

Investigation of the Relationship Between Malpractice Fear and Job Satisfaction Among Emergency Physicians

Acil Servis Hekimlerinin Malpraktis Korkusu ile İş Tatmini Arasındaki İlişkinin İncelenmesi

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Abstract

Background: The number of physicians sued for malpractice is increasing, and this situation causes a fear of malpractice in physicians. The aim of this study is to determine the malpractice fear and the level of job satisfaction among emergency physicians and to examine the relationship between these factors.

Materials and Methods: This cross-sectional study has been conducted with emergency physicians at four different training and research hospitals in Ankara, Türkiye. Malpractice fear and job satisfaction have been evaluated with Malpractice Fear Scale (MFS) and Job Satisfaction Scale (JSS). Questionnaire method was used in the study.

Results: The research has been completed with 143 physicians [mean age: 33.10±7.0 years, age range: 24-51 years, male: 107 (74.8%)]. It was found that 19.5% of the participants were reported for malpractice, 11.8% were sued, and no one was penalized. It has been determined that the participants scored 3.6±0.9 points on the MFS and 2.4±0.7 points on the JSS in 1-5 point range. A negative, moderate, and statistically significant correlation has been found between the MFS and the JSS ($r = -0.551$; $p < 0.01$).

Conclusions: In our study, it has been found that emergency physicians have a high level of malpractice fear and a low level of job satisfaction. There is no statistically significant difference in the level of malpractice fear and job satisfaction according to the sociodemographic characteristics of the participants. Increased fear of malpractice decreases the job satisfaction.

Key Words: Emergency department, Physician, Malpractice fear, Job satisfaction

Öz

Amaç: Malpraktis nedeniyle dava edilen hekim sayısı artmakta ve bu durum hekimlerde malpraktis korkusuna neden olmaktadır. Bu çalışmada acil servis hekimlerinin malpraktis korkusu ve iş tatmin düzeylerinin belirlenmesi ve aralarındaki ilişkinin incelenmesi amaçlanmıştır.

Materyal ve Metod: Kesitsel nitelikteki bu araştırma, Ankara-Türkiye'de bulunan dört farklı eğitim ve araştırma hastanesinde gerçekleştirilmiştir. Malpraktis korkusu ve iş tatmini Malpraktis Korku Ölçeği (MKÖ) ve İş Tatmini Ölçeği (İTÖ) ile değerlendirilmiştir. Araştırmada anket yöntemi kullanılmıştır.

Bulgular: Araştırma 143 hekim ile tamamlanmıştır [ortalama yaş: 33,10±7,0 yıl, yaş aralığı: 24-51 yıl, erkek: 107 (%74,8)]. Katılımcıların %19,5'inin malpraktis nedeniyle şikayet edildiği, %11,8'inin dava edildiği, ceza alanın olmadığı bulunmuştur. Katılımcıların 1-5 puan aralığında MKÖ'den 3,6±0,9, İTÖ'den 2,4±0,7 puan aldığı tespit edilmiştir. MKÖ ve İTÖ arasında negatif yönde, orta düzeyde ve istatistiksel olarak anlamlı korelasyon bulunmuştur ($r = -0,551$; $p < 0,01$).

Sonuç: Araştırmamızda acil servis hekimlerinin malpraktis korkularının yüksek, iş tatmin düzeylerinin ise düşük olduğu bulunmuştur. Katılımcıların sosyodemografik özelliklerine göre malpraktis korku ve iş tatmin düzeylerinde istatistiksel olarak anlamlı farklılık yoktur. Malpraktis korkusunun artması iş tatminini azaltmaktadır.

Anahtar Kelimeler: Acil servis, Hekim, Malpraktis korkusu, İş tatmini

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Introduction

While malpractice is defined as carelessness and negligence, medical malpractice specifically refers to acts or omissions that causes harm to the patient by deviating from the accepted standards of the medical profession during diagnosis and treatment (1).

