

Depression at Health Schools

Sağlık Okullarında Depresyon

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ABSTRACT

Objective: Difficulties encountered in education life are risk factors that may cause depression for university students. In this study, the prevalence of depression symptoms in university students studying in the field of health was investigated.

Methods: In this cross-sectional study; from the Faculty of Dentistry 118 (78%), from the Faculty of Health Sciences 372 (78%) and from the Faculty of Medicine 410 (89%) final year students attended. Possible depression was measured by using the Beck Depression Scale (score ≥ 17). Statistical analysis was done by using Chi-square, Mann Whitney-U and Kruskal-Wallis tests. We used multivariate logistic regression to identify factors associated with depression.

Results: The frequency of depression symptoms of university students participating in this study is 24.6%. It is 26.8% for female students. It is 19.8% for male students. 45.8% for the students of the faculty of dentistry; it is 26.9% for the students of the faculty of health sciences; it is 16.3% in medical faculty students. The prevalence of depression symptoms is higher in students who are exposed to violence by patients or their relatives. The prevalence of depression symptoms is higher in those who say "I have made the wrong choice about the choice of profession" / "I am undecided" and in those with future concerns about the profession.

Conclusion: These students are affected by physical, chemical, biological and psychosocial risk factors that pose a risk for depression, which is specific to the health field during their internship period. Measures should be taken to protect students from these risk factors.

Keywords: Depression, depressive symptom, university students

Received: 01.05.2022

Accepted: 03.28.2022

ÖZET

Amaç: Eğitim hayatında karşılaşılan güçlükler üniversite öğrencileri için depresyona neden olabilen risk faktörleridir. Bu çalışmada sağlık alanında eğitim gören üniversite öğrencilerinde depresyon semptomlarının prevalansı araştırılmıştır.

Yöntem: Bu kesitsel çalışmaya; Diş Hekimliği Fakültesi 118 (%78), Sağlık Bilimleri Fakültesi 372 (%78) ve Tıp Fakültesinde 410 (%89) son sınıf öğrencisi katılmıştır. Olası depresyon Beck Depresyon Ölçeği (skor ≥ 17) kullanılarak ölçülmüştür. İstatistiksel analiz Chi-square, Mann Whitney-U ve Kruskal-Wallis testleri kullanılarak yapılmıştır. Depresyon ile ilişkili faktörleri tanımlamak için çok değişkenli lojistik regresyon kullandık.

Bulgular: Bu çalışmaya katılan üniversite öğrencilerinin depresyon belirtileri sıklığı %24,6'dır. Kadın öğrencilerin %26,8'dir. Erkek öğrencilerin %19,8'dir. Diş hekimliği fakültesi öğrencilerinde %45,8; sağlık bilimleri fakültesi öğrencilerinde %26,9; tıp fakültesi öğrencilerinde %16,3'tür. Hasta veya hasta yakınları tarafından şiddet gören öğrencilerde depresyon belirtileri prevalansı daha yüksektir. Meslek seçimi konusunda yanlış seçim yaptım/kararsızım diyenlerde ve meslekle ilgili geleceksel kaygısı olanlarda depresyon belirtileri prevalansı daha yüksektir.

Sonuç: Bu öğrenciler staj yaptıkları dönemde sağlık alanına özgü olup depresyona risk oluşturan fiziksel, kimyasal, biyolojik ve psikososyal risk faktörlerinden etkilenmektedir. Öğrencilerin bu risk faktörlerinden korunması için önlemler alınmalıdır.

Anahtar Sözcükler: Depresyon, depresif belirti, üniversite öğrencileri

Geliş Tarihi: 05.01.2022

Kabul Tarihi: 28.03.2022

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doi:<http://dx.doi.org/10.12996/gmj.2023.7>

INTRODUCTION

According to World Health Organization, depression affects more than 300 million people which is equal to 4.4% of the world population(1). Depressive disorders are mental disorders with a lifelong prevalence of 16.2% and a 12-month prevalence of 6.6% (2). Depression is a prevailing cause for global non-fatal disease load and its lifetime prevalence is 9% among European adult males and 17% among European adult females(3). Its prevalence is reported between 10-20% in Turkey(4). Based on Turkey Chronic Disease Prevalence Research, total depression prevalence is 13.1% in females, 5% in males and 9.3% in Turkey(5).

