Burnout Syndrome in Resident Physicians After the COVID-19 Pandemic

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ABSTRACT

Objective: This study aims to evaluate the prevalence of burnout among residents from different specialties who managed and treated patients in intensive care units and/or COVID-19 wards after the pandemic and to determine the risk factors associated with burnout. Materials and Methods: Following the approval of the Hospital Ethics Committee (Approval No: 31.10.2022/299) and informed consent, 251 residents were included in the study. The standardized Maslach Burnout Inventory (MBI) was used in the study.

Results: A total of 251 resident doctors participated in the study. 52.2% of the residents reported sleep disorders. It was observed that 42.6% slept between 6-8 hours per day. When asked what they wanted to do first after a 24-hour shift, 64.5% (n=162) stated they wanted to sleep, 14.3% (n=36) preferred going out alone or shopping, 21.1% (n=53) wanted to meet with friends or family. The scores obtained in the MBI subdimensions—"Emotional Exhaustion (EE)," "Depersonalization (D)," and "Personal Accomplishment (PA)"—did not show a statistically significant difference based on the activity they preferred after a 24-hour shift ($p > 0.05$). The mean scores for each subdimension were as follows: EE: 2.42 ± 0.70, D: 2.02 ± 0.74, PA: 1.64 ± 0.63, Total MBI score: 2.04 ± 0.49. Regarding the internal consistency of the scale: EE subdimension: $\alpha = 0.788$, D subdimension: $\alpha = 0.581$, PA subdimension: $\alpha = 0.681$, Total scale: $\alpha = 0.778$
Conclusion: Although various evidence-based approaches were recommended during the pandemic to mitigate burnout—such as raising awareness among doctors, utilizing digital technologies, and creating a supportive environment through organizational strategies—the high workload has persisted. As a result, residents are at significant risk for post-traumatic stress disorder (PTSD). Reorganizing healthcare services, accurate diagnosis, and increased awareness are the first essential steps in preventing this syndrome.

Keywords: Burnout syndrome, resident, Maslach Burnout Inventory

COVID-19 Pandemisi Sonrasında Asistan Hekimlerde Tükenmişlik Sendromu

ÖZET

Amaç: Çalışmada COVID-19 pandemisi sonrasında, yoğun bakımlarda ve/veya COVID-19 servislerinde hasta takip ve tedavi etmiş farklı branşlardan asistanlar arasında tükenmişlik prevalansını değerlendirmek ve tükenmişlik ilişkili risk faktörlerini belirlemek amaçlanmıştır. Gereç ve Yöntem: Hastane Etik Kurulu onayı(31.10.2022/299sayı), bilgilendirilmiş onam sonrası çalışmaya 251 asistan dahil edildi. Çalışmada standartlaştırılmış Maslach Tükenmişlik Envanteri (MBI)kullanıldı. Bulgular: Çalışmaya 251 asistan doktor katılmıştır. Asistanların %52.2'si uyku bozukluğu bildirmiştir. %42.6'sının 8-6 saat arasında uyuduğu gözlenmiştir. %64.5'i (n=162)24 saatlik çalışma sonrasında yapmak istediği ''ilk'' şeyin uyumak olduğunu belirtirken, %14.3'ü(n=36) tek başına gezmek veya alışveriş yapmak olduğunu, %21.1'i(n=53)arkadaşlarla veya aile ile buluşmak olduğunu belirtmiştir. 24 saatlik çalışma sonrasında ilk yapmak istediği şeye göre katılımcıların MBI "Duygusal Tükenme-DT", "Duyarsızlaşma-

D''ve''Kişisel Başarısızlık-KB'' alt boyutlarından aldıkları puanlar farklılık göstermemektedir(p>0,05). MBI "DT" alt boyutundan aldıkları puanlar ortalama 2.42±0.70 olarak "D" alt boyutundan aldıkları puanlar ortalama 2.02±0.74 "KB" alt boyutundan aldıkları puanlar ortalama 1.64±0.63 ve ölçek toplamından aldıkları puanlar ortalama 2.04±0.49 olarak saptanmıştır. Ölçeğin iç tutarlılıkları değerlendirildiğinde; DT alt boyutu için α=0.788, D alt boyutu için α=0.581,KB alt boyutu için α=0.681 olarak, ölçek toplamı için α=0.778 saptanmıştır. Sonuç: Pandemide, doktorları potansiyel tükenmişlik konusunda bilinçlendirmek, dijital teknolojileri kullanmak, örgütsel yaklaşımlarla kolaylaştırıcı ortam yaratmak gibi çok yönlü kanıta dayalı yaklaşımlar önerilmesine rağmen, yüksek iş gücü süregelmiştir. Bu nedenle asistanları ciddi travma sonrası stres bozukluğu beklemektedir. Sağlık hizmetlerinin yeniden düzenlenmesi, doğru tanımlama ve farkındalık bu sendromu önlemenin ilk önemli adımıdır.

