Somatic Symptom Disorder among medical students in Umm Al-Qura University, Makkah Al-Mukarramah, Kingdom of Saudi Arabia

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Abstract

Background: A somatic symptom disorder (SSD) occurs when a person feels extreme, exaggerated anxiety about physical symptoms that results in major distress and/or problems of functioning.

Objective: This study aims to screen somatic symptom disorder among medical students.

Methods: This cross-sectional study was conducted on medical students during the academic year 2019/2020. 374 medical students were recruited for this study. Self administered questionnaire was used to collect the data including two sections; socio-demographic information and Somatic Symptom Scale-8 (SSS-8) questions.

Results: Out of 374 students, 206 (55.1%) were males, 292 (78.1%) were from the clinical years (Years 4-6), 353 (94.4%) were singles, 71 (19.0%) were smokers, 83 (22.2%) had social stressors and 88 (23.5%) had educational problems. On considering only the high SSS-8 total risk scores, the prevalence of SSD is estimated to be 39% (20.3% had very high and 18.7% had high risk). Feeling tired or having low energy was the most prevalent symptom. Female students and students having social stressors and educational problems were more vulnerable to have SSD.

Conclusions: There is high prevalence of SSD among our medical students. Accordingly, health education programs and frequent mentoring of the students are highly recommended.

Key words: somatic, symptom, disorder, medical students

Introduction

A somatic symptom disorder is a type of mental disorder, previously recognized as a somatoform disorder(1). In the general population, it was found that the prevalence of somatic symptom disorder is 5% to 7% (2). There is increased risk for suicidal ideation among those with somatic symptom disorder, as reported by evidence(3).

The Diagnostic and Statistical Manual of Mental Disorders, 5th ed.)DSM-5(altered the diagnostic term “Somatoform Disorders” to “Somatic Symptom and Related Disorders (SSD).” SSD now denotes a constellation of disorders characterized by feelings or behaviors related to somatic symptoms. Body Dysmorphic Disorder, Pain Disorder, and Hypochondriasis - three disorders formerly part of Somatization in DSM-IV-TR, have now been detached. The purpose of this change was to increase the importance of SSD among primary care practitioners(2,4).

Diagnosis of somatic symptom disorder requires physical symptoms that cannot be clearly explained by as a result of a substance abuse or due to a general medical condition. Additionally, it is not attributable to another psychiatric disorder (e.g., anxiety disorder) (5).

Diagnostic tests results are either within accepted ranges or do not clarify the patient’s symptoms. On medical history and physical examination there is no evidence of medical disorders which could explain the patient’s symptoms (6).

For diagnosis of somatic symptom disorder, symptoms should persist for at least six months and the patient should be worried about their condition (7, 8).

Patient Health Questionnaire-15 was the most com¬mon instrument used to screen for somatoform disorders (9), but recently Somatic Symptom Scale-8)SSS-8(was developed and has been proven a reliable and valid self-report mea¬sure of SSD (10).

The CARE MD (consulta¬tion/cognitive behavior therapy, assessment, regular visits, empathy, medical/psychiatric interface, do no harm) management method was established to support family doctors in theirapproach with patients who have SSDs (11).

Patients who have fewer physical symptoms have a good prognosis. Good communication skills and strong relationship between patients and primary care physicians are recommended (12).

Aim of the study: To estimate the prevalence of somatic symptom disorder among medical students

Methods

This cross-sectional study was conducted on medical students of Faculty of medicine, Umm Al-Qura University University, KSA during the academic year 2019/2020.

Out of all faculty students, 340 were selected based on (Prevalence of SSD is 33.8 % (13) and Confidence intervals taken at 95% with a 5% margin of error). We added 10% more to the number in order to accommodate those who refused or had incomplete data, hence the total sample size was 374 students. All medical male and female students of years two to six who accepted to participate in this study were included, while currently pregnant students, and those with chronic and acute known medical illnesses, psychiatric disorders such as depression, and anxiety, and intern medical students were excluded.