Mowbray et al. stated that depression and other mental problems constitute an important health problem among university students in their study(6). Depression prevalence was found 29.4% in a study on university students in Malaysia(7). A systematic review showed that the mean depression prevalence was 30.6% in university students and the ratios changed between 10 and 85%(8). Global depression prevalence was found 28% (95% CI: 24.2-32.1%) in a meta-analysis containing 77 studies and 62.728 medicine students(9).

University students experience an important developmental change between adolescence and adulthood. Many stress factors such as adaptation to university life, getting good grades, planning the future and trying to live independent from the parents may cause health problems in university students(10). Factors such as economic difficulties, transportation and accommodation problems, dissatisfaction with the university department chosen, employment anxiety after graduation and low academic success constitute depression risk factors.

University students should be protected against depression and its negative results. Depression can be the reason for the decline in academic success, hopelessness, deterioration of friendships and social life of university students. Thus, it is very important to determine risk factors for depression and take precautions against them. The aim of this study was to determine the prevalence and causes of depression in university students.

METHOD

Senior students of the faculties of Medicine, Dentistry and Health Sciences of Gazi University which was established in 1926 and is among the most important universities of Turkey constituted the universe of this research. The aim was to reach the whole study universe. In this cross-sectional study; from the Faculty of Dentistry 118 (78%), from the Faculty of Health Sciences 372 (78%) and from the Faculty of Medicine 410 (89%) final year students attended. In this study disagn, inclusion and exclusion criteria were not determined in the selection of the sample in order to reach the entire universe.

Instruments

"Perceived Stress Level and Depression Symptoms Prevalence Evaluation in Senior Students of Gazi University Medical, Dentistry and Health Sciences Faculties" questionnaire form prepared by the team conducting the study was used as data source in the research. The questionnaire has three sections. The first section of the questionnaire contains 26 questions aiming to determine the sociodemographic and socioeconomic characteristics of the participants. Perceived Stress Scale is in the second section of the questionnaire. It contains 14 questions and was developed by Prof. Dr. Sheldon Cohen et al. in 1983. Turkish study adaptation study was conducted by Yerlikaya et al. in 2006 and was found to be valid and safe (cronbach's alpha:0.84)(11). Beck Depression Scale (BDS) was used in the third section of the questionnaire. Validity and reliability study of Beck Depression Scale was conducted by Hisli in Turkey. (Cronbach alfa:0.80). BDS contains 21 questions. Cut-off value was determined as 17 points(12). Depression symptoms are more common in individuals taking 17 points and above.

Statistical Analysis

The questionnaires were applied in December 2019 and January 2020. Research data were analyzed with SPSS 23.0 statistics package program. Accordance of data to normal distribution was checked with Kolmogorov-Smirnov test and histogram graphics.

Chi-square test was used for definitive statistics. Kruskal-Wallis and Mann Whitney U tests were used for comparing perceived stress scale (PSS) scores. Paired comparison of faculties was conducted with post-hoc Bonferroni correction. Logistic regression analysis was conducted to determine depression symptoms prevalence risk based on BDS scores of 17 and above. Statistical significance value was accepted as $p < 0.05$.

This study was approved by the ethics committee of Gazi University. (Research code: 2019-376).

RESULTS

One-third of the participants were male and two-thirds were female. Mean age was 22.89 ± 1.68 and 94.4% of the participants were between the ages of 20 and 25.86.4% of the participants do not have a diagnosed chronic disease and 87.2% of the participants do not have a psychiatric illness. 67.7% had a hobby and 33.1% had regular physical activities. In terms of professional variables, 48.9% of participants responded as "I chose the right profession" while 67.2% had concerns about their professional future. 22.4% of the participants were exposed to physical or verbal violence by patients and patient relatives and 39.2% were exposed to physical or verbal violence by hospital staff. 29.7% of the participants felt adequate about their professional knowledge and practicing levels.

Prevalence of depression symptoms was 24.6% and the mean score was 12.38 for the university students participating in the study. Prevalence of depression symptoms was 26.8% and mean score was 12.94 in female students based on gender. Prevalence of depression symptoms was 19.8% and mean score was 9.71 for male students. It was 45.8% in students of dentistry faculty, 26.9% in students of health sciences faculty and 16.3% in students of faculty of medicine when evaluated in terms of faculties. Based on perceived stress scale, mean stress of the participants is 28.46 and the mean was 29.59 in females and 26.13 in males when evaluated according to gender.

