Süleyman Demirel Üniversitesi
Sağlık Bilimleri Dergisi
Cilt 14, Sayı 2, 198 - 207, 2023

Suleyman Demirel University
Journal of Health Sciences
Volume 14, Issue 2, 198 - 207, 2023

Evaluation of Depression Level and Antidepressant Use of Faculty of Pharmacy Students

Eczacılık Fakültesi Öğrencilerinin Depresyon Düzeyi ve Antidepresan Kullanımının Değerlendirilmesi

Aslınur ALBAYRAK [1*], İbrahim EREN [2]

[1] Suleyman Demirel University, Faculty of Pharmacy, Department of Clinical Pharmacy, Isparta, Türkiye,
[2] Suleyman Demirel University, Faculty of Medicine, Department of Mental Health and Diseases, Isparta, Türkiye

ABSTRACT

Objective: The aim of this study is to evaluate the level of depression and the use of antidepressants in the faculty of pharmacy.

Material-Method: This study was an online cross-sectional survey and was conducted to Suleyman Demirel University Faculty of Pharmacy 4th and 5th grade students between 1-4 February 2023. The questionnaire consisted of questions about sociodemographic characteristics, Beck Depression Inventory (BDI), and antidepressant use. In the study, the cut-off point for depression was accepted as 17 and above.

Results: The median BDI score of the students was 14 (7-22). 39.2% of the students were depressed and 30.4% were minimally depressed, 29.6% were mildly depressed, 30.4% were moderately depressed and 9.6% were severely depressed. The father's education level and monthly household income were found to be statistically significant in those with a BDI score of 17 and above, compared to a BDI score of 16 and below ($p<0.05$). Eighteen (14.4%) students were using antidepressants and 38.9% of the students using antidepressants stated that they did not use antidepressants regularly.

Conclusion: According to the results of our study, the level of depression in pharmacy faculty students was found to be high. Most of the students with moderate and severe depression were not taking antidepressant treatment. A significant portion of the students using antidepressants were using antidepressants irregularly. As the pharmacists of the future, they have important roles in patient education and patient compliance. Therefore, more emphasis should be placed on this subject in the courses in the faculty.

Keywords: Antidepressant use, depression, pharmacy students

Alınış / Received: 24.03.2023 Kabul / Accepted: 27.07.2023 Online Yayınlanma / Published Online: 15.08.2023

DOI: 10.22312/sdusbed.1270558
ARAŞTIRMA MAKALESİ

*Corresponding author: aslinuralbayrak@sdu.edu.tr

ÖZ

Amaç: Bu çalışmanın amacı, eczacılık fakültesinde depresyon düzeyi ve antidepresan kullanımının değerlendirilmesidir.

Materyal-Metot: Bu çalışma çevrimiçi kesitsel bir anket olup, Suleyman Demirel Üniversitesi Eczacılık Fakültesi 4. ve 5. sınıf öğrencilerine 1-4 Şubat 2023 tarihleri arasında yapılmıştır. Ankette sosyodemografik özellikler, Beck Depresyon Ölçeği (BDÖ) ve antidepresan kullanımı ile ilgili sorular yer almaktaydı. Araştırmada depresyon için kesme puanı 17 ve üzeri olarak kabul edilmiştir.

Bulgular: Öğrencilerin BDÖ puan ortancası 14 (7-22)'dir. Öğrencilerin %39,2'si depresifti ve %30,4'ü minimal depresif, %29,6'sı hafif depresif, %30,4'ü orta depresif ve %9,6'sı şiddetli depresiftir. BDÖ puanı 17 ve üzeri olanlarda, BDÖ puanı 16 ve altı olanlara göre babanın eğitim durumu ve aylık hane geliri istatistiksel olarak anlamlı bulunmuştur ($p<0,05$). On sekiz (%14,4) öğrenci antidepresan kullanmakta olup, antidepresan kullanan öğrencilerin %38,9'u düzenli olarak antidepresan kullanmadığını belirtmiştir.

