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The Determination of Burn out Levels and Sleep Periods in People among the Physiotherapist Profession

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Abstract

The aim of this study is to determine the burnout levels and daytime sleepiness of the physiotherapists who are actively working in the field. In this study, the Maslach Burnout Inventory (MBI), which was developed by Maslach, translated into Turkish by Ergin and studied in terms of validity and reliability, was used. In addition, the Epworth Sleepiness Scale (ESS), regarded as a valid and reliable test of high internal consistency, was used for eight different conditions that could be used in sleep and sleep disorders in Turkey. The effects of income, marital status, place of residence, age, social security, gender, and smoking on the emotional exhaustion and depersonalization, the subscales of Maslach Burnout Inventory, were not observed in the physiotherapists. Meanwhile, no relation was observed in the physiotherapists between the sleepiness status assessed by the Epworth Sleepiness Scale and age, social security, marital status, income level, and smoking. The rate of sleepiness in women, on the other hand, was found to be increased. It was observed that the difference in terms of the place of residence was due to the differences between the city and the district.

Keywords: Burnout; Syndrome; physiotherapist; Sleepimess; Anova

Abbreviations: MBI: Maslach Burnout Inventory; ESS: Epworth Somnolency Scale; CD: Chronic Disease.

Introduction

Burnout is a syndrome characterized by emotional exhaustion that results in depersonalization and decreased personal accomplishment at work especially for professions such as doctors, nurses, social workers, teachers, physiologists, physiotherapist etc [1]. In recent years, there are studies conducted for the burnout among different professions. The emotionally exhausted clinician is overwhelmed by work to the point of feeling fatigue, unable to face the demands of the job, being absent from work and unable to engage with others. The burned out clinician may develop a sense of cynical detachment from work and view people especially patients-as objects. Fatigue, exhaustion, and detachment coalesce such that clinicians no longer feel effective at work because they have lost a sense of their ability to contribute meaningfully [2]. In the past few years,

the growing prevalence of burnout syndrome among health care personnel has gained attention as a potential threat to health care quality and patient safety.

Burnout is common among different work groups but characteristics of the health care environment, including time pressure, lack of control over work processes, role conflict, and poor relationships between groups and with leadership, combining with personal predisposing factors and the emotional intensity of clinical work to put clinicians at high risk [3,4].

The term "burnout" was first introduced by Freuden berger in 1974, a clinical psychologist who used it to describe the physical and emotional exhaustion (EE) he observed in employees of healthcare facilities [5,6]. According to the American psychologist Christina Maslach, burnout is a syndrome of EE, depersonalization (DP), and reduced personal accomplishment (PA). It is a psychological concept, and describes the experience of long-term exhaustion and diminished interest (DP or cynicism), usually in the work context. Burnout syndrome in healthcare workers is a state of physical, emotional, and mental exhaustion caused by long-term involvement in situations that are emotionally demanding. Maslach Burn out syndrome (MTE) has been translated in to Turkish in 1992 by Ergin. It is regarded as the result of chronic stress that has not been successfully addressed [7].

People feeling sleepy during the day is the main causes of the burn out. EDS disorder is affecting about 20% of the adult population [8]. Burnout syndrome may predispose healthcare professionals to EE, DP, and having a reduced sense of PA, resulting in a decline in their professional output and results and increases the possibility of having serious work related or motor accidents [9-11]. Burnout syndrome may predispose healthcare professionals to EE, DP, and having a reduced sense of PA, resulting in a decline in their professional output and results. The PA scale assesses how frequently the respondent experiences positive feelings from success and accomplishments at work [12-15].

The measurement of burnout syndrome commonly used in published research is the Maslach Burnout Inventory (MBI). This is a 22-item self-assessment tool that measures three burnout elements (EE, DP, and reduced PA). The EE scale measures how frequently an individual feel emotionally overextended at his/her work environment. The second scale, DP, evaluates how an individual respond to colleagues and one's attitude toward recipients of one's services. The PA scale assesses how frequently the respondent experiences positive feelings from success and accomplishments at work. This inventory has become the standard tool for measuring burnout syndrome in research globally [16].

sThis study provides some information on the various levels of burnout syndrome among various healthcare professionals such as physiotherapists with abnormal working hours, both physical and mental pressure due to work load, also dealing with disable patients which may increase the symptoms. This may be due to different factors affecting healthcare professionals in different environments and contexts, which may vary from institution to institution as the case may be. The objective of this study was to identify the prevalence and patterns of presentation of this disorder and work towards reducing the potential risks accordingly. Furthermore, due to increasing work load and potential increase in burnout disorder during the day, we planned to conduct MTE and ESS analysis methodology. The objective of this study; specialist training, identify the level of burnout and sleeping disorder for the physiotherapists that works in healthcare centres or hospitals due their work environment.

