BURNOUT LEVELS OF ASSISTANT PHYSICIANS WORKING AT A TURKISH UNIVERSITY HOSPITAL

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Abstract. The purpose of the present study was to determine their current levels of burnout and to identify the factors associated with burnout syndrome among assistant physicians who are undergoing further training in medical specialties. The present descriptive study was conducted on assistant physicians at a Turkish university hospital. The participants were subject to a 26-item questionnaire and the Maslach Burnout Inventory (MBI). The mean age of the participants was 29.95± 3.79 years. Their mean scores in the three sub-scales of the MBI were as follows: 22.33±8.37 in emotional exhaustion (EE), 8.72±4.74 in depersonalization (D), and 18.76±5.87 in personal accomplishment (PA). While there were no significant discrepancies among the respondents in terms of their mean scores in EE, D and PA depending on their gender, age groups and marital status, those who considered their monthly income levels as "poor" differed significantly from those who regarded their monthly income levels as "good" in terms of their mean scores in EE, D, and PA. In addition, there was a significant difference in terms of the mean scores in EE, D, and PA between the participants who were appreciated by their superiors and those who were not. The participants had high, low and average mean scores in EE, PA and D, respectively, suggesting that they had high levels of burnout in reference to EE and PA and average levels of burnout in reference to D.

Keywords: assistant physicians, burnout syndrome, Maslach Burnout Inventory, university hospital, Turkey

INTRODUCTION

Burnout was defined as exhaustion resulting from excessive demands on energy and resources (Evans *et al*, 2006). Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind," and it refers to a negative consequence of chronic work stress (Maslach *et al*, 2001). Emotional exhaustion, one of the sub-scales of the Maslach Burnout Inventory, is a term used to describe a condition in which one has nothing to give to others and his/her emotional resources have been diminished. Depersonalization, on the other hand, means indifference to, avoidance from and neglect of others. It also refers to one's negative self-image and negative perceptions of those who he/she serves as a result of hostile attitudes. Reduced personal accomplishment, the last sub-scale, is a condition that occurs when one no longer feels effective in performing

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professional responsibilities and working with those who are being served (Gundersen, 2001; Maslach *et al*, 2001).

People with burnout syndrome often report in sick; suffer from fatigue, lack of energy and sleep disorders; use painkillers; and considering resigning (Demir *et al*, 2003; Kristensen *et al*, 2005). Shirom (2005) reports that four-to-ten percent of people who work especially in developed countries suffer from severe levels of burnout. The prevalence among doctors, however, ranges from 30% to 40% (Rick and Briner, 2000). Burnout syndrome is likely to be a common problem on the part of those who work in the face of excessive demands and pressure. It is also commonly observed among occupational groups that serve people.

Similarly, being a physician is an overloaded profession, for a physician strives to meet patient requirements in the face of the lack of institutional resources. Therefore, it is not unexpected that physicians will often suffer from burnout syndrome. It is reported that initial symptoms of burnout syndrome among physicians could appear in the form of fatigue and emotional exhaustion as early as during their training in faculty of medicine, but they are likely to be dismissed as ordinary (Shanafelt *et al*, 2002). Other factors in burnout syndrome among physicians are reported to include the rise in the number of medical specialties, the difficult nature of the training, and increased managerial expectations from physicians (Gundersen, 2001; Panagopoulou *et al*, 2006).

After six years of medical school, physicians in Turkey sit for an exam for medical specialties. Physicians who successfully complete the exam would be assistant physicians in hospital. Assistant physicians will be specialist physicians after four years of work and practice. There are intensive workloads of these assistant physicians.

In this context, the aim of the present study was to determine the extent to which assistant physicians receiving training for medical specialties at the Firat University Medical Faculty Hospital suffer from burnout syndrome and to explore possible associated factors.

MATERIALS AND METHODS

The population of the present study comprised of the assistant physicians receiving training for medical specialties at the Firat University Medical Faculty Hospital. No particular sample was specified for the study. An attempt was made to recruit the whole population. There were 261 assistant physicians at the hospital, and it was possible to secure cooperation from 222 of them (Response rate: 86%).

One of the two data collection instruments adopted for the study, the questionnaire contained questions as to the participants' health status, social characteristics and demographics. Some of the questions were intended for the assessment of several factors associated with burnout syndrome. Next, the Maslach Burnout Inventory (MBI) was administered to the respondents (Maslach and Jackson, 1986).

