MAS Journal of Applied Sciences
Uygulamalı Bilimler Dergisi

ISSN: 2757-5675
masjaps.com

OPEN ACCESS

Araştırma Makalesi / Research Article

The Relationship Between Smoking Addiction and Depression in Family Physicians

Ömer Faruk SÜTLÜOĞLU[1*] , Arzu AYRALER[1]

[1]Giresun University, Faculty of Medicine, Department of Family Medicine, Giresun

*Sorumlu yazar (Corresponding author): omerfarukstl@gmail.com

Abstract

The main aim of this study was to evaluate the relationship between smoking addiction and depression in family medicine practitioners. Within the scope of the main objective, it was tested whether there was a significant difference between the smoking addiction levels and depression levels of family medicine practitioners and their personal characteristics. A total of 128 family medicine practitioners participated in the study. Sociodemographic form, Depression Scale and Fagerström Addiction Scale were used as measurement tools in the study. parametric tests were used for the second sub-objective; correlation analysis was used for the third sub-objective. As a result of the study, when the relationship between the Beck Depression Scale and Fagerström Addiction Scale of the participants was examined, a low level significant relationship was found in the opposite direction. It was shown to be higher in family smokers. As a result of the research, solution suggestions were made.

Keywords: Family physicians, smoking addiction, depression

1. Introduction

The harmful effects of tobacco, which is widely used in the world, on health are known (Prijic, 2021). In addition to psychological addiction, smoking is also physiologically addictive due to a component called nicotine (Howes et al., 2020). A genome-wide meta-analysis has shown that there is a global genetic overlap with depression, schizophrenia, cognitive functioning, insomnia, height, body mass index and smoking, Brouwer et al.(2022). Tobacco addiction leads to various health problems, especially cardiovascular diseases (Münzel et al., 2020). In a study, smoking was reported to be a risk factor for depression (Wootton et al., 2020). Tobacco use is common among physicians in Poland (7.8%), Estonia (6.7%) and Spain (8.7%) (Jankowski et al., 2019). Smoking is one of the leading preventable causes of disease and depression is interrelated as one of the major risk factors for smoking (Jiménez-Treviño et al., 2019). In this study, we aimed to evaluate the relationship between smoking dependence level and depression frequency in family medicine practitioners.

2. Materials and Metods
Sample selection

This study is a cross-sectional, descriptive and analytical study. The population of the study consisted of 152 Family Medicine Practitioners working in Giresun province. The population size was determined as 128 with a 5% margin of error at 99% confidence interval using epiinfoStatCalc (Centers for Disease Control and Prevention) for studies with a certain population size.

Assesment tools
Sociodemographic data form

All physicians who agreed to participate in the study were given sociodemographic data form consisting of 16 questions (age, gender, marital status, specialty status, smoking status in the family, smoking status with close friends, number of years in family medicine, place of residence, smoking, duration of smoking, age of starting smoking. **The Beck Depression Scale** was developed by Beck et al (Beck et al., 1962). In 1961 and its validity and reliability test was conducted by Hisli (1989). It is a scale that evaluates the characteristic features and symptoms of depression. Since its development, different versions have emerged with various updates. The inventory of the Beck depression scale has the efficiency and reliability that allows accurate diagnosis by detecting both physical and emotional depression. Based on this inventory, questions are asked under a total of 21 headings and four options for each heading. It is filled in by asking people to give the answers according to themselves and depression is classified according to the score obtained. According to this scale, 0-9 points indicate normal level, 10-18 points indicate mild depression, 19-29 points indicate moderate depression, and 30-63 points determine the possibility of severe depression. **Fagerstrom Nicotine Dependence Scale**, was developed by Karl O. Fagerstrom to determine the level of physical dependence on cigarettes and consists of six questions (Fagerström, 1978). As the level of dependence increases, the score obtained from the test increases. Those who score below 5 points are defined as mild nicotine addicts, those who score 5 or 6 points are defined as moderate nicotine addicts, and those who score 7 points and above are defined as severe nicotine addicts. The validity and reliability study of the test in Turkish language was conducted by Uysal et al. and Cronbach's alpha value was found to be 0.56 (Uysal et al.,1978).

