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Zanjan University of Medical Sciences

Evaluation of Psychopathological Indices in Students of Zanjan University of Medical Sciences

Sahel Khakpoor Borazjani[1], Arezoo Heshmati Joda[1], Majid Mohammadi[1], Zahra Kosari[1], Saede Zenoozian[2*]

[1] Master of Clinical Psychology, Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran.

[2] Department of Clinical Psychology, Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran.

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Abstract

Background & Object: Mental disorders affect various groups, including children, adolescents, and adults, imposing heavy socioeconomic costs on communities. Therefore, the dynamism and efficiency of countries could be guaranteed by improving the mental health level, which leads to enhanced academic levels of students. This study aimed to evaluate the psychopathological indices in students of Zanjan University of Medical Sciences.

Materials and Methods: This descriptive study was performed on 400 students of Zanjan University of Medical Sciences during the academic year of 2016-2017. After selecting the subjects by available sampling method, the symptoms checklists 90 revised (SCL-90-R) were provided to students and recollected after completion. Data analysis was performed using descriptive and inferential statistics.

Results: In this study, 79% of students were suspected of mental disorders (61.5% mild, 15.3% moderate, and 2.3% severe). Physical complaints and phobic anxiety were significantly higher in female students, compared to male students ($P<0.05$).

Conclusion: According to the results of the study, mental disorders are considerably common among students. Therefore, it is necessary to consider these disorders in the design of prevention and treatment programs.

**Corresponding author:* Saede Zenoozian, *Email:* zenoozian@zums.ac.ir

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Introduction

Health is a multidimensional problem and different aspects affect each other and ultimately exert impacts the health of individuals and society (1). Mental disorder is a syndrome with an apparent symptom of considerable clinical disturbance of cognition, as well as emotional or behavioral regulation of individuals (2). Investing in people regardless of their mental health status cannot lead to the meeting of expectations (3). Therefore, the researchers consider the role of the epidemiology of mental disorders important in identifying the state of mental health of the community and assessing its required facilities at any time (4). Mental health is defined as our understanding of our own abilities, adaptation to the normal pressures of life and community participation (5). Unfortunately, the inability of students to adapt to new conditions can be observed as a problem in interpersonal relationships, direct or displaced aggression, indifference, helplessness, physical symptoms, anxiety and depression, and even psychosis and suicidal behavior (6).

Students are prone to losing their mental health due to special circumstances of the education period, such as being away from the family, entering a large organization with an intense environment, economic problems, large volumes of courses, and intensive competitions. These stressors have undesirable effects on the general health of students, and the exacerbation of these factors increases physical symptoms, anxiety, social dysfunction and depression while decreasing the general health of these individuals (8). In addition to dealing with problems faced by other students, medical students have their own specific issues, including the environmental pressures of the hospital and emergency departments, facing patient-related problems, the length of education, and lack of clear career prospects. Therefore, it seems that medical students are at a higher risk of losing mental health, compared to other students (9). Several factors related to university life, including university workload, competition, financial problems, pressure for success, and concerns about career prospects may be potential stressors for the students that lead to mental damage or have negative impacts on academic progress and academic satisfaction (10).

Epidemiological studies estimate that between 12-50% of students fit the criteria for one or more mental disorders (11). These studies indicate an increase in the prevalence and severity of psychological problems in student populations compared to non-students (12).