Malpractice represents a significant challenge to patient safety and requires attention and resolution in both developed and developing countries (2). Personal factors encompass fatigue, inadequate training, carelessness, inattention, and communication gaps. Institutional factors involve workplace structure, workload, patient burden, working hours, and staffing shortages. Technical factors include such as erroneous laboratory results and incomplete equipment; and all of those factors can also contribute to medical errors (3). Studies have shown that malpractice is a major concern for physicians in their professional practice (4). Fear of malpractice refers to the anxiety arising from the possibility of being sued or reported for malpractice while performing their medical duties (5). Malpractice lawsuits cause defensive medicine, loss of morale and motivation, depression, anger and job dissatisfaction among physicians (6,7). Job dissatisfaction, on the other hand, leads to institutional and individual problems such as decreased productivity and performance of physicians, job changes and quitting, unhappiness, restlessness, dissatisfaction, as well as mental and physical problems. Consequently, it negatively affects health service delivery (5,8). When malpractice lawsuits are examined, it is observed that emergency physicians are one of the first three branches (the others are gynecology and general surgery) against which malpractice lawsuits are filed (9). Therefore, the fear of malpractice and the level of job satisfaction among physicians are important issues that need to be emphasized. However, no research has been found in the literature examining this relationship.

This study aimed to determine the malpractice fear and the level of job satisfaction among emergency physicians and to examine the relationship between these factors.

Materials and Methods

Study population

This cross-sectional study was conducted between May 16-20, 2023 at four different training and research hospitals in Ankara, Türkiye. Ethics committee permission was obtained from Lokman Hekim University Scientific Research Ethics Committee (Code No: 2023068, Date: 16.05.2023, Decision No: 2023/75). The necessary permissions to use the scales were obtained via e-mail from the responsible authors who developed the scales and conducted the Turkish adaptation studies. The study was conducted in accordance with the ethical rules of publication and research.

Inclusion criteria were as follows: (1) being a physician, (2) working in the emergency department, and (3) volunteering. Exclusion criteria were as follows: (1) not volunteering

to participate in the research, (2) not completing the questionnaire completely.

Physicians working in the emergency department constituted the study population. There were a total of 169 physicians, and no sampling calculation was performed as the aim was to reach the entire population. The study was conducted with 143 participants who voluntarily agreed to take part, resulting in a participation rate of 84.6%.

Data collection method

Questionnaire method was used in the study. The data were collected face-to-face or electronically via e-mail/WhatsApp (WhatsApp Inc. Menlo Park, CA) according to the availability status of the participants. The questionnaire consists of three parts. The first section included the "Sociodemographic Characteristics Form", the second section included the "Malpractice Fear Scale (MFS)", and the third section included the "Job Satisfaction Scale (JSS)".

Sociodemographic characteristics form

In this section, there are 11 questions prepared by the researchers about age, gender, marital status, status, length of service, involvement of themselves and their close relatives in malpractice lawsuits and complaints.

Malpractice Fear Scale (MFS)

The MFS was developed by Katz et al. in 2005 to measure the level of physicians' fear of malpractice. In the original study, Cronbach's Alpha was found to be 0.88 (5). The Turkish adaptation study was conducted by Ugrak and Isik in 2020 (X^2/sd : 1.809; NFI: 0.981; IFI: 0.991; CFI: 0.991; RMSEA: 0.057; GFI: 0.984; SRMR: 0.030, Cronbach's Alpha: 0.86) and the scale was found to be valid and reliable (10). Cronbach's alpha was 0.83 in this study.

The MFS consists of 6 items. All items are on a 5-point Likert scale with a score of 1 for Strongly Disagree and 5 for Strongly Agree. All statements are coded flat. A score between 6 and 30 is obtained from the scale. A high score indicates a high fear of malpractice. The level of fear of malpractice is considered as low if it is 15 and below, moderate if it is between 15-20, and high if it is 20 and above (5). However, there are studies in the literature that evaluate the level of the fear of malpractice between 1 and 5 (11-13).