Methods and Procedures

Type of the Research

This research was conducted as a cross-sectional one between 21.12.2018-23.03.2019 in Kayseri city centre. It was realized through replies of questions in the forms by therapists under the control of researchers.

Population and Sample

The population of the research is composed of physiotherapists working in Turkey. The size of the sample that represents the population is 106. The aim of the research was to provide a questionnaire to all the population but as some physiotherapists refused to fill in the questionnaire, it could be applied to 106 physiotherapists. Analyses were conducted through 106 questionnaires.

Data Collection Tools

In order to identify the level of burnout at physiotherapists taking part in the research and to define the variables that cause burnout, "Demographic Data Form", "Maslach Burnout Inventory" (MBI) and "Epworth Sleepiness Scale" (ESS) were jointly applied. Two types of scales were used in the questionnaire that was used as data collection tool. Data was collected by having the physiotherapists fill the questionnaire provided by the researcher.

Maslach Burnout Inventory (MBI)

In order to measure the burnout of the academic staff, the Maslach Burnout Inventory, developed in 1981 by Maslach and Jackson and adapted into Turkish in 1992 by Canan Ergin,

was used. This inventory, composed of 22 statements in total, measures burnout through three different aspects. The first of these is the emotional exhaustion sub-aspect composed of 9 statements, the second is the depersonalization sub-aspect composed of 5 statements and the last is the personal accomplishment sub-aspect composed of 8 statements. Personal accomplishments statements in the survey are positive ones in contrast to others and the high score obtained from these statements expresses high personal accomplishment; what is more, demonstrates that burnout is at a low level. In accordance with this, high scores obtained from emotional exhaustion and depersonalization sub-aspects and the low score obtained from the sub-aspect of personal accomplishment express burnout at a high level [16].

Epworth Somnolency Scale (ESS)

It is a practical, commonly-used, quadruple like rt scale based on self-report, developed in 1991 by M.W. Johns, used for the purpose of assessing the level of somnolency at daytime. It is approved by all countries and World Health Organization [16].

It consists of 8 questions in total. It is scored in 0,1,2 and 3 (If it never happens, the score should be marked as 0; even if it happens very rarely, the score should be marked as 1; if it sometimes happens, the score should be marked as 2 and if it often happens, the score should be marked as 3 and it is acknowledged that there is too much daytime somnolency in persons with the score of 11 and above). In addition, while conducting the test, even if the person encounters the specified thing even for once, it is enough for appointing a score. This survey should be carried out after determining the hours when the patient is not too tired. The reason for this is to prevent the patient from marking an extreme score.

The study for the validity and reliability of Epworth Somnolency Scale was conducted by Agargin, et al. in 1999; the internal consistency coefficient of the test was reported to be 0.80. In this way, the reliability and validity of the form of the test adapted into Turkish was proven [17].

The Reliability Analysis of the Scale Employed for the Study

The reliability of the Burnout Inventory (BI) was calculated through the methods of Cronbach's alpha internal consistency coefficient and the reliability coefficient of the test-retest method (stability). The Cronbach alpha internal consistency coefficient of the Burnout Inventory was found to be α=0, 93; it was found to be 0,83, 0,75, 0,88 for subcomponents respectively. The test-retest correlation coefficient of the Burnout Inventory obtained with a gap of one month from 80 textile mill employees was calculated to be r=0,85 ($p<0,01$); the correlation coefficient obtained through the method of test-retest with a gap of two months from 77 teachers was calculated to be r=0,83 ($p<0,01$). These results indicate that the reliability of the scale is high [17].

