

Evaluation of illness anxiety disorders among Iraqi medical students

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2024 AD

1445 AH

Abstract

Background :

Many people believe that young medical students commonly suffer from "medical student syndrome," which is characterised by symptoms of the diseases they are studying or anxiety of becoming ill. It is hypothesised that medical students have ongoing stress and worry because to their continual exposure to life-threatening illnesses and conditions, a condition known as nosophobia, an anxiety-related ailment.

Aim of the study: To study the occurrence health anxiety disorders among medical students compared to their peers in the student population which commonly believed to be higher

Methods: Analytical cross-sectional research was done at many universities in Iraq with 199 medical students and 142 non-medical students. An online survey was modified from a previous study and disseminated starting in October 2023 via social media (Facebook groups, WhatsApp groups, Telegram, and LinkedIn).

We calculated the sample size using the Raosoft sample size calculator up until March 2024. As a consequence, 382 participants met the desired 95% CI interval, 5% margin of error, and 5 response distribution.

Ethical considerations :

On the first page of the survey, each participant filled out a written informed consent form, and their consent was required in order to proceed with filling out the questionnaire.

If the individual answered "yes" to the initial query on the survey, they gave their permission to participate, and the form started. No respondent was required to take part in their participation in the survey was reliant on their permission, which they can withdraw at any time.

The acquired data was kept secret and accessible to authorized

It was accessible to team members. Additionally, information was coded and encrypted, mostly for use in statistical analysis using a computer programme.

Result:

183 female students, 99 of whom were medical students, and 84 of whom were non-medical students made up the sample. The group of medical students included 199 students from different years in the Faculty of Medicine. Ninety-seven students from all academic years who were not studying medicine (e.g., construction, administration, IT, pedagogy, law, management, philology) made up the non-medical student group. For the medical group, the mean age was 20.931 ± 1.668 , while for the non-medical group, it was 20.381 ± 1.531 .

Conclusion: The current study's findings showed a mild correlation between medical academic life and the prevalence of health anxiety disorders. It was discovered that the symptoms of hypochondria and nosophobia had higher prevalence among medical students as conducted in many universities in Iraq.

and there is relation between the financial state of the student and the risk of developing these symptoms

Keywords: hypochondria , nosophobia , medical students.

Introduction

Medical students who apply the knowledge and illnesses they have studied about to themselves become hypochondriacs, or excessively fearful of being dangerously ill to the point that they exaggerate seemingly little symptoms. The competitive, challenging atmosphere of medical schools and exposure to patient symptoms, with whom medical students frequently interact, are the causes of the development of this condition.

We utilised the following definitions to objectively identify the psychosomatic terminology used in our research: "Hypochondria" is a continuous dread of having a dangerous ailment arising from delusions of developing the disease and exaggerating minor symptoms despite the required medical check-up and evaluation. "Nosophobia" is an uncontrollable fear of having a certain sickness. Furthermore, compared to non-medical students, medical students are more prone to experience anxiety disorders and depression due to the high levels of stress they encounter.

Is there such a thing as medical student sickness, and does it affect people generally?

In the 1960s, the first paper of medical student illness was published. But its scientific foundation is thin.

A study done in the United Kingdom did not support this emerging phenomenon, finding no significant difference in the levels of nosophobia and hypochondria between medical students and other students. According to the results of another observational study done in Poland, medical students worry more about their health than non-medical students do.

Notably, compared to medical students, non-medical students in Katowice were more likely to experience symptoms of nosophobia and hypochondria. However, we examined the population of students at a number of national Iraqi universities to determine the prevalence of nosophobia and hypochondria in both medical and non-medical students due to the opposing publications and the inadequate data on the situation in Iraq.