Job Satisfaction Scale (JSS)

The JSS, initially developed by Brayfield and Rothe in 1951 with 18 items and later shortened to a 5-item form by Judge et al. in 1998, is used to determine the level of job satisfaction among employees. Cronbach's Alpha value of the scale was found to be 0.87 in Brayfield and Rothe study and 0.88 in Judge et al. study (14,15). The Turkish adaptation study of the 5-item short form was conducted by Keser and Ongen Bilir in 2019 and it was found that the scale was valid and reliable (X^2 : 23.0, RMSEA: 0.05, NFI: 0.90, CFI: 0.92, GFI: 0.91, SRMR: 0.058, Cronbach's Alpha: 0.85) (8). Cronbach's alpha was 0.77 in this study.

All items are on a 5-point Likert scale, with a score of 1 for "Strongly Disagree" and 5 for "Strongly Agree". Three items in the scale are coded straightforwardly and two items are reverse-coded. Scores between 1 and 5 are obtained from the scale. A high score indicates high job satisfaction. In 5-point Likert scales, the score range between 1.00-1.80 is ranked as very low, 1.81-2.60 as low, 2.61-3.40 as medium, 3.41-4.20 as high, and 4.21-5.00 as very high (16).

Statistical Analysis

The research data were analyzed using the SPSS 23.0 statistical program. The normality of the data was evaluated by Kolmogorov-Smirnov test. The Mann-Whitney U test was used to compare the variables that did not fit the normal distribution between the groups. For normally distributed data, Independent T test was used to compare two independent groups, One Way ANOVA and Post Hoc Tukey tests were used to compare three or more groups, and Pearson Correlation analysis was used to determine the relationships between variables. A value of $p < 0.05$ was accepted as statistically significant.

Results

The research was completed with 143 physicians [mean age: 33.10 ± 7.0 years, age range: 24-51 years, male: 107 (74.8%)]. The sociodemographic characteristics of the participants are presented in Table 1.

The malpractice experiences of the participants in our study are presented in Table 2. It was found that 19.5% of the participants were complained about malpractice, 11.8% were

sued, and no one was penalized. The rate of being complained, sued and penalized for malpractice by their colleagues was 37.1%, 32.1% and 6.3%, respectively.

The average of the responses of the physicians to the scale questions are presented in Table 3. The question "Sometimes I ask for consultant opinions primarily to reduce my risk of being sued" had an average score of 4.1 ± 1.1 points on the MFS scale, while the question "Each day at work seems like it will never end" had an average score of 3.1 ± 1.1 points on the JSS scale, indicating the highest average scores.

In our study, no statistically significant difference was found in the MFS and JSS scores of the participants according to their sociodemographic characteristics (age, gender, title, marital status, income status and length of service in the profession) ($p > 0.05$).

Descriptive statements for the scales used in the study are shown in Table 4. The average MFS score of emergency physicians was found to be in the range of 6-30 points (21.7 ± 6.1). It was found that 9.8% ($n=14$) of the participants had a low level of fear of malpractice with a score of 15 and below, 24.5% ($n=35$) had a moderate level with a score between 15 and 20, and 65.7% ($n=94$) had a high level with a score of 20 and above. The mean score of the JSS scale was (2.4 ± 0.7). The Cronbach Alpha values of the scales were found to be 0.83 for MFS and 0.77 for JSS. The scales were considered to be reliable. As a result of the Pearson correlation analysis performed to determine the relationships between the MFS and JSS scales, a negative, moderate and statistically significant correlation was found ($r = -0.551$; $p < 0.01$).

