

Profile differences of medical doctors from three different hospitals in Turkey concerning burnout, job satisfaction, and depression

Türkiye'de üç farklı hastanedeki tıp doktorlarının farklı profillerinin tükenmişlik, iş doyumunu ve depresyon ile ilişkisi

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SUMMARY

Objective: This study aimed to compare job satisfaction, burnout, and depression scores of medical doctors from different regions in Turkey. **Method:** A cross-sectional study was performed during October 2013 in three cities from Turkey. Participants were asked to self-administer a demographic information questionnaire, the Minnesota Satisfaction Questionnaire (Internal work satisfaction-IWS and External work satisfaction-EWS), the Beck Depression Inventory (BDI), the Maslach Burnout Inventory (MBI), Maslach Emotional Exhaustion Score (MEES), and Maslach Personal Accomplishment Score (MPAS). **Results:** Mean (\pm SD) Total work satisfaction score was 66.2 ± 12.6 . 118 participants had BDI scores of 10 or less while 40 participants had 11 or higher scores. Proportions for poor depersonalization, emotional exhaustion, and personal accomplishment were 18.6% ($n=29$), 5.8% ($n=9$), and 81.9% ($n=127$) respectively. There were significant differences concerning some variables between the three cities. Most of the doctors in Şirnak and Hakkari were younger, single, and less experienced compared to the more developed Çanakkale ($p<0.05$). **Discussion:** In a hierarchical regression analysis, independent of the other factors, MPAS and MEES were predictors of the total job satisfaction score. MPAS and MEES are the most significant independent variables affecting job satisfaction. Decreasing stressors and assuring a motivating and supportive environment may prove to be helpful in the enhancement of job satisfaction.

Key Words: Burnout, Depression, Developmental Indices, Job Satisfaction, Medical Doctors

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ÖZET

Amaç: Bu çalışma Türkiye'deki farklı bölgelerden gelen tıp doktorlarının iş doyumunu, tükenmişlik ve depresyon puanı düzeylerini karşılaştırmayı amaçlamıştır. **Yöntem:** Ekim 2013'te Türkiye'den üç şehirde kesitsel bir çalışma yapıldı. Katılımcılardan; bir demografik bilgi anketi, Minnesota Memnuniyet Anketi (Dahili iş memnuniyeti-IWS ve Harici iş memnuniyeti-EWS), Beck Depresyon Envanteri (BDI), Maslach Tükenmişlik Envanteri (MBI), Maslach Duygusal Tükenme Puanı (MEES) ve Maslach Kişisel Başarı Puanı (MPAS)'nı kendilerinin doldurması istendi. **Bulgular:** Ortalama (\pm SD) Toplam iş memnuniyeti puanı 66.2 ± 12.6 idi. Toplam 118 katılımcı BDI'dan 10 veya daha az puan alırken, 40 katılımcı 11 veya daha yüksek puan aldı. Yetersiz duyarsızlaşma, duygusal tükenme ve kişisel başarı oranları sırasıyla % 18,6 ($n = 29$), % 5.8 ($n = 9$) ve % 81.9 ($n = 127$) idi. Şehirler. Şirnak ve Hakkari'deki doktorların çoğu daha gelişmiş olan Çanakkale'ye göre daha genç, bekâr ve daha az deneyimliydi ($p < 0.05$). **Sonuç:** Bir hiyerarşik regresyon analizinde; diğer faktörlerden bağımsız olarak MPAS ve MEES toplam iş memnuniyeti puanının yordayıcılarıydı. MPAS ve MEES iş tatminini etkileyen en önemli bağımsız değişkenlerdir. Streslerin azaltılması ve motive edici ve destekleyici bir ortamın sağlanması, iş tatminini artırmada yardımcı olabilir.

Anahtar Sözcükler: Tükenmişlik, Depresyon, Gelişim Endeksleri, İş Tatmini, Tıp Doktorları.