Depression symptoms are more common in individuals with a BDS score of 17 points and above. Prevalence of depression symptoms is higher in female students compared to male students, in students of dentistry faculty compared to medical and health sciences faculties, in students who have separated/dead parents compared to those whose parents are married, in students who have diagnosed chronic disease, in those who make regular physical activity and those who have hobbies ($p < 0.05$).

Prevalence of depression symptoms is higher in students who answered "I chose the wrong profession /Neutral" compared to those who answered "I chose the right profession", in those who have professional concern about the, in those exposed to violence from patients and patient relatives and those who are exposed to violence from hospital staff ($p < 0.05$).

There is no statistically significant difference between depression symptoms prevalence in terms of professional knowledge level and practicing ($p > 0.05$). When the faculties were evaluated: There was a statistically significant difference in having hobby between medical-health sciences faculties, in ideas on the choice of profession between dentistry-health sciences and health sciences-medical faculties, in professional knowledge level and practicing between students of dentistry-health sciences faculties and dentistry-medical faculty students, in exposure to violence from patient and patient relatives between students of dentistry-health sciences faculties and medical-health sciences faculties and exposure to violence from hospital staff between students of dentistry-health sciences faculties and medical-health sciences faculties (Post-Hoc Bonferroni correction was made. $p < 0.17$).

There is a positive relationship between perceived stress scale score and BDS scores ($r = 0.646$, $p < 0.05$). BDS scores increase in line with perceived stress scale scores. When perceived stress scale scores were compared according to the faculties, there was a significant difference among the students of dentistry-medical faculties and medical-health sciences faculties (Post-Hoc Bonferroni correction was made. $p < 0.017$). There was no significant difference between the students of dentistry-health sciences faculties (Post-Hoc Bonferroni correction was made. $p > 0.017$). Based on Beck depression scale scores, there is a significant difference among the students who took 12 or higher scores and those who took 16 or lower scores among PSS scores ($p < 0.05$).

Table 1. Distribution of Some Participant Characteristics

	Faculty				Statistical Analysis	
	Total	Faculty of Dentistry	Faculty of Health Sciences	Faculty of Medicine	X ² Test	P
	N	N (%*)	N (%*)	N (%*)		
Physical Activity						
No	602	78 (66.1)	255 (68.5)	269 (65.6)	0.798	0.671
Yes	298	40 (33.9)	117 (31.5)	141 (34.4)		
Hobby						
No	291	39 (33.1)	100 (26.9)	152 (37.1)	9.291	0.010
Yes	609	79 (66.9)	272 (73.1)	258 (62.9)		
Opinion on Choice of Profession						
I chose the right profession	440	63 (53.4)	149 (40.1)	228 (55.6)	19.989	0.001
I chose the wrong profession/Neutral	460	55 (46.6)	223 (59.9)	182 (44.4)		
Professional Knowledge Level, Practicing						
No/Neutral	633	52 (44.1)	275 (73.9)	306 (74.6)	44.948	<0.001
Yes, Adequate	267	66 (55.9)	97 (26.1)	104 (25.4)		
Violence by the Patient and Patient Relatives						
No	698	79 (66.9)	339 (91.1)	280 (68.3)	67.209	<0.001
Yes	202	39 (33.1)	33 (8.9)	130 (31.7)		
Violence by Hospital Staff						
No	547	46 (39)	282 (75.8)	219 (53.4)	68.083	<0.001
Yes	353	72 (61)	90 (24.2)	191 (46.6)		

*: Percentage of Row

Table 2. Distribution of Perceived Stress Scale Scores of the Participants

	PSL Score Median (min-max)	P
Faculty		
Faculty of Dentistry	31 (6-56)	<0.001*
Faculty of Health Sciences	29 (8-56)	
Faculty of Medicine	27 (4-50)	
BDS Score		
16 Points and Below	27 (4-45)	<0,001**
17 Points and Above	36 (12-56)	

