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Sociophobia in Medical Students (Prevalence and Comorbidity)

Abstract

Social phobias are one of the most common anxiety-phobic disorders. This study aimed to verify the prevalence of social phobias and comorbid disorders among medical students to develop recommendations for the prevention. A sample of 724 Russian students of 1-6 years of education in the medical institute was examined using the psychometric, clinical, psychopathological and nonparametric statistics methods. It was established that the symptoms of social phobia occur in 33.7% of medical students, more often in females (37.1%) than in male (24.1%). Social phobias have a negative influence on students' attitude to the medical profession and form doubt in their choice. It is advisable to provide psychological consultations for students with social phobias. It is possible that a person-centered psychotherapy, aimed at eliminating the symptoms of social phobia and changing the negative attitude towards the medical profession may be needed.

Keywords: Anxiety. Attitude to the Profession. Comorbidity. Depression. Stress.

Introduction

Epidemiological studies indicate that social phobias (SF), which have the status of independent mental disorder in ICD-10 and DSM-V, are one of the most common anxiety and phobic disorders (Rowa and Antony 2005; Thai et al. 2019). They manifest a constant and excessive fear of one or more social or service situations (Cremers and Roelofs 2016; Vargas-Hernández, 2016). Most often, symptoms of SF are manifested in the cognitive, somatic and behavioral spheres (Albuquerque and Deshauer 2002; Rendueles 2017).

In the development of SF genetic, family, environmental factors and growth play the role of (Hudson and Rapee 2000), as well as personal characteristics of patients (Savoia et al. 2010; Nikfarjam et al. 2017; Wersebe et al. 2018; Bicer, et al, 2018).

Phobic disorders are registered in 10%-12.7% of adolescents of 16–17 years old (which is important for high school students and students due to the period of active social activity.) and women showed a higher level of social phobia than men (Olivares-Olivaresa et al. 2016). SF has the third highest prevalence in primary care after depression and GAD and occurs in 7% of general practice patients (Essau et al. 2018) According to the literature (Mohammadi et al. 2019; Shen et al. 2020) only 72% of students can be called "completely

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healthy", the rest have chronic diseases and various kinds of deviations in the state of health. Sociophobia in first-year medical students was observed in 28% of cases, and in 19.3% in pedagogical (Ruzhenkova et al. 2018a) and was more common among foreign students compared to local (Ruzhenkova 2018). The greatest number of social phobia cases was in 1st-year foreign medical students (45,2%) with reduction to 14.9% in the fifth year (Ruzhenkova et al. 2018b).

Social phobias limit opportunities for feedback and can lead to the negative self-perceptions (Henderson et al. 2014), interfere with social adaptation and career growth, leaving the patient socially isolated in some cases (Stein and Vythilingum 2015). SP is highly comorbid with other anxiety disorders, depression, alcohol abuse (Jensen et al. 2013) and pathological depersonalization (Michal et al. 2013; Husky et al. 2018; Rani et al. 2018).

Objectives

This study aimed to verify the prevalence of social phobias and comorbid disorders among medical students to develop recommendations for the prevention.

Material and Methods

During 2016-2018 a sample of 724 Russian-speaking students of 1-6 years of education in the medical institute was examined. Students were at the age of 17-26 (20.5 ± 1.8) years. Sample included 537 (74.2%) female and 187 (25.8%) male.

The main research methods were medico-sociological (an author's questionnaire containing socio-demographic information, information about attitude to study and future professions), psychometric (SPIN-test for social phobia, GAD-7 for verification of generalized anxiety disorder, DASS-21 test to study the severity of depression, anxiety and stress). A clinical interview was conducted with students who showed significant symptoms of social phobia, anxiety, depression, and stress. The study design was approved by the Ethical Committee of the Medical Institute of the Belgorod State National Research University, Protocol №6 dated 21.01.2016

Statistical processing was carried out using non-parametric statistics (the Mann-Whitney test for comparing two independent groups, the $\chi 2$ criterion with the Yates correction for the contingency tables 2x2, the Spearman rank correlation coefficient) (Yatham et al. 2018; Canals et al. 2019).

The SPIN test revealed various symptoms of social phobia in 244 (33.7%) students (Table 1). Symptoms of social phobia more often ($\chi 2$=9.907; p =0.0025; OR=1.858 95%; CI =1.25-2.76) were observed in female – 199 (37.1%) cases, than male – 45 (24.1%) cases. The odds ratio indicates that the probability of detecting social phobia in females is almost 2 times higher than in males.