Aims of the study

To study the occurrence health anxiety disorders among medical students compared to their peers in the student population which commonly believed to be higher

Data analysis

With Statistical 13.3, the analysis that is being provided was carried out. The statistical summary's overall significance level was set at alpha 0.05. In order to respond to the research questions, To investigate differences, we employed Spearman's rho rank correlation coefficient and Student's t tests. The difference between the responder groups necessitated the use of a non-parametric Mann-Whitney U test in the extra analysis. An examination of response frequency and the outcomes of the chi-square test of independence were added to the thorough assessment.

| | Medical | | Non-medical | |
|---------------------|--------------------|-------|--------------------|-------|
| | No. | % | No. | % |
| Gender | | | | |
| Male | 84 | 42.5% | 54 | 39.3% |
| Female | 114 | 57.5% | 84 | 60.7% |
| Age (mean \pm SD) | 20.931 \pm 1.668 | | 20.381 \pm 1.531 | |
| Study group | | | | |
| adult | 183 | 92.9% | 122 | 87% |
| teen | 15 | 7.5% | 17 | 11% |
| Financial condition | | | | |
| Bad | 5 | 3% | 9 | 6% |
| Medium | 161 | 82% | 107 | 77% |
| Good | 30 | 14% | 22 | 15% |

Table 1 demonstrates a statistically significant difference in age and sex between medical and non-medical students; however, no statistically significant difference was found in other descriptive data.

Table 1 cross section of the study

Study procedure and materials :

The modified survey was translated into Arabic, which is regarded as the native language of Iraq. Experts in Iraqi medicine evaluated the translation's quality and intelligibility by evaluating the language. Following that, a pilot research was carried out to guarantee the questionnaire's validity following translation. After the purpose and significance of the study were explained, a Google Form was made and distributed to participants.

Three sections comprised the questionnaire: clinical history, fear of sickness, and sociodemographic history.

We employed a 5-item Likert scale (1 being completely disagree and 5 being completely agreed) for all questions.

In order to analyse the fear of disease, we inquired about the dread of being sick, the fear of germs in the environment, and the fear of illness that keeps a person up at night. The sociodemographic data included age, gender, year of study, present financial status, and whether or not the person was a medical student.

We evaluated the patient's clinical history and considered it further by posing several inquiries.

For instance, the questions focused on observing symptoms of diseases associated with the patients' topics, panic attacks (palpitations, chest pains, dyspnea, nausea) linked to concerns about one's health, and thinking of symptoms that point to a medical condition one suspects in oneself.

We inquired about going to the doctor when suspecting a self-diagnosed illness and believing the doctor when he rejects the ailment you suspect in order to gauge the fear of pandemics that motivates people to visit doctors.

Statistical analysis

After collection, data were checked manually and analyzed by computer based program Statistical package of social science(SPSS) 20 version. Results were expressed as frequency and percentage. Chi-square test was used for categorical data while student t-test was used for comparison of continuous variable data. P value < 0.05 was considered as statistically significant.

Result

A total of 199 medical student and 142 non-medical student were enrolled during this study period. we found there were small increase in the prevalence of health anxiety symptoms compared to non-medical students

It was found that 29% of medical student had significant hypochondriac symptoms and 38% students had symptoms of nosophobia, while in the non-medical population it was found that 26% students had hypochondriac symptoms and 35% students of them had symptoms of nosophobia

Table 2 A statistical summary of the

study group's nosophobia variables:
hypochondria

| Variable under test | Min | Max | M | SD |
|-----------------------|-----|-----|------|-----|
| Hypochondria symptoms | 1 | 22 | 7.3 | 4 |
| Nosophobia symptoms | 2 | 22 | 13.8 | 4.2 |

According to the table, we can say that the tested variables are consistent with the normal distribution and that the results of hypochondria and nosophobia symptoms are away from the mean, hypochondria symptoms SD = 4.4 and mean value of 7.87 and nosophobia symptoms SD = 4.62 and mean value of 14.1(Table 2).