Table 1. Sociodemographic characteristics of the participants

Age (Year)	Mean \pm SD=33.10 \pm 7.0 (min-max= 24-51)	n	%
Sex	Female	36	25.2
	Male	107	74.8
Title	General practitioner/ assistant	87	60.8
	Specialist	32	22.3
	Faculty member	24	16.9
Marital status	Married	102	71.4
	Single	41	28.6
Income status	Expense more than income	51	35.6
	Income equals expense	33	23.1
	Income more than expenses	59	41.3
Working time in the profession	Median (IQR 25-75): 9.0 (5.0-12.0)		

SD: Standard deviation, Min: Minimum, Max: Maximum, IQR: Interquartile range

Table 2. Malpractice experiences of physicians

Malpractice experiences		n	%
Have you been the subject of a complaint for malpractice?	Yes	28	19.5
	No	115	80.5
Have you been involved in any malpractice case?	Yes	17	11.8
	No	126	88.2
Have there been any physicians in your environment who have been complained about malpractice?	Yes	53	37.1
	No	90	62.9
Have you been involved in any malpractice lawsuits in your environment?	Yes	53	32.1
	No	90	67.9
Have any physicians in your environment been penalized for malpractice?	Yes	9	6.3
	No	134	93.7

Table 3. The averages of the responses of physicians to the scale questions

MFS	Mean	SD
1. I have had to make significant changes in my practice pattern because of recent legal developments concerning medical delivery.	3.1	0.9
2. I am concerned that I will be involved in a malpractice case sometime in the next 10 years.	3.9	1.1
3. I feel pressured in my day-to-day practice by the threat of malpractice litigation.	3.6	1.2
4. I order some tests or consultations simply to avoid the appearance of malpractice.	3.4	1.0
5. Sometimes I ask for consultant opinions primarily to reduce my risk of being sued.	4.1	1.1
6. Relying on clinical judgment rather than on technology to make a diagnosis is becoming riskier from a medicolegal perspective.	3.6	1.1
JSS		
1. I feel fairly satisfied with my present job.	2.4	1.0
2. Most days I am enthusiastic about my work.	2.5	1.2
3. Each day at work seems like it will never end. (R)	3.1	1.1
4. I find real enjoyment in my work.	2.3	0.9
5. I consider my job to be rather unpleasant. (R)	2.8	0.7

MFS: Malpractice Fear Scale, JSS: Job Satisfaction Scale, SD: Standard deviation, (R):Reversed items.

Table 4. Descriptive statements for MFS and JSS

	Min	Max	Mean	SD
MFS	6	30	21.7	6.1
JSS	1	5	2.4	0.7

MFS: Malpractice Fear Scale, JSS: Job Satisfaction Scale, SD: Standard deviation, Min: Minimum, Max: Maximum.

Discussion

Alongside with the increased workload in emergency departments, there is an increase in malpractice complaints against emergency physicians. Emergency physicians are expected to diagnose and treat patients promptly and without causing harm, while also adhering to medical rules, fulfilling their medical legal responsibilities, and abiding by the law (17-19). It is thought that this situation will cause the physician who wants to provide effective and qualified health service to live with the fear of malpractice and decrease their level of job satisfaction. In this study, it was aimed to determine the fear of malpractice and the level of job satisfaction among emergency physicians and to determine the relationship between fear of malpractice and job satisfaction.

In our study, it was found that the level of malpractice fear of physicians was high. It was determined that 65.7% of the participants had a high level of fear of malpractice, 24.5% had a moderate level and 9.8% had a low level of fear of malpractice. In a study conducted by Katz et al. with emergency physicians in the United States of America (USA), it was found that 39.7% of the participants had a high level of fear of malpractice, 37.7% had a moderate level, and 43.7% had a low level of fear of malpractice (5). In studies conducted by Franks et al. and Fiscella et al. with internal medicine and family physicians in the USA, by Reed et al. and Reschovsky and Saiontz-Martinez with physicians in different branches in the USA, and by Benbassat et al. with medical students and physicians in Israel, it was found that physicians had a high level of fear of malpractice (11-13,20,21). In a study conducted by Ugrak and Isik with physicians working at a training and research hospital in Türkiye, it was determined that the level of fear of malpractice was high and 59.3% of the participants had a high level of fear of malpractice, 28.2% had a moderate level, and 12.5%

had a low level of fear of malpractice (10). Another study involving Turkish doctors and nurses revealed that that the participants experienced malpractice anxiety more than inadequate education, future anxiety and financial concerns (4). The results of our study are similar to previous studies. These results align with our study's findings. Additionally, an examination of decisions by the Supreme Court of Appeals, the highest authority of the Turkish judicial courts, in 2021 revealed that physicians were the most sued group in 93 case files, with the majority being surgical branch physicians (56.7%), and approximately 20% of expert reports found physicians at fault due to lack of attention and care (8). It is thought that the increase in malpractice claims and lawsuits day by day causes the physicians to experience an increased fear of malpractice.