A self administered questionnaire was sent to the students. The Questionnaire contains two divisions: the first one is social demographic data (gender, academic year, marital status, social stressors and educational problems); the second section is SSS-8 questions which were developed and proven a reliable and valid self-report mea¬sure of SSD (10). It includes nine questions (back pain, chest pain or shortness of breath, dizziness, feeling tired or having low energy, headaches, pain in your arms, legs, or joints, stomach or bowel problems and trouble sleeping). Each question in this scale has five responses and each response carried a score: Very much = 4, Quite a bit = 3, somewhat = 2, A little bit = 1 and Not at all = 0. Scores can range from the lowest possibility of 0 to a maximum of 32. If a student score is lower, there is less likelihood of SSD. Probability of having SSD is as follows: None to minimal)0 to 3(, low)4 to 7(, medium)8 to 11(, high)12 to 15(, very high)16 to 32(.

A pilot study was done on 10% of the sampled participants to assess the validity of the questionnaire, emphasize obstacles related to data collection instrument, and to ensure standardization.

The study was carried out after receiving ethical approval from the Umm Al-Qura University Deanship of Research)approval NO. KAPO-O2-K-012-2020-03-366). Participation was voluntary. Additionally, written and verbal consent was taken from the students after explanations of the aim and methods of the study and ensuring confidentiality.

Data was analyzed using IBM advanced SPSS statistical package version 20. We used t-test for comparing means of total scores among different groups.

Results

After sample size estimation, 374 students were approached, and all of them completed the questionnaire. 206 (55.1%) were males, 292 (78.1%) were from the clinical years (Years 4-6), 353(94.4%) were singles, 71(19.0%) were smokers, 83(22.2%) had social stressors and 88(23.5%) had educational problems. (Table 1)

Table 1: General characteristics of the participants

		N (%)
Gender	Male	206 (55.1%)
	Female	168 (44.9%)
Academic year	Basic-year students (Years 2&3)	82 (21.9%)
	Clinical- Years (Years 4-6)	292 (78.1%)
Marital status	Single	353(94.4%)
	Married	21(5.6)
Smoker	Yes	71(19.0%)
	No	303(81.0%)
Social stressors	Yes	83(22.2%)
	No	291(77.8%)
Educational problems	Yes	88(23.5%)
	No	286(76.5%)

Regarding responses to SSS-8, feeling tired or having low energy was the most prevalent symptom as 72(19.3%) of the participants answered that this symptom bothers them very much while chest pain or shortness of breath was the least prevalent symptom because 228(61.0%) answered not at all. (Table 2)

Table 2: Responses to the Somatic Symptom Scale-8

	Not at all	A little bit	Somewhat	Quite a bit	Very much
Back pain	142(38.0%)	102(27.3%)	106(17.6%)	43(11.5%)	21(5.6%)
Chest pain or shortness of breath	228(61.0%)	79(21.1%)	38(10.2%)	20(5.3%)	9(2.4%)
Dizziness	223(59.6%)	82(21.9%)	51(13.6%)	12(3.2%)	6(1.6%)
Feeling tired or having low energy	52(13.9%)	66(17.6%)	90(24.1%)	94(25.1%)	72(19.3%)
Headaches	136(36.4%)	100(26.7%)	70(18.7%)	47(12.6%)	21(5.6%)
Pain in your arms, legs, or joints	188(50.3%)	77(20.6%)	51(13.6%)	39(10.4%)	19(5.1%)
Stomach or bowel problems	161(43.0%)	71(19.0%)	39(13.1%)	38(10.2%)	55(14.7%)
Trouble sleeping	131(35.0%)	75(20.1%)	56(15.0%)	46(12.3%)	66(17.6%)

According to SSS-8 total risk score, out of 374 students 76(20.3%) had very high risk for SSD, 70(18.7%) had high risk, 74(19.8%) had medium risk, 92(24.6%) had low risk and 62(16.6%) had none to minimal risk. If we consider only the high SSS-8 total risk scores, the prevalence of SSD is estimated to be 39%. (Table 3)

Table 3: Participants' risk according to total score of the Somatic Symptom Scale-8

SSD risk	N (%)
None to minimal (0 to 3)	62(16.6%)
Low (4 to 7)	92(24.6%)
Medium (8 to 11)	74(19.8%)
High (12 to 15)	70(18.7%)
Very high (16 to 32)	76(20.3%)

On comparing means of SSS-8 total risk score among different groups it was found that there was a significant relation between males and females' total score with females having a higher risk score than males (p 0.002). Additionally, students with social stressors and educational problems have more risk scores than those without (p 0.000). Conversely, there was no significant difference between basic-year and clinical years students (p =0.115), single and married (p=0.241), smokers and non-smokers (p=0.935). (Table 4)

Table 4: Comparison between means of the Somatic Symptom Scale-8 total score among different groups