The MBI, a self-report questionnaire, was comprised of 22 questions and measured using a five-point Likert-type scale. The items were grouped under three sub-scales, namely, emotional exhaustion (EE), depersonalization (D), and personal accomplishment (PA), which contained nine, five, and eight items, respectively.

First, the items in the MBI were assigned a score from 0-to-4. Next, a separate score was calculated for each sub-scale. The options for the items included in EE

and D were as follows: never (0), rarely (1), sometimes (2), usually (3), and always (4). Conversely, the items in PA were reversed and rated as follows: never (4), rarely (3), sometimes (2), usually (1), and always (0). The scores that could be obtained from the sub-scales were as follows: from 0-to-36 for EE, from 0-to-20 for D, and from 0-to-32 for PA. EE identified the extent to which one was exhausted and overloaded by his/her profession. The next sub-scale, D, described how indifferent one was to people the respondent served, whereas PA referred to what degree one could overcome his/her problems through personal accomplishment.

Higher scores in EE and D meant higher levels of burnout, and lower scores in PA represented increased levels of burnout. The distribution of the scores was as follows in EE: a score of 18 and higher for the upper group, a score of 12-to-17 for the intermediate group, and a score of 0-to-11 for the lower group. In D; however, a score of 10 and higher stood for the upper group, a score of 6-to-9 for the intermediate group, and a score of 0-to-5 for the lower group. In the last sub-scale, PA, a score of 0-to-21 represented the lower group, a score of 22-to-25 the intermediate group, and a score of 26 and higher the upper group.

Ethical considerations

The Ethics Committees of the Faculty of Medicine at Firat University (Ref N^{o} 41873; 2014 Nov 06) and the Firat University Medical Faculty Hospital (Ref N^{o} 3547; 2013 May 31) approved this research.

Data analysis

The validity and reliability of the inventory for Turkey has already been tested by both Cam (1992) and Ergin (1996).

The data were analyzed through SPSS® (version 21.0; IBM, Armonk, NY). First, the data on the demographics were analyzed in terms of percentages. Next, an attempt was made to identify the relationship between the demographics and burnout levels using parametric and non-parametric tests. The level of significance was $p<0.05$ for all the tests.

RESULTS

More than half of the assistant physicians (56.8%) were 24-to-29 years old, and their mean age was 29.95±3.79 years. Sixty-four percent of the respondents were men; the remaining 36% were women. The participants were distributed in terms of their marital status as follows: 42.3% single and 57.7% married, and 40.5% with child/children. On average, the participants had been serving as a physician for 61.85±44.42 months and as an assistant for 25.07±16.36 months. The distribution of the assistant physicians by their medical specialties was as follows: internal medical sciences (62.2%), surgical medical sciences (32.4%), and basic medical sciences (5.4%) (Table 1).

The mean scores of the participants in the sub-scales of the MBI were as follows: 22.33±8.37 in EE, 8.72±4.74 in D, and 18.76±5.87 in PA (Table 2).

There were no significant differences among the participants in their mean scores in EE, D and PA depending on their gender, age groups, marital status, or the number of children they had ($p>0.05$; Table 3). Nevertheless, those who considered their monthly income as "poor" got significantly higher scores in EE and D but lower scores in PA when compared to those who regarded their monthly income as "good" ($p<0.05$), which suggested higher levels of burnout in the former group of participants.

There were no significant differences among the participants in their mean scores in the sub-scales depending on their

Table 1
Socio-demographic and job characteristics of studied assistant physicians.

Characteristics	*n* (%)
Age groups (years)	
24-29	126 (56.8)
30-34	74 (33.3)
35-39	14 (6.3)
≥40	8 (3.6)
Gender	
Male	142 (64.0)
Female	80 (36.0)
Marital status	
Married	128 (57.7)
Single	94 (42.3)
Have children	
Yes	90 (40.5)
No	132 (59.5)
Specialty	
Basic medical sciences	12 (5.4)
Internal medical sciences	138 (62.2)
Surgical medical sciences	72 (32.4)
Length of service as a physician (years)	
0-5	133 (59.9)
6-9	72 (32.4)
≥10	17 (7.7)
Length of service as an assistant (months)	
0-12	69 (31.1)
13-24	57 (25.7)
25-36	37 (16.7)
≥37	59 (26.7)
Daily working hours	
8	56 (25.2)
≥9	166 (74.8)
Number of guard-keeping responsibilities per month	
Not keep guard	52 (23.4)
1-5	28 (12.6)
6-10	119 (53.6)
≥11	23 (10.4)

length of service as a physician, length of service as an assistant, or use of alcohol ($p>0.05$; Table 4). As for the relationship between medical specialties and burnout syndrome, the participants who practiced surgical disciplines got higher scores in EE ($p<0.01$); however, no significant difference was observed among the participants in terms of their mean scores in D and PA ($p>0.05$).