Statistical method

For the descriptive data of the study, continuous variables were expressed as mean (Mean), standard deviation (SD), median (median) and categorical variables were expressed as frequency (n) and percentage (%). Histogram, Kolmogrov-Smirnov or Shapiro-Wilks tests were used to determine whether the continuous

variables fit the normal distribution, and Leven's t test was used to evaluate group homogeneity. Student's t-test was used for continuous variables that fit the distribution and ANOVA was used for multiple groups in the comparison of measurement results. Mann-Whitney U test was used to analyze variables that did not fit the distribution. In cases where there was a statistical difference in more than two groups, post-hoc pairwise comparisons were performed with Mann-Whitney U. Chi-square test (χ^2) was used to analyze categorical variables. The relationships between the continuous data of the patients and Beck Depression Scale and Fagerström Addiction Scale Score measurements were evaluated by Spearman non-parametric correlation analysis. In all analyses of the study, 5% Type 1 error (p<0.05) was used as statistical significance. Analyses were performed with SPSS 26.0 (IBM) package program.

3. Results

Of the 128 Family Medicine practitioners who volunteered to participate in the study, 77(60.2%) were female and 51(39.8%) were male. Of the physicians who participated in the study, 76 (59.4%) resided in the city center, 49 (38.3%) in the district, and 3 (2.3%) in towns and villages. Of these physicians, 117 (91.4%) were practicing general practitioners and 11 (8.6%) were working as general practitioners. Of the physicians, 103 (80.5%) were married and 25 (19.5%) were single, and the mean number of years working in family medicine was 8.49 ± 4.05. The mean age of the whole group was 41.44 ± 7.95 years and the median age was 41 years. The mean age of female participants was higher than that of male participants (p:0.04, Table 1).

Table 1. Gender, age and other demographic data of the participants

	n	%	
Gender			
Female	77	60,2	
Male	51	39,8	
Marital Status			
Married	103	80,5	
Single	25	19,5	
Specialization Status			
General Practitioner	117	91,4	
Specialist Family Physician	11	8,6	
Place of Residence			
Town-Village	3	2,3	
District	49	38,3	
City Center	76	59,4	
	Mean±SD	**Median**	**p**
Years of Family Medicine Practice	8,49±4,05	10,0	-
Age(Whole Group)	41,44 ± 7,95	41,0	0,04*
Male	39,02 ± 7,55	38,0	
Women	43,04 ± 7,84	43,0	

SS: Standard Deviation, n: Number, %: Percentage

A very low level insignificant correlation was found between age, years of practice in family medicine, duration of smoking, age at initiation of smoking and Beck Depression Scale. When the relationship between the Fagerström Addiction Scale and the Beck Depression Scale was analyzed, a very low level insignificant

correlation was found with age, years of practice in family medicine, duration of smoking, and age at initiation of smoking, while an inverse low level insignificant correlation was found with age at initiation of smoking (Table 2).

Table 2. The relationship between age, duration of employment in family medicine, duration of smoking, and age of smoking initiation with Beck Depression Scale and Fagerström Addiction Scale

	Beck Depression Scale		Fagerström Addiction Scale	
	R	p	R	p
Age	0,010	0,912	0,113	0,722
Duration of work in family medicine (Years)	0,056	0,528	-0,168	0,288
Duration of Cigarette Use (Years)	0,030	0,817	0,106	0,506
Smoking Starting Age	-0,038	0,765	-0,252	0,112

R: Correlation Coefficient, p: significance level

Of the study group, 43 (33.6%) were current smokers, 22 (17.2%) were former smokers and 63 (49.2%) were non-smokers. 71 (55.5%) of the physicians had a family history of smoking and 95 (74.2%) had a close circle of friends who smoked. Among the physicians who were smokers or former smokers, 53 (84.1%) had a history of trying to quit and only 17 (27.0%) had a history of receiving support. While 23 (18.0%) of the study group had various chronic diseases, 3 (2.3%) had psychiatric diseases. The mean Beck Depression scale of all participants was 7.73±5.64 (median: 7.0), while the mean Fagerström addiction scale of smokers (n: 43) was 3.50±2.12 (median: 3.5) (Table 3).

Table 3. Beck Depression Scale and Fagerström Addiction Scale Mean and Median Scores

	Mean±SD	**Median**
Beck Depression Scale (n:128)	7,73 ±5,64	7,0
Fagerström Addiction Scale (n:43)	3,50±2,12	3,5

