Comparison of Medical Student Syndrome Among Medical Students in Karachi, Pakistan

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ABSTRACT

Hypochondriasis, otherwise known as Medical Student Syndrome, is a common diagnosis for students of medicine. The objective of this study is to compare the prevalence of Medical Student Syndrome among pre-clinical and clinical year medical students at public sector medical schools in Karachi, Pakistan. A cross-sectional study was conducted at a public sector medical school. A total of 316 students were selected through multistage stratified random sampling. A validated and structured questionnaire was used for data collection. Any student with a known psychiatric disorder was excluded from the study. Data, with a chi-square test, determined the difference in syndromes between pre-clinical and clinical years of students. A p-value of 0.05 was considered statistically significant in the analysis. We found that Medical Student Syndrome is more prevalent among clinical year students than pre-clinical students and this difference is statistically significant (Mean Rank: 23.6 2.42 vs. 29.8 1.98, p-value 0.005). Differences in clinical and pre-clinical year students related to different items of the anxiety scale, such as stress affects, physical and mental health (P-value-0.032), and disease interfering with daily activity (P-value-0.031). Clinical year students are more likely to self-medicate, seek psychiatric counseling, and be concerned about their health. There is need for a counseling system which will reduce the burden of this syndrome.

Keywords: Anxiety, Hypochondriasis, Medical Student Syndrome.

INTRODUCTION

Medical Student Syndrome is a condition in which a person thinks that he or she is suffering from a serious symptomatic illness (Collier, 2008). A diagnostic criterion for Medical Student Syndrome is fear that one has a serious illness, but being unaware of non-specific symptoms of disease. Counseling does not relieve the anxiety, which lasts for at least six months (Collier, 2008). Medical Student Syndrome is a form of hypochondriasis; however, in the diagnostic and statistical manual of statistical disorder scale, hypochondriasis has been replaced by "health anxiety".

Several researchers have noted a high prevalence of health anxiety among medical students in particular (Collier, 2008). Reasons for such alarming prevalence may include environmental, academic, and psychological factors that are well known to be stressors (Dyrbye et al., 2006). The diagnostic features of health anxiety include excessive worries over one's health, fear of developing an untreatable illness, a need for reassurance about one's health, hyper-vigilance about one's body and its functions, and increased reading about illnesses and their symptoms (Anuradha et al., 2017). One study claims almost 75 per cent of students suffer from health anxiety (Tyrer & Tyrer, 2018). This has a negative impact on their academic performance and class attendance (Sarikaya et al., 2006).

Furthermore, medical science students that are suffering from health anxiety symptoms can compromise patient care. Therefore, we need to know the risk factors and prevalence of health anxiety symptoms (van Ravesteijn et al., 2009). Health anxiety symptoms among medical student populations have been found to increase over time through the course of study, I.e., from pre-clinical to clinical years of study. Patients with health anxiety symptoms are often unaware of their depression and anxiety, which are producing the physical symptoms, and they confuse them with serious illness. Some researchers also claim the chance of developing depression and nervousness is greater in females as compared to males (Meng et al., 2019; van Ravesteijn et al., 2009). Previous studies found that almost 80 per cent of medical students think that they are suffering from serious illness like tuberculosis and cancer, leading to emotional disturbance (Azuri et al., 2010; Zhao et al., 2018. For example, fear of diabetes mellitus is high because it is a common disease in wider society (Azuri et al., 2010; Eastin & Guinsler, 2006).

Studies have found that first-year medical students are more likely to consult medical Fischbeinspecialists for management of anxiety than final year students. Their visits ((were found to be 1.6 times more frequent compared to clinical year students (Ahmed et al., 2019; Sidana et al., 2012). It has also been found that 77 per cent of medical students with hypochondriac symptoms sought help with non-professional healthcare persons (Fischbein et al., 2019; Lakhiar et al., 2017) Health anxiety is a common problem for medical students because they are learning about different diseases in the course of their education, but sometimes due to a lack of experience and misunderstanding of symptoms, they develop a fear of having a serious medical condition. Several researchers have tried to pin down the prevalence of health anxiety in medical students, but most have inconsistent results. This study aims to compare Medical Student Syndrome between pre-clinical and clinical medical students in Karachi, Pakistan.

METHODS

This is a cross-sectional study conducted at an unnamed public sector medical school. A total of 2,500 students registered across different years at this school. A total of 316 medical students were selected through multistage stratified random sampling. This meant a total of five academic (strata) years in the medical school, divided into two groups, from first year to third year in the pre-clinical group, and from fourth to fifth year in the clinical group, with 63 students being selected from each academic year. Students with known cases of mental disorder were excluded from the study. A validated and structured health anxiety scale was used to determine the presence of the syndrome. The scale was composed of 18 items, including excessive sensitivity to somatic symptoms and the distress dimension, which contains four sequential statements questioning mental state.

