MEDICAL STUDENT SYNDROME; THE AFFLICTION IN MEDICAL STUDENTS

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ABSTRACT

Objective: The aim of the study is to find out the prevalence of Medical Student Syndrome (MSS) in Pakistan and its association with age, maturity level and the degree of medical knowledge.
Study Design: Descriptive cross-sectional study.
Place and Duration of Study: The survey was completed in one year, from Jul 2016 to Jul 2017
Material and Methods: A self-designed, self-explanatory questionnaire was used. The link of the questionnaire was disseminated electronically. The data were analyzed by using Statistical Package for Social Sciences (SPSS-22)
Results: Total 129 responses were received from the students of different medical colleges/universities of Pakistan. Mean age of the participants was 21.94 years. Among the respondents 43% were males while 57% were females. Maximum participants were from final year. Majority of the respondents that is about 81% reported they had symptoms of the diseases they study, yet 44% pursued and moved forward. Among them 28% of the respondents said that they investigated their felt symptoms further, of which maximum were from 3rd year. Only 43% of the students knew about the Medical Student Syndrome. Some of the respondents, about 22.8% admitted the fact that they used psychiatric medicines either for relaxing or sleep.
Conclusion: It can be concluded that medical students are more vulnerable to conditions like Medical student syndrome so there is a need to counsel medical students about the symptoms of MSS as well as to support the students by discussing different techniques to subsist the stress level.

Keywords: Health anxiety, Hypochondriasis, Medical student's disease, Medical student syndrome.

INTRODUCTION

Medical students are more anxious than the students of other graduate programs because of extensive medical knowledge[1,2]. The Medical Student Syndrome (MSS) is one of the major reasons for stress among medical students throughout their undergraduate program and affects their performance[3,4]. Medical student syndrome is actually a hypochondriasis or illness anxiety disorder in the medical students that occurs in studying a medical condition, the students focused themselves on and correlated their vague symptoms with the disease they studied[5], like if the students were studying about brain tumors they assumed that their headaches might be one of the signs of tumor.

Number of studies have been studied done worldwide which divides the "Medical Student Syndrome" into two components, the first one is a cognitive component which includes the thoughts of a student that he has the disease being studied and the second one is a distress component that includes anxiety due to the cognitive component. Comparison of these two components shows that the cognitive component is present among all students and is progressing from the start of the medical education to the senior level while the distress component is more among younger students and is insignificant among older students because with time the students get more knowledge as well as increase in maturity level[6-8].

Pakistan shows high prevelance of anxiety among the medical students which is about 44-70%[6,9,10], the reasons may be the fast pace of study, the examination system or high level of competition, but one should consider the Medical Student Syndrome as well[6,11,12]. Some of the

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studies reported higher level of anxiety among females as compared to males[13] but one of the studies done in Pakistan negate it[14].

The purpose of our study is to find out the prevalence of Medical Student Syndrome in Pakistan and its association with age, maturity level and the degree of medical knowledge by comparing among medical students of different years.

MATERIAL AND METHODS

A descriptive cross-sectional study was done by using a self-designed, self-explanatory questionnaire. The questionnaire was validated by pilot testing on a sample of 10 students. The questionnaire was disseminated using google form. The questionnaire included the demographic data mainly age, sex, studying year and the institute. Names of the students were not recorded. The Medical student synd-rome related questionnaire included whether the students knew about the syndrome, any sign/ symptom felt during studying a disease, intensity, strength and duration of stimuli, effect over sleep, either consulted a doctor or took any medication. The link of the questionnaire was emailed to the medical students. For this study the medical students from 1st year to final year (including 3 years of basic sciences and 2 years of clinical sciences) were allowed to fill the questionnaire. The survey was completed in six months. The data was analyzed by using Statistical Package for Social Sciences (SPSS-22).

RESULTS

A total of 150 questionnaires were distributed. We received total 129 responses from the students of different medical colleges/ universities all over Pakistan. Mean age of the participants was 21.94 years with a deviation of 1.5 years. Minimum age was reported to be 18 years while maximum was 26 years. Majority of the participants (29%) each were of 21 and 22 years. Forty nine (43%) were males while 65 (57%) were female respondents. Maximum participants were from final year (36, 31.6%). Out of 129 students, 18 said that they had been to a psychiatrist while 26 (22.8%) admitted the fact that they used psychiatric medicines either for relaxing or sleeping. Only 49 (43%) of the students knew about the Medical Student Syndrome (table-I).

Table-I: Comparison of basic knowledge about MSS according to gender and year of study.