Table 1.
Social phobia by severity (SPIN-test)

№	The severity of social phobia	Male (n=187)		Female (n=537)		TOTAL (n=724)	
		n	%	n	%	n	%
1	None	142	75.9	338	62.9	480	66.3
2	Mild	24	12.8	111	20.7	135	18.6
3	Moderate	14	7.5	60	11.2	74	10.2
4	Severe	5	2.7	19	3.5	24	3.3
5	Very Severe	2	1.1	9	1.7	11	1.5
TOTAL		187	100.0	537	100.0	724	100.0

At the same time, a mild degree of social phobia, which did not affect social adaptation, was typical for 18.6% of the students: 20.7% female and 12.8% male (the differences are not statistically significant). Clinically significant severity of social phobia (with difficulty and violation in varying degrees of social adaptation) was observed in 15% of cases: 16.4% female and 11.3% male (the differences are not statistically significant).

Results

The GAD-7 test revealed symptoms of generalized anxiety in 401 (55.4%) students (Figure 1).

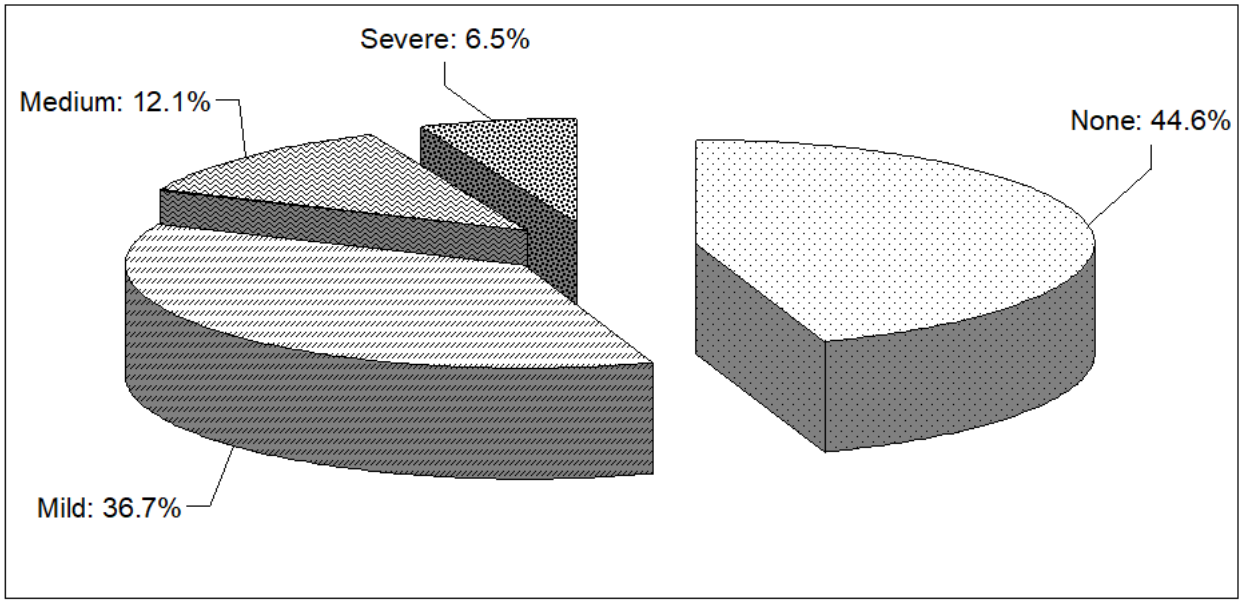

Fig. 1.
Generalized anxiety by severity

The ratio of social phobia with signs of generalized anxiety disorder (GAD) is presented in Table 2.