Each item on the scale was scored on a 0–3 point basis, and every item score was added to get the total score, which ranged from 0–54 points. Higher scores indicated a higher level of health anxiety. Data was collected by asking students to fill out a simple questionnaire. Written informed consent was obtained from participants and all ethical considerations and research protocols were observed. A pilot study was conducted among research participants for the purpose of examining content validity. Data was analyzed using Statistical Product and Service Solutions version 22.0 and the chi-square test was used to determine factors associated with demographic profile and symptoms. Statistical analysis was conducted with a 95 per cent confidence interval and a *p*-value of 0.05 was taken as the threshold of statistical significance. The mean total of the health anxiety scale between the two groups was analyzed by the Mann–Whitney *U* test.

RESULTS

The mean age of participants was 21.15 ± 1.55 years, with most (68.7 per cent) of participants being aged 21-26. About 88 per cent of participants' education expenses were financed by the head of their family.

Table 1

Sociodemographic characteristics of study participants (n = 316).

Sociodemographic Characteristics	n (%)
Age (years) Mean ± standard deviation	21.15 ± 1.55
18-20 years	99 (31.3)
21-26 years	217 (68.7)
Gender	
Male	63 (19.9)
Female	253 (80.1)
Academic Year of Study	
First Year	39 (12.3)
Second Year	16 (5.1)
Third Year	88 (27.8)
Fourth Year	116 (36.7)
Fifth Year	57 (18.0)

Sociodemographic Characteristics	n (%)
Place of Residence	
At Home	301 (95.3)
At Hostel	15 (4.7)
Source of Education Funding	
Family	279 (88.3)
Self	5 (1.6)
Family and Self	32 (10.1)

More than half of participants (63.4 per cent) were worried about their health, and only 19 per cent of student had good understanding of anxiety. Many students (45.4 per cent) suffering from Medical Student Syndrome were female. More than half (59.3 per cent) of participants believed that the nervous system of body was commonly affected.

Table 2

Knowledge regarding Medical Student Syndrome among study participants (n = 316).

Knowledge Questions	Corrected answer n(per cent)
What you mean by Medical Student Syndrome? (Worry about Health)	201(63.4)
How did you come to know about Medical Student Syndrome? (Research Article)	60(19)
Which group of persons is commonly affected by health anxiety? (Medical Students)	214(67.5)
Which gender is most affected by health anxiety? (Female)	144(45.4)
Is health anxiety a form of obsessive compulsive disorder? (Yes)	99(31.2)
Which common factor causes health anxiety? (Work Stress)	104(32.8)
Which one of the body's system is most commonly affected by health anxiety? (Nervous System)	188(59.3)

The health-related anxiety score in clinical participants had a mean difference of 6.2±0.44 and was higher than those who were pre-clinical.

Table 3

Health anxiety (Medical Student Syndrome) score among study participants.

Section of Scale	Pre-Clinical Mean ± SD	Clinical Mean ± SD	Mean Difference	*P*-value
Main Section (Illness Likelihood)	23.6 ± 2.42	29.8 ± 1.98	6.2 ± 0.44	0.005
Negative Consequences Section	5.61 ± 1.35	7.64 ± 1.52	2.03 ± 0.84	0.002

Individual items on the health anxiety scale, which indicate a statistically significant difference in item no. 10 (stress effect on the body), 13 (prevention of enjoyment), and 15 (disease interfering anxiety) were P = 0.033, 0.0032, and 0.031, respectively.

Table 4

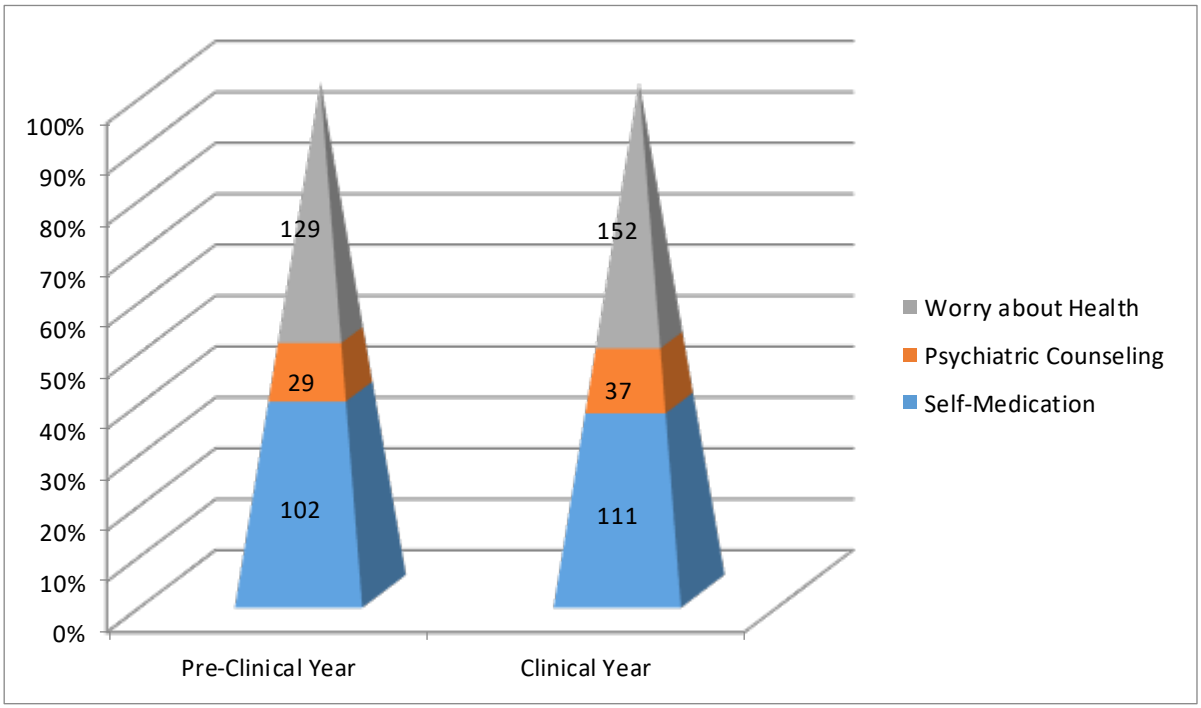
Comparison of 18 items of health anxiety inventory between pre-clinical and intern students.