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Some studies have demonstrated that stress is most prevalent in student populations, and anxiety and depression are increasingly growing among these individuals (13). In recent studies on students' mental disorders, depression, panic disorder, and general anxiety disorder were found in 17.3%, 4.1%, and 7% of the cases, respectively (11). In a meta-analysis of 40 studies on the psychological complaints of American and Canadian medical students, the results were indicative of the higher prevalence of depression and anxiety among these individuals, compared to the general population (14). There have been various reports of the prevalence of different mental disorders, such as depression, substance abuse, eating disorders, and learning disabilities among students. About 15-23% of students with mental disorders often visit a counselor because of an educational problem (15). The results obtained by Nami et al. demonstrated that female students suffered more from symptoms of mental disorders, compared to male students (16). According to studies,mentaldisorders, especially depression, are more common among Iranian students (17). In a meta-analysis, Zare et al. assessed the mental health status of university students in Iran. These scholars marked that the overall prevalence of mental disorders among university students in the country was estimated at 33% according to the random effects model. In addition, the prevalence of mental disorders has increased over time (3). In a previous study, Benton et al. reported an increase in levels of anxiety, depression, suicidal thoughts, and personality disorders based on the findings of clinical psychologists of university counseling centers of US (18). In addition, the results obtained by Shahabi Nejad et al. indicated that more than half of the students, especially nursing and paramedical students, are susceptible to mild-severe mental disorders (12). Mental disorders affect efficient human resources communities, such as children, adolescents, and adults, imposing heavysocialandeconomiccosts on communities (19). The high prevalence of mental disorders among students leads to academic failure. In this regard, most studies have emphasized the antecedent role of mental disorders in the academic failure of students (15).

The increasing risk of mental disorders among the medical experts and paying attention to their effective role in the mental health of the community is important in achieving the desired goals of the job, especially for therapeutic purposes. In fact, mental disorders can play a role in reducing the efficacy of these individuals [12]. Symptoms of mental

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disorders, especially depression, might facilitate the emergence of more dangerous phenomena (e.g., disappointment and suicide) in a person and affect the academic success of students. Recent studies have shown that the increased risk of suicide among students has become an epidemic, which necessitates attention to the mental health of students (20). Determining the mental health status of students can help recognize their psychological problems and design appropriate treatment programs for these individuals before graduation. Reports from several studies have shown that long-term psychological distress is related to boredom and helplessness, reduced academic achievement, unprofessional performance, and psychological weakness. On the other hand, promoting the mental health of students may prevent harmful behaviors, improve their quality of life, and have a major impact on the quality of care provided by these individuals in the future (21).

Moreover, it is crucial to focus on the efficiency of students in educational and cultural areas. We can ensure the dynamism and efficiency of countries by improving mental health and, consequently, promoting the educational levels of individuals. Considering the destructive consequences of mental disorders, their prevention, identification, and treatment can have widespread benefits for students and communities. Given the fact that students are a special social group, promoting their mental health, reducing their psychological stress and increasing their general health and adaptation to the academic environment are of utmost importance (16). Awareness of the mental health levels of students with academic problems leads to the formation of policies that provide the necessary tools to reduce mental disorders and ultimately lead to the promotion of individual and social mental health levels and prevention of social, cultural and economic harm (22). With this background in mind, this study aimed to evaluate the psychopathological indices in students of Zanjan University of Medical Sciences, Iran.

Materials and Methods

This descriptive research was approved by the ethics committee of the vice-chancellor for research of Zanjan University of Medical Sciences with the code of ethics of ZUMS.REC.1396.215. Participants included all students of Zanjan University of Medical Sciences (N=3500) in the academic year of 2016-2017. In total, 347 subjects were selected based on Cochran Formula by estimation of 5% error rate (23). In order to increase data

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accuracy, 400 students were selected by the available sampling method. Demographic characteristics included in the questionnaire were gender, educational degree, and place of residence. Data analysis was performed in SPSS using descriptive and inferential statistics. Data collection tool was the 90-item symptom checklist 90 revised (SCL-90-R), which is one of the most common screening tools applied to evaluate mental symptoms (24). Items are scored based on a five-point Likert scale from never (score=zero) to extremely high (score=four). The mentioned questionnaire encompasses nine components for mental disorders, namely somatization, obsessive-compulsive, interpersonal sensitivity,depression,anxiety,hostility, phobic anxiety, paranoid ideation, and psychoticism (25). The reliability of SCL-90-R was estimated at 0.91, 0.91, and 0.97 by Fouladvandi, Guttman, and through Cronbach's alpha, respectively (24).

