

Are Medical Students more Subjective to Illness Anxiety Disorder?

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ABSTRACT

Studying medicine was assumed to be a risk factor to develop hypochondriacal tendencies. The main objective of this study was to determine if the medical students develop hypochondriacal worries more frequently than other, non – medical, students. We gathered a sample of 376 medical students and 367 non – medical students, total of 743 students. Whiteley Index, a fast screening test for hypochondriacal worries, along with three extra questions, was given to students to fill out. Significantly higher score on Whiteley Indeks was determined among medical students than in non – medical students. It was also shown that the medical students on third and fourth year of study were especially more subjective to develop hypochondriasis. The findings indicate that medical students are more subjective to develop hypochondriacal tendencies. Organization of medical and psychological help for students should be established.

Key Words: *illness anxiety disorder, medical students, hypochondriasis, Whiteley Indeks*

Introduction

Illness anxiety disorder, usually called hypochondria or health anxiety, implies that person is worrying excessively that he/she may become seriously ill. People may have no physical symptoms at all or they may believe that normal body sensations or minor symptoms are signs of severe illness, even though a medical exam doesn't reveal a serious medical condition.

Most people believe that medical students are hypochondriacs, therefore we have decided to check whether that is true. Due to the knowledge of many diseases and pathological processes in the human body, we have hypothesized that the rate of hypochondria is significantly increased among students of medicine compared to students of other faculties. The term "medical student syndrome" is known in the literature. This term presents the occurrence of symptoms of non-existent disease in medical students after they have learned about that disease.⁴

Due to the lack of data on the frequency of illness anxiety disorder in the students of the School of Medicine in Zagreb, we have decided to research about that issue.

We did not diagnose illness anxiety disorder with classical medical algorithms, but we conducted rapid

screening test for hypochondria. The problem is common in the population of students, and in the general population also, but is extremely common in medical students. In most cases it is a solvable problem if it is treated in a timely manner, so we hope that through this research work the academic community will draw the attention to this problem.

Our aims were to determine the prevalence of hypochondria tendencies at the students of the School of Medicine in Zagreb. Further, to compare the results of the medical students with the results of the control group of other students of the same university.

Also to compare the number of students with hypochondriacal tendencies at different years of study.

Material and methods

As a representative sample, we selected approximately the same number of students from each six years of study. The control group was the students of other faculties at the University of Zagreb who were of equal age and sex with medical students. From the research we excluded students of related faculties from biomedicine

areas (Faculty of Veterinary Medicine, School of dental Medicine, Faculty of Pharmacy and Biochemistry and Faculty of Science).

The method of data collection was a survey questionnaire. The questionnaire contained a complete Whiteley index (WI) and three additional questions related to the organic system / disease and the possible recognition of hypochondria by the general practitioner of the students with that disorder. The Whiteley index is usually accepted as a rapid screening test for detecting hypochondria preference¹. We used the revised German version of the Whiteley index only with “yes” and “no” answers². This version has shown good reliability and validity. WI contains fourteen questions. Following the recommendation of Kirmayer and Robbins, the test is positive if the examinee answers four questions with a positive answer³. (Table 3)

We added the question of which organic system was associated with health problems.

The other two questions were related to whether the general practitioners recognized illness anxiety disorder of students. We conducted a survey before teaching at the School of medicine, and students from other faculties were surveyed at student homes.

We processed the data using the SPSS–14.0 for WINDOWS (2005) statistical program, and χ^2 -test with Yates Correction was used. Levels of statistical reliability were set $\alpha=95\%$ ($p<0.05$).

Results

A total of 743 subjects were examined. We selected 376 subjects from the School of Medicine and 367 subjects from other faculties. At the School of Medicine, we interviewed 122 male students and 254 female students, and at other faculties 116 male students and 251 female students. Examinees were age matched. There were no significant differences in sex and age in both groups. The percentage of surveyed female students at the School of Medicine is 67.55%, and in other faculties 68.39%. The students at the Medical School were approximately equal to age and gender for students from other faculties.

The WI test was considered positive if the result was 5 or more positive responses.

Among the examinees from the School of Medicine, the most positive WI tests were found in students from the 4th year (28 positive out of 66, 42.42%). And in the third year students we have found a number of positive WI tests (20 positive out of 60, 33.33%). A significantly lower rate of positive outcomes was observed among students in the first (14.29%) and in the second year (12.90%) and in the fifth (22.58%) and sixth year (22.86%). The prevalence of hypochondrial tendencies in examinees from School of Medicine is shown in (Figure 1).