In our study, no significant difference was found between the groups in MFS scores according to the sociodemographic characteristics of the participants. The results of the study are consistent with some previous studies (5,10,11,21). In the study of Carrier et al. a difference was found according to gender and tenure and it was determined that females had a lower fear of malpractice than males and those with less tenure had a lower level of fear of malpractice than those with more tenure (22). In the study by Reed et al. it was found that young physicians experienced more fear of malpractice than middle-aged and older physicians (13). It is evaluated that the results of the study vary according to the characteristics of the institution where the study was conducted and the population.

In our study, it was found that the participants had a low level of job satisfaction. There are also different studies in the literature that reveal that the level of job satisfaction of physicians is at moderate and high level (23-27). In the

study conducted on the factors affecting the level of job satisfaction of physicians; it was stated that factors such as establishing healthy communication with patients and their relatives without time pressure, maintaining healthy relationships with colleagues and other health personnel, being respected in the society, having a high level of income, appropriate working hours, having a safe and appropriate physical environment where health care is provided, having the necessary health equipment, being autonomous in clinical decision-making without bureaucratic obstacles, and being able to develop oneself and use one's skills became prominent (28,29). Therefore, it is thought that the inadequacy of some of these factors may be effective in the low level of job satisfaction among the emergency physicians participating in our study.

In our study, no statistically significant difference was found in the level of job satisfaction among the participants based on sociodemographic characteristics. These findings are consistent with some previous studies (26,30). In some studies conducted with physicians, differences were determined according to characteristics such as public-private sector, working time, branch, and income level (23-25,31). In a study conducted by Li et al. with emergency physicians, it was found that those who lived in developed cities, had advanced age and high level of income had higher level of job satisfaction, while those who spent more time on night shifts, worked with insufficient personnel and were sued for malpractice had lower level of job satisfaction (32). It is important to note that there are conflicting results in the literature regarding the relationship between job satisfaction and various factors.

When the literature is reviewed, there are studies examining the relationship between job satisfaction of physicians and factors such as job stress, life satisfaction, organizational commitment, burnout and depression (25,33-35). This study, which examines the relationship between fear of malpractice and job satisfaction for the first time, found that job satisfaction decreased as the fear of malpractice increased. Although there has been a significant increase in the number of malpractice lawsuits in recent years, the number of lawsuits that are accepted or result in penalties is low and the majority of them result in favor of the physician. This creates fear of malpractice in physicians and affects their decision-making processes and attitudes (10). There are studies showing that fear of malpractice leads physicians to defensive medicine (36,37). Within the scope of defensive medicine, physicians avoid performing risky procedures and surgeries even when necessary, while increasing the workload by applying additional diagnostic and treatment methods that have no medical value, which leads to job dissatisfaction (7,37). Another finding that the fear of malpractice is experienced intensely by physicians and negatively affects job satisfaction while performing their profession is that they prefer branches with a low incidence of malpractice in their preferences for specialization (3, 38).

The strength of the study is that it examines the relationship between fear of malpractice and job satisfaction in emergency medicine. The limitation of the study is that it was conducted only in Ankara and at tertiary education and research hospitals operating under the public sector.

In conclusion, in our study, it was found that emergency physicians had high level of fear of malpractice and low level of job satisfaction. There was no statistically significant difference in malpractice fear and job satisfaction levels according to the sociodemographic characteristics of the participants. A negative, moderate and statistically significant correlation was found between fear of malpractice and job satisfaction. It is recommended that future studies should be conducted comparatively in different cities (big city-small city), in public and private sector hospitals, and with different specialties.