SS: Standard Deviation, n: Number,

4. Discussion

Smoking is one of the most important health problems in our country and despite many measures taken to reduce cigarette consumption, about one-third of the Turkish population over the age of 15 (Özer et al., 2018). When this study is evaluated together with other studies, it is seen that smoking rates in healthcare workers are generally lower compared to other studies (Özer et al., 2018), Özvurmaz (2018). In the study conducted to calculate the prevalence of smoking in our country, when the group that smokes once in a while is included The prevalence of smoking was reported as 30.5% in the whole group, 15.7% in women and 46.1% in men (Özer et al., 2018). In a study of 708 health workers in Palestine, 419 (59.2%) had never smoked and 244 (34.5%) were current smokers (Mizher et al.,2018). In Italy, smoking prevalence among physicians decreased by 45%,In 2018, this rate dropped to 11.5% from 20.8% in 2014. (Minardi et al., 2021). In 2018, in Italy, the "management of smoking general practice", 563 physicians were interviewed and only 10% of these physicians reported that they were current smokers.40% had quit smoking and 50% reported never having smoked FIMMG(2018). Considering the high level of awareness of physicians about smoking, it may be considered to develop different strategies to combat smoking addiction in physicians. When we look at the studies conducted in the past years, it is

seen that smoking rates are lower today. In a study conducted by Özkurt et al. in Denizli among health care workers at the faculty of medicine, the smoking rate was 40% (Özkurt et al., 2000), while in a study conducted by Tezcan et al. at Hacettepe University, the smoking rates were 32.6-66.2% among physicians, 40.3-68.6% among nurses and 15.1% among medical students (Tezcan and Yardım, 2003). In a study conducted by Erbaycu et al. in 2004 on healthcare professionals working in Izmir province, the prevalence of smoking was 54.6% and this rate was 40.6% among physicians (Erbaycu et al., 2004). In a study conducted by Talay et al. in Istanbul, the prevalence of smoking was found to be 49.3%. In this study, no difference was found between occupational groups in terms of smoking prevalence. In a study conducted by Özsoy et al. in 2021, the prevalence of smoking was found to be 42.3% (Özsoy and Kulu., 2021). We can conclude that anti-smoking campaigns are partially effective in our country, but the fight against smoking should continue unabated. While 33.8% of the physicians participating in the study were found to be smokers, 84% of them had tried to quit smoking before. In this respect, we see that most of the physicians want to quit smoking, but they cannot get enough support. It is clear that professional help for smoking cessation among physicians should be increased. Although the rate of tobacco addiction in this study is lower than other studies conducted in our country, it is high compared to studies conducted in other countries. Therefore, it is recommended that a specific anti-smoking action plan should be developed for each health institution. In this study, no significant relationship was found between smoking and depression. According to the study conducted by Yeltirik, a significant relationship was found between smoking addiction and depression level Yeltirik (2018). In a study conducted with high school students in Bursa province, a statistically significant relationship was found between the

addiction status and depression level of the participants. In another study, a significant and strong relationship was found between depression, anxiety and stress perception and smoking status (Oktay, 2023). In a study conducted by Rujnan et al. with smokers in Istanbul, a significant relationship was found between smoking addiction and depression (Rujnan et al.,2019). These studies show that smoking and depression often affect each other and there is a positive relationship between smoking and depression. However, since there are many factors affecting smoking and depression, a positive correlation may not be found in all cases.

5. Conclusion

Today, tobacco addiction, especially smoking, is seen as an important public health problem. Cigarettes adversely affect human health due to the many harmful substances they contain. The most important and addictive of these substances is nicotine. Today, nicotine addiction is considered as a psychiatric disease. In our study, no significant relationship was found between smoking addiction status and depression levels of the participants.

Declaration of Author Contributions

The authors declare that they have contributed equally to the article. All authors declare that they have seen/read and approved the final version of the article ready for publication.

Declaration of Conflicts of Interest

All authors declare that there is no conflict of interest related to this article.

Ethics Committee Approval

Approval was obtained from Ordu University Clinical Research Ethics Committee with its decision dated 27.10.2022 and numbered 236. E-53593568-929-8186 approval was obtained from the Provincial Health Directorate. It was carried out in accordance with the principles of the Declaration of Helsinki.

Acknowledgment

References

Beck, E., Ward, C., Mendelson, M., Mock, J., Erbaugh, J., 1962. An inventory for measuring depression. *Arch Gen Psychiatry,* 4:561-571.

Brouwer, R., Klein, M., Grasby, K., al., e., 2022. Genetic variants associated with longitudinal changes in brain structure across the lifespan. *Nat Neurosci,* 25(4): 421-432.

Erbaycu, A. E., Akseş, N., Çakan, A., Özsöz, A.,2004, İzmir İlinde Sağlık Çalışanlarının Sigara İçme Alışkanlıkları. *Toraks Dergisi,* 5(1):6-12.

Fagerström, K.,1978. Measuring degree of physical dependence to tobacco smoking with reference to individualization of treatment. *Addictive Behaviors,* 3(4): 235-41.

