



PREVALENCE OF MEDICAL STUDENT SYNDROME AMONG MBBS STUDENTS IN A TERTIARY HEALTH CARE CENTER IN NORTH KERALA

Dr. Sobin Sunny*

Assistant Professor, Department Of Community Medicine, Malabar Medical College Hospital And Research Centre. *Corresponding Author

Dr. Anjusha V S

Post Graduate Resident, Department Of Community Medicine, Malabar Medical College Hospital And Research Centre.

**Aswani V
Raghavan**

Student, Department Of Community Medicine, Malabar Medical College Hospital And Research Centre.

ABSTRACT

Background: The medical student syndrome (MSS) refers to the phenomenon when medical students develop health-related worry while studying a particular disease, erroneously attributing their symptoms to that sickness. **Methods:** A cross-sectional study was conducted among 206 MBBS students, who filled a pre-tested semi-structured questionnaire. MSS was graded and health anxiety score was calculated. Chi-square test was done and a p value of <0.05 was considered statistically significant. **Results:** Among the study participants, 67 (32.5%) had no MSS, 104 (50.5%) had mild MSS, 32 (15.5%) had moderate MSS and 3 (1.5%) had severe MSS. In the current study the mean health anxiety score was 20.8 ± 3.4 . The illnesses predominantly of concern to students were infections (47.6%), malignancies (39.9%), and psychiatric disorders (26.2%). **Conclusion:** MSS is a growing concern in health colleges. This distress may be alleviated with targeted psychological training prior to employment or internship.

KEYWORDS : Burnout syndrome, Health anxiety, Hypochondriasis, Medical students.

INTRODUCTION

It is common for medical students to experience anxiety related to their health and hold a belief of having a medical illness with varying levels of conviction. This condition has been described in the literature as "medical student syndrome" or "medical student disease." It is thought to arise due to false attribution of bodily sensations/symptoms to the illness being studied by students during their medical training. It is considered a type of hypochondriasis which is a kind of health anxiety disorder. Compared to students of other streams, medical students are considered more prone to this condition.(1)

Medical students receive training on diseases, symptom recognition, and accurate diagnosis during their medical education. Students educated in psychology or medical sciences are more prone to experiencing illnesses they have studied, and they may also encounter psychological discomfort over their family or their own mental health. When students study physical diseases, they may perceive bodily abnormalities as indicators of severe sickness.(2) This may adversely impact academic performance, foster skepticism, encourage academic dishonesty, and lead to substance abuse.(3)

However, the contradictory finding has also been reported by other studies which found a lower rate of health-related anxiety in medical students compared to non-medical students.(4) Medical students are considered the vulnerable population because of the nature of the level of competence competition faced by them at various levels and nature of training. Studies have reported that health-related anxiety is more common in the early years and reduces as clinical exposure starts during later years of medical training, which may be the reason behind the lower prevalence of health anxiety found in few studies involving final-year students.(5-7)

There are only a few studies which explored health anxiety in the medical students in India and assessed the effect of clinical exposure on health anxiety during medical training.

Methodology

This was a cross-sectional study conducted in a medical college hospital in South India among medical students of all

academic years. The study was initiated after obtaining approval from the institutional ethical committee. All students who were willing to participate in the study were included after obtaining a written informed consent. Sample size was calculated using the data from the study conducted by Rohilla et al., in which the prevalence of MSS was 14.7%, and taking absolute precision of 5.0%. Considering 10% of non-responders, the sample size was calculated to be 206.

A pretested semi structured questionnaire consisting of questions including socio demographic details and validated questionnaires regarding MSS were used to collect data. The scoring of MSS was such that, those with a score of, (i) 24 – 42 had no MSS, (ii) 43 – 61 had mild MSS, (iii) 62 – 80 had moderate MSS and (iv) 81 – 97 had severe MSS. The obtained data was entered into Microsoft Excel and was analysed using SPSS version 20.0 software. Quantitative data was expressed as mean and standard deviation and qualitative data was expressed as frequency and percentage. Chi-square or Fisher's exact test was performed to test the association between different variables and a p value of less than 0.05 was considered statistically significant.

RESULTS

The mean age of the study population was 21.06 ± 1.26 years. In this study majority of the study population were females (75.7%) compared to males. Most of the students stayed in hostel (3.2%). Among the study subjects 39.8% had a family member in the health care profession. In the study 11 (5.3%) of the students reported that, they constantly worry about serious illness or medical condition and 16 (7.7%) of them frequently check their body for signs of any illness.

Among the study participants, 67 (32.5%) had no MSS, 104 (50.5%) had mild MSS, 32 (15.5%) had moderate MSS and 3 (1.5%) had severe MSS (Table 1). In the current study the mean health anxiety score was 20.8 ± 3.4 . The illnesses predominantly of concern to students were infections (47.6%), malignancies (39.9%), and psychiatric disorders (26.2%).

Table 1: Distribution of MSS among the study participants

Grade of MSS	Frequency	Percentage
No MSS	67	32.5
Mild MSS	104	50.5
Moderate MSS	32	15.5

Severe MSS	3	1.5
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In the current study, we looked if there is any association between incidence of MSS and presence of family member in any health care profession. Even though 60 (29.1) students with MSS had at least one family member in health care profession, there was no significant association between the two variables (Table 2).