In order to test the reliability of Epworth Somnolency Scale (ESS), 40 patients and 41 healthy control subjects complying with the diagnosis criteria of DSM IV primary hypersomnia were included in the study. Epworth Somnolence Scale was applied on all subjects in two different periods of time, Cronbach's a statistic and Pearson correlation analysis were applied and the internal consistency of each circumstantial score and total score of Epworth Somnolency Scale was examined. T test and Pearson correlation analysis were carried out in dependent groups and the test-retest reliability of the scale was examined. The internal consistency of the scale has been found high for eight different situations (Cronbach =0.80). It has been determined that the scale's total and each-case rates were consistent in two different periods and there is a significant difference between the primary patient group with hypersomnia and the healthy persons group [18].

Epworth Sleepiness Scale is a scale which is easy to apply and understand and is proven in terms of validity and reliability in evaluation of the general sleepiness levels. It has been proven that it can be reliably used for measuring the general sleepiness level and sleepiness levels in different cases in the studies to be carried out regarding sleep and sleep disorders in our country [19].

Analysis of Data

The data obtained by survey method through the determined sampling were analysed with SPSS for Windows package program (Statistical Program for Social Sciences). In the study, reliability analysis, independent samples t-test, one-way Anova, student t-test, chi-square, and Turkey multi comparison tests were used.

Evaluation of the Scores of Scales

Evaluation of Maslach Burnout Level Inventory Scores The answers given to the questions on burnout levels by the physiotherapists participating in the study form the scores taken from emotional burnout, desensitization and personal success levels in the burnout levels inventory of the sampling (Tables 1 & 2).

Burnout Level	low	Normal	High
Emotional Exhaustion -EE	0-16	17-26	27 and above
Depersonalization-D	0-6	12-Jul	13 and above
Personal Achievement-PA	39and above	32-38	0-31

Table 1: Evaluation of the score intervals of 3 sub-headings of the burnout level inventory [20].

Epworth Sleepiness Scale Evaluation of Scores

Sleepiness Levels				
Normal	Normal but İncreased daytime sleepiness	Increased but moderate daytime sleepiness	Increased, moderate daytime sleepiness	Increased, severe daytime sleepiness
0-5	10-Jun	12-Nov	13-15	16-24

Table 2: The results of the scale applied to physiotherapists according to the intervals [21].

Results

There was no statistically significant relationship between emotional exhaustion, depersonalization and personal success of sub-headings of Maslach Burnout Inventory (P> 0.05).

There was no statistically significant correlation between social security, emotional exhaustion and depersonalization sub-headings of Maslach Burnout Inventory (p> 0.05). However, a statistically significant relationship was found between personal success (p <0.05). There was no statistically significant correlation between emotional status and Maslach Burnout Inventory sub-headings, emotional exhaustion, depersonalization and personal success (p> 0.05). There was no statistically significant relationship between the use of cigarette smoking and the Maslach Burnout Inventory sub-headings, emotional exhaustion, depersonalization and personal success (p> 0.05). There was no statistically significant relationship between the income level and the sub-headings of Maslach Burnout Inventory, emotional exhaustion, depersonalization and personal success (p> 0.05). There was no statistically significant relationship in the sub-headings of chronic diseases and Maslach Burnout Inventory between emotional illness, depersonalization and personal accomplishment (p> 0.05) (Tables 3 & 4).

Varıables	Emotional Exhaustion			Depersonalization			Personal Success		
	D	O	Y	D	O	Y	D	O	Y
	n %	n %	n %	n %	n %	n %	n %	n %	n %
Gender Women	6(60.0)	19(59.4)	19(46.9)	22(53.7)	24(54.5)	9(42.9)	9(69.2)	23(54.8)	23(45.1)
Male	4(40.0)	13(40.6)	13(53.1)	19(46.3)	20(45.5)	12(57.1)	4(30.08)	19(45.2)	28(54.9)
P	0.443			0.65			0.266		
Locatıon									
Metropolitan	7(70.0)	18(56.2)	32(50.0)	28(68.3)	22(50.0)	7(33.3)	9(69.2)	22(52.4)	26(51.0)
City	3(30.0)	13(40.6)	28(43.8)	12(29.3)	20(45.5)	12(57.1)	4(30.8)	18(42.9)	22(43.1)
District	0(0)	1(3.1)	4(6.2)	1(2.4)	2(4.5)	2(9.5)	0(0)	2(4.8)	3(5.9)
P	0.725			0.102			0.765		
Health Insurance									
Private İnsurance	0(0)	0(0)	4(6.2)	1(2.4)	3(6.8)	0(0)	0(0)	4(9.5)	0(0)
Sgk	10(100.0)	32(100.0)	60(93.8)	40(97.6)	41(93.2)	21(100.0)	13(100.0)	38(90.5)	51(100.0)
P	0.256			0.342			0.042		
Maritul Status									
Married	6(60.0)	12(37.59	22(34.4)	19(46.3)	15(34.1)	6(28.6)	7(53.8)	14(33.3)	19(37.3)
Single	4(40.0)	19(59.4)	41(64.1)	22(53.7)	27(61.4)	15(71.4)	6(46.2)	27(64.3)	31(60.8)