Analyses were conducted for the number of observations. Max—maximum, Min—minimum, M Average, SD Standard deviation, *p < 0.05

Table 3: Comparison of hypochondria and nosophobia levels between medical and non-medical students using the Student's t test for independent data

| medical | <i>M</i> | <i>SD</i> | Non medical | <i>M</i> | <i>SD</i> | T | P |
|--------------|----------|-----------|-------------|----------|-----------|-------|---|
| Nosophobia | 13.75 | 4.3 | 0.12 | 1.1 | 29.3 | 0.001 | |
| Hypochondria | 7.2 | 4 | 1.3 | 2.4 | 13.25 | 0.001 | |

The differences in nosophobia and hypochondria symptoms between medical and non-medical students are shown in Table 3. On a scale indicating prospective nosophobia, medical students scored an average of 13.75, but their average was much higher (p 0.001) than that of non-medical students, who scored an average of 0.12. The information that was provided indicates that students studying medicine and non-medicine both suffer from different levels of nosophobia. The examination of the responses to hypochondriacal

behaviors showed that non-medical faculty members averaged 1.3 points. In contrast, medical students scored an average of 7.2, which is considerably higher than non-medical students' scores ($p < 0.001$).

One noteworthy component of this research is analyzing whether gender or study year has an impact on the variations in nosophobia and hypochondria symptoms between males and females in both groups. This is why a Mann–Whitney U test was used.

Table 4 presents the analysis of the study group as a whole as well as its subgroups.

In table 4

Findings indicating that women attain similar levels of nosophobia and hypochondria in both the non-medical and medical faculty student bodies as a whole, as well as in smaller student groups, can be provided. For instance, women in non-medical areas showed nonsignificant findings ($p > 0.05$) for hypochondria and nosophobia. When nosophobia was measured in the medical students, no significant outcome ($p > 0.05$) was reported for women.

Furthermore, identical outcomes were observed for male and female medical students who presented with symptoms of hypochondria ($p > 0.05$).

The respondents were questioned about their readiness to begin receiving psychiatric treatment, their mental health, and whether or not they had visited a psychiatrist. The findings showed that 33.3 percent of the non-medical students had anxiety-depressive illnesses. A sample of medical students reported that they had depression in 23.1% of cases and OCD in 23.1% of cases (Table 5).

Table 4 presents a summary of the Mann-Whitney U test correlation analysis comparing the general group's severity of nosophobia and hypochondria symptoms between the male and female participants, as well as the differences between the research and control groups.

| Students | Variable under test | Sex | | | | | | U | P |
|-------------|---------------------|------|------------|------|--------|------------|------|---------|-------|
| | | Male | | | Female | | | | |
| | | N | M_{rang} | M | N | M_{rang} | M | | |
| Non-medical | Nosophobia | 41 | 49.63 | 13 | 46 | 48.5 | 13 | 1134.0 | 0.245 |
| | Hypochondria | 49 | 51.94 | 5.8 | 55 | 46.66 | 7.1 | | |
| Medical | Nosophobia | 86 | 141.61 | 12.1 | 198 | 129.03 | 13.9 | 8325.5 | 0.063 |
| | Hypochondria | 80 | 129.03 | 6.2 | 197 | 148.8 | 7.1 | | |
| Total | Nosophobia | 127 | 175.07 | 7 | 244 | 199.68 | 7 | 14106.5 | 0.017 |
| | Hypochondria | 129 | 172.59 | 7 | 252 | 200.92 | 7 | | |

Table 5: Quantitative examination of the inquiries on recognized mental illnesses

| Mental disorders | Non-medical students | Medical students |
|-------------------------------|-----------------------------|-------------------------|
| Depression | 1 (16.7%) | 3 (23.1%) |
| Anxiety disorders | | |
| Anxiety-depressive disorders | 2 (33.3%) | 0 (0%) |
| Neurosis | 0 (0%) | 2 (15.4%) |
| Obsessive-compulsive disorder | 0 (0%) | 3 (23.1%) |
| Personality disorder | 0(0%) | 2 (15.4%) |
| Eating disorders | 2 (33.3%) | 2 (15.4%) |
| Other | 1 (16.7%) | 1 (7.7%) |

