress

Group activities stress Parameters	Mean Score (MBBS)				Kruskal-Wallis Test	P- Value
	1 st	2 nd	3 rd	4 th		
Participation in class presentation	0.35	0.77	1.02	0.39	21.388	<0.001
Participation in class discussion	0.50	0.84	0.92	0.41	11.274	0.010
Feeling of incompetence	0.65	1.00	0.98	0.33	18.942	<0.001
Need to do well imposed by others	0.60	0.80	0.94	0.41	9.046	0.029
Overall Score	0.50	0.87	0.97	0.38	17.20	0.02

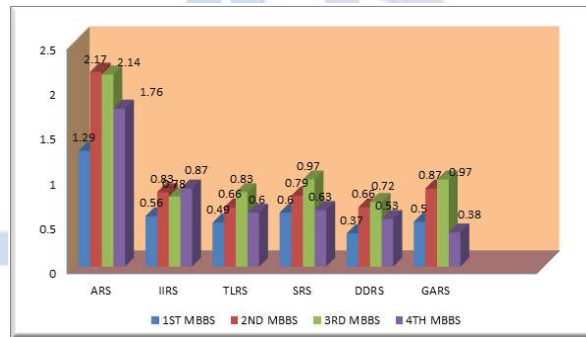


Figure 1: Overall stress domains among MBBS students

DISCUSSION

This study confirmed the general impressions that there is mild stress in medical student. This is similar to a study of stress in medical college students conducted by an earlier study.⁵ In present study, overall stress was found to be more in 3rd year students. Rather than 1st and final year MBBS students. This was surprising as 3rd MBBS is thought to be a year where there was less stress. In another similar study⁶, found that stress was more in 2nd MBBS and this may be due to greater fear of not attaining their goal of being a doctor. The other reason may be due to excessive load of both clinical and, paraclinical subjects compared to only clinical subjects in 3rd year. In 2nd year students have to attend clinical postings of final year and lectures of second year so there is more stress among students. It was opposite to the finding found in another study⁷, where overall stress found high in final year it is because of unreliability of future. Academic related stress was more

as compared to other five domains which include: Interpersonal and Intrapersonal Related Stressor, Teaching Learning Related Stressor, Social Related Stressor, Drive and Desire Related Stressor, Group activities related Stressor. This was similar to findings reported by previous studies.⁸⁻¹⁰ There was no difference at different level of MBBS regarding academic factors. However academic related stress found to be more in 2nd year MBBS students. Interpersonal and intrapersonal related stress was found to be lesser in 1st year MBBS students since they spend lesser time at college. Social related stress was found to be lesser in 1st MBBS due to no exposure to patients. Consistent with other studies female respondents had reported higher stress compared with their male counterparts. This may be due to the fact that women articulate depressive symptoms even minor ones, more easily but in another similar study¹¹, there was no difference in the stress on the basis of gender. On ranking

depending on mean level of stress that students perceived, it was found that stress related to academic was highest; This finding supports the findings of another similar study⁸. Interpersonal and intrapersonal stress was mild in our participants. This may be because majority of them were sharing of hostel rooms and interaction beyond college hours was less. Our finding was in contrast to other studies^{12,13}, where IRS ranked second after ARS.

LIMITATION OF STUDY: We have studied on very small sample size means in only one college, more data from different colleges and more involvement of persons should be there, so this study can not be generalised. Study for stress in gender is not done in this study, gender wise difference of stress among different domains should be done.

CONCLUSIONS

Overall stress domain is Academic related stress domain which is of moderate degree, that can be reduced to mild degree only by adding extracurricular activities like conferences, music, dance and gatherings for undergraduate students. Counselling cells can be established for both students and parents. Study was approved by Institutional ethical committee.

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