		Mean ±SD	p
Gender	Male	8.96±6.30	0.002
	Female	10.96±6.18	
Academic years	Basic-year students (Years2&3)	10.83±6.63	0.115
	Clinical (Years4-6)	9.59±6.63	
Marital status	Single	9.95±6.31	0.241
	Married	8.29±6.43	
Smoker	Yes	9.80±6.86	0.935
	No	9.87±6.19	
Social stressors	Yes	12.52±6.04	0.000
	No	9.10±6.20	
Educational problems	Yes	12.90±6.08	0.000
	No	8.92±6.10	

Discussion

After searching Pubmed and Google it was found, to the best of our knowledge that this study is the earliest one to screen medical students for somatic symptom disorders using the SSS-8.

In the present study if we consider only the high SSS-8 total risk scores, the prevalence of SSD is estimated to be 39% (20.3% had very high and 18.7% had high risk).

It was estimated that the prevalence of SSD is five to seven percent in the general population (14). The prevalence of our study is similar to the prevalence of study by Schaefert et al., which documented prevalence of 36.5% after recruitment of 491 outpatients from ten outpatient clinics in China (15). A similar proportion was found in China where 33.8% of the participants were identified with SSD (13).

A systematic review was done and found that prevalence rates for somatoform disorders in the general population range from 11 to 21% in younger, 10 to 20% in the middle-aged, and 1.5 to 13% in the older age groups (16). A study conducted in Belgium disclosed that SSD is the third highest psychiatric disorder, with a prevalence rate of 8.9% (17). In a study done by Chinawa et al. they reported the prevalence of psychosomatic disorder among medical students was 14.3% (18).

Furthermore, Firth et al. found that the prevalence of psychosomatic disorder among medical students was (31.2%) (19), and another study carried out on new medical graduates showed a prevalence of (26%) (20). Previous studies found the prevalence rates of somatoform disorders ranging from (22% to 58%) (21).

The differing prevalence rates between our study and other studies may rise from the target population, while ours were medical students other target populations were either general population or specific patients. The second difference is the tool was used for diagnosis and screening while others followed the diagnostic criteria of DSM- 5 for SSD diagnosis, we used the SSS-8 which is a new tool. Furthermore, some studies focus on SSD alone, while some of the prior studies included most mental disorders. The prevalence among medical students is higher than the general population; this may result from more exposure to stress of education and training.

In the present study the most prevalent symptom among our students was feeling tired or having low energy followed by troubled sleeping and stomach or bowel problems. A previous study reported headache, back pain, abdominal pain, painful limbs, fatigue, feeling dizzy, and change of bowel habit (22). Kroenke and Mangelsdorff found that headache, chest discomfort, easy fatigability, dizziness, and difficult breathing were the most prevalent complaints reported in their study (23).

With regard to gender, in our study it was found that SSD is higher in females. Our findings are also consistent with previous studies which reported that women are likely to present with SSD more than men, with an estimated woman-to-men ratio of (10:1) (24). Chinawa et al. found that prevalence of somatoform disorder among females is slightly higher than males (14.4% and 14.2% respectively) (18). Additionally our findings are similar to the reported results from Bailer et al, demonstrating the predominance of females in somatoform disorder (females to males ratio of 14.2%: 2.8%) (25).
Prior studies reported that somatization disorder is more common among females, and they reported more symptoms than males (26) , for example, a study by Bener et al. showed that the prevalence of somatoform disorder was slightly higher in females (24.2%) than in males (23.7%) (22). Conversely, in a finding reported by Flink et al. the prevalence was higher among male patients(21), while there was no gender statistical differences among medical students with somatic disorder in a study done by Chinawa et al. (18).

Gender difference may be explained by multifactorial interactions such as genetic, psychosocial, cultural, and hormonal factors (27).

In our study it was found that students with social stressors and educational problems are more at tisk of having SSD. This is in agreement with a previous study done by Creed et al. (28). In a study conducted to search the causal attributions for SSD, it was found that 90% of the participants approved the supposition that work stressors may be a possible cause of the SSD symptoms (29).

The present study found no statistically significant difference between means of SSS-8 total score among academic years, marital status and smoking status.

Conclusion

There is high prevalence of SSD among our medical students. Accordingly, health education programs and frequent mentoring of the students are highly recommended. Additionally, further studies including different medical colleges from different regions of Saudi Arabia are recommended.

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