Anahtar Kelimeler: tükenmişlik sendromu, asistan, Maslach Tükenmişlik Envanteri

INTRODUCTION:
Burnout, in its general definition, is a prolonged response to chronic emotional and interpersonal stressors, characterized by emotional exhaustion, depersonalization, and a lack of personal accomplishment **(** Maslach C et al., 2016) Burnout syndrome, first defined in 1974, is a psychological syndrome that describes a state of mental and physical exhaustion resulting from individuals' continuous response to chronic interpersonal stressors in professional life (Friganović A et al., 2019; Freudenberger HJ et al., 1974)

With the emergence of the new COVID-19 pandemic at the beginning of 2020, doctors faced an increase in critically ill patients, necessitating a reorganization of healthcare services. Specialists and resident doctors in certain fields were exposed to a higher workload, making physical exhaustion and burnout syndrome even more pronounced (Rodrigues H et al., 2018; Dimitriu MCT et al., 2020; Appiani FJ et al., 2021; Baro Vila RC et al., 2022)

Studies have shown that residents working 24-hour shifts during the pandemic exhibited significantly higher rates of burnout syndrome, anxiety, and depression compared to other healthcare workers (Amaral MLC et al., ; Baro Vila RC et al., 2022) These findings have been associated with a higher workload and less experience. Preventive and therapeutic measures became essential to protect those on the front lines of the pandemic, leading to calls for preventive initiatives (Appiani FJ et al., 2021).

During this pandemic, various evidence-based approaches have been suggested to prevent burnout, such as raising awareness among healthcare providers about potential burnout, promoting positive mental health, implementing mindfulness and self-care practices, ensuring the availability of mental health services, utilizing digital technologies to prevent burnout, and creating a facilitating environment through organizational approaches (Sultana A et al., 2020). However, despite these efforts, the high workload persisted.

On May 5, 2023, the World Health Organization (WHO) announced that COVID-19 no longer constituted a "global emergency." As the pandemic comes to an end, questions remain regarding the burnout levels observed among residents during the pandemic—have these conditions changed as the pandemic subsides? To what extent have burnout prevention approaches been effective? There is insufficient data to answer these questions. Healthcare workers are likely to face severe post-traumatic stress disorder (PTSD) in the aftermath.

This study aims to assess the prevalence of burnout among residents from various specialties who were involved in the monitoring and treatment of patients in intensive care units and/or COVID-19 wards when the COVID-19 pandemic ended. Additionally, the study seeks to identify the risk factors associated with burnout in this population.

MATERIALS and METHODS:
The study included 251 resident doctors following approval from the Ethics Committee of the Ministry of Health, Prof. Dr. Cemil Taşcıoğlu City Hospital (Approval No: 31.10.2022/299) and informed consent. The study serves as a preliminary investigation to identify the issue.
Inclusion Criteria:
Being a resident doctor
Having participated in the follow-up and treatment of patients in intensive care units and/or COVID-19 wards during the COVID-19 pandemic
Providing informed consent to participate in the study
Exclusion Criteria:
Healthcare personnel other than resident doctors
Healthcare personnel who did not follow up or treat patients in intensive care units and/or COVID-19 wards during the COVID-19 pandemic

In addition to demographic data, participants were asked about their average daily sleep duration, what they wished to do first after a 24-hour shift, and whether they wanted their institution to contribute to their theoretical education outside working

hours. In the questionnaire administered for evaluation, the Maslach Burnout Inventory (MBI) was used along with an information form containing questions regarding the socio-demographic features and occupational information of the resident physicians. The MBI assesses the sub-scales of emotional exhaustion (EE, 9 items), personal accomplishment (PA, 8 items) and depersonalization (DP, 5 items) (total: 22 items). The validity and reliability of the MBI in Turkish were studied by Ergin (Ergin C et al., 1993)