Table 2: Association between medical student syndrome and presence of family member in health care profession

MSS	Family member in health care profession		Total (%)	P value
	Yes (%)	No (%)		
Yes	60 (43.1)	79 (56.9)	139 (100.0)	0.156
No	22 (32.8)	45 (67.2)	67 (100.0)	
Total	82 (39.8)	124 (60.2)	206 (100.0)	

Similarly, no significant association was seen between MSS and year of study of the study participants (Table 3).

Table 3: Association between Medical Student Syndrome and year of study (preclinical or clinical)

MSS	Year of study		Total (%)	P value
	Preclinical (%)	Clinical (%)		
Yes	40 (28.8)	99 (71.2)	139 (100.0)	0.950
No	19 (28.4)	48 (71.6)	67 (100.0)	
Total	59 (28.6)	147 (71.4)	206 (100.0)	

DISCUSSION

It has been hypothesised that medical students, due to their continuous exposure to life-threatening disorders and diseases, experience chronic fear and stress around the possibility of developing a major medical ailment, a form of anxiety known as nosophobia.(8,9) The study of many medical conditions leads medical students to apply this knowledge to themselves, resulting in significant anxiety about potential serious illnesses and the exaggeration of minor symptoms, a condition known as hypochondria.(10) Medical students acquire substantial information about diseases, enabling them to accurately and professionally identify problems, mostly due to their regular interactions with medical personnel. As a result, they can continuously address their health concerns while simultaneously being perceived by physicians as individuals excessively preoccupied with their health. This contrasts with non-medical students, who lack access to the medical community and have limited opportunity to obtain health-related advice.(8)

This study was conducted among the medical students at a private medical college in South India on prevalence of MSS. In this current study, 67.5% students had MSS. Two studies conducted in the 1960s revealed that 70.0% and 78.8%, respectively, of students in health science programs exhibited hypochondriacal symptoms.(11,12) In a study, conducted in Menoufia University, Egypt, by Sherif et al., it was found that 70.5% students experienced MSS.(13) These results were comparable to the results of our study. In another study by Althagafi et al., it was found that only 17.4% medical students showed health anxiety and related symptoms, which was less than that found in our study. In their study, a comparison was made between medical and non-medical students.(14) In the research undertaken by Abdulghani et al., merely 8.5% of health college students were identified as having MSS. The findings indicated that students with MSS exhibited elevated levels of anxiety and hypochondriasis relative to their peers.(15) However in general population the prevalence of hypochondriasis or health anxiety is comparatively low, standing at 5.7%.(16) The significant frequency of HC among health sciences students suggests that it remains a persistent issue among this demographic.

In the current study the mean health anxiety score was 20.8 ± 3.4. A study was conducted by Robles-Mariños et al., on

factors associated with health anxiety in medical students at a private university in Peru. In this study the mean health anxiety score was 14 ± 6.7. They also reported an association between health anxiety and the year of study, with the second-year students showing the highest scores.(17)

The current study couldn't find any significant association between MSS and presence of family member in health care profession. Similarly, no association was seen between MSS and year of study. The findings of the study conducted by Abdulghani et al., reveal a greater prevalence of hypochondriacal symptoms in clinical students compared to pre-clinical students, with third-year students exhibiting a larger frequency of MSS than second-year students.(18)

Clinical practice is incorporated into the clinical year of health science education. The transition from preclinical to clinical year, specifically nearing the third year, entails substantial alterations in student learning requirements and instructional methodologies, which affect their general well-being. Numerous problems accompany such transitions, especially for individuals transitioning from students to physicians. This approach has long been acknowledged as arduous. As students advance in their medical school and acquire medical knowledge, they may cultivate hypochondriacal anxieties regarding diseases and symptoms.(19,20)

In cases of hypochondria, a formal diagnosis is consistently pursued; however, with MSS, there is no corresponding rise in health consultations. Students with MSS will not pursue medical attention more often, however they will perceive or dread that they are afflicted with an illness. Medical students concentrating on these disorders during their studies may experience health concern stemming from this distinct form of hypochondriasis.

This distress may be mitigated with focused psychological training before job or internship. The student responses suggested insufficient knowledge of medical symptoms as a variable associated with the educational process. Consequently, students may regard academic endeavours as stressful, frequently failing to recognize their significance or intrinsic rewards. Consequently, these pupils perceive themselves as less effective. The medical college has noted that pupils frequently exhibit worries and symptoms related to poor health.

This report reflects data from a single medical institution and may not accurately represent students from other health colleges. Furthermore, our questionnaires relied on self-reported data submitted by students. Consequently, there exists the potential for reporting bias. Another limitation of this study is that it's a cross-sectional study, necessitating more cohort studies to yield more precise conclusions.

In conclusion, MSS is an escalating issue in health colleges. Consequently, additional research is necessary in health colleges due to the rising prevalence of MSS, which may have impacted academic performance. Furthermore, qualitative study through focus group interviews with students may be employed to investigate the issue comprehensively.

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