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Prevalence and Severity of Somatic Symptom Disorder among Medical
Students in Pakistan



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Prevalence and Severity of Somatic Symptom Disorder among Medical Students in Pakistan



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Abstract

Purpose: Medical students face heightened risks of developing somatic symptom disorder due to the high levels of stress associated with their academic curriculum and clinical rotations. Somatic symptom disorder is characterized by persistent physical symptoms without a discernible medical explanation, leading to impaired daily functioning, reduced quality of life, and increased healthcare utilization. Given the limited research on somatic symptom disorder among medical students in Pakistan, this study aims to assess the prevalence and severity of somatic symptom disorder among medical students at the Islamic International Medical College in Rawalpindi, Pakistan. The assessment will utilize the Patient Health Questionnaire Physical Symptoms (PHQ-15) as a measurement tool.

Methodology: A convenience sampling study was conducted among 500 medical students, with 220 respondents completing the PHQ-15. Descriptive and inferential statistics were used to analyze the data.

Findings: The prevalence of somatic symptom disorder among medical students was found to be 44.5%, with a significantly higher prevalence among females (53.96%) compared to males (31.89%). The severity level of somatic symptom disorder was classified as minimal in 17.3%, low in 38.2%, medium in 28.6%, and high in 15.9% of cases among medical students.

Unique Contribution to Theory, Policy and Practice: This study highlights a high prevalence of somatic symptom disorder among medical students in Pakistan, particularly among females. Findings suggest the need for targeted interventions such as stress management programs, mental health services, and changes to the medical education curriculum to promote student well-being. Further research is needed to explore the causes and consequences of somatic symptom disorder in this population.

Keywords: *Somatoform disorder, Somatization, PHQ-15, Medical Student disease, Medical Studentitis, Physical Symptoms*

Introduction

Somatic symptom disorder is characterized by an excessive focus on physical symptoms such as pain, fatigue, and headaches. The understanding of somatic symptom disorder has evolved over time, encompassing previous disorders like psychosomatic disorder, somatization disorder, and somatoform disorder (1,2). Studies have revealed a high prevalence of somatic symptoms among medical students globally, indicating that this phenomenon is not limited to any specific region (3,4). Notably, somatic symptom disorder has been found to be more prevalent among medical students compared to law students (5), and physical symptoms are reported at higher rates among university students overall (6). Understanding the global, regional, and local trends in somatic symptom disorder is essential for addressing the specific challenges faced by medical students in our study setting. Moreover, the unique experiences of medical students in our local context make it crucial to explore the prevalence and impact of somatic symptom disorder within our own institution (10). Medical studentitis can serve as an educational tool to raise awareness among medical students about the potential impact of stress and psychological factors on their well-being. By incorporating this understanding into the medical curriculum, students can be educated about the manifestations and underlying mechanisms of somatic symptom disorder (10).

Somatic symptom disorder can have a negative impact on academic performance and may go undiagnosed by physicians (7,8,11). Commonly reported physical symptoms include fatigue, low energy, sleeping troubles, and pain such as back pain and headaches (9,12).

By investigating the prevalence and severity of somatic symptom disorder among medical students, this study aims to contribute to the existing knowledge base and shed light on the specific challenges faced by medical students in relation to this disorder. The findings will provide valuable insights into the magnitude and impact of somatic symptom disorder, enabling the development of targeted interventions, support services, and curriculum modifications to enhance the well-being and academic success of medical students.

In summary, the high rates and increasing prevalence of somatic symptom disorder among medical students pose a significant problem, affecting their well-being, academic performance, and healthcare utilization. Previous studies have consistently highlighted this issue, emphasizing the need for further investigation and tailored interventions to address the specific challenges faced by medical students

Objectives

The general objective of this study is to assess the prevalence and severity of somatic symptom disorder among medical students at the Islamic International Medical College in Rawalpindi, Pakistan.

Literature Review

The Cognitive-Behavioral Model explains somatic symptom disorder among medical students, emphasizing the role of cognitive factors and illness-focused behaviors. The model highlights cognitive restructuring, behavior modification, and stress management techniques as effective interventions.

