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Orgınal Article

Burnout Syndrome in Urology Residents: A Multicenter Survey Study

Üroloji Asistan Doktorlarında Tükenmişlik Sendromu: Çok Merkezli Anket Çalışması

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Highlights

- Burnout syndrome is common among urology residents.
- It is important to investigate the causes of burnout syndrome in order to solve this problem.
- multidisciplinary approach from primary healthcare to occupational healthcare is essential.

Abstract

Background: The aim of this study is to determine the level of burnout syndrome in residents receiving urology training and determine factors that may cause it.
Materials and Methods: A cross-sectional descriptive study. A survey containing questions on sociodemographic characteristics and the Maslach Burnout Inventory were administered to 46 urology residents in different years of residency training at different clinics.
Results: The mean age of the urology residents participating in the study was 29.0±2.1 years. It was determined that most participants had high scores in the Maslach Burnout Inventory subscales. The mean subscales scores of the participants were determined as 24.7±6.3 for emotional exhaustion, 11±3.4 for depersonalization, 19.2±4.1 personal achievement. When the residents' sociodemographic characteristics, such as marital status, year of residency training, smoking status and alcohol consumption habits were separately examined, there was no significant difference in the Maslach Burnout Inventory subscale scores according to these variables (p>0.05). However, the participants who reported that they would not prefer urology again if they were given an opportunity to change their specialty had significantly higher scores in the emotional exhaustion and depersonalization subscales compared to those stated that they would have made the same choice (p=0.001 and p=0.02, respectively).
Conclusion: Burnout syndrome is frequently seen in residents undergoing urology specialty training. There is a need to carefully determine causes of burnout syndrome and establish policies that will increase the motivation of urology residents. It is important to determine how to spot it and take action with a multidisciplinary approach from primary healthcare to occupational healthcare.
Keywords: Burnout Syndrome, Urology, Resident, Primary Healthcare, Occupational Healthcare

ÖZ

Amaç: Bu çalışmada, üroloji alanında uzmanlık eğitimi alan asistan doktorlarda Tükenmişlik Sendromunun düzeyinin belirlenmesi ve buna sebep olabilecek etmenlerin saptanması amaçlandı.**Materyal ve Metot:** Kesitsel tanımlayıcı çalışma. Farklı kliniklerde ve farklı eğitim yıllarında 46 üroloji asistanı çalışmaya katılarak sosyodemografik özellikleri sorgulayan anket ile Maslach Tükenmişlik Ölçeği anketi uygulandı. **Bulgular:** Çalışmaya katılan üroloji asistanlarının yaş ortalaması 29.0±2.1 idi. Maslach Tükenmişlik Ölçeği alt boyutlarında büyük çoğunluğun yüksek puanlar aldığı görüldü. Katılımcıların alt ölçek puan ortalamaları duygusal tükenme için 24.7±6.3, duyarsızlaşma için 11±3.4, kişisel başarı için 19.2±4.1 olarak belirlenmiştir. Asistanların medeni durumu, asistanlık yılı, sigara veya alkol kullanımı gibi sosyodemografik özellikler ayrı ayrı incelendiğinde Maslach Tükenmişlik Ölçeği alt boyutlarında anlamlı farklılık göstermediği izlendi. (p>0.05) Tekrar uzmanlık seçme fırsatı verilse üroloji tercih etmeyeceğini söyleyenlerin yine üroloji tercih edeceğini söyleyenlere göre duygusal tükenme ve duyarsızlaşma skorları istatistiksel olarak anlamlı derecede yüksek saptandı (p=0.001 ve p=0.02).**Sonuç:** Üroloji uzmanlık eğitimi alan asistan doktorlarda Tükenmişlik Sendromu sık olarak görülmektedir. Buna yol açacak nedenlerin dikkatli bir şekilde belirlenmesi ve motivasyonu artıracak stratejilerin uygulanması gerekmektedir. Birinci basamaktan mesleki sağlık hizmetlerine multidisipliner yaklaşımla, bunun nasıl tespit edilip aksiyon alınabileceğinin belirlenmesi önemlidir. **Anahtar Kelimeler:** Tükenmişlik Sendromu, Üroloji, Asistan, Birinci Basamak Sağlık, Mesleki Sağlık Hizmetleri

Introduction

Individuals working in challenging conditions, especially in occupations involving intense human relations may experience work-related burnout at some point in their lives (1). Herbert Freudenberger was first to define the concept of burnout as a pathological picture characterized by emotional and physical exhaustion due to long-term work-related stress (2). The progressive response of the human body to chronic interpersonal stressors leads to work fatigue. Burnout Syndrome generally manifests with emotional exhaustion, reduced personal achievement, physical and emotional exhaustion, and depersonalization (1).