Spouse Passed Away	0(0)	1(3.1)	1(1.6)	0(0)	2(4.5)	0(0)	0(0)	1(2.4)	1(2.0)
P	0.587			0.289			0.744		
Smoker									
No	3(30.0)	6(18.8)	19(29.7)	9(22.0)	10(22.7)	9(42.9)	2(15.4)	9(21.4)	17(33.3)
yes	7(70.0)	26(81.2)	45(70.3)	32(78.0)	34(77.3)	12(57.1)	11(84.6)	33(78.69	34(66.7)
P	0.5			0.161			0.272		
İncome Level									
Minimum wage	0(0)	3(9.4)	9(14.1)	5(12.2)	5(11.4)	2(9.5)	3(23.1)	5(11.9)	4(7.8)
Double minumum wage	7(70.0)	25(78.1)	47(73.4)	27(65.9)	35(79.5)	17(81.0)	8(61.5)	30(71.4)	41(80.4)
Triple minumum wage	3(30.0)	4(12.5)	8(12.5)	9(22.0)	4(9.1)	2(9.5)	2(15.4)	7(16.7)	6(11.8)
P	0.446			0.456			0.535		
Chronic Diseases									
Hbl	0(0)	1(100.0)	1(20.0)	1(20.0)	1(33.3)	0(0)	1(50.0)	1(20.0)	0(0)
Dm	0(0)	0(0)	1(20.0)	0(0)	0(0)	1(100.0)	0(0)	1(20.0)	0(0)
Other	3(100.0)	0(0)	3(60.0)	4(80.0)	2(66.7)	0(0)	1(50.0)	3(60.0)	2(100.0)
P	0.249			0.056			0.663		

Table 3: There was no statistically significant relationship between gender and the sub-headings of Maslach Burnout Inventory (p> 0.05).

Varıables	Emotional Exhaustion	Depersonalization	Personal Success
Gender Male	28.3455±8.6885	10.8627±4.1918	31.6545(30.4013-32.9077)
Female	28.9412±7.2122	9.9455±4.4722	29.2353(27.74-30.7305)
P	0.3824	0.278	0.014
Locatıon Metropolitan			
City	28.1754±8.1419	9.5263 ±4.2473	31.3509 ± 4.8199
District	29.0909± 7.8350	11.2273 ±4.2144	29.6136 ± 5.4696
	29.8000 ±8.7579	12.8000 ±4.8683	28.4000 ± 3.2863
P	0.806	0.064	0.152
Health Insurance			
İnsurance Private	34.7500± 4.3493	9.5000 ±2.5166	33.0000± 1.1547
Sgk	28.3922 ±8.0064	10.4216 ±4.3927	30.3922± 5.1688
P	0.119	0.679	0.318
Maritul Status			
Married	28.1500 ±8.9659	9.5000± 4.3205	30.9500±5.0786
Single	28.7812 ±7.3257	10.9375± 4.3420	30.2500 ±5.1270
Spouse Passed Away	33.5000 ±10.6066	10.5000± 2.1213	29.0000±7.0711
P	0.638	0.26	0.73
Smoker			
No	30.0714 ±8.4981	11.6071 ±4.7089	28.7857(26.6531-30.9183)
Yes	28.1154±7.7777	9.9487 ± 4.1338	31.1026(30.0121-32.193)
P	0.268	0.082	0.039

İncome Level			
Minimum Wage	30.1667 ±6.8335	9.7500 ±3.8642	32.0833 ±6.9604
Double Minumum Wage	28.7975 ±7.7284	10.5316± 4.2962	30.2532 ±4.6090
Triple Minumum Wage	26.5333 ±10.0631	10.1333± 5.0690	30.4667± 5.9984
P	0.473	0.822	0.515
Chronic Diseases			
Hbl	26.5000 ±13.4350	8.0000 ±4.2426	36.5000± 2.1213
Dm	37.0000 NA	14.0000 NA	36.0000 NA
Other	23.8333 ±9.6419	8.1667± 2.1370	32.0000± 6.1644
P	0.535	0.186	0.588

Table 4: There was no statistically significant difference between the mean values of emotional exhaustion and gender (p> 0.703).