INTRODUCTION

Burnout, depression and job satisfaction are interconnected. Burnout is strongly correlated with depression and inversely associated with job satisfaction. On the other hand, burnout has negative effect on job satisfaction and job performance, and can lead to mental health issues, including anxiety, depression, and suicide (1).

Burnout and depression are highly prevalent among medical doctors (2). Burnout in the life of health care workers is the construct used to describe the psychological state resulting from a prolonged period of high stress levels in their professional lives. It was initially conceptualized as a syndrome resulting from contact with people who are suffering (3).

The concept of burnout, depression, and job satisfaction has also raised the attention of Turkish researchers. High levels of exhaustion was reported among nurses working in the emergency wards (4), general practitioners (5), and specialty trainees (6). Turkey is a multicultural society with the east and southeastern parts being relatively less developed. Although it was reported that burnout was higher among physicians working in the less developed eastern areas (7), there are no studies comparing differences between east and west.

Age, sex, educational level, working conditions, and job satisfaction have been found as significantly affecting burnout (1,2,4–9). We decided to conduct a study looking into the relationships of different factors affecting job satisfaction, burnout, and depression by comparing data obtained from cities with different developmental indices and run a hierarchical regression analysis for this purpose. Hence, this study aimed to examine the burnout levels of medical doctors from different regions in Turkey and evaluate the relationship between burnout, job satisfaction, depression, and some demographic factors.

METHODS

This is a cross-sectional study to evaluate the rela-

tionship between burnout, job satisfaction, depression, and some demographic factors in Turkey.

Population and Sampling

The study population consisted of medical doctors working in the Çanakkale, HakkariYüksekova, and Şırnak State Hospitals during October 2013. The total number of physicians employed in the given hospitals was 136, 23, and 47, respectively. We targeted all medical doctors and achieved high response rates (Figure 1).

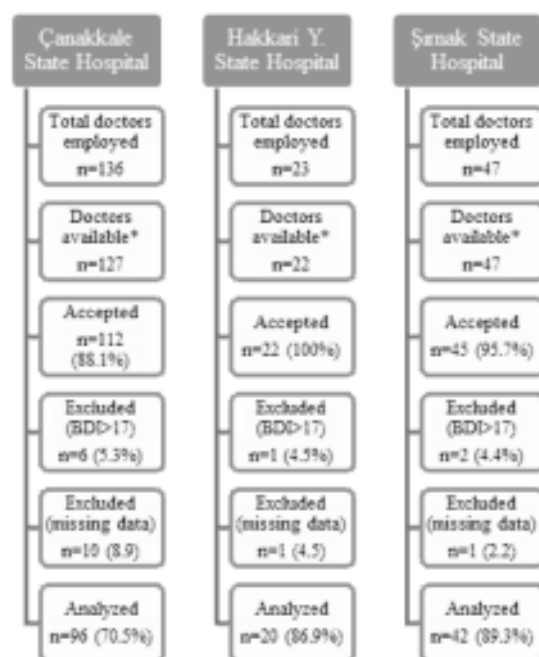
Study Variables

The central study hypothesis was that there were no differences in the job satisfaction scores of physicians from different cities in Turkey. Hence, the primary outcome variable was the Total Work Satisfaction Score. Independent study variables were hospital location (city), age, sex, marital status, income perception, duration in the occupation, length of work in the hospital, branch (surgical vs. non-surgical), Beck Depression Inventory Score (BDIS), Maslach Depersonalization Score (MDS), Maslach Emotional Exhaustion Score (MEES), and Maslach Personal Accomplishment Score (MPAS).

Settings

The study was conducted in three state hospitals from different provinces in Turkey during October 2013. It was demonstrated that the socioeconomic development is not equally distributed across the country. Çanakkale is in the west of Turkey, in the Marmara region, with a mean developmental index of 1.166, whereas Hakkari is in the eastern Anatolia where the average developmental index is -0.861, and Şırnak is in the southeast with a mean developmental index of -0.919. The individual developmental indices of Çanakkale, Hakkari, and Şırnak were reported as 0.494, -1.369, and -1.404, respectively (10). There are also security problems due to ongoing regional conflict within some of the cities in the east and southeast. Thus, it can be hypothesized that physician burnouts may be related to the developmental level and geographical

Figure 1. Study flow diagram.