Results

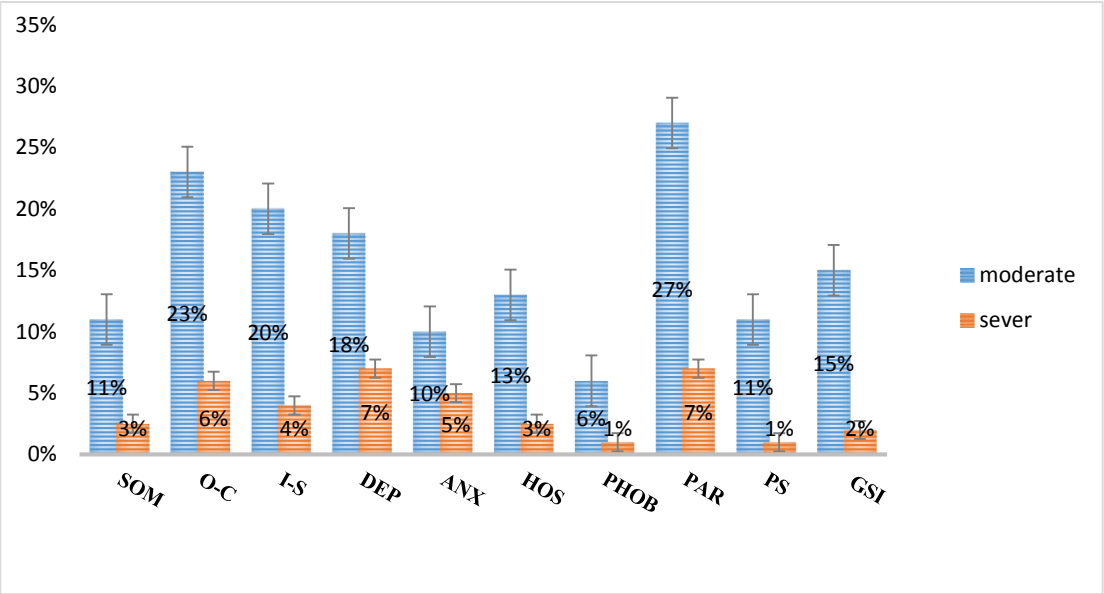
In this research, from a total of 400 students, 36.8% were male and 63.3% were female. Regarding the place of residence, 81.3% of the subjects lived in dormitories while 18.8% lived at home. The mean and standard deviation of the age of the subjects was reported to be 23.2 (3.6) years. In addition, the prevalence of the mental disorders, the general severity index (GSI) and positive symptoms distress index (PSDI) are reported in Table and Figure 1 in four levels of healthy, mild, moderate, and severe, respectively.

Table 1: Prevalence of Psychological Disorders among Students of Zanjan University of Medical Sciences

		no		mild		moderate		sever	
variable	**Index**	n	%	n	%	n	%	n	%
Psychological Disorders									
	SOM	165	41.3	181	45.3	44	11	10	2.5
	O-C	57	14.3	227	56.5	92	23	24	6
	I-S	93	23.3	211	52.8	79	19.8	17	4.3
	DEP	103	25.8	199	49.8	72	18	26	6.5
	ANX	192	48	148	37	41	10.3	19	4.7
	HOS	159	39.8	179	44.8	52	13	10	2.5
	PHOB	218	54.5	153	38.3	25	6.3	4	1
	PAR	66	16.5	198	49.5	107	26.8	29	7.3
	PS	131	32.8	221	55.3	43	10.8	5	1.3
	GSI	84	21	246	61.5	61	15.3	9	2.3
	PSDI	1	0.3	160	40	209	52.3	30	7.5

Note: SOM= Somatization, O-C= Obsessive-compulsive, I-S= Interpersonal sensitivity, DEP= Depression, ANX =Anxiety, HOS= Hostility, PHOB= Phobic anxiety, PAR= Paranoid ideation, PS= Psychoticism, GSI= Global Severity Index, PSDI= Positive Symptom Distress Index.

