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IS HYPOCHONDRIASIS A SIGNIFICANT PROBLEM AMONG POLISH ADOLESCENTS? AN ATTEMPT OF ASSESSMENT OF SEVERE FORM OF HEALTH ANXIETY IN POLISH POPULATION

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SUMMARY

[Background] Hallmark features of health anxiety include persistent concern that one may have or contract an illness. People with health anxiety persist in looking for possible organic causes for their symptoms despite the negative results of medical examinations. It is estimated that 5 percent of the general population suffers hypochondria. However, still is little known about prelevance of hypochondriasis in polish population. **[Aim of the study]** The aim of this study was to investigate health anxiety level among polish adolescents and to examine the self-reported experience of health anxiety in medical students compared with non-medical students. **[Material and methods]** A total of 510 students aged 18–24 were anonymously examined. Health anxiety was measured using a polish language questionnaire known as the Short Health Anxiety Inventory (SHAI). **[Results]** Mean values of SHAI total score were as follows: overall sample: 15,7; medical group: 19,2 non-medical group:10,5; II year students: 22,8; VI year students: 14,7. Elevated health anxiety was reported by 26,7 percent of the sample, with reference to 18,8% of medical population and 8% of non-medical participants. Significant differences in health anxiety between medical and medical populatioan, as well as, between II year and VI year medical students were also found.

[Conclusions] The study provides evidence about moderate intensification of health anxiety among polish adolescent. Health anxiety level was significantly higher among medical students versus non-medical students group.

Key words: health anxiety, hypochiondriasis, SHAI, polish population, polish adolescents

INTRODUCTION

Health anxiety (HA) involves persistent fear or worry about one's health along with beliefs one has an illness or may contract a disease based on misinterpretations of bodily sensations [1,2]. This debilitating condition is a common public health problem with serious personal, societal, and medical costs [3,4]. It is estimated that 5 percent of the general population suffers hypochondria (i.e. severe health anxiety), affecting both genders in a similar way [5-7].

There have been differing approaches to conceptualizing causes health anxiety, including: Cognitive-Behavioral Model (CBM) [8,9], Interpersonal Model (IMHA) [10] and Enviromental Model (EM) [11]. According to CBM model, health anxiety results from past experiences with illness. These experiences influence attention to illness information, such as hypervigilance to signs of an illness or dysfunctional information processing strategies (e.g. overestimating the severity of a symptom). The maintenance of health anxiety and the level of distress experienced by an individual involve the interaction of four factors: (a) perceived likelihood of the illness (illness likelihood), (b) perceived negative consequences of the illness (negative consequences), (c) perceived ability to cope with the illness (coping factors), and (d) availability of rescue factors, such as cures [8,9]. According to the IMHA, HA represents a maladaptive expression of attachment insecurity. This model holds that persons with HA were exposed to negative parenting styles and aversive experiences (e.g., illness) which predispose a pattern of attachment insecurity and somaticabsorption (i.e., a focus on one's bodily sensations). Illness behaviors that typify HA are viewed as an attempt to alleviate attachment insecurity and somatic concerns by eliciting care from others [10]. EM include experiencing disturbing or traumatic events, absorbing threatening information, and acquisition by vicarious learning–such as when a serious illness is experienced by a relative or close friend. For example, physical diseases in childhood have been reported as a risk factor for severe health anxiety. In addition, higher rates of psychological and psychosocial problems in childhood (e.g. anxiety, aggressive behavior, isolation, and school problems) have been observed among individuals with hypochondriasis in comparison to individuals with other somatoform disorders [11].

Health anxiety can occur at any age, but adolescence is one of the critical periods [12,13]. Medical students experience more health anxiety as a consequence of being exposed to medical education - compared to students who are not routinely exposed to such knowledge. Medical students' disease (also known as second year syndrome) is a condition frequently reported in medical students, who perceive themselves to be experiencing the symptoms of a disease that they are studying [14-17]. Howes and Salkovskis noted that about 70% of medical students have groundless medical fears during their studies, and one which found that 78.8% of a randomly

chosen sample of medical students showed a history of "medical student disease [18]. Baars writes that medical students who study "frightening diseases" for the first time routinely experience vivid delusions of having contracted such diseases, and describes it as a "temporary kind of hypochondria [19].