When the MBI was adapted to Turkish, the 7-point choices in the original scale were changed to 5-point choices (0=Never, 1= Several Times a Year 2=Several Times a Month, 3=Several Times a Week, 4=Every Day). While EE and DP are scored as mentioned above, the opposite scores are used for PA (never=4, every day=0). When these scores are added, the total score is between 0 and -36 for EE, between 0 and -20 for DP and between 0 and -32 for PA. While the sub-scales of EE and DP consist of negative expressions, the PA sub-dimension consists of positive expressions. Increased High EE and DP scores indicate excessive burnout; however, a high PA score indicates a low burnout level. The Cronbach's alpha coefficients of the sub-scales are 0.83 for EE, 0.72 for PA and 0.65 for DP. Reliability Analysis of the MBI: Cronbach's Alpha Coefficient (Alpha Technique) The alpha coefficient is a weighted standard average variance that is calculated as the proportion of the total variances of k items in the general variance. Cronbach's alpha coefficient reveals the similarity of items in cases in which individual scores are obtained by adding the responses given to questions in a scale including k items. It is used to investigate whether k items in the scale constitute a whole explanation of a homogeneous structure.

The alpha coefficient (Cronbach's alpha) was used to test the reliability of the scales. The alpha coefficient is evaluated according to the following criteria (Y.Karagöz, 2014):
If $0.0 \leq \alpha < 0.40$, the scale is unreliable.
If $0.40 \leq \alpha < 0.60$, the scale is poorly reliable.
If $0.60 \leq \alpha < 0.80$, the scale is quite reliable.
If $0.80 \leq \alpha < 1.00$, the scale is highly reliable.

Statistical Analysis
IBM SPSS 26 (Statistical Package for the Social Sciences) program was used for statistical analysis. Descriptive statistical methods (mean, standard deviation, median, frequency, percentage, minimum, maximum) were used to evaluate the study data. The conformity of quantitative data to normal distribution was

tested by Shapiro-Wilk test and graphical analysis. Student-t test was used for comparisons between two groups of normally distributed quantitative variables. One-way analysis of variance and Bonferroni corrected pairwise evaluations were used for comparisons of quantitative variables with normal distribution between more than two groups. Kruskal-Wallis test and Dunn-Bonferroni test were used for comparisons of quantitative variables that were not normally distributed between more than two groups. Significance was evaluated at the levels of $p<0.01$ and $p<0.05$.

RESULTS:

Data obtained from 251 participants were used in the analyses. Although all participants took 24 hours off after a 24-hour night shift, 52.2% reported sleep disturbance after a night shift in the hospital. Normally, 5.2% (n=13) slept more than 8 hours per day on average and 42.6% (n=107) slept between 8-6 hours. While 64.5% (n=162) of the participants stated that the first thing they wanted to do after the night shift was to sleep, 14.3% (n=36) stated that the first thing they wanted to do after the night shift was to travel or shop alone and 21.1% (n=53) stated that the first thing they wanted to do after the night shift was to meet friends or family (Table 1.Figure 1.).

The distribution of participants' responses to the Maslach Burnout Inventory questions can be seen in Table 2. The average scores for participants in the "Emotional Exhaustion" subscale of the Maslach Burnout Inventory were found to be 2.42±.70, while their scores in the "Depersonalization" subscale were 2.02±.74 on average. Furthermore, their scores in the "Personal Accomplishment" subscale were found to be 1.64±.63 on average, and their total scores on the scale were determined to be 2.04±.49 on average.

In the testing of the reliability of scales, the use of Alpha Coefficient (Cronbach's Alpha) has been instrumental. Following an examination of internal consistency for the Maslach Burnout Inventory, a coefficient of α=0.778 (a quite reliable level) was determined for scale total (Table 3). When examining the Cronbach Alpha internal consistency values for both the total scale and sub-dimensions, it was found that emotional exhaustion sub-dimension had a value of 0.788; depersonalization sub-dimension had a value of 0.581; and personal accomplishment sub-dimension had a value of 0.681 (Table 4., Figure 2.).