The Self-Regulatory Executive Function Model explores deficits in self-regulatory processes, such as emotion regulation and cognitive control, contributing to the onset and maintenance of somatic symptoms among medical students. Enhancing self-regulatory skills through interventions targeting emotion regulation, cognitive flexibility, and mindfulness can alleviate somatic symptoms.

Empirical evidence indicates a higher prevalence of somatic symptoms among medical students compared to other student populations. Studies have shown a positive association between somatic symptom severity and psychological distress among medical students.

However, research gaps remain. Longitudinal studies are needed to track the trajectory of somatic symptoms over time among medical students. Further exploration of the mechanisms linking psychosocial factors, such as stress and perfectionism, with somatic symptoms is necessary. Additionally, evaluating the effectiveness of interventions, such as cognitive-behavioral therapy and mindfulness-based approaches, within the medical student population is warranted.

Addressing these research gaps will enhance our understanding of somatic symptom disorder among medical students and inform the development of evidence-based interventions to support their well-being.

Research methodology

Study Design: This study utilized a descriptive design to collect data from medical students aged 18-25 years at the Islamic International Medical College in Rawalpindi, Pakistan.

Sampling Technique: Convenient sampling technique was employed to recruit participants for the study.

Study Population: A total of 500 medical students were approached to participate in the study, out of which 220 students agreed to take part. Among the participants, 94 were males and 126 were females.

Data Collection: An online questionnaire was sent to class groups for data collection from October 17, 2019 to November 27, 2019. The Patient Health Questionnaire Physical Symptoms (PHQ-15) was used as the data collection tool for this study. The questionnaire, which includes 15 items related to physical symptoms, was rated on a three-point scale. Special permission to use the questionnaire was obtained from Pfizer Inc. The severity of somatic symptom disorder was assessed based on the PHQ-15 score, which was classified into four levels: minimal (0-4), low (5-9), medium (10-14), and high (15-30) (13, 14, 15).

Data Analysis: Data was analyzed using the SPSS software version 21.

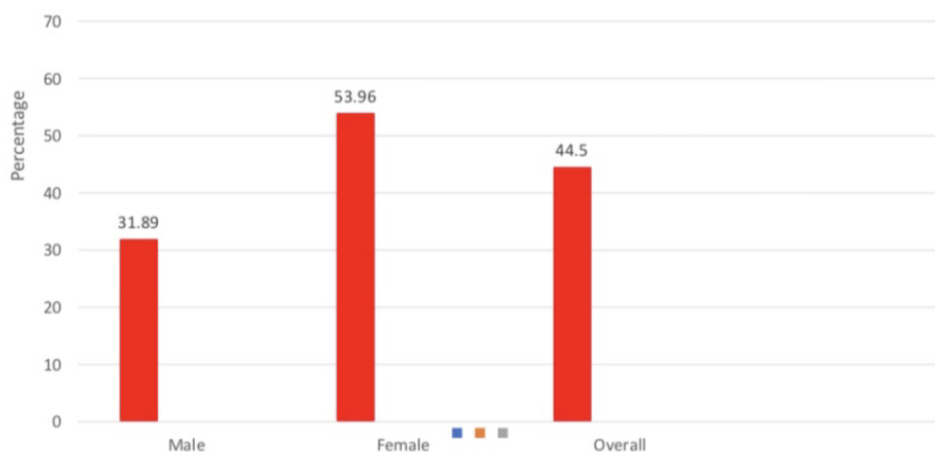
Inclusion and Exclusion Criteria: Only medical students aged 18-25 years from the Islamic International Medical College were included in the study. Participants with an unequal male to female ratio were included, while those who did not meet the inclusion criteria were excluded from the study.

Results

A total of 220 medical students participated in this study, consisting of 94 males and 126 females. The PHQ-15 scale was used to assess the prevalence and severity of somatic symptoms, and data were analyzed using SPSS software.

Using a cutoff score of ≥ 10 on the PHQ-15 scale, which reflects medium to high severity, the prevalence of somatic symptom disorder was found to be 44.5% among medical students. Females had a significantly higher prevalence of somatic symptom disorder compared to males, with rates of 31.89% and 53.96%, respectively.