Table 2.
The ratio of social phobia with generalized anxiety disorder (The calculation of the proportion of GAD was carried out in rows in relation to social phobia)

GAD-7	None		Mild		Medium		Severe		TOTAL	
SPIN	n	%	n	%	n	%	n	%	n	%
None	254	52.9	161	33.5	42	8.8	23	4.8	480	66.3
Mild	47	34.8	57	42.2	19	14.1	12	8.9	135	18.6
Moderate	19	25.7	31	41.9	18	24.3	6	8.1	74	10.2
Severe	3	12.5	11	45.8	6	25.0	4	16.7	24	3.3
Very Severe	–	–	6	54.5	3	27.3	2	18.2	11	1.5
TOTAL	323	44.6	266	36.7	88	12.3	47	6.5	724	100.0

As can be seen from Table 2, in general a sociophobia (revealed in 244 cases) were combined with generalized anxiety in 175 (71.7%) cases: 43% were mild, 18.9% were moderate, and 9.8% were severe. At the same time, with mild expressed sociophobia, generalized anxiety occurred in 65.2%, with a moderate in 74.3%, with severe – in 87.5% and with an extremely severe – in 100% of cases. In cases of lack of social phobia, generalized anxiety was characteristic of 47.1% (mostly easily expressed - 33.5%) of the examined medical students. The differences in the proportion of generalized anxiety in the presence and absence of social phobia are statistically significant (χ^2=38.75; p=0.0005; OR =2.851 95%; CI=2.02-4.03). The odds ratio indicates that the probability of having generalized anxiety with varying severity of social phobia is almost 3 times higher than in the absence of social phobia. Moderate and severe generalized anxiety was observed in 70 (21.6%) students with social phobia.

Correlation analysis revealed a weak significant correlation dependence of social phobia and generalized anxiety (r = 0.343, p = 0.000).

The DASS-21 test revealed depression of varying severity in 220 (30.4%) students. The distribution of depression by severity is presented in Figure 2.

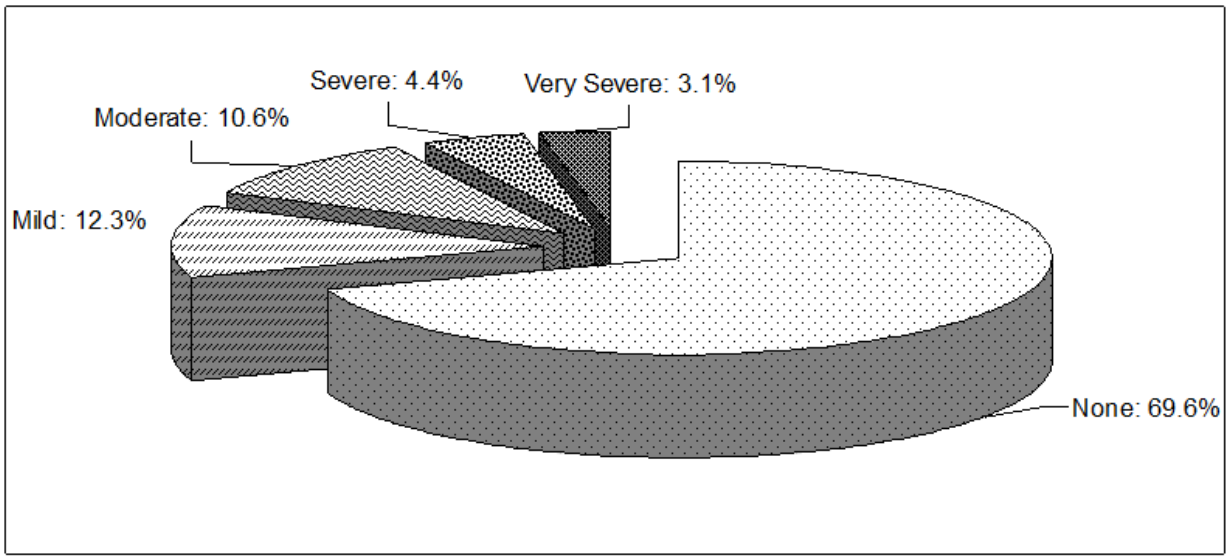

Fig. 2.
Depression by severity

As can be seen from the diagram, a severe and extremely severe depression was observed in 7.5% of students, moderate - in 10.6% and mild - in 12.3%.

The ratio of social phobia with depression (DASS-21 test) is presented in Table 3.