Maslach and Jackson defined Burnout Syndrome with three dimensions. The first dimension, emotional exhaustion, occurs when an individual feels drained to due to the demands of their work and loses the mental energy required to perform work-related tasks (3). In the context of health, when burnout progresses, the healthcare provider begins to see patients as objects rather than people. This second stage can actually be considered as a natural defense mechanism against stress and is called depersonalization. Ineffective coping and defense mechanisms often result in reduced personal achievement (4).

Physicians are at higher risk of burnout than the general population and are more likely to be dissatisfied with their work-life balance. It was reported that almost half of the physicians in the United States had at least one symptom of burnout, and the highest rates of burnout were found among front-line clinicians, such as family physicians and emergency physicians (5). In another study, it has been reported that residents in the surgical specialties leave their professions due to the uncontrollable lifestyle and heavy workload (5,6). Urology residents, on their way to becoming specialists receive extensive training, during which they are expose to a high risk of experiencing burnout syndrome (7,8). Therefore, there is a need to address the problem of work-related burnout among urology residents in order to ensure that patients receive high-quality healthcare services, minimize medical errors, and increase the satisfaction levels of patients and physicians in the field of urology (9). In this study, we aimed to examine burnout syndrome among urology residents from different clinics in different years of residency training.

Materials and Methods

This survey was a cross-sectional descriptive study conducted between March and September 2017 with 46 urology residents receiving residency training in different urology clinics. As data collection tools, a survey on sociodemographic characteristics and the Maslach Burnout Inventory (MBI) were administered via e-mail. The study was approved by the Ethics Committee (BEAH 2019/542) and conducted in accordance with the principles of the Declaration of Helsinki. Informed consent was taken from all the participants. Data were based on the responses of the participants to the questions in the survey and items in MBI. In the first part of the survey, sociodemographic and occupational characteristics were evaluated with 21 questions. In the second part, the burnout levels of the residents were determined using the Turkish version of MBI, consisting of 22 Likert-type items and three subscales (emotional exhaustion, depersonalization, and personal achievement) (10). The subscale scores were evaluated as follows: 0-11 points, low; 12-17 points, moderate; and >17 points, high for emotional exhaustion; 0-5 points, low; 6-9 points, moderate; and ≥10 points, high for depersonalization; and 0-21 points, low; 22-25 points, moderate; and ≥26 points, high for personal achievement. As questions addressing the measurement of personal achievement were phrased in a positive manner, high results for EE and DP scores and low ones for PA indicate presence of burnout syndrome.

As the descriptive statistics of the data, mean, standard deviation, median, minimum, maximum, frequency, and ratio values were used. The distribution of variables was determined with the Kolmogorov-Smirnov test. The independent-samples t-test and Mann-Whitney U test were used in the analysis of quantitative independent data. SPSS v. 28.0 software package was used in statistical analyses.

The mean age of the 46 urology residents participating in the study was 29.0 ± 2.1 years. Of the participants, 67.4% (n = 31) were married. The participants were in different years of their five-year urology residency training. Residents doing seven or more monthly shifts constituted 30.4% (n = 14) of the sample. According to the responses of the participants to the survey questions, it was determined that 87% (n = 40) were not satisfied with the work life-social life balance, only three (6.5%) participants could spare sufficient time for their family and friends, and only two (4.3%) had enough personal time. Detailed data on the sociodemographic and professional characteristics of the residents and the distribution of their survey responses are shown in Table-1 and Table-2.