Gender	Frequency	Total Parti.	Percentage	Overall %age
Male	30	94	31.89%	44.5%
Female	68	126	53.96%	
Total	98	220	44.5%	



The severity of somatic symptom disorder was classified into four levels: minimal (0-4), low (5-9), medium (10-14), and high (15-30). Of the participants, 17.3% were classified as having minimal severity, 38.2% as low severity, 28.6% as medium severity, and 15.9% as high severity.

Severity Of Somatic Symptom Disorder

Severity	Frequency	Percentage
Minimal 0-4	38	17.3
Low 5-9	84	38.2
Medium 10-14	63	28.6
High 15-30	35	15.9
Total	220	100.0

Females had a higher level of severity of somatic symptom disorder compared to males. Among females, 6.3% had minimal severity, 39.68% had low severity, 36.5% had medium severity, and 17.46% had high severity. Among males, 31.91% had minimal severity, 36.17% had low severity, 26.59% had medium severity, and 5.3% had high severity.

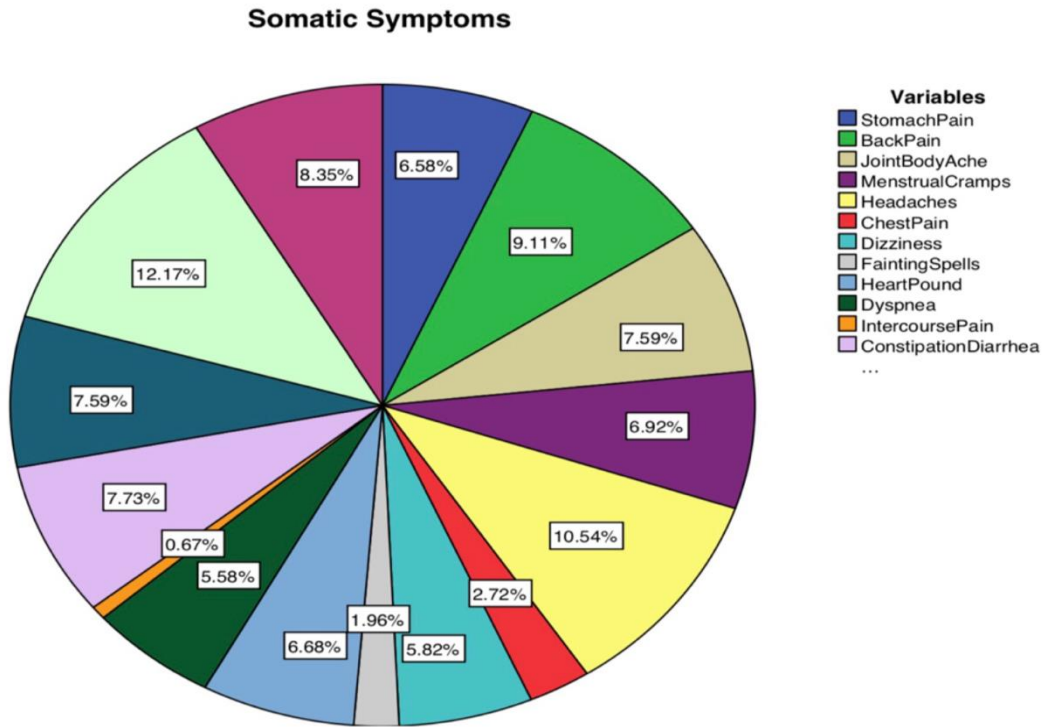
Severity of Somatic Symptoms Disorder in Males

Severity Level	Frequency	Percentage
Minimal 0-4	30	31.91%
Low 5-9	34	36.17%
Medium 10-14	25	26.59%
High 15-30	5	5.3%
Total	94	100%