Table 3.
The ratio of social phobia with depression (Calculation of the proportion of depression was carried out in rows in relation to social phobia)

Depression	None		Mild		Moderate		Severe		Very Severe		TOTAL	
SPIN	n	%	n	%	n	%	n	%	n	%	n	%
None	391	81.5	51	10.6	25	5.2	9	1.9	4	0.8	480	66.3
Mild	4	54.8	20	14.8	26	19.3	10	7.4	5	3.7	135	18.6
Moderate	32	43.2	12	16.2	18	24.3	8	10.8	4	5.4	74	10.2
Severe	6	25.0	6	25.0	5	20.8	1	4.2	6	25.0	24	3.3
Very Severe	1	9.1	–	–	3	27.3	4	36.4	3	27.3	11	1.5
TOTAL	504	69.6	89	12.3	77	10.6	32	4.4	22	3.0	724	100

In 131 (53.7%) cases (out of 244), social phobias were combined with varying degrees of depression: in 15.6% were mild, in 21.3% – moderate, and inb16.8% – severe and extremely severe. The quantas of moderate, severe and extremely severe depression was 71%. At the same time, depression was recorded in 45.1% with mild social phobia, in 56.8% – with moderate, in 75% – with severe and 90.9% – with extremely severe.

In the absence of social phobia, depression occurred in 89 (18.5%) students (more than half of them - 57.3% in mild severity). The differences in the share of depression in the presence and absence of social phobia are statistically significant (χ^2=92.815; p=0.0005; OR =5.094 95%, CI =3.6-7.3). The odds ratio indicates that the probability of having depression with varying degrees of social phobia is 5 times higher than without it.

Correlation analysis revealed the average level of correlation between social phobia and depression (r = 0.560, p = 0.000).

Anxiety of varying severity (DASS-21 test) was detected in 243 (33.6%) students. The distribution of anxiety by severity is presented in Figure 3.

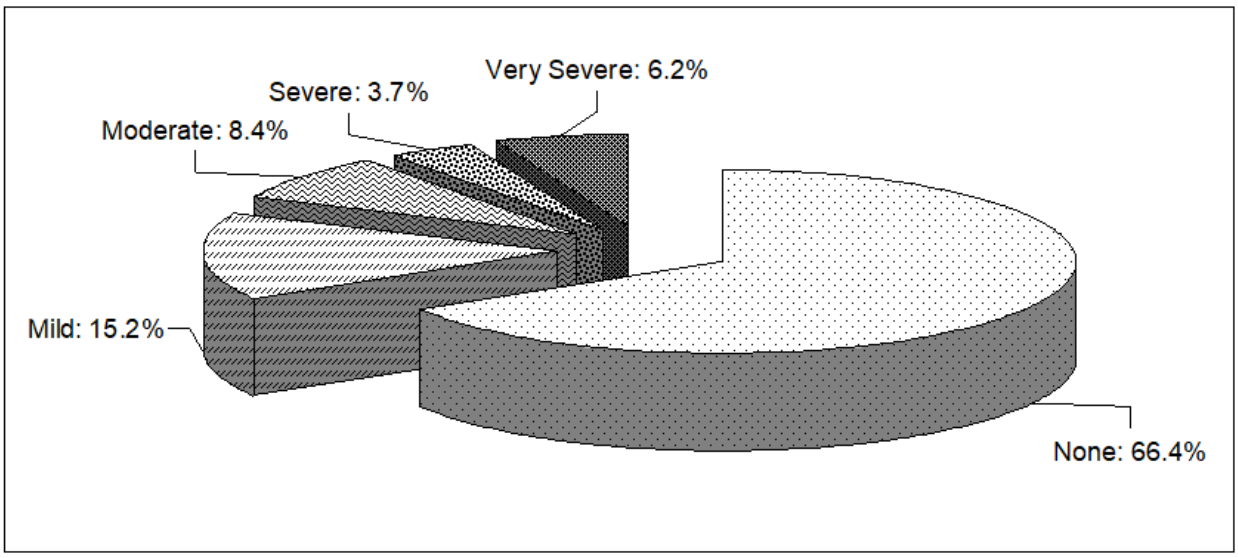

Fig. 3.
Anxiety by severity

As can be seen from chart 3, 18.4% of students had a clinical level (moderate, severe and extremely severe) of anxiety. Correlation analysis revealed the average correlation between generalized anxiety (GAD-7) and anxiety according to the DASS-21 test (r=0.517, p=0.000). The ratio of social phobia with anxiety (test DASS-21) is presented in Table 4.