While those assistant physicians who worked for more than eight hours a day got higher scores in EE and D when compared to those who worked for less than eight hours ($p<0.001$), there was not a significant difference between the two groups in terms of their mean scores in PA ($p>0.05$).

A significant difference existed in the mean scores in EE between those assistant physicians who did not keep guard and those who kept guard six times or more ($p<0.001$). The mean scores of the former and latter groups of participants in the sub-scale were 16.17±8.81 and 24.76±7.02, respectively.

Similarly, there was a significant difference between the two groups in terms of their mean scores in D ($p<0.001$). However, the mean scores of the two groups did not significantly differ in PA ($p>0.05$). As for the relationship between the reasons for choosing the profession and burnout syndrome, the mean scores of the participants who chose the profession "voluntarily", "accidentally" and "because of friends/relatives" were 20.98±8.32, 23.84±8.48 and 24.23±7.94, respectively in EE ($p<0.05$). Although the participants who chose the profession "because of friends/relatives" obtained significantly higher scores in EE ($p<0.05$); no significant discrepancy existed among the groups in terms of their mean scores in D ($p>0.05$).

Conversely, those who chose the profession "voluntarily" obtained higher scores than the other groups did in personal accomplishment ($p<0.05$). In addition, those who were not appreciated by their superiors regarding their work got higher scores in the sub-scales than

Table 2
The mean scores of the assistant physicians in the sub-scales of the Maslach Burnout Inventory.

Sub-scales of the Maslach Burnout Inventory	Min	Max	Mean ± SD
Emotional exhaustion	0	36	22.33 ± 8.37
Depersonalization	0	20	8.72 ± 4.74
Personal accomplishment	0	32	18.76 ± 5.87

Table 3
The mean scores of the assistant physicians in the sub-scales of the Maslach Burnout Inventory by certain demographics characteristics.

Characteristics	*n*	Subscales		
		EE Mean ± SD	D Mean ± SD	PA Mean ± SD
Gender				
Male	142	21.88 ± 8.08	8.54 ± 4.72	19.32 ± 5.91
Female	80	23.13 ± 8.86	9.05 ± 4.77	17.77 ± 5.69
		t = -1.06	t = -0.76	t = 1.89
		p = 0.28	p = 0.44	p = 0.05
Age groups (years)				
24-29	126	21.89 ± 7.79	9.08 ± 4.70	18.46 ± 5.42
30-34	74	23.17 ± 8.63	8.41 ± 4.35	19.22 ± 6.28
≥35	22	22.04 ± 10.63	7.68 ± 6.06	18.90 ± 7.01
		KW = 1.80	F = 1.05	F = 0.39
		p = 0.40	p = 0.35	p = 0.67
Marital status				
Married	128	21.96 ± 8.52	8.51 ± 4.61	18.85 ± 6.23
Single	94	22.85 ± 8.17	9.01 ± 4.91	18.64 ± 5.38
		t = -0.78	t = -0.76	t = 0.25
		p = 0.43	p = 0.44	p = 0.80
Number of children				
0	132	22.39 ± 8.42	8.98 ± 4.84	18.38 ± 5.33
1	65	22.27 ± 7.72	8.16 ± 3.43	20.12 ± 6.16
≥2	25	22.20 ± 9.94	8.80 ± 6.78	17.28 ± 7.35
		F = 0.008	KW = 0.85	KW = 3.67
		p = 0.99	p = 0.65	p = 0.15
Monthly income status				
Good	36	16.44 ± 9.25	6.50 ± 4.25	21.02 ± 5.29
Medium	135	22.49 ± 7.68	8.71 ± 4.10	18.71 ± 5.35
Poor	51	26.07 ± 7.24	10.33 ± 5.93	17.29 ± 7.07
		F = 15.92	KW = 12.39	KW = 7.83
		p = 0.0001	p = 0.002	p = 0.02

T, *t*-test; KW, Kruskal-Wallis test.