There was no statistically significant difference between emotional exhaustion and cigarette use (p> 0.268). There was no statistically significant difference between depersonalization mean and gender (p> 0.278). There was no statistically significant difference between depersonalization mean values and smoking (p> 0.082). There is a statistically significant difference in mean personal success values according to gender. Female (B) category average personal success value was higher than male (A) category (p <0.014) There is a statistically significant difference in average personal success values when smoking is considered. No (B) was found to be higher than those who said yes (A) (P <0.039).

There was no statistically significant difference between the mean emotional exhaustion and the place of residence (p> 0.806). There was no statistically significant difference between emotional exhaustion average values and social insurance (p> 0.119). There was no statistically significant difference between emotional exhaustion mean values and marital status. (P <0.0638) There was no statistically significant difference between the mean values of emotional exhaustion and income level (p> 0.473).

There was no statistically significant difference between emotional exhaustion mean values and chronic diseases (p> 0.535). There was no statistically significant difference between depersonalization mean values and the place of residence (p> 0.064). There was no statistically significant difference between depersonalization mean values and social security (p> 0.679). There was no statistically significant difference between depersonalization mean values and marital status (p> 0.260). There is no statistically significant difference between depersonalization average values and income level (P> 0.822). There is no statistically significant difference between depersonalization average values and chronic diseases (P> 0.186). There was no statistically significant difference between the average values of personal success and the place of residence (P> 0.152). There was no statistically significant difference between the average value of personal achievement and social security (P> 0.318). There was no statistically significant difference between personal achievement average values and marital status. (P> 0.730)

There was no statistically significant difference between the average value of personal achievement and income level (P> 0.515). There was no statistically significant difference between the average values of personal success and chronic diseases (P> 0.588) (Tables 5 & 6).

Variables	Epworth
Gender Male	8.6364 ±3.5138
Female	7.6667 ±3.6806
P	0.168
Location	
Metropolitan	8.1579(7.3256-8.9902)
City	8.6136(7.4331-9.7942)
District	4.4000(2.1143-6.6857)
P	0.045

Table 5: There was no statistically significant difference between epworth average values and gender (p> 0.168).

There was no statistically significant difference between Epworth's average values and smoking (p> 0.514). There is a statistically significant difference between Epworth's mean values and place of residence. This significance is due to the differences between city and district (Tukey HSD Test) (P <0.045). There is no statistically significant difference between Epworth's mean values and social security (P> 0.964). There was no statistically significant difference between Epworth's mean values and marital status (P> 0.407). There was no statistically significant difference

between Epworth's mean values and income level (p> 0.369). There was no statistically significant difference between Epworth's mean values and chronic diseases (P> 0.426).

Epworth Sleepıness Scale						
Varıables	**Normal**	**Normal But Increased**	**Increased But Fine**	**Increased,Average Level**	**Highly Increased**	**P**
	n %	n %	n %	n %	n %	
Gender						
Male	13(48.1)	26(49.1)	10(66.7)	4(50.0)	2(66.7)	0.753
Female	14(51.9)	27(50.9)	5(33.3)	4(50.0)	1(33.3)	
Location						
Metropolitan	14(51.9)	30(56.6)	10(66.7)	1(12.5)	2(66.7)	0.18
City	10(37.0)	21(39.6)	5(33.3)	7(87.5)	1(33.3)	
District	3(11.1)	2(3.89	0(0)	0(0)	0(0)	
İncome Level						
Minimum wage	0(0)	3(5.7)	1(6.7)	0(0)	0(0)	0.671
Double minimum wage	27(100)	50(94.3)	14(93.3)	8(100.0)	3(100.0)	
Triple minimum wage						
Marital Status						
Married	11(40.7)	20(37.7)	7(46.7)	1(12.5)	1(33.3)	0.043
Single	16(59.3)	33(62.3)	6(40.0)	7(87.5)	2(66.7)	
spouse passed away	0(0)	0(0)	2(13.3)	0(0)	0(0)	
Cigarette Use						
yes	7(25.9)	15(28.3)	4(26.7)	1(12.5)	1(33.3)	0.914
No	20(74.1)	38(71.7)	11(73.3)	7(87.5)	2(66.7)	
İncome Level						
Minimum Wage	3(11.1)	7(13.2)	2(13.3)	0(0)	0(0)	0.537
Double Minimum Wage	21(77.8)	35(66.0)	12(80.0)	8(100.o)	3(100.0)	
Triple Minimum Wage	3(11.1)	11(20.8)	1(6.7)	0(0)	0(0)	
Chronic Diseases						
Hbl	0(0)	1(33.3)	1(25.0)	0(0)	0(0)	0.667
Dm	0(0)	0(0)	1(25.0)	0(0)	0(0)	
Other	2(100.0)	2(66.7)	2(50.0)	0(0)	0(0)	