*: Kruskal-Wallis Test

**: Mann-Whitney U Test

Table 3. Distribution of BDS Scores of the Patients

	BDS Score			Statistical Analysis	
	Total N	16 Points and Below N (%*)	17 Points and Above N (%*)	χ^2 Test	P
Gender					
Male	288	231 (80.2)	57 (19.8)	5.188	0.023
Female	612	448 (73.2)	164 (26.8)		
Faculty					
Dentistry	118	64 (54.2)	54 (45.8)	44.665	<0.001
Health Sciences	372	272 (73.1)	100 (26.9)		
Medicine	410	343 (83.7)	67 (16.3)		
Parent					
Together / Married	832	639 (76.8)	193 (23.2)	10.969	0.001
Separated / Died	68	40 (58.8)	28 (41.2)		
Diagnosed Chronic Disease					
No	778	605 (77.8)	173 (22.2)	16.661	<0.001
Yes	122	74 (60.7)	48 (39.3)		
Diagnosed Psychological Disease					
No	785	619 (78.9)	166 (21.1)	38.540	<0.001
Yes	115	60 (52.2)	55 (47.8)		
Physical Activity					
No	602	441 (73.3)	161 (26.7)	4.701	0.030
Yes	298	238 (79.9)	60 (20.1)		
Hobby					
No	291	203 (69.8)	88 (30.2)	7.502	0.006
Yes	609	476 (78.2)	133 (21.8)		
Opinion on Choice of Profession					
I chose the right profession	440	370 (84.1)	70 (15.9)	34.741	<0.001
I chose the wrong profession/Neutral	460	309 (67.2)	151 (32.8)		
Professional Concern about the future					
No	295	246 (83.4)	49 (16.6)	14.954	<0.001
Yes	605	433 (71.6)	172 (28.4)		
Professional Knowledge Level, Practicing					
No/Neutral	633	467 (73.8)	166 (26.2)	3.207	0.073
Yes, Adequate	267	212 (79.4)	55 (20.6)		
Violence by the Patient and Patient Relatives					
No	698	539 (77.2)	159 (22.8)	5.296	0.021
Yes	202	140 (69.3)	62 (30.7)		
Violence by Hospital Staff**					
No	547	445 (81.4)	102 (18.6)	26.279	<0.001
Yes	353	234 (66.3)	119 (33.7)		

*: Percentage of Row

**: Academic staff, assistant doctor, nurse, other health personnel

Table 4. Logistic Regression Analysis of Participants with 17 and Higher Scores in BDS

Examined Variable		OR*	95% Confidence Interval	P
PSL Score		1.249	1.204-1.296	<0.001
Gender				
	<i>Male (Ref**)</i>	-		
	Female	0.699	0.435- 1.123	0.139
Faculty				
	<i>Faculty of Medicine (Ref)</i>	-		
	Faculty of Health Sciences	1.499	0.907- 2.478	0.114
	Faculty of Dentistry	3.490	1.913- 6.365	<0.001
Diagnosed Psychological Disease				
	<i>No (Ref)</i>	-		
	Yes	2.520	1.469- 4.320	0.001
Violence by Hospital Staff*** Parent				
	<i>Married/Together (Ref)</i>	-		
	Separated/Died	2.665	1.293- 5.494	0.008
Opinion on Choice of Profession				
	<i>I chose the right profession (Ref)</i>	-		
	I chose the wrong profession /Neutral	1.631	1.081- 2.461	0.020
Professional Knowledge Level and Practicing				
	<i>Yes, Adequate (Ref)</i>	-		
	No/ Neutral	1.468	0.911- 2.367	0.115

*: Odds Ratio

**: Reference Category

***: Academic staff, assistant doctor, nurse, other health personnel

DISCUSSION

Prevalence of depression symptoms was 24.6% for the university students participating in this study. Based on gender, prevalence of depression symptoms was 26.8% in female students while it was 19.8% in male students. Prevalence of depression symptoms was 45.8% in dentistry faculty students, 26.9% in health sciences faculty students and 16.3% in the students of faculty of medicine when evaluated in terms of faculties. In a systematic review, mean depression prevalence was detected as 30.6% in university students and the ratios changed between 10 and 85%(8). In another systematic review investigating depression prevalence in university students in China, the mean depression prevalence was found 23.8% (95% CI: 19.9-28.5)(13).

Prevalence of depression symptoms was found higher in female students compared to male students in this study and this was statistically significant. In a study investigating depression prevalence in university students in Germany, Denmark, Poland and Bulgaria, prevalence of depression symptoms was again found higher in female students compared to male students(14). Depression prevalence was again higher in studies of Connell(15), Khawaja(16) and Dzubur(17). The causes of higher depression prevalence in females compared to males can be genetic characteristics, biological and hormonal difference and being exposed to different problems in professional and social life, all caused by gender difference. Different effect levels formed by depression-causing factors in genders are also important.