Table 4
The mean scores of the assistant physicians in the sub-scales of the Maslach Burnout Inventory by certain professional characteristics and habit.

Certain professional characteristics and habits	*n*	Subscales		
		EE Mean ± SD	D Mean ± SD	PA Mean ± SD
Length of service as a physician (months)				
1-60	133	22.06 ± 7.62	8.99 ± 4.48	18.49 ± 5.38
61-120	72	22.72 ± 9.18	8.20 ± 4.57	19.59 ± 6.12
≥121	17	22.88 ± 10.60	8.82 ± 7.01	17.35 ± 8.08
		KW = 0.80	KW = 1.46	KW = 1.66
		p = 0.66	*p* = 0.48	*p* = 0.43
Specialty				
Basic medical sciences	138	22.84 ± 7.83	8.66 ± 4.55	18.78 ± 5.58
Internal medical sciences	72	23.01 ± 7.77	9.11 ± 4.83	18.66 ± 6.48
Surgical medical sciences	12	12.50 ± 11.95	7.08 ± 6.11	19.08 ± 5.80
		KW = 9.64	F = 0.96	F = 0.02
		p = 0.008	*p* = 0.38	*p* = 0.97
Length of service as an assistant (month)				
0-12	69	21.17 ± 7.07	8.62 ± 4.35	19.10 ± 5.67
13-24	57	22.40 ± 8.69	8.75 ± 4.67	18.52 ± 5.94
≥25	96	23.13 ± 9.00	8.78 ± 5.08	18.66 ± 6.01
		F = 1.10	F = 0.02	F = 0.17
		p = 0.33	*p* = 0.97	*p* = 0.84
Daily working hours				
8	56	15.17 ± 8.80	6.26 ± 4.40	19.67 ± 5.47
≥9	166	24.75 ± 6.69	9.55 ± 4.56	18.45 ± 5.98
		U = 1.87	*t* = -4.69	*t* = 1.347
		p = 0.0001	*p* = 0.0001	*p* = 0.17
Number of guard-keeping responsibilities per month				
Not keep guard	52	16.17 ± 8.81	6.53 ± 4.69	18.71 ± 5.72
1-5	28	21.50 ± 8.06	8.10 ± 5.15	19.78 ± 4.60
≥6	142	24.76 ± 7.02	9.64 ± 4.41	18.56 ± 6.19
		F = 26.834	F = 9.07	F = 0.50
		p = 0.0001	*p* = 0.0001	*p* = 0.605
Reasons for choosing the profession				
Voluntarily	124	20.98 ± 8.32	8.33 ± 4.58	19.67 ± 5.78
Accidentally	46	23.84 ± 8.48	9.67 ± 4.23	17.39 ± 5.62
Because of friends/parents	52	24.23 ± 7.94	8.82 ± 5.44	17.80 ± 6.03
		F = 3.791	F = 1.367	F = 3.53
		p = 0.02	*p* = 0.25	*p* = 0.03
Appreciation by superiors				
Yes	66	17.63 ± 8.59	6.93 ± 3.98	21.19 ± 5.22
No	156	24.20 ± 7.41	9.41 ± 4.83	17.73 ± 5.84
		t = -5.83	*t* = -3.75	*t* = 4.15
		p = 0.0001	*p* = 0.0001	*p* = 0.0001

Table 4 (Continued).

Certain professional characteristics and habits	*n*	Subscales		
		EE Mean ± SD	D Mean ± SD	PA Mean ± SD
Existence of irregular sleep patterns				
Yes	138	25.17 ± 6.88	9.75 ± 4.65	18.45 ± 5.70
No	47	15.70 ± 9.79	6.89 ± 5.05	18.34 ± 6.54
Occasionally	37	20.18 ± 5.89	7.21 ± 3.46	20.45 ± 5.45
		KW = 41.13	F = 9.27	F = 1.86
		p = 0.0001	p = 0.001	p = 0.15
Smoking status				
Yes	49	25.12 ± 7.26	9.85 ± 5.02	14.06 ± 6.07
No	173	21.54 ± 8.51	8.40 ± 4.62	12.99 ± 5.82
		t = 2.67	t = 1.90	t = 1.12
		p = 0.008	p = 0.058	p = 0.26
Use of alcohol				
Yes	12	24.75 ± 6.25	9.50 ± 3.47	11.08 ± 5.16
No	210	22.20 ± 8.46	8.68 ± 4.80	13.35 ± 5.91
		t = 1.02	t = 0.58	t = -1.30
		p = 0.32	p = 0.56	p = 0.19

T, *t*-test; KW, Kruskal-Wallis test; *U*, Mann-Whitney test.

those who were (p<0.001). Although the participants with irregular sleep patterns got significantly higher mean scores than the others in EE and D (p<0.001), the two groups did not differ in their mean scores in PA (p>0.05). Finally, those participants who smoked got significantly higher scores in EE when compared to those who did not (p<0.05).