Discussion

This study is among the first to look into the likelihood of developing a certain disease's symptoms after learning about it and the anxiety associated with doing so. In our sample of attendees at multiple Iraqi Universities, we concentrated on the behavioral differences between non-medical and medical students. Medical students and non-medical students scored differently on the nosophobic scale. The widespread perception that medical students overly worry about their health was supported by these findings. The 1960s saw the beginning of this myth. Given that they investigate diseases, this belief might stem from the nature of their line of work. Contrary to what we anticipated, medical students were more likely than non-medical students to be asked questions about the adverse effects of anxiety. This conclusion may be the result of people's ignorance who haven't looked into enough medical resources. This feature contributes to unjustified concerns of safe substances or actions, including trying to get away from illnesses. A major contributing factor to this situation is the proliferation of websites offering information that is not supported by proof. Furthermore, it can be difficult for non-medical students to use trustworthy medical resources. According to our research, the fear of getting sick is correlated with the academic year. The degree of nosophobia among pupils increases with their educational attainment. However, because the medical study focused on pre-clinical sciences in its early years rather than clinical diseases, the association that was shown in our data was quite modest. Eventually, they get a deeper comprehension of clinical situations. The previous explanation for the inconsistent results in medical students was supported by the lack of link found between the year investigated and the degree of nosophobia in non-medical students. Interestingly, there was no correlation between the year of study and the degree of hypochondria symptoms in medical and non-medical students. Thus, it makes sense to conclude that although medical students' nosophobia increased, their belief that they were ill did not. This result is probably because these

students now know more about the efficient therapies available for a wide range of illnesses. Additionally, compared to students not studying medicine, medical students are better able to recognize their symptoms due to the advanced information they have acquired from higher education levels. In addition, we looked at other facets of mental health, like the frequency of mental illnesses. For instance, compared to participants in a previous, comparable study conducted in Poland (5.1–6%), our sample revealed significantly higher rates of depression (16.7% for non-medical students, 23.1% for medical students). Furthermore, the prevalence of anxiety disorders among the medical and non-medical students in this study (11% and 14.14%, respectively) was twice that of the Polish study.

The next natural step was to see if the number of students obtaining psychiatric care and concerns about mental health were related. Similar to the findings, students receiving treatment for other mental health issues in our study reported higher levels of anxiety and dread of getting sick than those who did not. Gender is another aspect that can influence a person's fear of getting sick. For instance, women are more likely than men to have a morbid anxiety for their health, according to a study conducted on 606 students from the Silesian area.

In addition, when females have health issues, they consult a specialist physician more frequently than males do.

Given the extensive availability of the internet, one plausible explanation for the discrepancies between the results of our study and those found in the literature is that college students' access to general health education varies. Furthermore, there may be variations in personality features between student generations.

Because medical students are frequently the offspring of physicians, being a physician's child is another aspect that may have an impact on the study's findings. Additional research would provide more insights into the differences in the severity of nosophobia and hypochondria symptoms between males and females in both groups, as well as a deeper examination than that done in this study and a search for factors other than gender that may have influenced our findings.

It might be beneficial to investigate more stringent matching selection processes than those employed in this study, taking into account factors like access to healthcare, socioeconomic status, and gender parity. Lastly, the results of our study provide both medical and non-medical students insight into health policy. As previously indicated, mental health problems are very common among medical students. As a result, all students who need them should have easy access to affordable mental health services, even those

majoring in medicine and other fields.

Conclusion

Our study's findings cast doubt on the popular belief that medical students are excessively worried about their purported well-being as compared to their counterparts who are not in the medical field. For instance, in Iraq, medical students were more likely than non-medical students to experience anxiety and nosophobia adverse effects. Compared to their male counterparts, women undergoing treatment for different mental illnesses expressed greater anxiety for their purported well-being. Lastly, there is a significant prevalence of melancholy and worry. Thus, there ought to be a rise in the sophisticated research in this field.

Recommendations

We suggest more studies with more number of samples and