Sonuç: Çalışmamızın sonuçlarına göre eczacılık fakültesi öğrencilerinde depresyon düzeyi yüksek bulunmuştur. Orta ve ciddi depresyondaki öğrencilerin birçoğu antidepresan tedavi almamaktadır. Antidepresan kullanan öğrencilerin ise önemli bir bölümü antidepresanları düzensiz kullanmaktadır. Geleceğin eczacıları olarak hasta eğitimi ve hasta uyumunda önemli rolleri vardır. Bu nedenle fakültedeki derslerde bu konuya daha fazla ağırlık verilmelidir.

Keywords: Antidepresan kullanımı, depresyon, eczacılık öğrencileri

1. Introduction

Depression is the loss of positive affect, manifested by a range of symptoms such as sleep disturbance, lack of self-care, poor concentration, anxiety, and disinterest in daily life [1]. It is a common illness worldwide and approximately 280 million people are depressed [2].

Depression is also common in university students. A systematic review reported that the prevalence of depression in university students was between 10% and 84% in studies [3]. University years are a critical transition period when students move from adolescence to adulthood and can be one of the most stressful periods in one's life. University years are a critical transition period when students move from adolescence to adulthood and can be one of the most stressful periods in one's life [4]. University students face many problems such as trying to fit in, trying to get good grades, planning for the future and being away from home, worries about their future job and the challenges of working life [4, 5].

In Türkiye, there are studies on this subject that were generally conducted with university students and medical school students [5-9]. In the study conducted by Güler et al. [5] on medical school students, 28.3% of the students and in the study by Yıldız et al. [10] on university students, 16% of the students were found to have moderate depression.

Treatment of depression symptoms includes psychotherapy and the use of antidepressants. Although psychotherapy is the first choice in the treatment of minor symptoms, the use of antidepressants is increasing in young people [11,12]. However, students have little information about adherence with antidepressant treatment [13]. Selective serotonin reuptake inhibitors (SSRIs), Serotonin-norepinephrine reuptake inhibitors (SNRIs), Tricyclic antidepressants (TCAs), Monoamine oxidase inhibitors (MAOIs), and atypical antidepressants are drugs used in the treatment of depression. SSRIs

are frequently used because of their few side effects [12, 14]. The U.S. Food and Drug Administration has issued a "black box" warning about SSRIs because of the risk of suicidal thoughts posed by these drugs [12, 15].

Pharmacy education includes an intensive curriculum. Intensive study, workload, financial inadequacy, and insufficient sleep are among the main stress factors determined by pharmacy students [16, 17]. Studies have found that depression is common in pharmacy students [18, 19]. In Türkiye, there is a lack of studies on this subject only with pharmacy students. Therefore, the aim of this study is to evaluate the level of depression and the use of antidepressants in the faculty of pharmacy.

2. Material and Method

Study Design and Setting

This study was an online cross-sectional survey and was conducted to Suleyman Demirel University Faculty of Pharmacy 4th and 5th grade students between 1-4 February 2023. The questionnaire was created with Google Forms and distributed to students via the WhatsApp application. On the first page of the questionnaire, information was given about the purpose and definition of the study. Students who wanted to participate in the survey gave their consent before answering the survey. Ethical approval of the study was received by the Suleyman Demirel University Clinical Research Ethics Committee. (Approval Number:23 Date:31.01.2023). In addition, permission was obtained from the dean of the university for the study.

Sample Size

The sample size was 120 people, with a 5% margin of error, 95% confidence interval, 50% response rate, according to the Raosoft sample size calculator [20].

Data Collection

The survey questions consist of 34 questions in total. The first 9 questions with their socio-demographic characteristics, 10-30. questions with depression level and 31-34. questions were about the use of antidepressants.

Beck Depression Inventory (BDI)

It was a self-assessment scale developed by Beck et al. in 1961 [21]. It consists of twenty-one items. Each item has 4 options and scores between 0-3. The depression score is obtained by summing these scores. The scores obtained from the scale range from 0 to 63, and an increase in the score means that the level of depression becomes more severe. According to the scale, 0-9 points were classified as minimal depression, 10-16 points as mild depression, 17-29 points as moderate depression and 30-63 points as severe depression [21]. The Turkish validity and reliability study of the scale was performed by Hisli in 1988 [22]. In the validity and reliability study conducted with university students, it was found that scores of 17 and above from the scale were the cut-off points that determined depression above normal [23].