* Medical Doctors on sick leave, holidays, or away for some temporary duty were not included regionof the town.

Data Collection Tools

In addition to the demographic questions, three scales were used for data collection. All scales were in the five-point Likert type.

The Maslach Burnout Inventory (11) was developed by Maslach and Jackson in 1981 and adapted into Turkish by Ergin in 1992 (12). It consists of 20 items and has three sub-scales: Depersonalization (MDS), Emotional Exhaustion (MEES), and Personal Accomplishment (MPAS). The Depersonalization and Emotional Exhaustion subscales use negative responses while the Personal Accomplishment subscale has positive responses. A person with burnout is expected to have high MDS and MEES, and low MPAS. Based on established criteria for evaluating the results of the Maslach Burnout Inventory (13), poor scores are ≥ 40 for emotional exhaustion, ≥ 15 for depersonalization, and ≤ 36 for personal accomplishment.

Minnesota Satisfaction Questionnaire was deve-

loped by Weiss et al. (14) in 1967 and validated for Turkish by Baycan in 1985 (15). Three scores are calculated from the 22-item tool: Internal Work Satisfaction Score (IWSS), External Work Satisfaction Score (EWSS), and Total Work Satisfaction Score (TWSS). Increased scores mean increased job satisfaction.

The Beck Depression Inventory (BDI) was developed by Beck et al. (16) in 1961 and adapted into Turkish by Hisli in 1989 (17). This instrument is composed of 21 items and scores of 1-10, 11-16, 17-20, 21-30, 31-40, and 41-63 are interpreted as normal, medium level affect disturbance, clinical depression, medium level depression, high-level depression, and severe depression, respectively.

Data Collection

Participants were invited to fill the self-administered questionnaires by the researchers at their workplaces. Questionnaires with more than 10% missing data were excluded from the study (12 participants).No diagnostic clinical interviews were conducted with the participants. Also, participants

Table 1: Profile differences of the medical doctors between the three cities.

		City						Chi-Square	p
		Sirnak		Hakkari		Canakkale			
		n	%	n	%	n	%		
Sex	Female	18	29,0	6	9,7	38	61,3	0.951	0.621
	Male	24	25,0	14	14,6	58	60,4		
Age	25-29	6	37,5	9	56,3	1	6,3	81.930	<0.001
	30-34	21	47,7	9	20,5	14	31,8		
	35-39	10	38,5	1	3,8	15	57,7		
	40-44	4	14,3	1	3,6	23	82,1		
	45 and more	1	2,3	0	0,0	43	97,7		
Marital Status	Married	28	22,4	11	8,8	86	68,8	17.344	<0.001
	Single	14	42,4	9	27,3	10	30,3		
	Widow	0	0,0	0	0,0	0	0,0		
	Divorced	0	0,0	0	0,0	0	0,0		
Income perception	Insufficient	8	40,0	1	5,0	11	55,0	7.807	0.099
	Partially sufficient	23	28,8	7	8,8	50	62,5		
	Sufficient	11	19,3	12	21,1	34	59,6		
Duration in the occupation (years)	1-5	8	40,0	9	45,0	3	15,0	68.219	<0.001
	6-11	23	46,9	9	18,4	17	34,7		
	12-17	9	29,0	1	3,2	21	67,7		
	18 and more	2	3,6	1	1,8	53	94,6		
Duration of work in the hospital (years)	0-1	37	47,4	19	24,4	22	28,2	71.099	<0.001
	2-5	4	18,2	1	4,5	17	77,3		
	6-11	0	0,0	0	0,0	14	100,0		
	11-18	1	4,2	0	0,0	23	95,8		
	18 and more	0	0,0	0	0,0	19	100,0		
Branch	Internal med. Sci.	22	24,4	13	14,4	55	61,1	0.914	0.633
	Surgical sciences	20	29,9	7	10,4	40	59,7		

who had 17 or more scores from the BDI (n=10) were considered as having potential limitations in providing data, and thus, not included in the analysis. As it is known, BDI >17 is compatible with moderate depressive findings. Considering that the increase in the severity of depressive symptoms would have a negative effect on the burnout and job satisfaction scale scores ten participants who had 17 or more scores were excluded from the study.