Gender	Year of study	Have you ever been to a psychiatrist?		Have you ever taken psychiatric /sleep medications?		Do you know what medical students syndrome is?		Have you ever felt any sign/symptoms of a disease when you read about a disease?	
		N	%	n	%	N	%	n	%
Male	1	1	0.88	1	0.88	0	0.00	2	1.75
	2	0	0.00	0	0.00	1	0.88	2	1.75
	3	1	0.88	1	0.88	7	6.14	9	7.89
	4	3	2.63	4	3.51	9	7.89	10	8.77
	5	1	0.88	2	1.75	6	5.26	6	5.26
Female	1	0	0.00	0	0.00	2	1.75	3	2.63
	2	1	0.88	2	1.75	2	1.75	7	6.14
	3	6	5.26	4	3.51	5	4.39	12	10.53
	4	3	2.63	3	2.63	4	3.51	12	10.53
	5	2	1.75	9	7.89	13	11.40	12	10.53

Although majority (n=105, 81%) reported they had symptoms of the diseases they studied, yet 56% said they ignored the symptoms and moved forward. The trend of moving forward as well as telling someone about the symptoms both increased by the passage of time in medical college (table-II). Only 28% of respondents said that they investigated their felt symptoms further, of which maximum were from 3rd years

(3 males and 7 females). Almost half (49%) said that the feelings lasted for only a few minutes. Only 16% said that the duration of feeling of the symptoms lasted over days, again it was maximum in 3rd year (males=2, females=6).

Out of 129 respondents only 30 (23%) said they visited a doctor for their felt condition. Although only 12 (9%) reported self-medication for the presumed condition an interesting trend was observed regarding was seen, of these 12, 8 were final year students.

Table-II: Determinants of MSS.

		Year of Study									
		1		2		3		4		5	
		M	F	M	F	M	F	M	F	M	F
How strong the stimuli do you feel?	I ignore it	1	2	2	5	8	12	12	10	10	11
	I talk to someone	0	1	0	3	4	1	3	3	5	8
	Have to go to a doctor	1	0	0	0	0	3	0	0	0	0
What is your response to the stimuli?	Ignore	1	2	2	6	9	10	12	11	13	13
	Investigate further	1	1	0	2	3	7	3	3	2	6
How long does the feeling last?	Minutes	1	2	2	6	6	8	11	9	8	10
	Hours	0	0	0	0	3	2	2	1	2	4
	Days	1	1	0	2	2	6	1	3	1	3
Been to a doctor for that disease that you suspect you have?		1	0	1	1	1	5	1	1	6	13
Have you ever used medicines (without consulting a doctor) for the disease you are suspecting?		0	0	1	0	0	2	0	1	6	2
Does the feeling of having a disease bother you at night in sleep?		1	0	0	3	3	2	1	0	2	1

M=Male, F=Female

DISCUSSION

Different studies had been done to compare the level of hypochondriasis in medical students versus non-medical students. Some of the studies favored higher anxiety level in the medical students because of their curricula design and clinical exposure[15,16]. There are some the studies contradicting to these findings and reporting equal level of anxiety in both the groups, the reason for this may be the easy accessibility of medical information on internet[17,18]. On further literature review we only found one of the studies, that is contradictory to both findings and reported lower level of health related anxiety in medical students[7], these variations may be due to the difference in either curricula or study methodology .

In our cross sectional study, we found out that female medical students have higher level of MSS as compared to male medical students, the probable explanation for this finding may be that the medical colleges in Pakistan have higher proportion of female students. Most of the studies done in developed countries as well as in Pakistan[8,19,20] favored our findings. But is also contradictory to one of the studies done in Karachi. According to Khan et al. the female medical students showed lower level of stress that may be due to the fact that females cope up more effectively to anxiety and depression[7,14]. Few other studies reported insignificant gender differences[21].

The educational program in Medical schools of Pakistan are different from those of developed countries that is in 5 years of medical education

the initial 3 years are for basic sciences while they started clinical rotation from the year 3 onwards as well, where they learnt about the patient's examinations, differential diagnosis and management strategies[3]. Our study showed that the students who visited a physician or psychiatrist were mostly from the students who had clinical rotations that is 3rd year onwards students, the possible reason for this finding is that from 3rd year the students start to study about the pathology of diseases as well as examination of the patients during clinical rotations while in initial 2 years' students have little clinical exposure. Our finding is supported by Azuri et al[5]. Different studies that had been done in developed countries as well as those previously done in Pakistan[6,9,10,22] showed higher percentage of students with hypochondriasis in initial years of medical education and the percentage declines as the students get older, these contradicted our study. One of the studies neglected, both the findings and reported an equal percentage of the students affecting by MSS throughout the five years of their medical education[23].

Our results show that about 9% of the respondents self-medicated for the presumed condition which is very low percentage as compare to one of the study that shows about 40.9% of the students self-medicated for the MSS in Saudi Arabia[21,24] while both the studies coincide on the point that most of them were from final year.