The health anxiety level was the topic of many previous studies. However, still is little known about prelevance of hypochondriasis in polish population. To my best knowledge, this is first study directly explore this topic.

AIM OF STHE STUDY

The main aim of this study is to estimate the health anxiety level in population of polish adolescent. Second aim was to investigate potential differences due to type of study. To address this goal, comparision between medical and non-medical samples was performed. Differences in health anxiety by gender were also examined.

MATERIAL AND METHODS

Participants

260 medical students from three polish medical University (they were assigned as "medical sample") and 250 students from technician university (they were assigned as "non-medical sample") participated in this study. The volunteers were 18-24 years olds (M = 21,7; SD = 1,8). Participants from medical sample were additionally divided into two subgroups due to year of study: subgroup 1 (n=123) - students from second year; subgroup 2 (n=137) - students from six year. The study was carried out in the academic year 2016-2017. Participants received no reward for their participation.

measures

All participants in the study filled out a short socio-demographic survey and The Short Health Anxiety Inventory (SHAI). More than half of the participants (N = 320) filled out an electronic version of the questionnaire via the internet, the rest (N = 190) completed a paper version.

The Short Health Anxiety Inventory (SHAI) is an 18-item self-report measure of symptoms of health anxiety independently of actual physical health status for the past six months. Each of 18 items is rated on a 4-point scale, where 0 is no symptoms, and 3 is a very severe symptoms – clinical form of hypochondriasis. The SHAI contains two factors: Illness Likelihood (SHAI-IL), the extent to which one believes one has an illness, and Negative Consequences (SHAI-NC), the extent to which one believes a serious illness will impact one’s life, [20]. The Polish version of SHAI

demonstrated good internal consistency (a=0,92) and validity (r=0,87) properties in previous studies. A cut-off score of 20 or greater has been used to diagnosis of elevated health anxiety [21].

statistical analysis

The STATISTICA StatSoft version 10.0 Statistical Package was used for sample descriptive analyses. As data were not normally distributed, the descriptive analyses were performed by the Mann–Whitney U Test or Kruskall Wallis ANOVA. The adopted level of statistical significance was $p<0,05$.

RESULTS

Means and standard deviations obtained for SHAI and subscales among medical and non-medical sample were shown in table 1.

Table 1. Descriptive statistics (means and standard deviations) of Short Health Anxiety Inventory

variables	Overall (n=510)	Medical overall (n=260)	Medical II year (n=123)	Medical VI year (n=137)	Non-medical (n=250)
IL	12,6 ± 4,6	15,4 ± 4,8	18,1 ± 5,7	12,2 ± 4,3	8,2 ± 2,9
NC	3,1 ± 1,5	3,8 ± 1,3	4,7 ± 1,9	2,5 ± 1,1	2,3 ± 0,9
SHAI	15,7 ± 5,1	19,2 ± 5,3	22,8 ± 5,8	14,7 ± 4,7	10,5 ± 3,2

Statistically significant differences in SHAI total score (p=0,003), IL (p=0,008), NC (p=0,013) between overall medical and non-medical group were found. Differences in mean scores between II year of education students and VI year education students were also noted (SHAI: p=0,009; IL: p=0,009; NC: p<0,001).

Mean values obtained in following items were demonstrated in Table 2. Differences between medical and non-medical sample were found in case of 15 items ($0,001<p<0,05$). Only in three factors (8. Relieved if doctor says nothing's wrong; 9. Hear about illness and 16. Chance of medical cure if have an illness) statistically significant differences were no found. Compare II year students with VI year students similar results were found. P value less than 0,05 were noted in case of 14 items. Lack of signifacant variability were noted in 4 factors: 8. Relieved if doctor says nothing's wrong; 9. Hear about illness; 11. Risk for developing illness; 13. Think of something else when I feel bodily sensations.

Clinical form of hypochondriasis was given below in Figure 1. Following percents of severe health anxiety were reported: 26,84%, 18,84%, 26,01%, 12,4%, 8%, among overall sample,

medical sample, II year students sample, VI year students sample, non-medical sample, respectively.