Ethical approval was obtained from the ethics committee of 18 Mart University Medical Faculty in Çanakkale. Also, permission was taken from the relevant hospital management and verbal consent from the participants.

Data Analysis

The data were analyzed using SPSS v. 18.0. Normal distribution of the numerical variables was checked

using skewness. Logarithmic transformation was applied for the skewed variables. Continuous data were expressed as the mean \pm standard deviation (SD), while categorical data were expressed as n and %. The Chi-Square, Student t-test, and one-way analysis of variance (ANOVA) were used for bivariate comparisons, while the Pearson correlation analysis was used to check for relationships between numerical variables and ensure meeting the requirements of the regression analysis. The effects of the independent variables on the total job satisfaction scores were evaluated with the hierarchical regression analysis. Autocorrelation was checked with the Durbin-Watson coefficient. Statistical significance was set to $p < 0.05$.

RESULTS

Results for a total of 158 physicians were analyzed (Table 1). The female/male ratio was 62/96 (39.2%/60.8%). Our sample included participants from all age groups.. Ninety participants (57.3%)

Table 2: Differences in the studied score variables between the three cities.

	City						ANOVA	
	Sirnak		Hakkari		Canakkale		F	p
	Mean	SD	Mean	SD	Mean	SD		
Beck Depression Inventory Score	7.6	6.3	9.5	7.8	6.1	5.3	3.109	0.047
Internal Work Satisfaction Score	40.9	8.9	40.5	5.0	43.2	7.6	1.808	0.167
External Work Satisfaction Score	23.9	5.7	23.7	5.3	23.7	6.3	0.018	0.982
Total Work Satisfaction Score	65.7	14.1	64.2	8.0	66.9	12.9	0.420	0.658
Maslach Depersonalization Score	10.9	3.9	11.3	3.7	10.5	4.1	0.332	0.718
Maslach Emotional Exhaustion Score	25.3	7.5	29.2	10.2	24.6	8.1	2.530	0.083
Maslach Personal Accomplishment Score	30.1	6.0	29.2	5.7	31.8	5.4	2.519	0.084

were from internal medical branches while 67 (42.7%) were from surgical medical branches. Of the participants, 125 (79.1%) were married while 33 (20.9%) were single. Most of the participants (35.9%; n=56) were in the occupation for 18 years or more while the proportion of participants with 1-5, 6-11, and 12-17 years in the occupation was 12.8% (n=20), 31.4% (n=49), and 19.9% (n=31) respectively. 12.7% (n=20) of the participants were perceiving their income as insufficient, 51.0% (n=80) as partially sufficient, and 36.3% (n=57) as sufficient.

Mean (\pm SD) for Beck Depression Score, Internal Work Satisfaction Score, External Work Satisfaction Score, Total Work Satisfaction Score, Maslach Depersonalization Score, Maslach Emotional Exhaustion Score, and Maslach Personal Accomplishment Score were 6.9 ± 6.0 ,

42.2 ± 7.7 , 23.7 ± 6.0 , 66.2 ± 12.6 , 10.7 ± 4.0 , 25.40 ± 8.3 , and 30.98 ± 5.6 , respectively. 118 participants (74.7%) had BDI scores of 10 or less, while 40 participants (25.3%) had scores 11 to 17. Proportions for poor depersonalization, emotional exhaustion, and personal accomplishment were 18.6% (n=29), 5.8% (n=9), and 81.9% (n=127) respectively.

There were significant differences in some variables between the three cities. Most of the physicians in Şırnak and Hakkari were younger, single, and less experienced. However, there were no significant differences regarding sex, income perception, and branch (Table 1).