There was no statistically significant difference in the scores of the participants from the Maslach Burnout Scale "Emotional Exhaustion", "Depersonalization" and "Personal Failure" subscales according to daily sleep duration (p>0.05 Table

5.). The scores of the participants from the Maslach Burnout Scale "Emotional Exhaustion", "Depersonalization" and "Personal Failure" sub-dimensions do not show a statistically significant difference according to the first thing they want to do after 24 hours of work. (p>0.05 Table 6.).

The scores obtained by participants in the subdimensions of the Maslach Burnout Inventory—"Emotional Exhaustion," "Depersonalization," and "Personal Accomplishment"—based on their desire for institutional contribution to theoretical education outside working hours do not show a statistically significant difference (p>0.05, Table 7.).

DISCUSSION:

This study found significant levels of burnout in resident physicians on intensive care unit and COVID-19 wards through the pandemic. The scores for emotional exhaustion and depersonalization were relatively high while personal accomplishment scores were low. These results indicate that professional burnout is still an issue among residents during the post pandemic period.

Burnout Syndrome, is a condition in which a person suffers from ongoing accumulated emotional exhaustion from work-related stress and pressure that is out of control and cannot sidestep (Edú-Valsania S et al., 2022) As a result, a person may feel depleted of energy, worn-out, weak, discouraged, have a negative attitude toward their jobs, or be unhappy at work, affecting their ability to work effectively and to maintain relationships with those around them (Sonnentag S et al., 2018) The World Health Organization (WHO) has registered and approved burnout as a new disease that occurs among people in the modern day, particularly in such hurried and stressful working environments, causing a feeling of exhaustion, a loss of energy, and a lack of motivation to work and live. Individuals suffering from burnout should seek treatment and therapy with an experienced specialist to identify the source of the issue and collaborate on finding the best possible solutions (The World Health Organization 2019).

Burnout and sleep disturbances are interrelated. Among individuals exposed to chronic psychosocial or occupational stressors, this is not uncommon, likely due to the depletion of energy resources. 64.5% of the participants (n=162) reported that the first thing they wanted to do after a shift was to sleep, whereas 52.2% reported experiencing sleep disturbances after a 24-hour night shift. Normally, only 5.2% (n=13) stated that they slept more than an average of 8 hours per day, while 42.6% (n=107) reported sleeping between 6-8 hours. The reliability of the scales was tested using the Alpha Coefficient (Cronbach's Alpha). After

examining the internal consistency of the Maslach Burnout Inventory survey, the total scale was found to have an α=0.778 (a highly reliable level). When analyzing the Cronbach's Alpha internal consistency values of the scale's subdimensions, the emotional exhaustion subdimension was found to have an α=0.788. As stated in the study by Armon G et al., 2008 emotional dysregulation associated with burnout promotes sleep disturbances, and conversely, fatigue and depletion of energy resources related to sleep disturbances contribute to burnout. In this context, difficulty falling asleep, poor sleep quality, and subsequent morning fatigue further deplete cognitive and emotional energy resources, leading to a reduction in psychological coping capacity. This, in turn, exacerbates burnout (Armon G et al., 2008; Grossi G et al., 2015).

According to information obtained from other countries, the most affected healthcare workers appear to be those working in emergency departments and intensive care units (Gualano, M.R. et al., 2021) In a study conducted to compare the prevalence of burnout syndrome among cardiology residents before and during the COVID-19 pandemic, data were collected in September 2020 during the pandemic and compared with prospectively collected results from the same population in September 2019. The findings indicated that the COVID-19 pandemic was not associated with an increase in the prevalence of burnout syndrome among cardiology residents, who had already reported a significant prevalence of this syndrome before the pandemic. At the hospital where the study was conducted, the number of COVID-19 patients was significantly lower compared to general hospitals. Additionally, as a high-complexity sanatorium, residents were accustomed to high levels of work-related stress. Changes in the work schedule—where residents worked for 15 days and then stayed at home for another 15 days as backups in case a colleague became infected—functioned as rest days due to the low number of infections among hospital staff. This resulted in a reduced workload during the early months of the pandemic (Rocio C et al., 2022).

In a meta-analysis conducted by Rodrigues et al., 2018 which included 4,664 medical residents up to 2018, high depersonalization (DP), emotional exhaustion (EE), and low personal accomplishment (PA) rates were compared. Specialties were categorized into three groups based on different burnout prevalence levels: burnout was found to be 40.8% among residents in general surgery, anesthesiology, obstetrics-gynecology, and orthopedics; 30.0% in internal medicine, plastic surgery, and pediatrics; and 15.4% in otolaryngology and neurology. The overall burnout prevalence across all specialties was 35.7%. The prevalence of burnout

syndrome was significantly higher in surgical/emergency specialties compared to clinical specialties.