Table 1. Sociodemographic Characteristics and Maslach Burnout Inventory Subscale Scores

Age, Mean ± SD		29.0±2.1
Relationship status, n, (%)	Married	31 (67.4)
	Single, in a relationship	8(17.4)

	Single, not in a relationship	7(15.2)
Residency year, n, (%)	I	7(15.2)
	II	6(13.0)
	III	8(17.4
	IV	13(8.3)
	V	12(26.1)
Number of shifts, n, (%)	≤ 3	11(23.9)
	4-6	21(45.7)
	≥ 7	14(30.4)
Weekend shifts, n, (%)	0	11(23.9)
	I	12(26.1)
	II	18(39.1)
	III	5(10.9)
Weekly working hours, n, (%)	< 60	3(6.5)
	60-80	28(60.9)
	> 80	15(32.6)
Smoking status, n, (%)	Non-smoker	24(52.2)
	Smoker	22(47.8)
Alcohol consumption, n, (%)	Absent	16(34.8)
	Present	30(65.2)
Excess coffee/energy drink consumption, n, (%)	Absent	21(45.7)
	Present	25(54.3)
Total emotional exhaustion score, Mean ± SD		24.7±6.3
Emotional exhaustion score classification, n, (%)	Low	1(2.2)
	Moderate	3(6.5)
	High	42(91.3)
Total depersonalization score, Mean ± SD		11.0±3.4
Depersonalization score classification, n, (%)	Low	2(4.3)
	Moderate	15(32.6)
	High	29(63.0)
Total personal achievement score, Mean ± SD		19.2±4.1
Personal achievement score classification, n, (%)	Low	35(76.1)
	Moderate	8(17.4)
	High	3(86.5)

Table 2. Distribution of Survey Responses

Questions	Answers	n (%)
How many non-medical books do you read in a month?	None/I do not read books	23(50.0)
	Part of a book	14(30.4)
	1 book	6(13.0)
	2 books	2(4.3)
	≥3 books	1(2.2)
Are you satisfied with your work life/social life balance?	Dissatisfied	40(87.0)
	Satisfied	4(8.7)
	Undecided	2(4.3)
Do you have enough time to spend with family/friends?	No	43(93.5)
	Yes	3(6.5)
Do you meditate?	No	43(93.5)
	Yes	3(6.5)

Do you watch TV/films to relax?	No	7(5.2)
	Yes	39(84.8)
Do you think you have enough time for yourself?	No	44(95.7)
	Yes	2(4.3)
Do you exercise/do yoga?	No	35(76.1)
	Yes	11(23.9)
Are you currently using antidepressants?	No	40(87.0)
	Yes	6(13.0)
Did Have you ever used antidepressants during your urology residency training?	No	28(60.9)
	Yes	18(39.1)
Do you think you are receiving good training in the clinic where you work?	No	29(63.0)
	Yes	17(37.0)
What specialty would you chose if you took the medical specialty test again?	I would choose urology again	24(52.2)
	I would choose another specialty	4(8.7)
	I would not choose a surgical branch	12(26.1)
	I would choose to work as a general practitioner	6(13.0)

Table-1 presents the distribution of the participants' scores in the subscales of MBI. The mean subscales scores of the participants were determined as 24.7 ± 6.3 for emotional exhaustion, 11 ± 3.4 for depersonalization, 19.2 ± 4.1 personal achievement.

Table-3 and Table-4 show the distribution of the participants' scores in the MBI subscales according to their sociodemographic and occupational characteristics. The results revealed that the emotional exhaustion, depersonalization, and personal achievement scores did not show statistically significant differences according to the participants' marital status, whether they were within the first three or last two years of the residency training, and smoking status or alcohol use ($p > 0.05$). The emotional exhaustion scores of the residents that did more than three shifts per month and those that worked weekends were found to be higher, but it was not statistically significant ($p = 0.51$ and $p = 0.24$, respectively). When weekly working hours, reading non-medical books, engaging in exercise/yoga, and antidepressant use were evaluated separately, the emotional exhaustion, depersonalization, and personal achievement scores did not significantly differ ($p > 0.05$). However, the participants who reported that they would not choose urology again if they could change their specialty had significantly higher scores in the emotional exhaustion and depersonalization subscales compared to those stated that they would have made the same choice ($p = 0.001$ and $p = 0.02$, respectively).