There was a significant relationship between income perception and job satisfaction scores.

Table 3: Correlations between burnout, job satisfaction, and depression scores.

		EWSS	TWSS	MDS	MEES	MPAS	BDIS
IWSS	Pearson r	0.676**	0.936**	-0.426**	-0.577**	0.494**	-0.327**
	p	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	N	153	153	152	152	151	153
EWSS	Pearson r		0.893**	-0.298**	-0.445**	0.187*	-0.289**
	p		<0.001	<0.001	<0.001	0.021	<0.001
	N		153	152	152	151	153
TWSS	Pearson r			-0.401**	-0.565**	0.407**	-0.337**
	p			<0.001	<0.001	<0.001	<0.001
	N			155	155	154	156
MDS	Pearson r				0.638**	-0.323**	0.311**
	p				<0.001	<0.001	<0.001
	N				156	155	156
MEES	Pearson r					-0.324**	0.516**
	p					0.000	<0.001
	N					155	156
MPAS	Pearson r						-0.218**
	p						0.007
	N					151	154
						155	155

BDIS: Beck Depression Inventory Score, IWSS: Internal work satisfaction score, EWSS: External work satisfaction score, TWSS: Total work satisfaction score, MDS: Maslach Depersonalization Score, MEES: Maslach Emotional Exhaustion Score, MPAS: Maslach Personal Accomplishment Score

Table 4: Hierarchic regression computer output analyzing variables independently affecting total job satisfaction scores.

Model	Variable	SE	t	p	95% CI for beta		
					Lower	Upper	
1	Age	-0.009	0.019	-0.447	0.655	-0.047	0.030
	City	0.022	0.015	1.421	0.158	-0.009	0.052
	Sex	0.019	0.019	0.996	0.321	-0.019	0.057
	Income perception	0.055	0.016	3.426	0.001	0.023	0.087
2	Age	-0.026	0.016	-1.600	0.112	-0.059	0.006
	Sex	0.012	0.013	0.929	0.355	-0.014	0.037
	City	0.010	0.016	0.594	0.553	-0.022	0.042
	BDI	0.041	0.014	2.978	0.003	0.014	0.067
	Income perception	-0.018	0.019	-0.944	0.347	-0.056	0.020
	MPAS	0.004	0.001	3.135	0.002	0.001	0.006
	MDS	-0.035	0.051	-0.680	0.498	-0.135	0.066
	MEES	-0.257	0.061	-4.204	0.000	-0.379	-0.136

SE: Standard Error, CI: Confidence Interval, BDIS: Beck Depression Inventory Score, MPAS: Maslach Personal Accomplishment Score, MDS: Maslach Depersonalization Score, MEES: Maslach Emotional Exhaustion Score

Compared to participants with sufficient income perception, participants with insufficient/partially sufficient income perception had significantly lower IWS (40.5 ± 8.1 vs. 45.2 ± 5.9 ; $t = -3.737$, $p < 0.001$), EWS (22.2 ± 5.7 vs. 26.4 ± 5.7 ; $t = -4.356$, $p < 0.001$), and TWS (62.8 ± 12.4 vs. 71.9 ± 10.9 ; $t = -4.559$, $p < 0.001$).

Although the differences in the score variables were favoring Çanakkale, only BDI scores reached significance with a p-value near the threshold (Table 2).

All the studied numerical variables were interrelated with a minimum significant correlation coefficient of 0.218 (Table 3). BDIS showed a strong correlation with TWSS (Figure 2) and MEES (Figure 3).

A hierarchic regression analysis was applied in two steps. In the first step, the potential confounders were entered into the model. In the second step, the score variables were entered, which demonstrated that independent of the other factors, MPAS and MEES were predictors of the total job satisfaction score (Table 4). Although income perception was significant in Model 1, it became non-significant in Model 2. The R² for Model 1 and Model 2 were 0.10 and 0.40, respectively.