Statistical Analysis

Descriptive statistics were expressed as frequency and percentage, and non-descriptive data as median interquartile range. Chi-square test was used for categorical variables and Mann Whitney U test (non-normally distributed) was used for non-categorical variables. In the study, the cut-off value for depression was accepted as 17 and above. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) 20. p value <0.05 was considered statistically significant.

3. Results

Except for the students who took the same course again, the total number of students in the 4th and 5th grades was 172. The questionnaire was sent to all 4th and 5th grade students, but was answered by 125 (72.67%) students. Table 1 shows the characteristics of the students participating in the study. Of the students who answered the questionnaire, 30 (24%) were male and 95 (76%) were female. The median age of the students was 22 (22-33). The father and mother of most of the students were university graduates (48%, 31.2%, respectively). The majority of the students did not regularly use alcohol (88%) and did not smoke (76.8%).

Table 1: Characteristics of pharmacy students participating in the study

Variables	n (%)
Gender	
Male	30 (24)
Female	95 (76)
Age (years) (median)*	22 (22-33)
Year of study	
Fourth year	65 (52)
Fifth year	60 (48)
Father's education level	
Primary school	18 (14.4)
Secondary school	16 (12.8)
High school	26 (20.8)
University	60 (48)
Postgraduate	5 (4)
Mother's education level	
Primary school	33 (26.4)
Secondary school	18 (14.4)
High school	33 (26.4)
University	39 (31.2)
Postgraduate	2 (1.6)
Monthly household income level	
5000-10000 TL	55 (44)
10000-20000 TL	45 (36)
20000-30000 TL	14 (11.2)
≥30000 TL	11 (8.8)
Regular smoking	
Yes	29 (23.2)
No	96 (76.8)
Regular alcohol use	
Yes	15 (12)
No	110 (88)
Living place	
At home with family	12 (9.6)
At home with friends	80 (64)
Dormitory	33 (26.4)
Depression score	
BDI score (median)*	14 (7-22)
Minimal	38 (30.4)
Mild	37 (29.6)
Moderate	38 (30.4)
Severe	12 (9.6)
0-16 point	76 (60.8)
≥17 point	49 (39.2)
Antidepressant drug use	
Yes	18 (14.4)
No	107 (85.6)
If yes, how long have you been using antidepressant medication? (years)	
0-1	10 (55.6)
1-2	4 (22.2)
≥2	4 (22.2)
If yes, do you regularly use your antidepressant medication?	
Yes	11 (61.1)
No	7 (38.9)

* median-interquartile range, BDI: Beck Depression Inventory

Depression Levels

The median BDI score of the students was 14 (7-22). 30.4% of the students were minimally depressed, 29.6% were mildly depressed, 30.4% were moderately depressed and 9.6% were severely depressed. When the cut-off point was 17, 39.2% of the students were depressed. Eighteen (14.4%) students were using antidepressants. 55.6% of students using antidepressants were using antidepressants for less than 1 year and 61.1% were using antidepressants regularly (Table 1). Figure 1 shows the antidepressant drugs used by the students.