Table 2. Items of Short Health Anxiety Inventory: descriptive statistics (means and standard deviations).

Variables: items of short health anxiety inventory	Overall (n=510)	Medical overall (n=260)	Medical II year (n=123)	Medical VI year (n=137)	Non-medical (n=250)
1. worry about health	1,10 ± 0,61	1,35 ± 0,72	1,47 ± 0,80	1,02 ± 0,59	0,67 ± 0,33
2. noticing aches and pains	1,08 ± 0,54	1,41 ± 0,74	1,46 ± 0,77	1,01 ± 0,63	0,61 ± 0,14
3. awareness of bodily sensations	1,12 ± 0,62	1,33 ± 0,62	1,46 ± 0,79	1,15 ± 0,66	0,63 ± 0,27
4. ability to resist thoughts of illness	0,77 ± 0,44	0,97 ± 0,51	1,03 ± 0,52	0,75 ± 0,43	0,52 ± 0,18
5. fear of having serious illness	0,99 ± 0,49	1,21 ± 0,66	1,48 ± 0,78	0,97 ± 0,46	0,59 ± 0,24
6. picturing self being ill	1,39 ± 0,69	1,81 ± 1,11	2,85 ± 1,61	0,92 ± 0,39	0,55 ± 0,18
7. ability to take mind off health thought	0,72 ± 0,33	0,99 ± 0,43	1,14 ± 0,55	0,78 ± 0,25	0,53 ± 0,19
8. Relieved if doctor says nothing's wrong	0,52 ± 0,27	0,51 ± 0,26	0,57 ± 0,23	0,54 ± 0,19	0,53 ± 0,22
9. hear about illness	0,51 ± 0,39	0,52 ± 0,21	0,57 ± 0,22	0,52 ± 0,22	0,50 ± 0,20
10. wonder what body sensations mean	0,86 ± 0,41	1,04 ± 0,65	1,44 ± 0,84	0,96 ± 0,43	0,62 ± 0,21
11. risk for developing illness	0,72 ± 0,28	0,57 ± 0,23	0,62 ± 0,29	0,61 ± 0,20	0,83 ± 0,36
12. belief of having a serious illness	1,24 ± 0,63	1,76 ± 1,09	2,02 ± 1,07	1,25 ± 0,58	0,56 ± 0,24
13. think of something else when I feel bodily sensations	0,73 ± 0,42	0,88 ± 0,37	0,99 ± 0,49	0,76 ± 0,40	0,49 ± 0,22
14. perception of familiars/friends on your health concerns	0,87 ± 0,46	1,05 ± 0,62	1,12 ± 0,58	0,96 ± 0,46	0,57 ± 0,28
15.ability to enjoy life if have an illness	0,94 ± 0,44	1,24 ± 0,71	1,61 ± 0,89	0,76 ± 0,39	0,57 ± 0,23
16.chance of medical cure if have an illness	0,51 ± 0,21	0,48 ± 0,14	0,62 ± 0,27	0,35 ± 0,13	0,53 ± 0,18
17. illness would ruin aspects of life	0,98 ± 0,26	1,29 ± 0,66	1,51 ± 0,93	0,87 ± 0,41	0,59 ± 0,32
18. loss of dignity if had an illness	0,67 ± 0,24	0,79 ± 0,39	1,00 ± 0,68	0,55 ± 0,26	0,61 ± 0,25