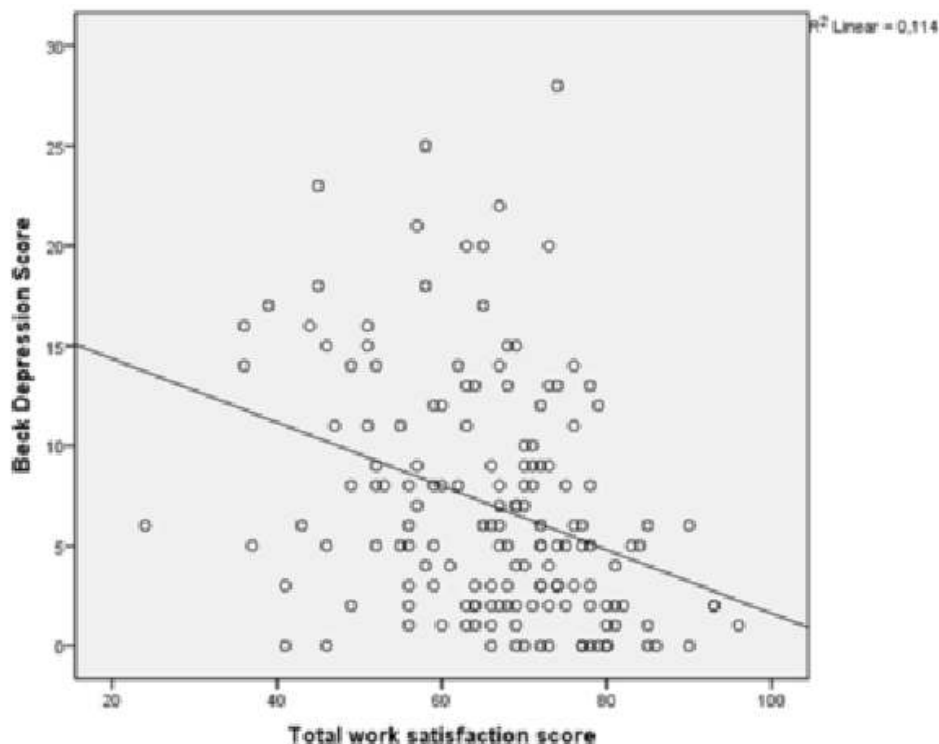
DISCUSSION

Several essential deductions can be inferred from

this study. First, it was demonstrated that cities in Turkey with different developmental indices have different doctor profiles. Second, job satisfaction, burnout, and depression are interrelated. In context with our study aims, probably the most critical finding is that among the studied variables, only MPAS and MEES were independently affecting job satisfaction.

The descriptive statistics on our sample show that the participants were not emotionally exhausted but had high levels of depersonalization and low levels of personal accomplishment. There were significant problems in the studied individuals concerning job satisfaction, depression, and burnout scores. Burnout is understood to be a pattern of responses to stressors at work. Work overload has been shown to be one of the critical antecedents of burnout (18). Emotional exhaustion, on the other hand, is considered to be the first stage in the burnout syndrome and central to the experience of burnout. It has been consistently shown to be directly related to high levels of work demand (19). Time away from clinical practice is crucial to job satisfaction and emotional well-being (20). Therefore, it seems to be essential to allow spare time for physicians in their busy schedule for doing relaxing activities outside their clinical practice.

It is evident that medical doctors do not prefer to stay in the hospitals in underdeveloped areas for longer times. Turkey's mandatory service program was effective at mitigating staffing discordance. However, despite improvement in the specialist

Figure 2. Correlation between BDIS and TWSS.

