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Medical Student Syndrome Prevalence and Effect on Karbala Medical College Students

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Abstract

Objective The study aims to investigate the frequency and the related factors of medical students' syndrome and its effect on the mental health, studying, and overall well-being of medical students in Karbala.

Study Design A cross-sectional study was done via an online questionnaire using Google Forms.

Place and Duration of Study Iraq, Karbala, Karbala University College of Medicine

The Survey was done in one year from February 2021 to May 2022

Participants

Medical student (n= 214) male (55), Female (159), 2nd Stage (5), 3rd stage (33), 4th stage (42), 5th stage (61), 6th Stage (73).

Material and methods

An online survey was conducted using a questionnaire that was created by the researcher and included clear instructions. The collected data were then analyzed using SPSS-22, which stands for (Statistical Package for Social Sciences in the year 2022.)

Results The prevalence of experiencing symptoms related to the subject you are studying. 214 participants took part in this study, 179 (83.6%) of them were suspected MSS cases which answered with (Yes) and 35 (16.4%) were not MSS cases which answered with (No), as shown in Table (1) and figure (1).

Conclusions It can be concluded that medical students are more susceptible to experience conditions like Medical student syndrome, especially in a stressful environment that lacks social activities and occasional events to destress themselves, so it is important to provide guidance and support to medical students by educating them about the symptoms of Medical Student Syndrome (MSS) and discussing various strategies to manage their stress levels.

Introduction

Medical universities have long believed in Medical Student Syndrome (also known as medical students' disease), which affects young people studying medicine. It is commonly thought that many medical students often experience fears and symptoms of illness associated with the diseases they are studying [1,2]. This phenomenon is informally referred to as "medical student syndrome" and is included in the studies reviewed., the phenomenon was mostly defined using the following terms: medical student's disease [3], hypochondriasis of medical students [4], health anxiety [5], or nostophobia [1].

While two small, uncontrolled studies conducted in the 1960s, one of which was solely based on case records, showed that the prevalence of the condition was between 70% and 80% in medical students, two later studies have demonstrated that the "phenomenon" is no more prevalent among medical students than non-medical students. [6,7]. Law and English students have been found to experience higher levels of anxiety than medical students, according to two recent studies. [8,9].

There is a theory that medical students' exposure to life-threatening illnesses during their training may increase their risk of developing anxiety or illness anxiety disorder. This disorder is characterized by persistent and uncontrollable fear of having a serious medical condition and is known as nostophobia. [1,2]. Another factor that plays a role in this phenomenon is the considerable amount of exposure to both clinical and medical knowledge that leads to increased selective attention to specific parts and areas of the body, leading to the sensation of old unnoticed sensation. These sensations will increase the fear of the student of having a certain disease or abnormality.

As a young medical student, it's hard not to jump to conclusions regarding your health state.

In 2001, Moss-Morris and Petrie [3] concluded that first-year medical students have a heightened awareness of their health and bodies. However, the authors did not recruit any first-year students as controls and instead compared them to third-year law students. This could be due to the psychological stress associated with starting university, rather than a specific effect of medical education. A cross-sectional study conducted in 2004 suggested that medical education at the clinical level exacerbated health anxiety among medical students. [10].

In a recent comparative study conducted in 2019, the prevalence of disease-related fears among medical students from the second to the sixth stage was estimated and compared to age and gender-matched non-medical students from various other colleges. The study found that the frequency of the "Medical Student Syndrome" was higher in medical students. [11].

A comparative study conducted in 2019 aimed to estimate the prevalence of disease-related fears among medical students from second to sixth year and compare it with age and gender-matched non-medical students from other colleges [12]. The study found that the "Medical Student Syndrome" was more frequent among medical students than their peers in non-medical colleges, but the difference was not statistically significant. However, it was found that non-medical students sought medical advice more often than medical students. Another study conducted in China showed that the prevalence of hypochondriac symptoms among medical students was 28%, with slightly higher prevalence in females at about 30%. There were no significant differences between the study years of the participants. [13].

In Pakistan, the prevalence was 11.9%, and second-year medical students show a high level of health anxiety than other students [14].

The prevalence in Turkey was 14.2%. No statistically significant difference was found concerning students' gender, high school, or places they lived before [15]. The preoccupation with having a serious illness based on a misinterpretation of bodily symptoms is known as hypochondriasis. The DSM-IV diagnosis of hypochondriasis comprises four symptoms:

1. persistent fear or preoccupation with having a serious illness,
2. persistence of preoccupation or fear despite medical reassurance,
3. significant impairment in daily functioning
4. duration of symptoms lasting more than six months.