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References

- Bal BS. An introduction to medical malpractice in the United States. *Clin Orthop Relat Res.* 2009;467(2): 339-47.
- Oyur Celik G, Baysan Arabaci L, Ejder BG. Investigation of medical error complaints case in health care practices: A retrospective study. *Journal of Ege University Nursing Faculty.* 2022;38(2):109-17.
- Aydogan Gedik S, Unsal A, Arslantas D, Mutlu A. Medical malpractice knowledge level of faculty of medicine students. *OJM.* 2021;43(2):171-81.
- Tunc T, Ozen Kutunis R. Underlying causes of anxiety among physicians and nurses: a sample of a university hospital. *Suleyman Demirel University The Journal of Visionary.* 2015; 6(13):62-71.
- Katz DA, Williams GC, Brown RL, Aufderheide TP, Bogner M, Rahko PS, et al. Emergency physicians' fear of malpractice in evaluating patients with possible acute cardiac ischemia. *Ann Emerg Med.* 2005;46(6): 525-33.
- Roy AD, Chen L, Santucci K. What do pediatric residents know about malpractice?. *Pediatr Emerg Care.* 2011;27:586-90.
- Gocen O, Yilmaz A, Aslanhan H, Celepkolu T, Tuncay S, Dirican E. Assistant physicians knowledge and attitudes about defen-