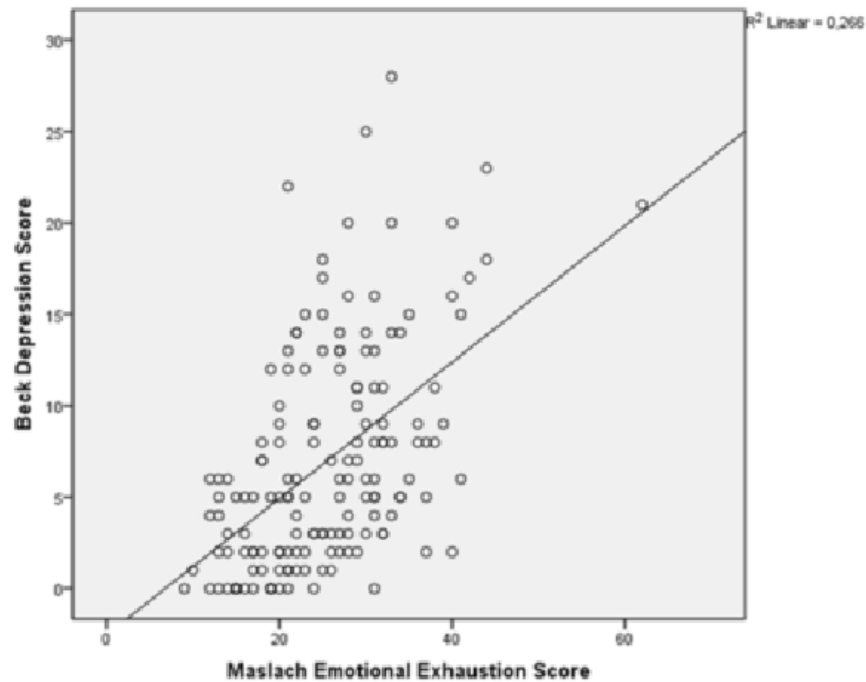
distribution, there was no change in workload of specialists, indicating a significant shortage (7,21). Since Çanakkale is precisely opposite of Şırnak/Hakkari, on the more developed Western side of Turkey, a city difference concerning burnout could be expected, which was not the case. We assume that the younger and thus single physicians stay in the underdeveloped areas for short periods, doing their compulsory service. However, city itself did not come up as a significant variable predicting job satisfaction. Nonetheless, as Maslach(22) has suggested, age should not be confused with experience. Additionally, the social focus of burnout, the solid research basis concerning the syndrome, and its specific ties to the work domain should also be taken into consideration.

One of the important findings of this study was the significant correlations between job satisfaction, burnout, and depression scores. Karaoglu et al. (6) have found a positive relationship between the burnout levels of pediatric residents and their anxiety, depression, and loneliness scores. They also demonstrated an apparent negative correlation regarding intrinsic, extrinsic, and total job satisfaction. This relationship has also been documented by other researchers (2,23,24). Thus, we agree that

a better understanding of this relationship will help enable healthcare administrators to design and implement tools to address these entities as a combined goal rather than treat each issue separately.

Low job satisfaction, burnout, and depression have significant consequences both for the physicians involved and for the health system (18). At the individual level, there will be mental and physical health problems. At the organizational level, adverse organizational outcomes such as absenteeism, high staff turnover rates (25), and diminished productivity (26) should be expected, which are important factors for the overall effective functioning of the health services (27). Perhaps even more important, however, is the relationship of these factors with the quality of care. It has been shown that sustained continuity of care improves the quality of care, especially for patients with chronic conditions (28). Although it was not the scope of our study, we can claim that one main reason for the relatively low quality of health services in eastern Anatolia (29) might be the lack of continuity in physicians in this region.

Figure 3. Correlation between BDIS and MEES.



Limitations

Although we reached relatively high response rates within the studied hospitals, this study was conducted in only three cities from different regions. However, Turkey has seven regions and 81 provincial centers. The sampling of other towns with different developmental indices could provide further information. The inclusion of other health personnel such as nurses and midwives could yield remarkable results as well.

Conclusion

Job satisfaction, burnout, and depression are inter-related. Any institutional or individual quality improvement activity should take this fact into account. MPAS and MEES are most significant independent variables affecting job satisfaction. Thus, decreasing stressors and assuring a motivating and supportive environment may prove to be helpful in the enhancement of job satisfaction. On the other hand, compulsory services for physicians in underdeveloped areas of Turkey seem not to be significantly decreasing job satisfaction or leading to burnout.

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