Table 6: There was no statistically significant relationship between gender and Epworth Sleepiness Scale (p> 0.05).

There was no statistically significant relationship between Epworth Sleepiness Scale and place of residence (p> 0.05). There was no statistically significant relationship between social security and Epworth Sleepiness Scale (p> 0.05). A statistically significant relationship was found between marital status and Epworth Sleepiness Scale (p <0.05). Women were found to have increased sleepiness. There was no statistically significant relation between

smoking and Epworth Sleepiness Scale (p> 0.05). There was no statistically significant relationship between the income level and Epworth Sleepiness Scale (p> 0.05). There was no statistically significant correlation between chronic diseases and Epworth Sleepiness Scale (p> 0.05).

Discussion and Conclusion

The aim of this study is to determine the burnout levels and daytime sleepiness of the physiotherapists who are actively working in the field. In this study, the Maslach Burnout Inventory (MBI), which was developed by Maslach, translated into Turkish by Ergin (1992) and studied in terms of validity and reliability, was used. In addition, the Epworth Sleepiness Scale (ESS), regarded as a valid and reliable test of high internal consistency, was used for eight different conditions that could be used in sleep and sleep disorders in Turkey [6-16].

According to the results obtained from the study, the effects of income, marital status, place of residence, age, social security, gender, and smoking on the emotional exhaustion and depersonalization, the subscales of Maslach Burnout Inventory, were not observed in the physiotherapists. In addition, a more positive impact on personal achievement was observed in those covered by private insurance compared to those covered by SSI, women compared to men, and non-smokers compared to regular smokers. Considering this situation, we have seen that external factors increase burnout in working areas.

Meanwhile, no relation was observed in the physiotherapists between the sleepiness status assessed by the Epworth Sleepiness Scale and age, social security, marital status, income level, and smoking. The rate of sleepiness in women, on the other hand, was found to be increased. It was observed that the difference in terms of the place of residence was due to the differences between the city and the district.

Our results are specific to the study group and should not be generalized. However, it is expected that this study will contribute to the planning of controlled researches on larger groups that will examine the effects of burnout and sleep disorders in physiotherapists with a multidisciplinary approach.

Similar studies are also available in the literature. Different and similar results were found in these studies. In 2006, Rosen I. et al. conducted a study on doctors specialized in internal medicine at the University of Pennsylvania Medical School in Pennsylvania. 58 people were included in the study, in which ESS, MBI, Beck's Depression Inventory (BDI -short form), and Interpersonal Reactivity Index (IRI) were used. The study revealed that chronic sleepiness was associated with depression. However, no relationship was observed with burnout subscales in this scope [20].