In a cross-sectional study conducted during the second wave of the COVID-19 pandemic, which assessed the study period between June and November 2020, 230 residents were included. Burnout syndrome was found to be significant and highly prevalent among residents working during the COVID-19 outbreak. Younger age, male gender, residents in surgical departments, and those who contracted COVID-19 were the most vulnerable groups. Residents working in surgical departments reported higher depersonalization (DP) scores compared to those in non-surgical departments ($p = .03$). There was a mild positive correlation between weekly working hours and total scores of emotional exhaustion (EE) and depersonalization (DP) ($r = .24$, $p < .001$ and $r = .23$, $p = .001$, respectively), while a negative correlation was found with personal accomplishment (PA) ($r = -0.133$, $p = .044$) (Fadle AA at al., 2023).

As stated in our study, when examining the Cronbach's Alpha internal consistency values for both the total scale and its subdimensions, the emotional exhaustion subdimension scored 0.788, the depersonalization subdimension scored 0.581, and the personal accomplishment subdimension scored 0.681. Even after the COVID-19 pandemic, assistants continue to face emotional exhaustion. The average scores for participants in the "Emotional Exhaustion" subscale of the Maslach Burnout Inventory were found to be 2.42±.70, while their scores in the "Depersonalization" subscale were 2.02±.74 on average. Furthermore, their scores in the "Personal Accomplishment" subscale were found to be 1.64±.63 on average, and their total scores on the scale were determined to be 2.04±.49 on average. These findings shed light on the levels of burnout experienced by participants and provide valuable insights into addressing burnout in various professional settings.

Studies have shown that residents working 24-hour shifts during the pandemic exhibited significantly higher rates of burnout syndrome, anxiety, and depression compared to other healthcare workers (Gualano, M.R. et al., 2021; Jéssica Loubak Paes et al., 2022) These findings have been associated with higher workload and less experience. Preventive and therapeutic measures became essential to protect those on the frontlines of the pandemic, leading to calls for intervention initiatives (Appiani FJ et al., 2021).

During this outbreak, evidence-based, multifaceted approaches have been suggested to prevent burnout. These include: raising awareness among healthcare

providers about potential burnout, promoting positive mental health, encouraging mindfulness and self-care practices, ensuring the availability of mental health services, utilizing digital technologies to prevent burnout, and creating a supportive environment through organizational strategies (Sultana A et al., 2020). Despite these efforts, the high workload has persisted. As a result, severe post-traumatic stress disorder (PTSD) is expected among healthcare workers in the post-pandemic period. Proper identification and awareness are the first critical steps in preventing this syndrome. Further evaluation is required to assess the impact of advanced administrative approaches.

This study has some limitations. As the study was cross-sectional and undertaken at a single center, these findings may not be generalizable. Larger, multi-center, and longitudinal designs are needed to validate and expand these findings.

CONCLUSION: These findings shed light on the levels of burnout experienced by participants and can provide valuable insights for addressing burnout in various professional settings. It is important for organizations and individuals to take these findings into consideration when developing strategies for promoting well-being and preventing burnout among employees or members of a group or community. Understanding the distribution of responses across these different dimensions can help tailor interventions that address specific areas contributing to burnout, ultimately leading to a healthier and more productive workforce or community.

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TABLES

Table 1: Distribution of the first things desired to be done by the participants after 24 hours of night shift

		n (%)
Average Duration of Sleep (Day)	More than 8 Hours	13 (5.2)
	8-6 Hours	107 (42.6)
	Less than 6 Hours	131 (52.2)
First thing to do after a 24-hour shift	Sleeping	162 (64.5)
	Walking or shopping alone	36 (14.3)
	Meeting with friends or family	53 (21.1)
Request from the Institution to Contribute to theoretical education outside of working hours	No	131 (52.2)
	Yes	120 (47.8)