Table 4.
The ratio of social phobia with anxiety (The calculation of the proportion of anxiety was carried out in rows in relation to social phobia)

Anxiety	None		Mild		Moderate		Severe		Very Severe		TOTAL	
SPIN	n	%	n	%	n	%	n	%	n	%	n	%
None	374	77.9	57	11.9	24	5.0	9	1.9	16	3.3	480	66.3
Mild	67	49.6	33	24.4	18	13.3	8	5.9	9	6.7	135	18.6
Moderate	30	40.5	16	21.6	14	18.9	5	6.8	9	12.2	74	10.2
Severe	8	33.3	4	16.7	3	12.5	3	12.5	6	25.0	24	3.3
Very Severe	2	18.2	–	–	2	18.2	2	18.2	5	45.5	11	1.5
TOTAL	481	66.4	110	15.2	61	8.4	27	3.7	45	6.2	724	100

It was found that in total, out of 244 people with social phobia, 137 (56.1%) had an anxiety. Anxiety was recorded in 50.4% of cases with mild social phobia, in 59.5% – with moderate, in 66.7% – with severe and in 81.8% – with extremely severe In addition, in 106 (22.1%) cases, anxiety was encountered among students with a lack of social phobia, in half of them (11.9%), it was mild. The differences in the frequency of occurrence of anxiety in students with and without social phobia are statistically significant (χ^2=82.661 p=0.0005; OR=4.518 95%; CI=3.2-6.4). The odds ratio indicates that the probability of having anxiety with varying degrees of social phobia is 4.5 times higher than without it. Correlation analysis revealed a weak correlation between social phobia and anxiety according to the DASS-21 test (r = 0.496, p = 0.000).

Significant differences in the severity of anxiety in GAD-7 and DASS-21 in the total population of the subjects (+ 21.8% in GAD-7) and in students with sociophobia (+ 15.6% in GAD-7) are associated with some over-diagnostics of anxiety by the GAD test -7 and underdiagnosis of DASS-21, which is determined by the structure of the questions: in the GAD-7 test, all questions concern only the psychic sphere, and in DASS-21, 4 out of 7 questions concern somato-vegetative anxiety manifestations.

Stress of varying severity (DASS-21 test) was detected in 254 (35.1%) students. The distribution of stress by severity is presented in Figure 4. It shows that the clinical level of stress (moderate, severe and extremely severe) was found in 23.5% of students — in fact, one out of four.

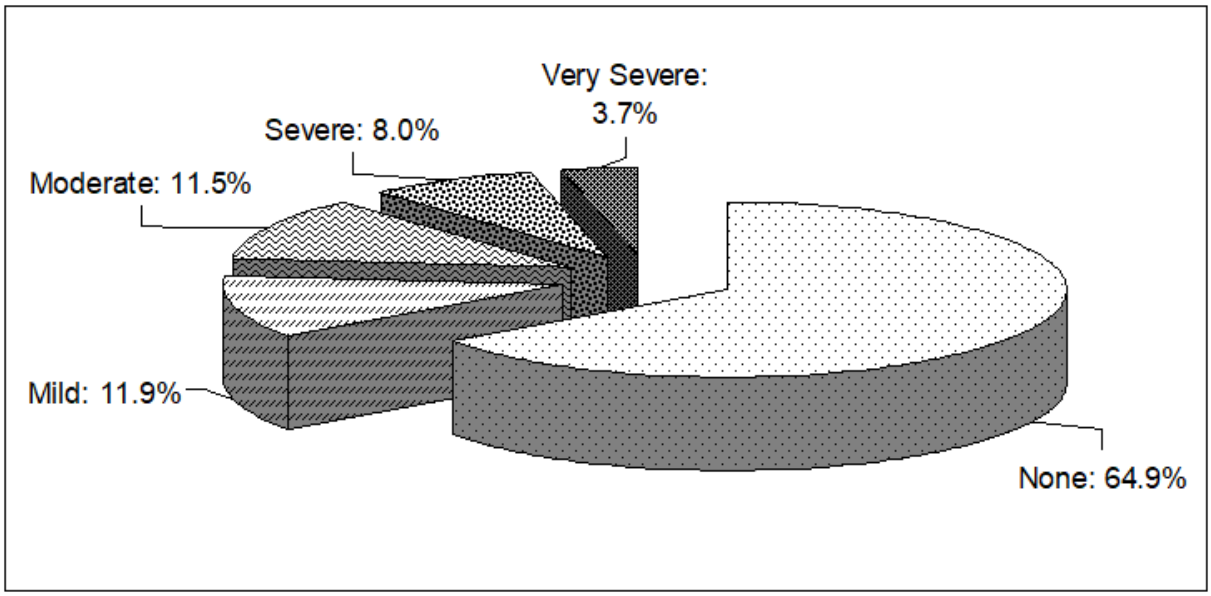

Fig. 4.
The stress by severity

The ratio of social phobia with stress (DASS-21 test) is presented in Table 5.