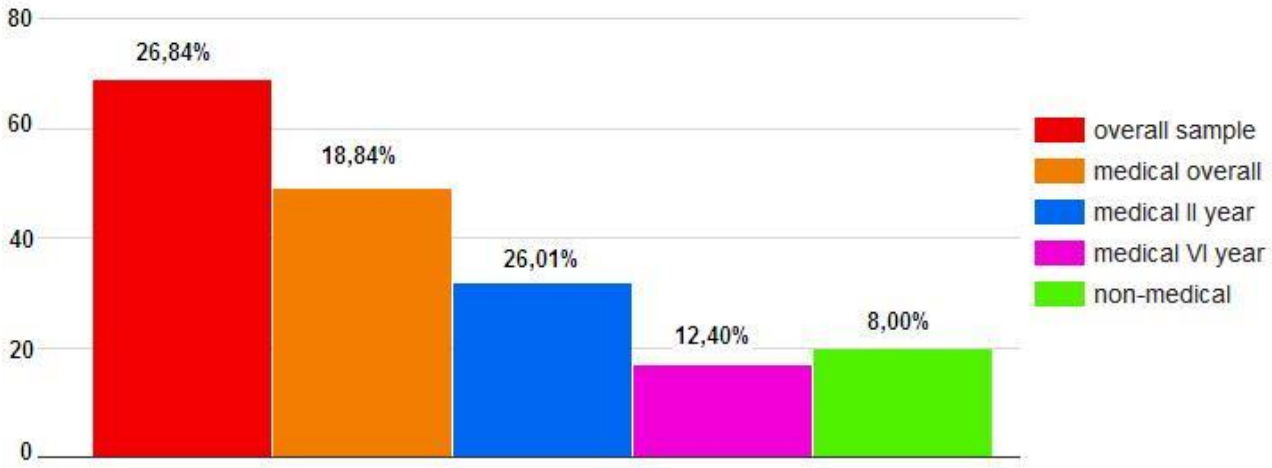

Figure 1. Severity of health anxiety. Number of subjects with clinical form of hypochondriasis

DISCUSSION

Health anxiety refers to the broad diagnostic construct that including persistent worries about illness that extend from mild to severe intensity, coupled with the persistence of the belief despite appropriate medical evaluation and/or reassurance [22]. This condition is a significant problem for the health care systems, because people with health anxiety use medical services at least twice as often as other patients, generating exorbitant health resource spending [4].

Psychosomatic symptoms (such as headache, stomachache, palpitations, fatigue, or difficulty in sleeping) are a common problem among adolescents. Most adolescents and young adults are free of senous illness, but they undergo major biological and psychosocial changes. The potential burden of such symptoms on both young people and health services is substantial. According to previous studies self-reports tend to increase with age and are more prevalent among girls than boys [23-25].

The results of the current study provide an impression of how health anxiety affects the Polish adolescent population, with broken down to medical and non-medical population. In the view of the primary objective of this study the level of health anxiety found among Polish adolescents was moderate. Examination of the means values suggests that overall the sample was not excessively health anxious, with scores on the SHAI well below those that have been reported among clinical samples and similar to scores reported among non-clinical samples. However the high values of standard deviations indicate to high individual differences. In medical students groups the highest values were noted in following factors: picturing self being ill, belief of having a serious illness, worry about health, noticing aches and pains, awareness of bodily sensations. In case of non-medical samples the highest mean values were reported in two factors: risk for developing illness, worry about health. The significant differences in total score of SHAI between

medical and non-medical students were found. The possible explanation of this results is associated with level of medical knowledge. The extensive knowledge of symptoms of illness and disease means that medical students can recognise a pain not only as a pain, but a symptom of something far more serious. In addition, the higher health anxiety level were noted among second year students – compared to six years students. Medical students who study about diseases for the first time routinely develop vivid delusions of having the disease. This is name as a temporary kind of hypochondria.

Approximately 26% of the population had health anxiety at the time of the interview. Cut-off scores on the SHAI identified the prevalence rate of health anxiety in medical sample was 18,8%, compared to the non-medical group where the percent of health anxious was 8%. The percentage of individuals with elevated health anxiety significantly differ for II year medical students (26%) or VI year medical students (12,4%).

At present, a few studies have examined health anxiety among students. Generally in most of studies medical groups consistently scored higher results on the SHAI than control groups without medical conditions. Based on the non-clinical studies where the 18-item SHAI was used the average mean total score were 12,41 points. There were two anomalous studies of students, where the 18-item SHAI score was 30,29 and 30,20, respectively [26]. In the present study the overall adolescent score was 15,7, medical was 19,2, non-medical was 10,5. Mean values obtained in this study were higher tham presented in above mentioned systematic review. However, the discrepancies in prevalence estimates across studies may have been influenced by cultural differences.

CONCLUSIONS

These studies suggest that SHAI scores are higher amongst medical groups when compared to healthy controls. Prevalence of severe form of health anxiety was higher among polish adolescents than among students from other countries.

CONFLICT OF INTEREST STATEMENT

None to declare.

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