Numerous studies have indicated that medical students face a considerable amount of psychological

stress due to the academic workload, exam stress, anxiety related to clinical experiences, and the highly competitive environment. [11].

New research in Iraq has concluded about 77.5% of medical students had some degree of stress and anxiety which may be related to their hard life of them and the education program of medical school[12]. The stress experienced during medical school is believed to amplify physical sensations through autonomic activation, which can make individuals more conscious of their bodily state, including an increase in pain. This stress can affect the detection of symptoms. The condition can be characterized as temporary hypochondriasis or as low-grade anxiety concerning one's health. [7]. Medical students have intensive clinical and preclinical exposure to medical knowledge, which is a unique factor that may affect the perception of symptoms. It is believed that this knowledge shapes expectations and illness beliefs, which, in turn, lead to a phenomenon called "selective attention." This refers to the heightened focus on specific bodily sensations and areas.

Medical students' extensive exposure to medical knowledge is believed to influence their interpretation of symptoms. They may become more attuned to specific bodily sensations and areas due to the expectations and illness beliefs that arise from their knowledge, which is known as "selective attention." Moreover, their knowledge may also impact the interpretation of their symptoms. As they gain more understanding of the fine line between health and illness, they may re-evaluate previously ignored symptoms within the context of their newly acquired knowledge. [16].

Materials and Methods

2.1. Study design:

A descriptive cross-sectional study

2.2. Study setting and time:

University of Karbala / College of Medicine at the Holly City of Karbala, medical students from all stages (except the first stage) were involved.

Data collection was done from February 2021 to May 2022.

2.3. Ethical consideration:

The study protocol and written consent were approved and obtained from the University of Karbala / College of Medicine before data collection.

The responses were anonymous and participants were assured of the privacy of their responses (Informed by writing that on the model description of Google Forms and they were briefed on the importance of giving an honest response.

2.4. Questionnaire form :

The survey was conducted through the use of Google Forms, and it consisted of questions related to demographic data such as age, stage, sex, and institute. Participants' identities were kept anonymous, and the questionnaire focused on Medical Student Syndrome. Questions asked included whether students were familiar with the syndrome if they experienced any signs or symptoms while studying the disease, the intensity, strength, and duration of these sensations, and whether they sought any medical treatment. The survey link was shared with medical students online.

2.5. Sampling size:

The number of medical students who participated was about 214 students. they were 159 female and 55 male students. The age ranged between (19-28) years.

2.6. Statistical analysis:

The data was organized by using Excel (2016) and analyzed by using the statistical package for the social program (SPSS software version 25). the frequency and percentage of each question were labeled in tables. A chi-square

test of independence was performed to examine the relationship between the gender of students and (age groups, marital status, stage, Co-work, and the student syndrome variables).

Results

3.1. The prevalence of experiencing symptoms related to the subject you are studying. 214 participants took part in this study, 179 (83.6%) of them were suspected MSS cases which answered with (Yes) and 35 (16.4%) were not MSS cases which answered with (No), as shown in Table (1) and figure (1).

Table-1 Prevalence of Suspected MSS cases

Variable	Category	Frequency	Percentage %
Suspected MSS cases	Yes	179	83.6
	No	35	16.4

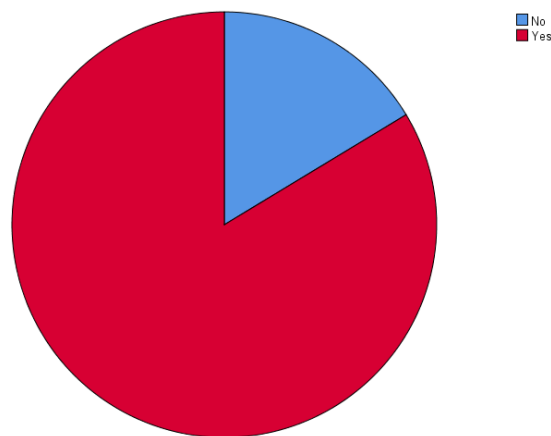


Figure1: - Prevalence of Suspected MSS cases

3.2. The distribution between gender and course with the prevalence of MSS

39 (70.9%) of the male participants were positive and 140 (88.5%) of the female participants were positive. The data shows an association between gender and prevalence of suspected MSS-positive participants which revealed that there is Increased Frequency in female participants, as shown in Table (2).

The data shows the highest percentage among 6th stage students (59 27.5%) and 5th stage (49 22.8%) and to a lesser amount in 4th stage students (37 17.2%) and 3rd stage (29 13.5), as shown on the (Table 4) below.