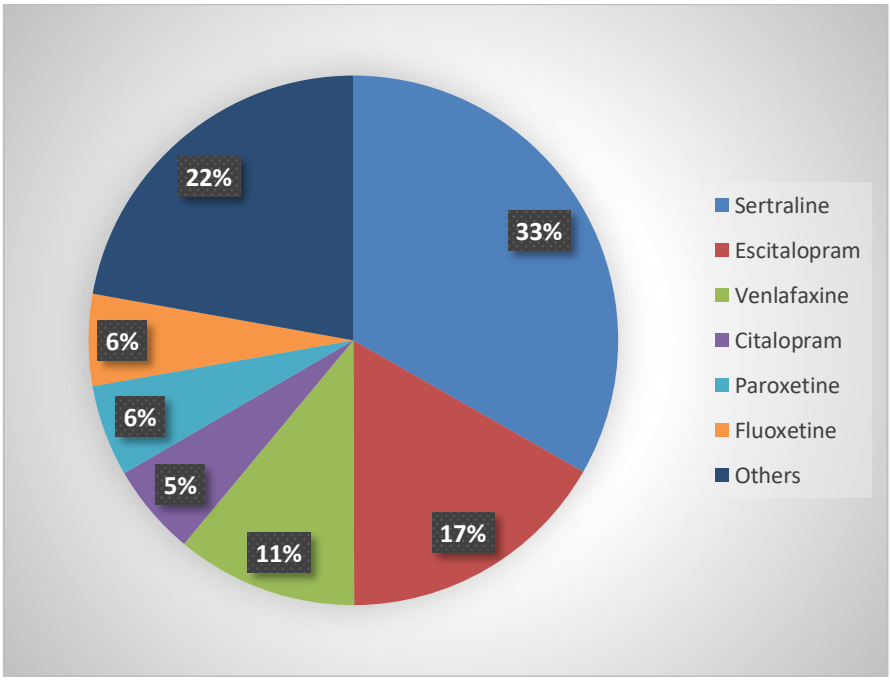

Figure 1: Antidepressant drugs used by pharmacy faculty students

Table 2 shows the comparison of students' characteristics in terms of BDI cut-off points. The father's education level and monthly household income were found to be statistically significant in those with a BDI score of 17 and above, compared to a BDI score of 16 and below ($p<0.05$).

Table 2: Comparison of the characteristics of pharmacy students in terms of BDI score

	BDI score 0-16	BDI score ≥17	p
Gender			
Male	18 (23.7)	12 (24.5)	p=1
Female	58 (76.3)	37 (75.5)	
Age (years)(median)*	22 (22-23)	22 (22-23)	p=0.375
Year of study			
Fourth year	34 (44.7)	31 (63.3)	p=0.66
Fifth year	42 (55.3)	18 (36.7)	
Father's education level			
Primary school	5 (6.6)	13 (26.5)	p=0.003
Secondary school	13 (17.1)	3 (6.1)	
High school	13 (17.1)	13 (26.5)	
University and above	45 (59.2)	20 (40.8)	
Mother's education level			
Primary school	15 (19.7)	18 (36.7)	p=0.129
Secondary school	14 (18.4)	4 (8.2)	
High school	21 (27.6)	12 (24.5)	
University and above	26 (34.2)	15 (30.2)	
Monthly household income level			
5000-10000 TL	28 (36.8)	27 (55.1)	p=0.039
10000-20000 TL	31 (40.8)	14 (28.6)	
20000-30000 TL	7 (9.2)	7 (14.3)	
≥30000 TL	10 (13.2)	1 (2)	
Regular smoking			
Yes	13 (17.1)	16 (32.7)	p=0.073
No	63 (82.9)	33 (67.3)	
Regular alcohol use			
Yes	10 (13.2)	5 (10.2)	p=0.830
No	66 (86.8)	44 (89.8)	
Living place			
At home with family	8 (10.5)	4 (8.2)	p=0.907
At home with friends	48 (63.2)	32 (65.3)	
Dormitory	20 (26.3)	13 (26.5)	
Antidepressant drug use			
Yes	8 (10.5)	10 (20.4)	p=0.222
No	68 (89.5)	39 (79.6)	

* median-interquartile range

Table 3 shows the use of antidepressant drugs according to the depression levels of pharmacy students. There was no statistically significant difference in the use of antidepressant medication according to depression levels (p>0.05). The vast majority (44.4%) of students using antidepressant medication suffered from moderate depression and 11.1% suffered from severe depression.

Table 3: Antidepressant drug use by pharmacy students according to their depression levels

Depression levels	**Antidepressant use**	
	Yes n (%)	**No n (%)**
Minimal depression	1 (2.6)	37 (97.4)
Mild depression	7 (18.9)	30 (81.1)
Moderate depression	8 (21.1)	30 (78.9)
Severe depression	2 (16.7)	10 (83.3)

4. Discussion and Conclusion

In our study, we evaluated the level of depression and the use of antidepressants in the 4th and 5th grades of Suleyman Demirel University Faculty of Pharmacy. As far as we know, there is no study conducted in Türkiye on this subject only with pharmacy students. It is important to determine the depression level of pharmacy students in Türkiye. Our study was not performed on first, second, and third year students on the grounds that they might not know about antidepressant drugs.