Table 3. Comparison of Maslach Burnout Inventory Subscale Scores According to Sociodemographic Characteristics

		Emotional exhaustion (Mean ± SD)	p		Depersonalization (Mean ± SD)	p		Personal achievement (Mean ±SD)	p	
Marital status	Married	24.3±6.4	0.460	t	10.9±3.4	0.833	t	19.8±3.1	0.415	m
	Single	25.7±6.0			11.1±3.5			17.8±5.5		
Residency year	≤3	25.3±5.5	0.561	t	11.0±4.1	0.901	t	18.5±4.1	0.322	m
	4-5	24.2±6.9			10.9±2.9			19.8±4.1		

Smoking status	Non-smoker	25.1±4.6	0.702	t	11.5±3.1	0.247	t	18.9±4.3	0.877	m
	Smoker	24.4±7.8			10.4±3.7			19.5±4.0		
Alcohol use	Absent	24.6±5.4	0.929	t	10.2±3.5	0.256	t	19.3±4.3	0.963	m
	Present	24.8±6.8			11.4±3.4			19.1±4.1		
Excess coffee/energy drink consumption	Absent	24.5±4.9	0.798	t	10.6±3.4	0.519	t	19.1±3.9	0.633	m
	Present	25.0±7.3			11.3±3.5			19.2±4.3		

[t]Independent-samples t-test, [m]Mann-Whitney U test SD: standard deviation

Table 4. Comparison of Maslach Burnout Inventory Subscale Scores According to Occupational and Individual Characteristics

		Emotional exhaustion (Mean ± SD)	p		Depersonalization (Mean ± SD)	p		Personal achievement (Mean ± SD)	p	
Number of shifts	≤ 3	23.6±9.2	0.510	t	10.8±2.2	0.861	t	20.0±3.5	0.475	m
	> 3	25.1±5.1			11.0±3.7			18.9±4.3		
Weekend shifts	Absent	22.8±9.2	0.248	t	10.2±2.5	0.381	t	19.6±3.6	0.907	m
	Present	25.3±5.1			11.2±3.6			19.0±4.3		
Weekly working hours	≤60	28.7±6.7	0.266	t	10.0±1.7	0.613	t	19.0±1.7	0.929	m
	>60	24.5±6.2			11.0±3.5			19.2±4.2		
Reading non-medical books	No	26.5±5.8	0.053	t	10.5±3.6	0.371	t	19.1±4.1	0.587	m
	Yes	23.0±6.4			11.4±3.3			19.3±4.2		
Doing exercise/yoga	No	24.9±6.8	0.781	t	10.9±3.7	0.673	t	19.5±3.8	0.687	m
	Yes	24.3±4.4			11.4±2.3			18.2±5.0		
Current antidepressant use	No	24.7±6.5	0.860	t	10.9±3.6	0.788	t	19.5±3.5	0.316	m
	Yes	25.2±4.5			11.3±2.5			17.2±7.3		
	No	23.4±6.5	0.061	t	10.6±3.6	0.319	t	19.4±3.9	0.803	m

Antidepressant use at any time during residency	Yes	26.9±5.3			11.6±3.0			18.8±4.5		
Reporting receiving good residency training	No	25.2±6.4	0.484	t	11.6±3.4	0.096	t	18.3±4.1	0.121	m
	Yes	23.9±6.1			9.9±3.3			20.6±3.8		
Would choose urology specialty again?										
Yes		21.8±6.1	***0.000***	t	9.9±3.3	***0.026***	t	20.3±3.8	0.187	m
No		28.0±4.7			12.1±3.2			18.0±4.1		

[t]Independent-samples t-test, [m]Mann-Whitney U test SD: standard deviation

Discussion

Specialty training is an important period in which resident doctors acquire the knowledge and experience over many years to conduct their profession in the branch they have chosen. In addition, during this period, residents serve as an important workforce asset in hospitals where they receive training. Physical and emotional exhaustion is very common among resident physicians due to the intensity of training, high number of shifts, high demand in clinics, and heavy workload (8). The regulation of working conditions can have a positive or negative impact on physicians' own health, which can, in turn, affect their working lives and quality of work production in the same direction.

Lack of personal achievement is described as individuals considering themselves inadequate and unsuccessful whilst performing their job. At the beginning of their careers, people believe that they will gain accomplishments regarded significant professionally and socially. When their expectations are not met, the case of viewing themselves as incompetent and becoming unable to overcome problems occurs (11) . It is argued that the most important sub-dimension of burnout is 'emotional exhaustion', accompanied by the dimensions of depersonalization and lack of personal achievement. In the later stages of the burnout syndrome, the individual who defines himself as unsuccessful starts to think that he cannot progress, even regresses, despite the positive results he has achieved in his job, thinking that it is unnecessary to make an effort, that he is an inadequate individual, and enters the process of frustration (12). When the results obtained from our study were evaluated, it was determined that the participating urology residents scored high in emotional exhaustion and depersonalization, and low in personal achievement according to MBI, indicating that they were experiencing burnout syndrome.