- sive medical practices, work-related stress and burnout levels. *The Turkish Journal of Family Medicine and Primary Care*. 2018;12(2):77-87.
8. Keser A, Ongen Bilir B. Turkish reliability and validity study of job satisfaction scale. *Kirklareli University Journal of Social Sciences*. 2019;3(3):229-39.
 9. Akturk G, Ozesen TA. Evaluation of medical malpractice cases decided by the supreme court in 2021. *Turkish Journal of Forensic Medicine*. 2023;37(1):19-25.
 10. Ugrak U, Isik O. Turkish validity and reliability study of malpractice fear scale. *Hacettepe Journal of Health Administration*. 2020;23(2):261-72.
 11. Fiscella K, Franks P, Zwanziger J, Mooney C, Sorbero M, Williams GC. Risk aversion and costs. *J Fam Pract*. 2000;49(1):12-8.
 12. Franks P, Williams GC, Zwanziger J, Mooney C, Sorbero M. Why do physicians vary so widely in their referral rates?. *J Gen Intern Med*. 2000;15(3):163-8.
 13. Reed DA, Windish DM, Levine RB, Kravet SJ, Wolfe L, Wright SM. Do fears of malpractice litigation influence teaching behaviors?. *Teach Learn Med*. 2008;20(3):205-11.
 14. Brayfield AH, Rothe HF. An index of job satisfaction. *J Appl Psychol*. 1951;35(5): 307-11.
 15. Judge TA, Locke EA, Durham CC, Kluger AN. Dispositional effects on job and life satisfaction: the role of core evaluations. *J Appl Psychol*. 1998;83(1):17-34.
 16. Ercan O, Ozbek O. Sports sponsorship for communication companies reliability and validity study of measurement. *Journal of Human Sciences*. 2017;14(4):3615-25.
 17. Aygun A, Karabacak V, Isik HS. The knowledge, attitudes and behaviors of emergency physicians about medical legal responsibilities. *Kırıkkale University Medical Journal*. 2018;20(3):321-8.
 18. Tugcu H, Yorulmaz C, Ceylan S, Baykal B, Celasun B, Koc S. The knowledge and ideas of the physicians who participate in emergency services about physician responsibility in emergency cases and forensic medicine problems. *Gulhane Medical Journal*. 2003;45(2):175-9.
 19. Kalemoglu M. The responsibility of the physician in the emergency departments: review. *Turkiye Klinikleri J Med Sci*. 2005; 25(6):824-8.
 20. Reschovsky JD, Saiontz-Martinez CB. Malpractice claim fears and the costs of treating medicare patients: a new approach to estimating the costs of defensive medicine. *Health Serv Res*. 2018;53(3):1498-1516.
 21. Benbassat J, Pilpel D, Schor R. Physicians' attitudes toward litigation and defensive practice: development of a scale. *Behav Med*. 2001;27(2):52-60.
 22. Carrier ER, Reschovsky JD, Mello MM, Mayrell RC, Katz D. Physicians' fears of malpractice lawsuits are not assuaged by tort reforms. *Health Aff (Millwood)*. 2010;29(9):1585-92.
 23. Ocak S, Kamer Sahin T, Gider O. The effects of doctors' job satisfaction on entrepreneurial intention: a research on Muğla province. *Journal of Social Sciences and Humanities Researches*. 2016;17(37):53-69.
 24. Aktay DD. The relationship between job satisfaction and corporate loyalty and analysis in military hospitals. Master Thesis, İstanbul: İstanbul University Social Science Institute, 2010.
 25. Karahan A. A research of analyzing the organisational commitment and job satisfaction on physicians: an example of Afyon Kocatepe University Hospital. *Dumlupınar University Journal of Social Sciences*. 2009;23:421-32.
 26. Mansur F, Seyhan F. The effect of work overload on organizational commitment and job satisfaction of employees carrying personal dosimeters. *Journal of Business Research-Turk*. 2021;13(2): 1033-49.
 27. Ritsema TS, Roberts KA. Job satisfaction among British physician associates. *Clin Med (Lond)*. 2016;16(6):511-3.
 28. Oh YI, Kim H, Kim K. Factors affecting Korean physician job satisfaction. *Int J Environ Res Public Health*. 2019;16(15):2714.
 29. Maharani C, Djasri H, Meliala A, Dramé ML, Marx M, Loukanova S. A scoping analysis of the aspects of primary health-care physician job satisfaction: facets relevant to the Indonesian system. *Hum Resour Health*. 2019;17(1):38.
 30. Bayer N, Golbasi Z, Uzuntarla Y, Akarsu K. Job satisfaction, burnout and turnover intention of nurses working in hospital during the pandemic COVID-19 in Turkey. *J Clin Med Kaz*. 2021;18(6):69-75.
 31. Aldrees T, Al-Eissa S, Badri M, Aljuhayman A, Zamakhshary M. Physician job satisfaction in Saudi Arabia: insights from a tertiary hospital survey. *Ann Saudi Med*. 2015;35(3):210-3.
 32. Li K, Chen H, Tan Z, Yin X, Gong Y, Jiang N, et al. Job satisfaction and its related factors among emergency department physicians in China. *Front Public Health*. 2022;10:925686.
 33. Asan O, Erenler E. Relationship between job satisfaction and life satisfaction. *Suleyman Demirel University The Journal of Faculty of Economics and Administrative Sciences*. 2008;13(2): 203-16.
 34. Alrawashdeh HM, Al-Tammemi AB, Alzawahreh MK, Al-Tamimi A, Elkholy M, Al Sarireh F, et al. Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: a convergent parallel mixed-method study. *BMC Public Health*. 2021;21(1):811.
 35. Villarreal-Zegarra D, Lázaro-Illatopa WI, Castillo-Blanco R, Cabieses B, Blukacz A, Bellido-Boza L, et al. Relationship between job satisfaction, burnout syndrome and depressive symptoms in physicians: a cross-sectional study based on the employment demand-control model using structural equation modelling. *BMJ Open*. 2022;12(10):e057888.
 36. Toraman A, Carikci IH. The evaluation of the causes of defensive medicines with the vision of physicians. *Suleyman Demirel University Visionary Journal*. 2019;10(23):40-51.
 37. Saruhan N, Altındis S, Gojayeva G. The evaluation of the attitudes of dentists on defensive medical practice. *Journal of Biotechnology and Strategic Health Research*. 2018;2(3):165-73.
 38. Cosgun IG, Balci A, Cilekar S. The awareness of medical students of pulmonology, the factors affecting speciality preferences, and the effect of Covid-19 on speciality preference. *Kocatepe Medical Journal*. 2022;103:102-6.