The median BDI score of the students was 14 (7-22). According to the BDI cut-off point, 49 (39.2%) suffer from depression. In a study of pharmacy students in Malaysia (19), 51.1% of students, in a study of medical school students in China 19.9% of students (24), and in studies of university students in Brazil and China, 86.7% and 11.7% of students suffered from depression, respectively [25, 26]. These differences may be caused by the level of development, income level, university conditions, cultural and individual differences between countries [27].

When the studies conducted in Türkiye were examined, 28.3% and 21.9% of the students suffered from depression according to the BDI cut-off scores in two studies conducted with medical students [5, 6]. In two studies conducted with university students, the rate of depression was 26.2% and 35.2% (8, 9). In the study conducted by Yıldız et al. on university students, the mean BDI score was 13.16 ± 8.17 [10].

When the results of our study are compared with other studies, it is clear that the depression levels of pharmacy students in our study are higher. The difficulty and intensity of the lessons, stress, and anxiety about their future may have contributed to this situation [19]. We cannot compare the results of our study with the previous ones, as there was no study conducted on pharmacy students before. However, the increase in the number of pharmacy graduates, the restriction of opening pharmacies by legal regulations and the limited employment opportunities in the public may have caused depressive symptoms in pharmacy students [28, 29]. In the study of Kıran et al., 77.5% of the first-year pharmacy students are worried about the future of their profession due to these reasons [29].

In our study, the father's education level and monthly household income were found to be statistically significant in terms of BDI cut-off score. Similarly, low monthly income and lower father's education level showed more depressive symptoms in a study conducted at 33 universities in China [24]. In many studies, students with low monthly household income and economically disadvantaged were found to be more depressed [6, 26, 27, 30]. In our study, gender was not statistically significant in terms of BDI cut-off scores. While some studies have similar results [26, 30, 31], some studies have found that females have higher depression levels than males [5, 10, 19]. The authors attributed this to the fact that women were more emotional and had more complaints about physical and psychological symptoms [5, 19].

In our study, 14.4% of the students were using antidepressants and the most used antidepressants were sertraline (33%) and escitalopram (17%). While the use of antidepressants was 6.9% in the study by Marwat et al.[32], it was found 3.6% in the study by Dhami et al. [33] and 11% in the study by Yıldız et al. [10]. Although there was a higher rate of antidepressant use in our study compared to these studies, the depression level of the students in our study was high and there were students who did not receive treatment despite being depressed. In our study, 2 (16.7%) of 12 students with severe depression and 8 (21.1%) of 38 students with moderate depression were receiving antidepressant treatment. We did not question the reasons why students did not seek treatment. However, studies have shown that the belief that students will have a negative impact on their future careers, lack of time and the stigma of using mental health services are the reasons for not seeking treatment [34, 35]. Effectively treating depression is important because it can reduce the risk of suicide [36].

In our study, 38.9% of the students use antidepressants irregularly. Antidepressants should not be stopped abruptly and this leads to withdrawal syndrome, it is recommended to adjust the dose and discontinue the drug under the control of a psychiatrist [37]. This is also explained in pharmacy classes. However, the high rate of irregular use of antidepressants indicates that this should be emphasized more. As pharmacists of the future, they will have an important role in increasing the adherence of the patients and in patient education [38].

According to the results of our study, the level of depression in pharmacy faculty students was found to be high. Father's education level and monthly household income were among the risk factors for

depression. Most of the students with moderate and severe depression were not taking antidepressant treatment. In addition, a substantial number of students using antidepressants were using antidepressants irregularly. Therefore, more emphasis should be placed on this subject in the courses in the faculty. Also, if pharmacist students' depression is diagnosed and treated early, it can help future pharmacists lead healthier lives.

Declaration of Ethical Code

In this study, we undertake that all the rules required to be followed within the scope of the "Higher Education Institutions Scientific Research and Publication Ethics Directive" are complied with, and that none of the actions stated under the heading "Actions Against Scientific Research and Publication Ethics" are not carried out.