Table 2. Distribution of Responses to Maslach Burnout Scale Questions

	Never		Several Times a Year		Several Times a Month		Several Times a Week		Every Day	
	n	%	n	%	n	%	n	%	n	%
I feel I am alienated from my job	12	4.8	41	16.3	102	40.6	59	23.5	37	14.7
I feel worn out at the end of the working day	6	2.4	17	6.8	40	15.9	87	34.7	101	40.2
I feel fatigued when I get up in the morning and have to face another day on the job	3	1.2	27	10.8	51	20.3	81	32.3	89	35.5
I can easily understand how my patients feel about things	7	2.8	25	10.0	60	23.9	98	39.0	61	24.3
I feel I treat some patients as if they were impersonal objects	41	16.3	65	25.9	75	29.9	49	19.5	21	8.4
Working with people all day is really a strain for me	23	9.2	44	17.5	79	31.5	66	26.3	39	15.5
I deal very effectively with the problems of my patients	14	5.6	25	10.0	41	16.3	93	37.1	78	31.1
I feel burned out from my work	15	6.0	39	15.5	55	21.9	66	26.3	76	30.3
I feel I am positively influencing other people's lives through my work	14	5.6	25	10,0	58	23.1	103	41.0	51	20.3
I have become more callous towards people since I took this job	15	6.0	28	11.2	58	23.1	78	31.1	72	28.7
I worry that this job is hardening me emotionally	34	13.5	49	19.5	54	21.5	63	25.1	51	20.3
I feel very energetic	36	14.3	52	20.7	82	32.7	61	24.3	20	8.0
I feel restricted by my job	36	14.3	43	17.1	78	31.1	58	23.1	36	14.3
I feel I am working too hard on my job	11	4.4	25	10.0	56	22.3	78	31.1	81	32.3

Table 3: Reliability value

Cronbach's Alpha	n
0.778	22

Table 4: Internal consistency values of the sub-dimensions of the Maslach Burnout Inventory scale

	Number of Items	Mean±SD	Median (Min-Max)	Cronbach's Alpha
Emotional exhaustion	9	2.42±0.70	2.44 (0-4.0)	0.788
Depersonalization	5	2.02±0.74	2.00 (0-4.0)	0.581
Personal accomplishment	8	1.64±0.63	1.63 (0-3.88)	0.681
Total Score	22	2.04±0.49	2.09 (0-3.64)	0.778

Table 5: Evaluation of Maslach Burnout Inventory Scores According to Daily Sleeping Time

		Average Time Spent Sleeping Per Day			Test value
		>8 hr (n=13)	8-6 hr (n=107)	<6 hr (n=131)	*p*
Emotional exhaustion	*Mean±SD*	2.66±0.71	2.37±0.66	2.43±0.73	χ^2:1.774
	Median (Min-Max)	2.7 (1.6-3.9)	2.4 (0-4)	2.3 (0,4-4)	*[a]0.412*

Depersonalization	*Mean±SD*	2.14±0.69	2.00±0.73	2.02±0.75	χ²:0.528
	Median (Min-Max)	2 (0.6-3)	2 (0-3.6)	2.2 (0.2-4)	*ᵃ0.768*
Personal accomplishment	*Mean±SD*	1.93±0.85	1.67±0.63	1.58±0,60	χ²:2.547
	Median (Min-Max)	2 (0.8-3.3)	1.8 (0-3.9)	1.6 (0.1-3,4)	*ᵃ0.280*

ᵃKruskal Wallis Test

Table 6: Evaluation of Maslach Burnout Inventory Scores According to the First Thing You Want to Do After 24 Hours of Work

		The First Thing You Want to Do After 24 Hr			
		Sleeping (n=162)	Traveling Alone or Shopping (n=36)	**Friends or Family Meeting (n=53)**	*p*
Emotional exhaustion	*Mean±SD*	2.47±0.70	2.20±0.67	2.41±0.70	F:2.188
	Median (Min-Max)	2.6 (0-4)	2.2 (0.9-3.6)	2.3 (0.4-4.0)	*ᵇ0.114*
Depersonalization	*Mean±SD*	2.06±0.71	1.93±0.72	1.94±0.81	F:0.791
	Median (Min-Max)	2 (0-4)	2 (0.2-3)	2 (0.4-3.6)	*ᵇ0.455*
Personal accomplishment	*Mean±SD*	1.63±0.60	1.74±0.51	1.59±0.79	F:0.832
	Median (Min-Max)	1.6 (0-3.3)	1.9 (0.8-2.6)	1.6 (0.1-3.9)	*ᵇ0.439*