Table 5.
The ratio of social phobia with stress (Calculation of the share of stress was carried out in rows in relation to social phobia)

Stress	None		Mild		Moderate		Severe		Very Severe		TOTAL	
SPIN	n	%	n	%	n	%	n	%	n	%	n	%
None	364	75.8	44	9.2	44	9.2	19	4.0	9	1.9	480	66.3
Mild	70	51.8	18	13.3	18	13.3	20	14.8	9	6.7	135	18.6
Moderate	29	39.2	17	30.0	17	30.0	7	9.5	4	5.4	74	10.2
Severe	7	29.2	6	25.0	3	12.5	7	29.2	1	4.2	24	3.3
Very Severe	–	–	1	9.1	1	9.1	5	45.5	4	36.4	11	1.5
TOTAL	470	64.9	86	11.9	83	11.5	58	8.0	27	3.7	724	100

It was found that in stress was in 138 (56.6%) of students with social phobia: in 48.1% with mild, 60.8% – with moderate, 70.8% – with severe and 100% with extremely severe.

For students without signs of social phobia, stress was observed in 24.2% of cases (χ^2=73.106; p=0.0005; OR=4.086 95%; CI =2.9-5.8). The odds ratio indicates that the probability of having a stress in presence of varying degrees of social phobia is 4 times higher than without it.

In total, of all the students which was examined, 566 (78.4%) reported on their adherence to the medical profession, and if there was a choice, they would enroll at the Medical Institute again, while significant number of students – 156 (21.6%) – every fifth, would choose a different profession. There were 70 (28.7%) among those with social phobia, and 86 (17.9%) in the group without social phobia. The differences are statistically significant (χ^2=10.476; p=0.002; OR=1.843 95%; CI =1.3-2.7). The odds ratio indicates that the probability of disappointment in the medical profession is almost 2 times higher among those who have a social phobia than among students without it.

The study of the correlation between the severity of social phobia and conviction in the correctness of the choice of the medical profession as well as the attractiveness of the medical activity revealed a significant weak inverse relationship: respectively, r=–0.229 and r=–0.216 with p=0.000000. Thus, sociophobia has a negative impact on the attitude of students to the medical profession and form doubt on the

correctness of its choice. Moreover, , the probability of disappointment in the medical profession is almost 2 times higher among students with social phobia than without it.

Conclusion

Thus, the study showed that the symptoms of sociophobia occur in 33.7% of undergraduate medical students: it is statistically significantly more often in female (37.1%) than male (24.1%). At the same time, a clinically significant degree of manifestation of social phobia (with difficulty and violation in varying degrees of social adaptation) was observed in 15% of cases, equally often among males and females. Comorbidity of social phobia with GAD was 71.7%, with depression - 53.7%, with anxiety - 56.1% and with stress - 35.1%. In students with no signs of social phobia, GAD occurred in 47.1% of cases, depression - in 18.5%, anxiety - in 22.1%, and stress in 24.2% of cases.

Significant correlations revealed between the social phobia severity level and GAD, depression, anxiety and stress severity levels.

The probability of having GAD is almost 3 times, depression is 5 times, anxiety is 4.5 times and stress is 4 times higher among students with social phobia, than in cases without it. In addition, it has been established that social phobia has a negative influence on the students' attitude to the medical profession and forms doubt on the correctness of their choice. In addition, the probability of disappointment in the medical profession is almost 2 times higher among students with social phobia, than without it.

This fact should be taken into account conducting vocational guidance work and such students should be advised to consult a medical psychologist.

Recommendations

It is possible that a person-centered psychotherapy, aimed at eliminating the symptoms of social phobia and changing the negative attitude towards the medical profession may be needed, such psychotherapy methods can be investigated in further studies. This study was conducted among medical students, further works can investigate different groups under different conditions to develop more comprehensive recommendations for the prevention of social phobia.

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