Figure 1: Prevalence of Moderate and Severe Psychological Disorders



As observed in Table 1, 21% of the students were healthy considering the GSI, whereas 79% were susceptible to mental disorders (61.5% mild, 15.3% moderate, and 2.3% severe). Furthermore, the most prevalent disorder was paranoid ideation. On the other hand, the lowest level of prevalence was related to phobic anxiety. As observed in Figure 2, the moderate and severe prevalence of mental disorders was paranoid ideation (21% and 7%, respectively), whereas the lowest prevalence was related to phobic anxiety (6% and 1%, respectively).

In addition, the mean and standard deviation of mental disorders based on gender and residential status are presented in Table 2. In this study, Mann-Whitney U was applied to compare the mental disorders of the subjects based on gender and place of residence while considering the lack of observing the assumption of normal distribution of variables ($P<0.05$). According to this test, physical complaints and phobic anxiety were significantly higher in female students, compared to male students ($P<0.05$). However, no significant difference was observed between other mental disorders based on gender. Moreover, no significant difference was found between students living in dormitories and subjects living in home regarding the level of mental disorders (Table 2).

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Table 2: Comparing Psychological Disorders in Zanjan University of Medical Sciences Students in Terms of Gender and Residence

Psychological Disorders	gender		P.value	residence		P.value
	Male	Female		Dormitory	Non-dormitory	
	M±SD	M±SD		M±SD	M±SD	
SOM	0.68 ± 0.63	0.89 ± 0.66	0.000	0.82 ± 0.63	0.81 ± 0.75	0.470
O-C	1.2 ± 0.66	1.3 ± 0.72	0.288	1.3 ± 0.68	1.3 ± 0.7	0.731
I-S	1 ± 0.65	1.12 ± 0.75	0.169	1.1 ± 0.7	1 ± 0.7	0.229
DEP	0.98 ± 0.71	1.1 ± 0.8	0.331	1.1 ± 0.78	1 ± 0.74	0.761
ANX	0.74 ± 0.63	0.86 ± 0.78	0.388	0.8 ± 0.78	0.9 ± 0.7	0.209
HOS	0.94 ± 0.66	0.88 ± 0.69	0.204	0.88 ± 0.68	0.98 ± 0.7	0.161
PHOB	0.49 ± 0.5	0.63 ± 0.62	0.037	0.6 ± 0.6	0.5 ± 0.56	0.073
PAR	1.34 ± 0.76	1.3 ± 0.76	0.624	1.3 ± 0.77	1.34 ± 0.7	0.766
PS	0.87 ± 0.54	0.88 ± 0.6	0.890	0.87 ± 0.56	0.89 ± 0.5	0.453
GSI	0.91 ± 0.54	0.99 ± 0.62	0.256	0.97 ± 0.6	0.96 ± 0.6	0.881
PSDI	1.7 ± 0.4	1.73 ± 0.53	0.736	1.7 ± 0.5	1.7 ± 0.4	0.738

Note: SOM= Somatization, O-C= Obsessive-compulsive, I-S= Interpersonal sensitivity, DEP= Depression, ANX =Anxiety, HOS= Hostility, PHOB= Phobic anxiety, PAR= Paranoid ideation, PS= Psychoticism, GSI= Global Severity Index, PSDI= Positive Symptom Distress Index.

Discussion

According to the results of the current study, 17.6% of the subjects were suspected of having moderate-severe mental disorders, which is in line with the results obtained by Shahabinejad et al. and by Jahani Hashemi et al. (9, 12). In the meta-analysis by Zare et al., The prevalence of mental disorders among university students in the country was reported to be 33% (3). In his meta-analysis, Steel reported that the general prevalence of mental disorders in 63 countries was about 17.6% (26). Lionis et al. conducted a study on students from two universities in Greece, and their results showed that 20.7% of students had low mental health (27). On the other hand, the prevalence of mental disorders among medical students of Golestan was 72%, reported by Besharat et al. (28). The differences in the prevalence reported by various studies might be due to differences in data collection tools. In addition, this difference may be due to lack of similarity in terms of underlying conditions, such as cultural, economic and social conditions. Furthermore, various studies have evaluated mental disorders in students in various academic years, which can be another reason for these differences.