When depression prevalence was evaluated based on faculties, it was detected highest in the students of dentistry faculty and lowest in students of faculty of medicine. Students of dentistry faculty have 3.4 times higher depression symptoms risk compared to the students of faculty of medicine. Higher depression symptoms in the students of dentistry and health sciences faculties compared to the students of faculty of medicine can be due to high employment anxiety after graduation. These symptoms being higher in dentistry faculty students compared to health sciences can also be due to dentistry students being exposed to more violence from patients, patient relatives and hospital staff. High ratio of the students in health sciences faculty with a hobby may also be a depression prevalence lowering factor. It may also be considered that depression symptoms in the students of the faculty of medicine are increased by Specialty Exam in Medicine and by thinking about where they will complete civil service obligation.

Depression prevalence was found lower in those who have regular physical activities. Depression prevalence was also found lower in those who have regular physical activities in another study(17). A negative correlation was detected between the prevalence of depression symptoms and physical activity in the study by Ghaedi et al. (18). Prevalence of depression symptoms may decrease or their formation may be prevented in individuals spending their leisure time with regular physical activities. Again, the motivation provided by the feeling of being a team in physical activities performed as a team can be protective against depression. Depression prevalence is lower and statistically significant in individuals who have a hobby. Depression scores of students who have hobbies were found to be significantly lower(19). Prevalence of depression symptoms may be lower since the individuals are involved in an activity they enjoy while dealing with their hobbies.

Individuals with another psychological disease have 2.5 times more risk in terms of depression symptoms. In a study conducted in Greece, depression symptoms were found two times higher in individuals with health problem(20). Psychiatric disorders were observed two times more in individuals with minor depression compared to those without depression(21). This may be due to the fact that another psychological disease affects the life of the individual or causes changes in physiological and biological mechanisms which may cause depression. Depression prevalence was detected higher in individuals with chronic disease. Another study was stated that depression was more common in university students with chronic diseases(22). These individuals may have difficulties in meeting their personal needs and face many difficulties in professional and education lives. It is easier for elder individuals to accept a chronic disease compared to young individuals. Thus, presence of a chronic disease may be increasing the prevalence of depression symptoms in young individuals.

Depression prevalence is lower and statistically significant in individuals who think that they chose the right profession. The individuals in "I chose the wrong profession /Neutral" group have 1.6 times higher risk. This may be due to the fact that working in a profession one wants makes the individual happy and lowers stress level. When professional concerns for the future are examined, depression prevalence is higher in concerned individuals.

Uncertainties about future cause concerns and the same uncertainty condition increases depression symptoms.

Depression prevalence is significantly high in individuals exposed to violence from patients, patient relatives and hospital staff. Prevalence of depression symptoms may increase since violence can harm the mental health of individuals. High depression symptoms may be explained by this discontent which will occur as the professional content of the individuals exposed to violence decreases.

There is a positive correlation between perceived stress scale score and BDS score and this correlation is statistically significant. BDS score increases in line with perceived stress scale score. This is due to the fact that stress-causing factors also increase depression prevalence. Many stress-causing factors also cause depression. In individuals with a high stress level, depression symptoms can be observed more since events and conditions would physically and psychologically affect the individual more than the unstressed condition.

CONCLUSIONS

The limitation of study: The research was performed only in Gazi University Faculty of Medicine, faculty of dentistry and faculties of health sciences. Although this situation is covered by the purpose of the study, it may prevent the results from being generalized to the society.

It is interesting that the depression symptoms increase in one quarter of the students in the field of health. These students are affected by physical, chemical, biological and psychosocial risk factors which are unique to the field of health and constitute depression risk during their internship. Precautions should be taken to protect students from these risk factors.

Precautions should also be taken to overcome future employment concern which in turn increases depression prevalence and the deficiencies of students in practicing and education should be remedied to help them become professionally adequate and find jobs more easily.

Depression symptoms being more common in students expressing that they chose the wrong profession shows the importance of choosing the right profession. Leading the individuals correctly during their choice of profession and early diagnosis through scanings are very important for protection against depression.

Conflict of interest

No conflict of interest was declared by the authors.

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