Practice Points

- Teaching about signs and symptoms of MSS.
- Counselling sessions for medical under-graduate students.
- Students should be supported.
- Different techniques should be discussed to reduce stress level.
- Change in Medical curricula.

CONCLUSION

It can be concluded that medical students are more vulnerable to conditions like Medical student syndrome so there is a need to counsel medical students about the symptoms of MSS as well as to support the students by discussing different techniques to subsist the stress level.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

REFERENCES

1. Nechita F, Nechita D, Pirlog MC, Rogoveanu I. Stress in medical students. Romanian journal of morphology and embryology Revue roumaine de morphologie et embryologie 2014; 55 (Suppl-3): 1263-6.
2. West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. Lancet 2016; 388(10057): 2272-81.
3. Dyrbye L, Shanafelt T. A narrative review on burnout experienced by medical students and residents. Medical education 2016; 50(1): 132-49.
4. Cecil J, McHale C, Hart J, Laidlaw A. Behaviour and burnout in medical students. Medical education online 2014; 19(1): 25209.
5. Azuri J, Ackshota N, Vinker S. Reassuring the medical students' disease–Health related anxiety among medical students. Medical teacher 2010; 32(7): e270-e5.
6. Zahid MF, Haque A, Aslam M, Aleem NA, Hussain S, Fahad H, et al. Health-Related Anxiety and Hypochondriacal Concerns in Medical Students: A Cross-Sectional Study From Pakistan. Teaching and learning in medicine 2016; 28(3): 252-9.
7. Sharma B, Wavare R. Academic stress due to depression among medical and para-medical students in an indian medical college: Health initiatives cross sectional study. J Health Sci 2013; 3(5): 29-38.
8. Iqbal S, Gupta S, Venkatarao E. Stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates. Indian J Med Res 2015; 141(3): 354.
9. Hashmi AM, Aftab MA, Naqvi SH, Sajjad W, Mohsin M, Khawaja IS. Anxiety and depression in Pakistani medical students: A multicenter study. Health Med 2014; 8(7): 813-20.
10. Al-Faris E, Irfan F, Van der Vleuten C, Naeem N, Alsalem A, Alamiri N, et al. The prevalence and correlates of depressive symptoms from an Arabian setting: A wake up call. Medical teacher 2012; 34(suppl-1): S32-S6.
11. Wolf MR, Rosenstock JB. Inadequate sleep and exercise associated with burnout and depression among medical students. Academic psychiatry 2017; 41(2): 174-9.
12. Rotenstein LS, Ramos MA, Torre M, Segal JB, Peluso MJ, Guille C, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. JAMA 2016; 316(21): 2214-36.
13. Alvi T, Assad F, Ramzan M, Khan FA. Depression, anxiety and their associated factors among medical students. J Coll Physicians Surg Pak 2010; 20(2): 122-6.
14. Khan MS, Mahmood S, Badshah A, Ali SU, Jamal Y. Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. J Pak Med Assoc 2006; 56(12): 583.
15. Navas SP. Stress among Medical Students. Kerala Med J 2012; 5(2): 34-7.
16. Dyrbye LN, West CP, Satele D, Boone S, Tan L, Sloan J, et al. Burnout among US medical students, residents, and early career

physicians relative to the general US population. Acad Med 2014; 89(3): 443-51.
17. Waterman LZ, Weinman JA. Medical student syndrome: fact or fiction? A cross-sectional study. JRSM open 2014; 5(2): 2042533313512480.
18. Jackson ER, Shanafelt TD, Hasan O, Satele DV, Dyrbye LN. Burnout and alcohol abuse/dependence among US medical students. Acad Med 2016; 91(9): 1251-6.
19. Daud S, Shaikh RZ, Ahmad M, Awan Z. Stress in Medical Students. Pak J Med Health Sci 2014; 8(3): 503-7.
20. Hojat M, Vergare M, Isenberg G, Cohen M, Spandorfer J. Underlying construct of empathy, optimism, and burnout in medical students. Intl J Med Edu 2015; 6: 12.
21. Al-Turkia YA, Saggab AT, Alhamidib HA, AlShammarib SI, Alteraiqib BA, Alruaydib MA, et al. Prevalence of hypochondriasis among medical students at King Saud University. Eur J Social Behav Sci 2013; 5(2): 995.
22. Fares J, Al Tabosh H, Saadeddin Z, El Mouhayyar C, Aridi H. Stress, burnout and coping strategies in preclinical medical students. Am J Med Sci 2016; 8(2): 75.
23. Barikani A. Stress in medical students. J Med Edu 2009; 11(1,2): 41-44.
24. Abdulghani HM, AlKanhal AA, Mahmoud ES, Ponnamperuma GG, Alfaris EA. Stress and its effects on medical students: A cross-sectional study at a college of medicine in Saudi Arabia. J Health Popul Nutr 2011; 29(5): 516.

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