In the case of students from other faculties we did not notice high rates of positive WI tests. Comparing the results after statistical data processing, we noticed differences in prevalence among students from the School of Medicine. Significant statistical difference was observed between the students of the second year (12.90%) and the third year (33.33%) ($p=0.007$). Fourth year students (42.42%) were statistically different from fifth year students (22.58%) ($p=0.017$) and students of the sixth year (22.86%) ($p=0.014$). (Table 1). We did not find statistically significant differences between the different groups of students from other faculties. Comparing the

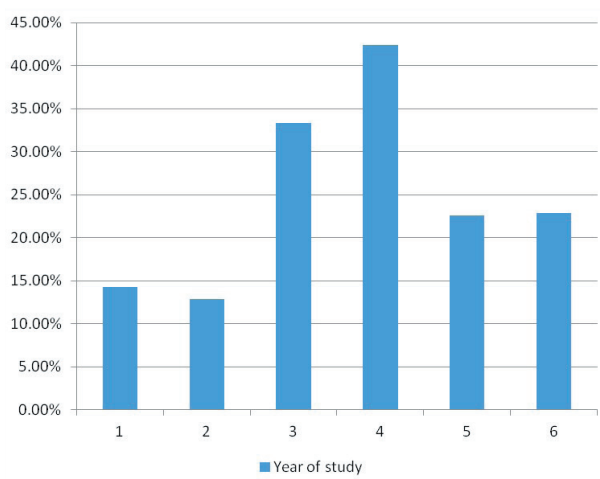


Fig. 1. Prevalence by year of study – School of Medicine.

TABLE 1
THE RESULTS OF STATISTICAL PROCESSING OF WI ON MEF

comparison between years for WI < 5 and WI ≥ 5							
	I and II	II and III	III and IV	IV and V	V and VI	IV and VI	I and VI
p	0,826	0,007	0,294	0,017	0,969	0,014	0,223
χ^2	0,05	7,20	1,10	5,71	0,00	5,94	1,48
comparison between years for WI < 5 and WI ≥ 8							
	I and II	II and III	III and IV	IV and V	V and VI	IV and VI	I and VI
p	0,908	0,076	0,561	0,367	0,767	0,516	0,101
χ^2	0,01	3,13	0,34	0,81	0,09	0,42	2,70

TABLE 2

COMPARISON BETWEEN WI OF MEDICAL STUDENTS AND OTHER NON-MEDICAL STUDENTS

Faculty	to 5	5 to 8	8 and more	over 5	in total:	%5 and more	%8 and more	%5 to 8	% to 5
MEF	282	62	32	94	376	25,00%	8,51%	16,49%	75,00%
others	348	13	6	19	367	5,18%	1,63%	3,54%	94,82%
in total	630	75	38	113	743	15,21%	5,11%	10,09%	84,79%
p			0,0000	0,0000		0,0000	0,0000		

TABLE 3

WHITELEY INDEX (answer yes or no)

1. Do you often worry about the possibility that you have got a serious illness?
2. Are you bothered by many aches and pains?
3. Do you find that you are often aware of various things happening in your body?
4. Do you worry a lot about your health?
5. Do you often have the symptoms of very serious illnesses?
6. If a disease is brought to your attention (through the radio, television, newspapers or someone you know) do you worry about getting it yourself?
7. If you feel ill and someone tells you that you are looking better, do you become annoyed?
8. Do you find that you are bothered by many different symptoms?
9. Is it easy for you to forget about yourself, and think about all sorts of other things?
10. Is it hard for you to believe the doctor when he tells you there is nothing for you to worry about?
11. Do you get the feeling that people are not taking your illness seriously enough?
12. Do you think that you worry about your health more than most people?
13. Do you think there is something seriously wrong with your body?
14. Are you afraid of illness?

third year students of the School of Medicine and the third year students of other faculties, we found a statistically significant difference ($p=0.0001$). Statistical differences are also found among students of the School of Medicine and other faculties of the fourth year ($p=0.0000$), fifth year ($p(kY)=0.008$) and sixth year ($p=0.005$). The third year students ($p(kY)=0.0206$) and the fourth year ($p(kY)=0.0150$) of the School of medicine are statistically significantly different from students from other faculties and when 8 positive response are needed for positive WI test. Comparing the results of the total sample of examinees from the School of Medicine with those from other faculties, we noted a statistically significant difference between the mentioned groups ($p=0.0000$). There were 25% of positive tests at the School of Medicine, while in the other faculties there were only 5.18%. There is also a statistical difference even if the WI test is positive if it has at least 8 positive responses in it ($p=0.0000$). (Table 2).

We analyzed each question in the WI test to see possible differences between the sexes of the students at the School of Medicine. We have not found a statistically significant difference in answering between female students

and male students to any of the 14 questions in the WI test.

In the last three questions in the WI test, we found that the students most commonly notice the symptoms of benign diseases (56.38%) and malignant diseases (18.09%) and digestive system diseases (16.49%). At 27.66% of students, each time an examination was performed at a general practitioner, an organic disease was diagnosed. Organic disease has never been confirmed in 27.66% of students. 54.26% of students answered that their doctor prescribed therapy almost every time, and 27.12% claimed that their doctor had never prescribed therapy.