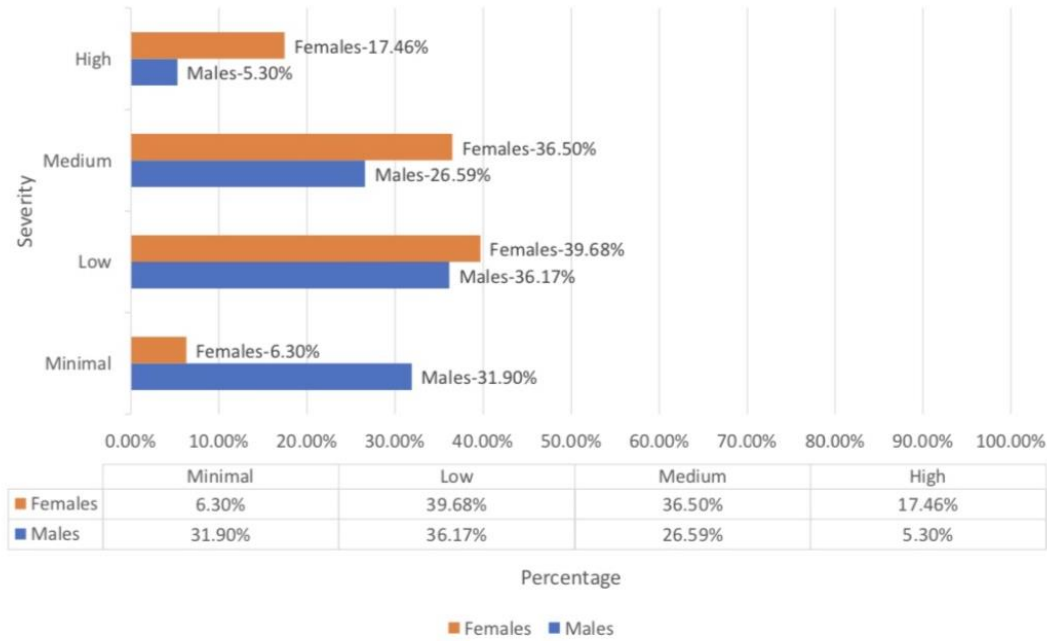
Severity of Somatic Symptoms disorder in Females

Severity Level	Frequency	Percentage
Minimal 0-4	8	6.3%
Low 5-9	50	39.68%
Medium 10-14	46	36.5%
High 15-30	22	17.46%
Total	126	100%

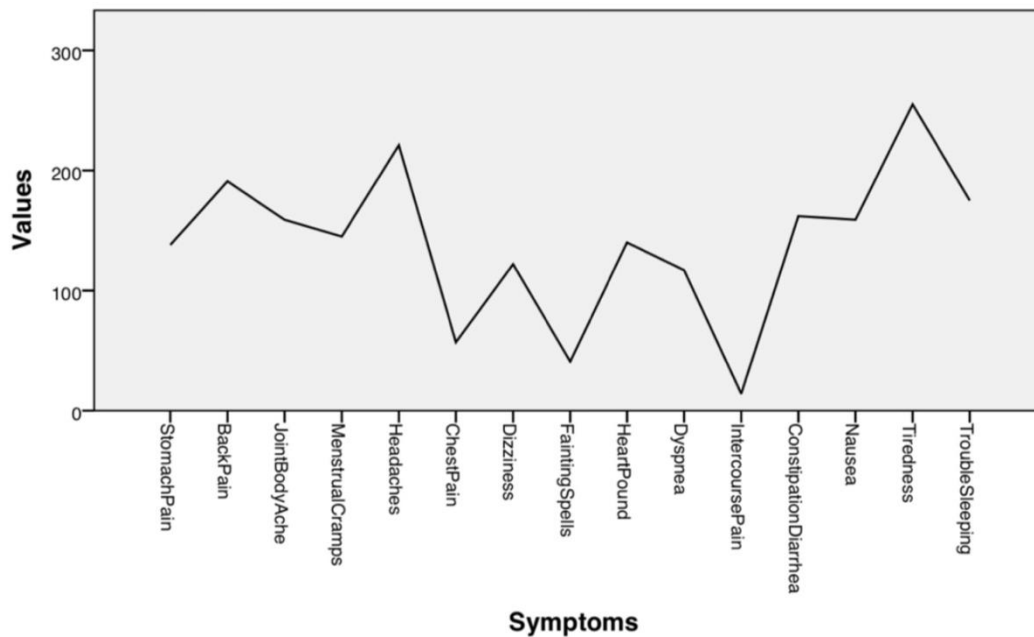
The most common physical symptom reported by medical students with somatic symptom disorder was tiredness or low energy, followed by headache.