ᵇOneway ANOVA

Table 7: Evaluation of Maslach Burnout Inventory Scores Based on the Desire for Institutional Contribution to Theoretical Education Outside Working Hours

		Desire for Institutional Contribution to Theoretical Education Outside Working Hours		
		No (n=131)	Yes (n=120)	*p*
Emotional exhaustion	*Mean±SD*	2.42±0.76	2.41±0.64	t:0.058
	Median (Min-Max)	2.4 (0-4)	2.3 (0.9-4)	*ᶜ0.953*
Depersonalization	*Mean±SD*	2.00±0.76	2.03±0.72	t-0.358
	Median (Min-Max)	2.2 (0-4)	2 (0.2-3.6)	*ᶜ0.721*
Personal accomplishment	*Mean±SD*	1.65±0.57	1.62±0.69	t0.325
	Median (Min-Max)	1.8 (0-2.9)	1.6 (0.1-3.9)	*ᶜ0.746*

ᶜStudent-t Test
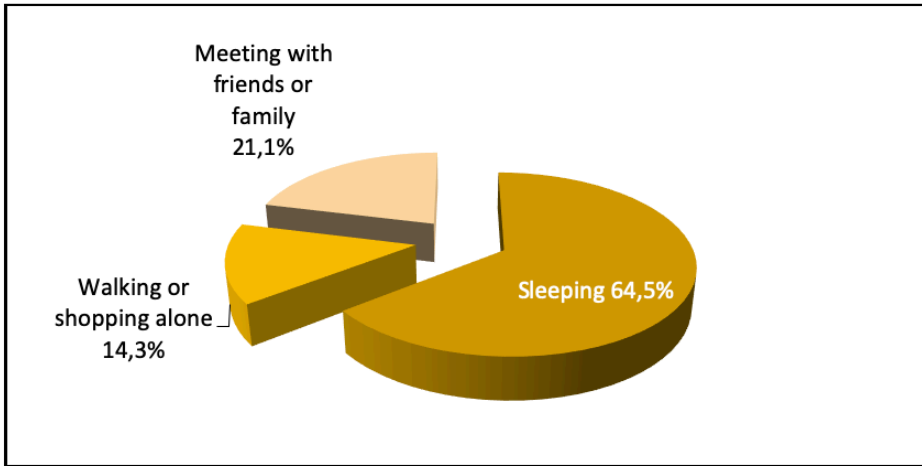
FIGURES

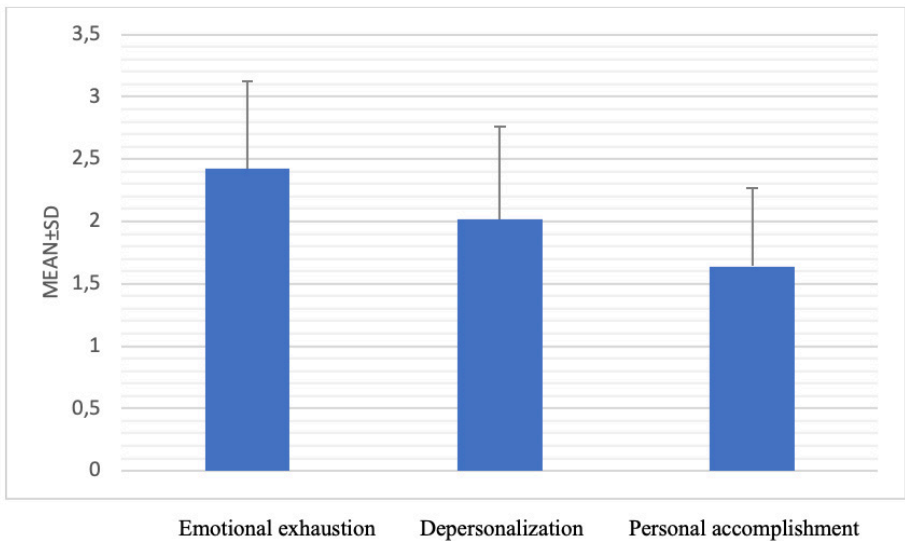**Figure 1.** Distribution of the first things desired to be done by the participants after 24 hours of night shift

Figure 2: Distribution of Maslach Burnout Inventory