Ocak et al. reported that gender, educational background, and history of COVID-19 infection might have an impact on burnout. They also observed that history of COVID-19 and gender are independent predictors of emotional exhaustion (13). Working conditions are among the most important factors leading to burnout syndrome among physicians. These working conditions are determined by the workload, working hours, number of shifts, and number of patients seen (14). In a meta-analysis published in recent years, young age, female gender, negativity in marital status, and heavy workload were determined as sociodemographic risk factors in burnout syndrome (15). Dündar et al. detected a high rate of burnout syndrome in resident doctors. When the authors examined possible effective factors, they found no significant difference in terms of gender, marital status, and drug use but reported that burnout scores were significantly higher in residents working in surgical branches and those that had not chosen medicine voluntarily (16). Similarly, in another study, it was stated that burnout syndrome was more common in surgical departments where working conditions are relatively more challenging and working hours are longer (8). Soler et al. also showed the association of smoking and alcohol use with burnout syndrome (17). However, in the current study, there was no statistically significant relationship between smoking and alcohol use.

While the workload and number of shifts in the residency process are generally higher in the first years of training, they gradually decrease in the last years. In a study conducted with anesthesia residents, Turgut et al. reported that the scores of the second-year residents in the emotional exhaustion and depersonalization subscales of MBI were significantly higher compared to the third- and fourth-year residents (18). In contrast, in our study, no statistically significant difference was found between the residents in their first three and last two years of training in relation to the MBI subscale scores. This may be due to the negativities resulting from the high

workload and number of shifts, as well as increased concerns about the future that has become more prominent in recent years and feeling inadequate in the profession in the early years of residency training.
Resignation during the residency process have certain negative consequences, such as lost time during training, loss of workforce due to resignation, and insufficient number of remaining resident physicians (19). In a study by Yaşayancan et al., a high rate (58%) of research assistants receiving specialty training in surgical branches considered resignation, despite 92% had chosen their branch voluntarily (20). In the current study, almost half the participants stated that they would not have chosen the same specialty if they had been given another choice, and this group had significantly higher scores in emotional exhaustion and depersonalization.
On the completion of this survey study, we determined that the majority of urology residents were not satisfied with their work-social life balance. In addition, only 4% of the participants considered that they could allocate sufficient time to their personal lives. The rate of antidepressant use during residency was determined as 39%. We consider that these findings are important signs indicating that burnout syndrome is very common among urology residents. The rate of participants who stated that they were receiving good training in the clinic at which they worked was 37%. We consider that the urology specialty training entails an intense and tiring process. In addition, it is important to examine and remedy sociodemographic and personal factors that cause burnout syndrome in urology residents, as well as other factors that may be present within the clinic and in the training process.
In the literature, the relationship between the amount of salary received and burnout syndrome has also been examined (21). However, since all the participants in the current study were urology residents and their salary levels were similar to each other, we were not able to evaluate salary as a variable.

Study Limitation

Our study has several limitations, including the small number of participants and absence of detailed evaluation of other factors that may be effective in the training process, e.g., number of patients encountered, and surgical operations attended. Since the general health status of residents was evaluated before they started their residency training in the Turkish health system, it was accepted that the individuals participating in the survey would not have psychiatric disorders; however, as a limitation of our study, some participants with undiognosed mild or moderate depression might have participation in the survey. In addition, in Turkiye, the number of female urology assistant physicians is still very low, although it is gradually increasing. Since all the urology residents participating in our survey were male, we were not able to evaluate the effect of gender on burnout syndrome.

Conclusion

The majority of urology residents experience Burnout Syndrome. This can result in poor patient care and major medical errors. Although differences in sociodemographic and personal factors have some effects on this situation, it is important to make changes to increase professional motivation in the prevention of burnout syndrome, make health policy decisions by taking into account the training and health of residents that will become specialist doctors of the future, and conduct further research in this area. Healthcare professionals should be aware of the risks. A multidisciplinary approach is required in its management from primary health care to occupational health care.

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Ethical Approval: *The study was approved by University of Health Sciences, Dr.Sadi Konuk Training and Research Hospital Ethical Committee, Bakirkoy, Istanbul, Turkiye (Decision No: 2019/542).We conducted this study according to the principles of the Declaration of Helsinki. Informed consent was obtained from all the participants.*

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