Fımmg, C. S.,2018. Questionario per la giornata mondiale senza tabacco. *Medicii famiglia sentinelle efficaci nel rilevare e ridurre fattori rischio dei loro pazienti,* 57(2):151-160

Hisli, N., 1989. Beck Depresyon Envanterinin üniversite öğrencileri için geçerliği, güvenirliği. *Psikoloji Dergisi,* 7(23): 3-13.

Howes, S., Hartmann-Boyce, J., Hartmann-Boyce, J., Hong, B., Lindson, N.,2020. Antidepressants for smoking cessation. *Cochrane Database Syst Rev,* 4(4).

Jankowski, M., Kaleta, D., Zgliczyński, W., al., e.,2019 Cigarette and E-Cigarette Use and Smoking Cessation Practices among Physicians in Poland. *Int J Environ Res Public Health.,* 16(19): 3595.

Jiménez-Treviño, L., Velasco, A., Rodriguez-Revuelta, J., al., e., 2019. Factors associated with tobacco consumption in patients with depression. Factores asociados con consumo de tabaco en pacientes con depresión. *Adicciones,* 31(4):298-308.

Minardi, V., D'Argenio, P., Gallo, R., & al., e., 2021, Smoking prevalence among healthcare workers in Italy, PASSI surveillance system data, 2014-2018. *Ann Ist Super Sanita.,* 57(2):151-160.

Mizher, I., Fawaqa, S., Sweileh, W., 2018. Prevalence and personal attitudes towards tobacco smoking among Palestinian healthcare professionals: a cross-sectional study. *Addict Sci Clin Pract.,* 13(1):17.

Münzel, T., Hahad, O., Kuntic, M., al., e.,2020. Effects of tobacco cigarettes, e-cigarettes, and waterpipe smoking on endothelial function and clinical outcomes. *Eur Heart J.,* 41(41): 4057-4070.

Oktay, İ., 2023. Lise öğrencilerinde uyuşturucu madde bağımlılığının sebepleri: Bursa ili Mustafakemalpaşa ilçesi örneği. Aksaray Üniversitesi Sosyal Bilimleri Enstitüsü, Aksaray

Özer, N., Kılıçkalp, M., Tokgözoğlu, L., al., e.,2018. Data on smoking in Turkey: Systematic review, meta-analysis and meta-regression of epidemiological studies on cardiovascular risk factors. *Türk Kardiyoloji Dernegi Arsivi.,* 46(7): 602–612.

Özkurt, S., Bostancı, M., Altın, R., Özşahin, A., Akdağ, B.,2000. Tıp Fakültesi Çalışanlarında Sigara İçme Prevalansı, Nikotin Bağımlılığı ve Solunum Fonksiyon Testleri. *Tüberküloz ve Toraks Dergisi,* 48(2):147

Özsoy, F., Kulu, M.,2021. Sağlık Çalışanlarında Bağımlılık: Sigara, Alkol, İnternet, Akıllı Telefon Bağımlılığı ve Dikkat Eksikliği Düzeylerinin İncelenmesi. (S. Univercity, Dü.) *Genel Tıp Dergisi*(31): 82-90.

Özvurmaz, S., Yavaş, S.,2018. Hekim dışı sağlık çalışanlarının sigara içme ve bağımlılık düzeyleri ile ilişkili etmenler. *Mersin Universitesi Saglık Bilimleri Dergisi,* 11(2):

Prijic, Z., Igic, R.,2021. Cigarette smoking and medical students. *J BUON,* 5(26):1709-1718.

Rujnan, T., Çaykara, B., Z. Sağlam, H. H.,2019. Uykululuk ve Uyku Kalitesi Düzeyleri Arasındaki İlişkinin Belirlenmesi. *ACU Sağlık Bilimleri Dergisi,* 10(4): 609–15.

Tezcan, S., Yardım, N.,2003. Türkiye'de Çeşitli Sağlık Kurumlarında Doktor, Hemşire ve Tıp Fakültesi Öğrencilerinin Sigara İçme Boyutu. *Tüberküloz ve Toraks Dergisi,* 51(4):390-7.

Uysal, M. A., Bayram, N., Yilmaz, V.,1978. Fagerstrom test for nicotine dependence. *Tüberküloz ve Toraks Dergisi,* 52(2):115-21.

Wootton, R., Richmond, R., Stuijfzand, B., al, e., 2020. Evidence for causal effects of lifetime smoking on risk for depression and schizophrenia: a Mendelian randomisation study. *Psychol Med.,* 50(14): 2435-2443.

Yeltirik, Ö., 2018. Sigara Bağımlılarının Anksiyete ve Depresyon Düzeylerinin İncelenmesi. Yüksek Lisans Tezi Üsküdar Üniversitesi, Sosyal Bilimler Entstitüsü, İstanbul .