Discussion

The research has shown that students at the School of Medicine, University of Zagreb are more likely to be hypochondriacs than students at other faculties at the University. The data in the literature on this subject are contradictory. Some research papers also had shown that prevalence of hypochondria is higher among medical students than in students of other faculties⁴. Other studies have shown that prevalence is significantly lower than in other student populations⁵⁻⁷. These differences in prevalence could be explained by the different organization of schooling of medical students and the different socio-economic status of students. The reason for this difference could be the difference of the develop between countries. Unfortunately, there are no similar studies in Croatia yet. The prevalence of hypochondrial tendencies among students at other faculties is similar to the prevalence of hypochondria in the general population. This prevalence depends on the data and it is between 3 and 14%⁸⁻¹⁰. There are several possible causes for so high prevalence among medical students. Great knowledge of many diseases and pathological processes in the human body is one of the main reasons. Frequent contacts with patients, especially with severe patients, also contribute to such a result. We believe that studying longer than other students and earlier beginning and later ending of academic year is causing great stress among medical students. These reasons with a comprehensive curriculum contribute to the development of illness anxiety disorder in medical students. Interestingly, among the medical students and their control groups there is no difference in prevalence. There is also no difference between students from the first and the second year of the School of Medicine. For this reason we can refuse the

hypothesis that hypochondriac problems are one of the decisive factors for enrolling in a medical faculty. Very high prevalence of hypochondria is found in medical students at third (33,33 %) and fourth (42,42 %) year of study, and there is a significant statistical difference in comparison with the students at the lower and more years of study. The study included students from the third year of the study who attended lectures in pathology and pathophysiology, and students from the fourth year that attended internal medicine classes. We can assume that high levels of prevalence among mentioned students are the result of new knowledge about pathological and pathophysiological processes in the human body.

To exclude the impact of some psychiatric illness on the outcome of the WI test it is recommended to raise the cut-off score to 8 positive responses.² And with such a high cut-off score it is notable a significant difference between the students of the second and third year of study. There is an interesting difference in the prevalence among students of the third and fourth year of study compared to the students of older years of study. We are explaining this with a better knowledge of the symptoms and signs of certain diseases in students of higher years of study and with a lower level of stress. In our paper was not confirmed higher prevalence of illness anxiety disorder in female students. Additional questions have identified the occurrence of certain symptoms in the medical students. It is interesting that the prevalence of symptoms of benign diseases falls from the first to the third year of study and then increases from the fourth to the fifth and sixth year of the study (Chart 2). On the other hand, the prevalence of symptoms of malignant diseases recognized by students reaches the highest level in the fourth year of study and then falls again to a lower level (Chart 2). This is another proof that the students from the School of Medicine are most vulnerable to hypochondriac problems in their first contact with clinical practice and hospitalized patients. (Figure 2).

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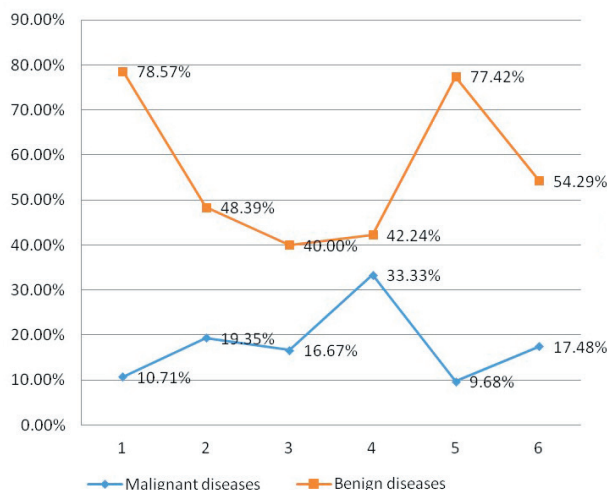


Fig. 2. Representation of symptoms by year of the study.

Conclusion

The prevalence of hypochondriac tendencies is certainly higher among the students of the School of Medicine, University of Zagreb than among the other student population of the same University. Our data opens up a new area of research. We propose the implementation of a prospective study starting at the final grade of secondary school and further monitoring of the same group through education at the School of Medicine. Due to the results obtained, it would be good to warn and prepare future medical students for possible difficulties. We suggest the organization of adequate psychological assistance to students who are affected by this problem. We hope our research will contribute to improving the organization of psychological aid to students and to sensitize the public to this problem.

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JESU LI STUDENTI MEDICINE PODLOŽNIJI ANKSIOZNOSTI ZBOG BOLESTI?

SAŽETAK

Pretpostavlja se da je studiranje medicine rizični faktor za razvoj hipohondrijskih tendencija. Glavni cilj rada je utvrditi da li studenti/ice medicine češće iskazuju hipohondrijske sklonosti od drugih studenata. Ukupni uzorak od 743 studenta/ice uključio je 376 studenata/ice medicine i 367 studenata/ice drugih fakulteta. Ispitanici su ispunili test za hipohondrijske misli – Whiteley Indeks, uz još dodatna tri pitanja, Studenti/ice medicine pokazali su značajno viši rezultat na testu u odnosu na druge studente/ice. Test je također pokazao da su studenti/ice treće i četvrte godine studija medicine osobito skloni hipohondrijskim mislima. Rezultati pokazuju da su studenti/ice medicine podložniji hipohondriji i da bi tijekom studija trebalo za njih organizirati odgovarajuću medicinsku i psihološku pomoć.