Table-2 distribution between gender and course with the prevalence of MSS

Variable	Category	MMS (Yes)	MMS (No)
Gender	Male	39	16
	Female	140	19
Course	2 nd stage	5	0
	3 rd stage	29	4
	4 th stage	37	15
	5 th stage	49	12
	6 th stage	59	14

3.4 The frequency of some symptoms/unpleasant feelings

98 (45.8%) of the participant report that they experience the Symptoms Mostly During studying, while the others, 26 (12.1%) during Clinical rotation and 24 (11.2%) before the exam, as shown in Table 3) and (Figure 2

Table-3: The frequency of some symptoms/unpleasant feelings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Before the exams	24	11.2	11.2	11.7
	During clinical rotations	26	12.1	12.1	23.8
	During exams	17	7.9	7.9	31.8
	During studying	98	45.8	45.8	77.6
	Everyday	18	8.4	8.4	86.0
	Never	25	11.7	11.7	97.7
	Rarely	5	2.3	2.3	100.0
	Total	214	100.0	100.0	

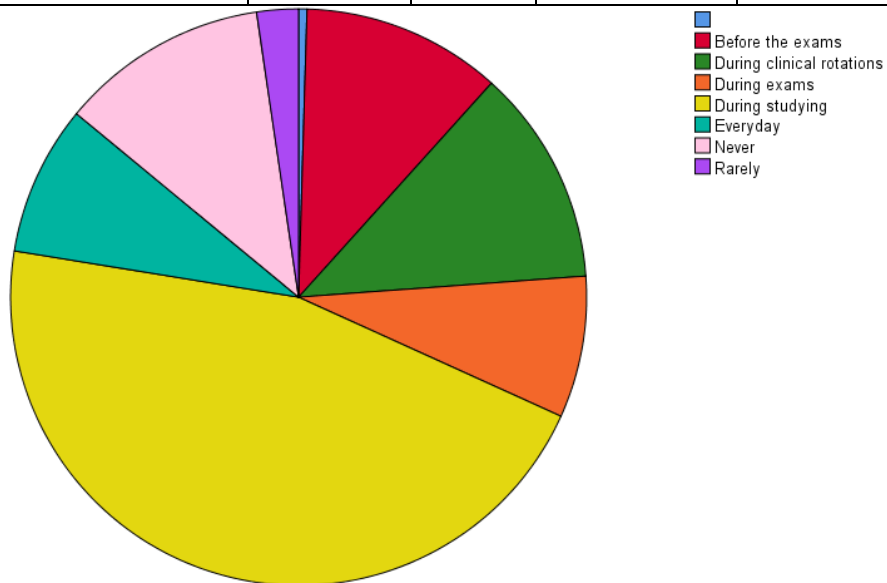


Figure2: - The frequency of some symptoms/unpleasant feelings

3.5 General symptoms experienced by the students

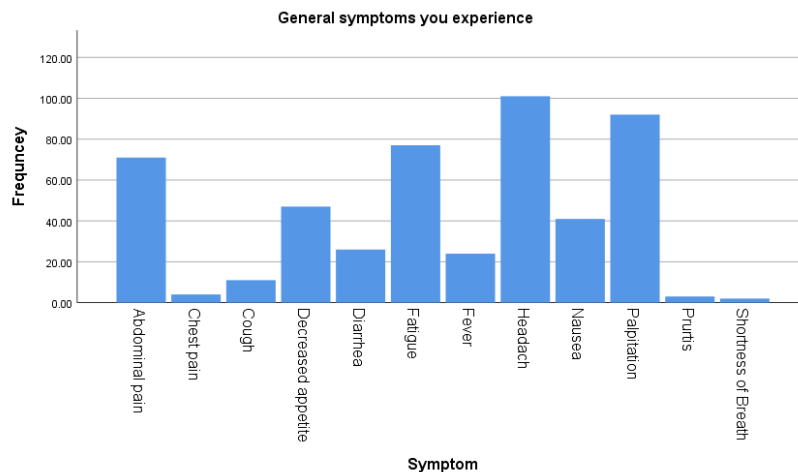


Figure3: - General symptoms experienced by the students

29 (13.5%) of the students reported that their most frequent symptom is (Headache), 25 (11.6%) of the students reported (Palpitation) as their most frequent, 19 (8.8%) of the student picked (Abdominal pain) and 12 (5.5%) reported the symptoms as (Fatigue3), The graph below describes the frequency of these symptoms.