Items in SHAI (1-18)	Pre-Clinical Group Mean Rank	Clinical Group Mean Rank	*P*-value
Worry about health	156.80	160.84	0.678
Afraid of serious illness	148.34	167.87	0.046
Aches/pains	164.09	154.77	0.949
Think of illness	167.37	152.09	0.129
Imagines self being ill	153.72	163.40	0.325
Disease associated with physical symptoms	157.31	160.41	0.755
Unexplained bodily sensation	153.31	163.74	0.294
Risk of developing serious illness	161.23	157.14	0.681
Something wrong in the body	159.61	158.87	0.977
Stress effect physical and mental health	169.99	149.85	0.033
Fear of disease increases over time	159.66	158.43	0.899
Feels loss of dignity	152.63	164.30	0.241
Stopped enjoyment	147.31	168.31	0.032
Chronic disease will happen in future	156.24	161.29	0.617
Disease interfering daily activity	147.091	168.91	0.031
Relieved of anxiety after assurances	157.88	160.88	0.794
Compared health with someone	161.79	156.68	0.606
Constantly seeking health information online	150.48	166.10	0.119

Self-medication, psychiatric counseling and worrying about health were more common among the clinical cohort of participants.

Figure 1

Difference between pre-clinical and clinical year students.



DISCUSSION

Rohilla et al. found that mostly clinical year students were suffering from Medical Student Syndrome (2020). This could be the result of insufficient knowledge. Our study showed that clinical year medical students are more affected by Medical Student Syndrome compared to pre-clinical year students, consistent with Rohilla et al. (2020). Our study did not show any increase in the frequency of visits to a doctor seeking help; around 30 per cent of participants shared their feelings with family and friends, while 34.2 per cent never discussed them with anyone.

In contrast to one previous study, medical students who had a high score were most likely to visit doctors (= 0.368, P = 0.001). This study found that medical students with a low health anxiety scale score had a higher probability to visit doctors (= 0.368, P = 0.001) and this result is consistent with other study results (Althagafi et al, 2019). According to our study, only six per cent of participants became afraid, thinking that they may have a very serious illness like cancer. In contrast, a previous study, found that 80 per cent of medical students conceptualized diagnoses serious illness like tuberculosis and cancer (Sadiq et al., 2018).

Among respondents, 50.6 per cent agreed that medical school stress affects mental and physical health and can cause health-related anxiety. In contrast to this, a previous study showed that medical school does not create health-anxious individuals (Bati et al., 2018; Waterman et al., 2014). Approximately 18.7 per cent of participants thought they would be diagnosed with diabetes in the future. A previous study showed that fear of diabetes mellitus by students was high, due to the prevalence of the disease in wider society (Bati et al., 2018). Our results show that 10 per cent of the

respondents mostly practiced self-medication. A previous study found that about nine per cent of respondents self-medicated for their presumed condition (Bati et al., 2018). In our research, 19 per cent of participants said they are constantly looking for health information online. In a previous study, 25 per cent of student participants searched online for health information (Singh et al., 2004). This study found that Medical Student Syndrome among clinical year students compared to pre-clinical students is statistically significant. A previous study was conducted which found a statistically significant difference in health anxiety between the students of pre-clinical and clinical years (21 per cent vs. 14 per cent, P = 0.028) (Althagafi et al., 2019). Several other studies also have results consistent with this study (Saravanan & Wilks, 2014; (Flovenz et al., 2021; Moss-Morris et al., 2001). A met analysis that was conducted among medical students found that the pooled prevalence of Medical Student Syndrome was 28 per cent (95 per cent confidence interval = 19.0 per cent – 38.0 per cent) with a raw prevalence ranging from 15 per cent to 55 per cent (Meng et al., 2019; Zahid et al., 2016).

CONCLUSION

The prevalence of Medical Student Syndrome is high among clinical year students based on this study's research findings. Counseling medical students, particularly clinical year students, can help them reduce the problem and develop coping strategies for this syndrome.

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