DISCUSSION

The participants got high, low, and average mean scores in EE, PA, and D, respectively, which suggested that the participants had high levels of burnout in EE and PA, but average levels of burnout in D. In another study on physicians by Öztürk *et al* (2012) the mean scores of the participants were 21.81±5.33 (high) in emotional exhaustion, 9.66±3.13 (average) in depersonalization, and 17.35±3.90 (low) in personal accomplishment; a finding consistent with that of the present study. The findings indicate that assistant physicians constitute a relatively higher-risk group for EE and PA.

Although the female participants had higher levels of burnout in the present study, the discrepancy was statistically insignificant (p>0.05). In other words, the female and male participants equally suffered from burnout syndrome. Nevertheless, women have been reported in some studies in the literature to get higher burnout scores than men (Belloch *et al*, 2000; McMurray *et al*, 2000; Gautam, 2006). Even so, in a study on young physicians, Schweitzer (1994) observed that burnout scores did not differ depending on gender, a finding consistent with that of the present study. Further studies are recommended to identify gender-specific

stress factors associated with working and to reveal how these factors account for burnout among women and men. In this way, gender-specific stress factors can be determined and particular precautions can be taken against them.

In the present study, marital status did not lead to a difference among the participants in terms of levels of burnout. Although foreign studies have suggested that being married and having a supportive spouse are significant factors in burnout prevention (Belloch *et al*, 2000; McMurray *et al*, 2000). Turkish studies on physicians have reported findings similar to that of the present study (Karlidag *et al*, 2000; Erol *et al*, 2007).

The participants who regarded their monthly income as "poor" were observed to suffer from higher levels of burnout syndrome. Monthly income can be defined as a significant social predictor of health. The assistant physicians who practiced surgical disciplines had increased scores in EE when compared to the others. Apparently, longer daily working hours and increased number of guard-keeping responsibilities resulted in higher mean scores in EE and D, a finding consistent with that of Heim (1992). Burnout is influenced by the extent to which one perceives his/her workload as heavy, daily working hours as long, and overall working conditions as negative (Ergin, 1992; Howie *et al*, 1992). On the basis of the finding, it can be safely argued that physician burnout can be decreased and the quality of service can be enhanced if physicians are enabled to work eight hours a day at most. In fact, several studies have suggested that limitations upon working hours lead to corresponding decreases in levels of burnout (Gopal *et al*, 2005; Martini *et al*, 2006).

The participants who chose the profession "because of friends/relatives" got high scores in EE, whereas those who chose the profession "voluntarily" had low scores in the sub-scale. The finding leads one to assert that those who choose their profession "voluntarily" will have higher job satisfaction, become more successful in meeting the requirements of their profession, and thus have reduced levels of burnout.

Those who reported that their superiors did not appreciate them got higher scores in EE and D but lower scores in PA. Appreciation can be said to influence professional enthusiasm and become a motivator. Although perceived equality may lead to satisfaction, inequality is likely to result in tension. In addition, over-rewarding and under-rewarding might cause dissatisfaction. Therefore, superiors should try reinforcing the expectation that assistant physicians can achieve the desired results in the working environment. On the other hand, the participants with irregular sleep patterns got higher scores in EE and D. Physicians report that the most significant stress factor leading to burnout is working conditions (workload, daily working hours, the number of patients served, and guard-keeping responsibilities, irregular sleep patterns) (Hersbach, 1991).

The assistant physicians at the Firat University Medical Faculty Hospital had high score in EE. It is a promising finding that the assistant physicians had average scores in D. In contrast, it is a negative finding that they had low scores in PA. Burnout is a syndrome that physicians all around the world are observed to suffer from, and it has common characteristics. It is a problem not only on the part of employees but also patients, for the quality of treatment is negatively affected.

All things considered, physician burnout can be prevented if their working conditions are improved, if things are organized better, if their income levels

are increased, if they are provided with better benefits, if their working hours are decreased, and if the number of times they keep guard is reduced.

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