Gender Wise Severity of Somatic Symptoms Disorder



Somatic Symptoms



Discussion

Somatic Symptom Disorder is a condition characterized by the manifestation of physical symptoms such as excessive emotions, pain, tiredness, and fatigue (2). The DSM-V provides a proper definition for this disorder, which highlights the fact that medical students who suffer from it may not be malingering since their symptoms could be genuine (17). In fact, > 70% of medical students present with somatic symptoms.(3)

In this study, 220 medical students (126 females and 94 males) out of 500 respondents were observed, and it was found that the prevalence of somatic symptom disorder is higher in medical students than in other university students. The prevalence of somatic symptom disorder among medical students was found to be 44.5%, which is consistent with past research findings.

Previous studies conducted among medical students of Nigerian and German universities have also reported a high prevalence of somatic symptom disorder. In 2016, A study among medical students of Nigerian Universities documented that the prevalence of somatic symptom disorder was 14.3% among medical students.(9) In 2013, A German study also showed that the prevalence of somatic symptom disorder was higher in medical students, the prevalence recorded by Susanne was 17.0%.(18). In another study, The prevalence of somatic symptom disorder was considered 31.2% among medical students.(19)These studies suggest that this disorder is more common among medical students than among the general population.

Furthermore, the prevalence of somatic symptom disorder is significantly higher in females than in males. In this study, the prevalence of somatic symptom disorder was found to be 31.89% in males and 53.96% in females. The severity level of somatic symptom disorder was also found to be higher in females than in males, with more females falling into the low and medium levels of severity, while more males fell into the minimal and low levels of severity. It was also observed that above 83% of medical students present with somatic symptoms.

Several studies conducted in the US and other countries have also reported that the rates of somatic symptoms are higher in females and that they tend to report more severe and frequent pain than males (20,21,22,24). A study in 1984 documented that musculoskeletal complaints are more prevalent in females than males (23).

The most common somatic symptoms observed among medical students in this study were tiredness (having low energy), headache, and trouble sleeping. These findings are consistent with the results of a study by Kroenke, which reported that tiredness, chest pain, headache, and dizziness were the most common somatic symptoms.

Conclusion

This study concludes that the prevalence of somatic symptom disorder is 44.5% among medical students, and it is higher in females than in males. Tiredness (having low energy) is the most

common symptom among medical students. Moreover, above 83% of medical students present with somatic symptoms.

The significance of this study lies in its contribution to understanding the mental health challenges faced by medical students. By highlighting the prevalence and severity of somatic symptom disorder, the study emphasizes the importance of addressing the well-being of medical students within educational institutions. The findings underscore the need for targeted interventions, including stress management programs, mental health services, and curriculum changes to promote student well-being.

Additionally, this study adds to the existing body of literature by providing insights into somatic symptom disorder specific to the context of medical students in Pakistan. The results raise awareness about the impact of stress on medical students and advocate for a comprehensive approach to support their mental health.

Further research is needed to explore the underlying causes, consequences, and potential interventions for somatic symptom disorder among medical students. By continuing to investigate and address this issue, we can work towards fostering a supportive environment that enhances the well-being and success of future healthcare professionals.

Recommendations: It is crucial for medical students to actively manage and control somatic symptom disorder. Based on the study findings, the following recommendations are suggested:

Implement stress management programs: Introduce stress management programs within medical institutes to equip students with effective coping strategies and resilience-building techniques.

Enhance mental health services: Strengthen mental health support services within medical colleges to provide timely interventions and counselling for students experiencing somatic symptom disorder or related distress.

Incorporate well-being into the curriculum: Integrate well-being modules into the medical education curriculum, focusing on self-care, self-awareness, and work-life balance to promote student well-being.

Policy Implications:

Policy makers, such as the Ministry of Health and Higher Learning Institutions, should consider the following suggestions:

- Develop comprehensive mental health policies prioritizing the well-being of medical students.
- Collaborate with medical institutions to implement and monitor mental health initiatives.
- Promote a supportive learning environment and reduce stigma around seeking help.