Guglielmi O, et al. in 2014, he conducted a study to evaluate job stress, burnout and job satisfaction in patients with obstructive sleep apnea syndrome (OSAS). A total of 182 OSAS patients and 71 healthy subjects were included in the study. Participants completed the Job Content Survey, the Maslach Burnout Inventory - General Survey, Job Satisfaction Index, Epworth Sleepiness Scale and Pittsburgh Sleep Quality Index. There was a difference in ESS in both groups. In this study, low sleep quality, excessive daytime sleepiness and burnout, especially emotional exhaustion and cynicism subscales showed a strong correlation between the participants [21]. Korean J, et al. The study included interns and assistant doctors in a university hospital in Busan. 147 people were included in the study (61 interns and 86 assistant doctors). In this study, medical self-evaluation, a linear analog self-assessment of the overall quality of life (QOL), fatigue, Epworth Sleepiness Scale (ESS) score, Maslach Burnout Inventory and an approved depression screening tool were used. This study showed that burnout is associated with reported medical problems of the individual, regardless of weakness and daytime sleeplessness. In this study, individuals with high emotional exhaustion and depersonalization reported more medical problems [22]. Oldenburg M. and friends I 251 sailors participated in a cross - sectional study. Emotional exhaustion (EE) was used on the first scale of the Maslach Burnout Inventory (22-item version) to evaluate the burnout risk. In addition, Epworth Sleepiness Scale (ESS) was applied to evaluate the drowsiness of daytime sleepiness. According to the results, it was found that the average number of working hours per day was longer and the ESS scores of seafarers with shorter sleep hours per day increased significantly. In addition, this study showed that longer working hours per day were significantly more frequent among sailors with a high risk of burnout [23]. Öztürk, et al. in 2012, she worked on 215 physicians at Gülhane Military Medical Academy in Ankara. Maslach Burnout Inventory and Job Satisfaction Scale were used in the study. As a result, it is seen that young practitioners perceive themselves inadequate in the success of their personal success in the first years of their duties, and on the other hand, it is observed that job satisfaction increases in the case of age progression and becoming an expert [24]. Şahin, et al. in 2014, she studied on 412 students studying at Gülhane Military Medical Academy. Epworth Sleepiness Scale was used in this study. As a result, 34.5% of the students who participated in the study were experiencing daytime excessive sleepiness, which was considered to be higher than expected (4-6%) [25]. Johnson MK, et al. in 2017, 307 students were included in the study conducted by the US in a large state university. Participants filled out an anonymous questionnaire about sleep habits, daytime

sleepiness (Epworth sleepiness scale), burnout (Maslach burnout inventory), depression (PRIME MD) and perceived stress (perceived stress scale). Depression and burnout relationships were found to be statistically significant [26]. Alsaggaf MA, et al. in 2015, 305 students participated in the study at King Abdulaziz University Faculty of Medicine. Students completed a questionnaire including demographic and lifestyle factors, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale and Perceived Stress Scale. Multivariate regression models revealed a significant relationship between stress, low sleep quality and excessive daytime sleepiness. It has been associated with lower academic performance and stress and insomnia symptoms [27]. Şentürk S, the study was conducted on 53 nurses in order to examine the relationship between burnout levels and sleep quality of intensive care nurses. In this study, Data Personal Information Form and Maslach Burnout Inventory (MBI) were used. As a result, it was found that intensive care nurses had poor sleep quality and low level of burnout and a significant relationship between them [28]. Ergin A, et al. conducted a study to determine the quality of sleep on the first grade students of health education and their relationship with some healthy living behaviours. 492 students participated in the study. A sociodemographic questionnaire and Epworth sleep scale were used on the Ergin A. et al. Conducted a study to determine the quality of sleep on the first year students of health education and their relationship with some healthy living behaviours. 492 students participated in the study. A sociodemographic questionnaire and Epworth sleep scale were used on the students. As a result, the vast majority of students have poor sleep quality; poor sleep quality was found to be related to the student's department, where he / she was staying, a history of sleep disorder in the family and the use of energy drink [29]. Pagnin, et al. in 2014, he conducted research on 127 people from the Fluminense Federal University. Maslach Burnout Inventory-Student Questionnaire, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, Beck Depression Inventory and Beck Anxiety Inventory were used. According to the results of the study, the medical students were emotionally exhausted in the preclinical stage and the students also showed depressive and anxious symptoms. Finally, medical students showed increased sleep disorder and daytime sleep disorders [30]. In 2017 Metlaine A, et al. has worked on 1300 employees of a financial company. Maslach Burnout Inventory, Business Content Survey, ICSD-3 classification-based sleep questionnaire, Epworth sleepiness scale and Hospital Anxiety and Depression Scale (HADS) were used. According to the results, high level of workload, but job satisfaction is high in the financial workers showed that burnout is moderate. In this specific and frequently studied study population, the high workload was significantly associated with burnout only in individuals with insomnia [31].

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