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In the present study, the highest moderate-severe prevalence of mental disorders was related to paranoid ideation (21% and 7%, respectively), followed by sensitivity to interactions (19.8% and 4.3%, respectively). On the other hand, the lowest prevalence was related to phobic anxiety (6% and 1%, respectively). In this respect, our findings are in congruence with the results obtained by Besharat et al., who reported the highest and lowest prevalence rates to be related to paranoid ideation (59.1%) and phobic anxiety (14.7%). In the study of Shahabinejad et al., the highest prevalence was related to interpersonal sensitivity, whereas the lowest prevalence was related to phobic anxiety (12). In the research of Jahani Hashemi, the highest and lowest prevalence rates were related to depression and phobic anxiety, respectively (9). It could be justified that the existence of high work pressure and high competition among medical students might be involved in the emergence of these disorders. In addition, the high level of paranoid thoughts and sensitivity to interactions demonstrated that individuals are sensitive to the smallest external threats, which extremely affects the mental health of students.

According to the results of the current study, the mean scores of female students in terms of physical complaints and anxiety were higher, compared to male students. In this respect, our findings are in line with the results obtained by Shahabinejad et al., who marked that the mean score of female students was higher than male students in all areas, with the exception of interpersonal sensitivity (12). Furthermore, the results of the meta-analysis by Steel showed that women had a higher chance of mental disorders, compared to men (26). In his study, Dragotis stated that the prevalence of phobic anxiety was higher in female subjects, compared to male participants (29). In the studies by Namdar et al. (30) and Imani et al. (31), there was no significant difference in the prevalence of mental disorders. Some of the factors for a higher possibility of mental disorder in women included more constraints for these individuals in the society, biological and hormonal factors, environmental stresses, and greater sensitivity of these people to their surrounding environment (32).

In the present study, there was no significant difference in the level of mental disorders between students living in dormitories and those living in home. The results obtained by Jahani Hashemi et al. (9) and Shahabinejad et al. (12) also demonstrated the lack of a significant relationship between the place of residence and being native and non-native with

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mental disorders. In the studies by Besharat et al. (28) and Fallahi Khoshknab et al. (33), living in a dormitory had a significant relationship with the symptoms of mental disorders. Perhaps the selection of native students in universities in recent years could explain this issue since the majority of students of Zanjan University of Medical Sciences were from Zanjan Province and were able to meet their family on weekends and relieve stress caused by living in another city. On the other hand, living in the dormitory was not considered as being native in the present research. In fact, some of the students, who did not live in dormitories, were non-native. This limited the ability to accurately determine the relationship between place of residence and mental disorders.

One of the major drawbacks of this research was the lack of examination of factors such as individual differences, as well as psychological and personality traits. In addition, it was difficult to assess the honesty of participants in completing the questionnaire. Nevertheless, attempts were made to minimize the problem with the interviewers' attentiveness. In the end, given the fact that our subjects were only students, the generalization of the final results must be carried out with caution.

Conclusion

With regard to the educational, economic and social consequences of mental disorders, assessing the student mental health is an important step to prevent and improve the problems associated with these disorders. According to the results of the present study, the prevalence of mental disorders among students of Zanjan University of Medical Sciences was significant (17.6%). This issue necessitates a greater focus on this vulnerable and young age group by university authorities, counseling centers, and researchers, in a way that the possibility of mental problems in students could be reduced through recognizing and changing the factors causing and maintaining mental disorders. On the other hand, regular screening can contribute to the regulation of effective prevention and treatment programs. It is recommended that similar studies be conducted on non-medical students and other populations to confirm these results.

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