Theoretical Implications:

While the study did not focus on advancing a particular theory, the findings contribute to the field by providing empirical evidence on somatic symptom disorder among medical students. The study's results can potentially inform and enrich existing theoretical frameworks related to stress, somatic symptomatology, and mental health among medical students.

Limitations

There are several limitations to this study. Firstly, it was conducted at a single medical college in Pakistan, which limits the generalizability of the findings. Secondly, the study did not explore age-wise results of somatic symptom disorder or gender-wise symptoms. Thirdly, the study was conducted for a limited time, and equal ratios of respondents for each gender were not observed.

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REFERENCES

1. Witthöft M, Hiller W. Psychological approaches to origins and treatments of somatoform disorders.
2. Mohan Isaac, Aleksandar Janca & John Orley, CMAJ. Somatization - a culture-bound or universal syndrome?
3. Roger C. Imagined illnesses can cause real problems for medical students.
4. Somatic complain of Nigerian by prof. Petero Ebigbo
5. Rona Moss-Morris Keith J Petrie, Redefining medical students' disease to reduce morbidity.
6. Gulewitsch MD, Enck P, Hautzinger M, Schlarb AA. Irritable bowel syndrome symptoms among German students: prevalence, characteristics, and associations to somatic complaints, sleep, quality of life, and childhood abdominal pain. Eur J Gastroenterol Hepatol.
7. Dr Sharad Manore, Dr Kamal Sahare, Dr Dhiraj Bhawnani, Laxmikant Umate, Prevalence of Illness Anxiety Disorder (IAD) and Somatic Symptom Disorder (SSD) among Medical and non Medical Students
8. Hiske van Ravesteijn MD, Karin Wittkamp MD, Peter Lucassen MD, PhD, Eloy van de Lisdonk MD, PhD, Henk van den Hoogen MSc, Henk van Weert MD, PhD, Jochanan Huijser MD, PhD, Aart Schene MD, PhD, Chris van Weel MD, PhD, and Anne Speckens MD, PhD, Detecting Somatoform Disorders in Primary Care With the PHQ-15

9. J.M. Chinawa, Ada R.C. Nwokocha, Pius C. Manyike, A. T. Chinawa, Elias C. Aniwada, A. Chidi N, Psychosomatic problems among medical students: a myth or reality.
10. Rona Moss-Morris Keith J Petrie, Redefining medical students' disease to reduce morbidity
11. Joel E. Dimsdale, Francis Creed , Javier Escobar, Michael Sharpe, Lawson Wulsin, Arthur Barsky, Sing Lee, Michael R. Irwin, James Levenson, Somatic Symptom Disorder: An important change in DSM
12. Hinton H, Kirk S. Families and healthcare professionals' perceptions of healthcare services for children and young people with medically unexplained symptoms.
13. Spitzer RL, Kroenke K, Williams JB, et al. (10 November 1999). "Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study". JAMA.
14. www.phqscreeners.com
15. MedInfo Letter No 5896480 by Pfizer, Pfizer Medical Information
16. Kroenke K, Spitzer RL, Williams JB: The PHQ-15: validity of a new measure for evaluating the severity of somatic symptoms.
17. Somatoform disorder: symptoms types and treatment.
18. Susanne F, Jens G, Ulrike E, Urs MN. Prevalence, overlap, and predictors of functional somatic syndromes in a student sample. *Int J Behav Med.* 2013
19. Firth J. Levels and sources of stress in medical students. *Br Med J Clin Res Ed.* 1986
20. Unruh AM. Gender variations in clinical pain experience.
21. Piccinelli M, Simon G. Gender and cross-cultural differences in somatic symptoms associated with emotional distress.
22. Neitzert CS, Davis C, Kennedy SH. Personality factors related to the prevalence of somatic symptoms and medical complaints in a healthy student population. *Br J Med Psychology*
23. Cunningham LS, Kelsey JL. Epidemiology of musculoskeletal impairments and associated disability. *Am J Public Health.*
24. Feine JS, Bushnell MC, Miron D, Duncan GH. Sex differences in the perception of noxious heat stimuli.
25. Kroenke K, Spitzer RL. Gender differences in the reporting of physical and somatoform symptoms.