Ethical approval of the study was received by the Suleyman Demirel University Clinical Research Ethics Committee. (Approval Number:23 Date:31.01.2023).

References

[1] National Institute for Health and Care Excellence (NICE). 2022. Depression in adults: treatment and management: National Institute for Health and Care Excellence; [NICE Guideline [NG222]. Available: https://www.nice.org.uk/guidance/ng222 (Accessed Date: 15.02.2023).

[2] World Health Organization (WHO). 2021. Fact Sheets Depression. www.who.int/news-room/fact-sheets/detail/depression (Accessed Date: 15.02.2023).

[3] Ibrahim AK, Kelly SJ, Adams CE, Glazebrook C. 2013. A systematic review of studies of depression prevalence in university students. J Psychiatr Res, 47(3),391-400.

[4] Sarokhani D, Delpisheh A, Veisani Y, Sarokhani MT, Manesh RE, Sayehmiri K. 2013. Prevalence of depression among university students: a systematic review and meta-analysis study. Depress Res Treat.

[5] Güler M, Demirci K, Karakuş K, Kişioğlu AN, Zengin E, Yozgat Z, et al. 2014. Süleyman Demirel Üniversitesi Tıp Fakültesi öğrencilerinde umutsuzluk-depresyon sıklığı ve sosyodemografik özellikler arasındaki ilişkinin belirlenmesi. Int J Clin Med, 2(1),32-37.

[6] Kaya M, Genç M, Kaya B, Pehlivan E. 2007. Tıp fakültesi ve sağlık yüksekokulu öğrencilerinde depresif belirti yaygınlığı, stresle başa çıkma tarzları ve etkileyen faktörler. Turk Psikiyatri Derg, 18(2),137-146.

[7] Konar NM. 2020. Factors associated with depression, anxiety and stress levels among medical students. Ank Med J, 20(1),90-104.

[8] Özdel L, Bostancı M, Özdel O, Oğuzhanoğlu NK. 2002. Üniversite öğrencilerinde depresif belirtiler ve sosyodemografik özelliklerle ilişkisi. Anadolu Psikiyatri Derg, 3(3),155-161.

[9] Çelikel ÇF, Erkorkmaz Ü. 2008. Üniversite öğrencilerinde depresif belirtiler ve umutsuzluk düzeyleri ile ilişkili etmenler. Noro Psikiyatr Ars, 45(4),122-129.

[10] Yıldız E, Aksoy N, Rashida U. 2021. Evaluation of Antidepressant Medication Use and Determination of Risk Factors for Depression among University Students in Istanbul. A J Health Sci, 3(1),3-18.

[11] Markowitz JC. 2008. When should psychotherapy be the treatment of choice for major depressive disorder? Curr Psychiatry Rep, 10(6),452-457.

[12] Usala T, Clavenna A, Zuddas A, Bonati M. 2008. Randomised controlled trials of selective serotonin reuptake inhibitors in treating depression in children and adolescents: a systematic review and meta-analysis. Eur Neuropsychopharmacol, 18(1),62-73.

[13] Hammonds T, Rickert K, Goldstein C, Gathright E, Gilmore S, Derflinger B, et al. 2015. Adherence to antidepressant medications: a randomized controlled trial of medication reminding in college students. J Am Coll Health, 63(3),204-208.

[14] Istilli PT, Miasso AI, Padovan CM, Crippa JA, Tirapelli CR. 2010. Antidepressants: knowledge and use among nursing students. Rev Lat Am Enfermagem, 18,421-428.

[15] Korczak DJ, Society CP, Health M, Committee DD. 2013. Use of selective serotonin reuptake inhibitor medications for the treatment of child and adolescent mental illness. Paediatr Child Health, 18(9),487-491.

[16] Votta RJ, Benau EM. 2014.Sources of stress for pharmacy students in a nationwide sample. Curr Pharm Teach Learn, 6(5),675-681.

[17] Opoku-Acheampong A, Kretchy IA, Acheampong F, Afrane BA, Ashong S, Tamakloe B, et al. 2017. Perceived stress and quality of life of pharmacy students in University of Ghana. BMC Res Notes, 10(1),1-7.