The data shows that the symptoms of 150 (70.1%) participants subsided After finishing their studying/ at the end of the course, 130 (60.7%) of the participants were not affected by these symptoms and it didn't disturb their studying, while 84 (39.3%) of the participants were affected and it disturbed their studying. Also, 138 (64.5%) of the participants reported that these symptoms didn't affect their everyday life and activity, 129 (60.3%) of the students asked their colleagues and family about their symptoms, while 85 (39.7%) tend to not ask about them, 165 (77.1%) of the students tend to read up (Google search, Books or articles) about the symptoms or the illness/diseases to see if they might be suffering from one, 135(63.1%) of the students tend to examine themselves when they experience symptoms regarding their studying, 38 (17.8%) self-medicate when they are experiencing these symptoms, 190 (88.8%) of the participants do not smoke and 121 (56.5%) of the students tend to drink coffee during studying, 56 (26.2%) of the students do not drink coffee, while 37(17.3%) of the students drink coffee on rare occasions, as shown in Table 4.

Table 4: - questions about MMS.

Variable	Category	Frequency	Percentage %
Do these symptoms subside after you finish your studying/your course	Yes	150	70.1
	No	64	29.9
Have This condition affected your ability to study or focus	Yes	84	39.3
	No	130	60.6
Have this condition affect your everyday life or activities	Yes	76	35.5
	No	138	64.5
When you experience unpleasant feelings in your body do you tend to ask your colleagues or family about them	Yes	129	60.3
	No	85	39.7
Do you tend to read up (Google search, Books, or articles) about illnesses and diseases to see if you might be suffering from one	Yes	165	77.1
	No	49	22.9
Do you ever examine your body (by yourself) to find whether there is something wrong	Yes	135	66.1
	No	79	33.9
Do you take any medicine for the Symptoms that you are experiencing	Yes	38	17.8
	No	176	82.2
Do you smoke	Yes	14	6.5
	No	200	93.5
Do you drink Coffee or Caffeine related drinks	Yes	121	56.5
	No	93	43.5

Discussion

There are many studies had been done to estimate the level of hypochondriasis in medical students, some of these studies got a lower percentage like a study in the College of Medicine, Taif University, KSA which was 17.4% among medical students, and a study in Maastricht University, Netherlands got a higher percentage from the above study which was 30% among medical student and a study in Ziauddin University Karachi Pakistan, University of Medical and Dental College showed the highest percentage of (n=105 out of 129, 81%) of the student reported they had symptoms of the diseases they studied and a study in the university of Baghdad college of medicine showed a percentage of (65.5%) prevalence among their students. In our study we got n=179 out of 214 (83.6%) of the students who were suspected to be MSS cases, this percentage reflects the amount of high stress that Iraqi student is exposed to during their studies.

The highest percentage of MMS was among fifth and sixth stages students. This could be because these students are exposed to a considerable amount of knowledge about different diseases, and they are also exposed to many clinical cases during their rotations.

Regarding the Gender in the prevalence of MSS cases, there was a slight increase in the cases among the female gender, in this study the female student was (n=159,74.3%) and affected was (n= 140, 88.6%) while the male student was (55, 25.7%) and the effected was (39, 70.9%) but in another study, they found out that there was no significant correlation between the gender and the prevalence of MSS like in the study done in Baghdad college of medicine.

Regarding the timing of the appearance of the symptoms most of the students reported that they experience the symptoms during studying (45.8%) and during clinical rotations (12.1%).

Regarding the effect of MSS on the student's life, everyday activity, and ability to focus and study, (39.3%) of the students reported that these symptoms affected their ability to study and focus and (35.5%) of the student reported that their daily activity was effected due to high degree stress and anxiety. While this percentage was way lower in the study done at Baghdad University which was only (8.3%).

During these symptoms (60.3%) of the student sought medical advice from their colleagues and doctors, (77.1%) of the student searched for their symptoms online and in books, while (63.1%) tend to examine themselves whenever they experience the symptoms and (17.8%) self-medicate. In other studies, these percentages are lower (21.2%) of Baghdad students visited the doctor after feeling the symptoms while the rest of them (78.8%) didn't seek any medical care while at Ziauddin University, Pakistan where was the percentage of the students who visited doctors 23% and the rest (77%) either reported self-medication or didn't seek medical care.

Conclusion

The data analysis indicates that medical school students are more vulnerable to developing medical student syndrome, particularly in a tense environment that lacks social activities and stress-relieving events. Therefore, it is crucial to raise awareness about this condition and offer counseling services to medical students who exhibit its symptoms. Additionally, it is vital to provide support by discussing various stress management techniques with these students.

Recommendations

We recommend that MSS is taken more seriously within medical colleges and more research needs to be done within as many medical colleges as possible to expand the data about this condition. Also, there should be more awareness about this type of hypochondriasis

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