[18] Aluh DO, Abba A, Afosi AB. 2020. Prevalence and correlates of depression, anxiety and stress among undergraduate pharmacy students in Nigeria. Pharm Educ, 20,236-248.

[19] Ibrahim MB, Abdelreheem MH. 2015. Prevalence of anxiety and depression among medical and pharmaceutical students in Alexandria University. Alexandria J Med. 51(2),167-173.

[20] Raosoft Inc. (2004) RaoSoft® sample size calculator. http://www.raosoft.com/ samplesize.html. (Accessed Date:1.12.2022).

[21] Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. 1961. An inventory for measuring depression. Arch Gen Psychiatry, 4(6), 561-571.

[22] Hisli N. Beck. 1988. Depresyon Envanterinin gecerliligi uzerine bit calisma (A study on the validity of Beck Depression Inventory.). Psikoloji Dergisi, 6,118-122.
[23] Hisli N. 1989. The validity and reliability of Beck Depression Inventory for university students. Psikoloji dergisi, 7,3-13.

[24] Pan X-F, Wen Y, Zhao Y, Hu J-M, Li S-Q, Zhang S-K, et al. 2016. Prevalence of depressive symptoms and its correlates among medical students in China: a national survey in 33 universities. Psychol Health Med, 21(7),882-889.

[25] Falavigna A, de Souza Bezerra ML, Teles AR, Kleber FD, Velho MC, Steiner B, et al. 2011.Sleep disorders among undergraduate students in Southern Brazil. Sleep Breath, 15,519-524.

[26] Chen L, Wang L, Qiu XH, Yang XX, Qiao ZX, Yang YJ, et al. 2013. Depression among Chinese university students: prevalence and socio-demographic correlates. PloS One, 8(3):e58379.

[27] Steptoe A, ardle J, Tsuda A, Tanaka Y. 2007. Depressive symptoms, socio-economic background, sense of control, and cultural factors in university students from 23 countries. IJBM, 14,97-107.

[28] T.C. Resmi Gazete, Eczacılar ve Eczaneler Hakkında Yönetmelik. http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.19569&sourceXmlSearch=eczac%C4%B1lar&MevzuatIliski=0]. (Accessed Date:15.02.2023).

[29] Kıran B, Taşkıran E. 2015. Ege Üniversitesi eczacılık fakültesi 1. sınıf öğrencilerinin meslek tercihine etki eden faktörler. Marmara Pharm J, 19(2),159-167.

[30] Othieno CJ, Okoth RO, Peltzer K, Pengpid S, Malla LO. 2014. Depression among university students in Kenya: Prevalence and sociodemographic correlates. J Affect Disord,165,120-125.

[31] Grant K, Marsh P, Syniar G, Williams M, Addlesperger E, Kinzler MH, et al. 2002. Gender differences in rates of depression among undergraduates: measurement matters. J Adolesc, 25(6),613-617.

[32] Marwat MA. 2013. Prevalence of depression and the use of antidepressants among third year medical students of Khyber Medical College, Peshawar. J Postgrad Medical Inst, 27(1).

[33] Dhami DB, Singh A, Shah GJ. 2018. Prevalence of depression and use of antidepressant in basic medical sciences students of Nepalgunj medical college, Chisapani, Nepal. Nepal Med Coll J, 16(1),32-36.

[34] Tjia J, Givens JL, Shea JA. 2005. Factors associated with undertreatment of medical student depression. J Am Coll Health, 53(5), 219-224.

[35] Givens JL, Tjia J. 2002. Depressed medical students' use of mental health services and barriers to use. Acad Med, 77(9):918-921.

[36] Mann JJ. 2005. The medical management of depression. N Engl J Med, 353(17),1819-1834.

[37] Schatzberg AF, Blier P, Delgado PL, Fava M, Haddad PM, Shelton RC. 2006. Antidepressant discontinuation syndrome: consensus panel recommendations for clinical management and additional research. J Clin Psychiatry, 67:27.

[38] Al-Jumah KA, Qureshi NA. 2012. Impact of pharmacist interventions on patients' adherence to antidepressants and patient-reported outcomes: a systematic review. Patient Prefer Adherence, 87-100.