

The Impact of Compulsory Health Service on Physicians and Burnout in a Province in Eastern Anatolia



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SUMMARY

Objective: The Compulsory Health Service (CHS) for physicians has been in place since 2005. The aim of this study was to investigate the impact of the CHS on physicians and the factors associated with burnout.

Method: The sample group consisted of all physicians working within the province of Muş in this cross-sectional, descriptive, epidemiological study. All participants were assessed using the Maslach Burnout Inventory (MBI), the Beck Depression Inventory, the Job Satisfaction Scale (JSS), the Satisfaction with Life Scale, the Professional Quality of Life Scale (ProQOL) and the General Health Questionnaire-12, along with a detailed sociodemographic and professional data form.

Results: A total of 139 physicians participated in this study, and 100 of them (71%) were fulfilling the CHS. Physicians who fulfilled the CHS were found to have lower levels of job satisfaction and professional quality of life. They also had higher levels of depression, general psychiatric symptoms, and psychological stress. The relationships between the level of burnout in physicians fulfilling the CHS and the scores from the scales used in the study were statistically significant except those between MBI-Personal Accomplishment, JSS, and ProQOL-Compassion Fatigue subscales. The extent of depressive symptoms and the daily number of patients were predictors of all three subscales of burnout. Job satisfaction was a predictor of both emotional exhaustion and depersonalization, while life satisfaction was a predictor of emotional exhaustion, and gender was a predictor of personal accomplishment.

Conclusion: The level of burnout among physicians who had fulfilled the CHS was high. The factors and predictors associated with burnout were discussed.

Key words: Burnout, job satisfaction, depression, physicians

INTRODUCTION

In accordance with the updates to the Health Services Fundamental Law, beginning May 7, 2012, physicians who assume the title of specialist physician and family practitioner after completing their training in Turkey or abroad shall be appointed to practice in various locations, particularly to the eastern provinces of Turkey under the “Compulsory Health Service” (CHS). The length of the CHS can range between 300 and 600 days, and is determined by the Ministry of Health based on the features and the level of development in

the location to which the physician is appointed. The CHS caused many physicians to have difficulties since they were appointed without their consent and had uncertainties about their working conditions. Some physicians were obliged to leave careers they had been building for years and others were forced to leave their families behind. The inadequacy of physical, social and professional infrastructure in the regions to which they were appointed increased the difficulties they encountered. Although many physicians consider working in the underdeveloped regions of Turkey to be a national service, the problems and injustices that were encountered during

Received: 13.05.2012 - Accepted: 30.10.2012

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this process led to many disturbances among the physicians. Consequently, these experiences have led to various psychological problems and burnout as well as to professional stress.

The concept of burnout was first explained as a psychological syndrome that results from chronic job-related stress (Freudenburg 1974). Today, burnout is defined as a syndrome characterized by physical, emotional, and mental exhaustion that develop together with a loss of self-respect, chronic fatigue, helplessness, and hopelessness. These characteristics often emerge as a result of stress encountered in one's professional life and put strain on interpersonal relationships (Maslach and Jackson 1981). Burnout is analyzed in three subcategories, including emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion is characterized by either emotional depletion or overload, depersonalization signifies the negative and cynical attitudes towards those to whom service is rendered (Örmen 1993), and personal accomplishment is defined by the ability to successfully overcome problems and to think of oneself as qualified (Taycan et al. 2006).

Burnout has been observed in professions requiring intense relationships with others, and has often been studied in nurses (Demir et al. 2003, Taycan et al. 2006), teachers (Dolunay 2002, Kokkinos 2007), in other professions (Şahin et al. 2008, Embriaco et al. 2007, Kocabıyık and Çakıcı 2008, Ergin 1996) and in physicians (Sünter et al. 2006, Aslan et al. 2005, Erol et al. 2007, Özyurt et al. 2006). Stress is frequently seen in physicians since they often have heavy workloads, intense work schedules, and expectations to satisfy the needs of their patients and their relatives. Physician stress can also be due to insufficiencies in the infrastructure and administration of healthcare, disequilibrium in the distribution of services and personnel, and limitations of institutional resources (Aslan et al. 2005). In a number of studies, stress and burnout have been shown to cause depression, to increase the incidence of various mental disorders, to decrease the quality of life, and to decrease job and life satisfaction (Erol et al. 2007, Ünal et al. 2001, Shanafelt et al. 2012, Ruitenburg et al. 2012).

Although many studies have investigated the factors related to burnout in various groups of physicians [general practitioner (Arslan et al. 1996, Sünter et al. 2006), assistant (Erol et al. 2007, Dikmetaş et al. 2011), specialist physician (Havle et al. 2008, Visser et al. 2003), academician (Bilici et al. 1998)], to our knowledge, a study regarding the CHS has not been previously conducted.

According to the "Socio-Economic Development Ranking Of Provinces and Regions (2003)" published by the State Planning Organization that forms the fundamental base for the policies regarding the determination of regions for development, allocation of public funding, guidance to private sector investments, and determines CHS time, Muş is in the last

position among 81 provinces (Dinçer et al. 2003). As Muş has the worst socio-economic ranking among all of the provinces in Turkey, it is not surprising that the physicians working in this region were subjected to a high level of stress.

In this study we aimed to determine the level of burnout in physicians working in the province of Muş and to investigate the relationship of burnout with sociodemographic features, depression, stress level, job satisfaction, life satisfaction, and quality of life. Most of the current published studies regarding burnout focus on health care professionals working in large, developed city centers. Therefore, research on the overload of individuals working in cities like Muş, which have low socio-economic development, is insufficient. We undertook this study in order to make a contribution to the lack of knowledge in this field.

METHOD

a. Sampling and procedure

The sample group for this study was intended to involve all physicians working in Muş. There are 7 State Hospitals, 48 Health Centers, 7 112 Emergency Health Care Stations, 1 Center for Maternal and Infant Health, 1 Tuberculosis Dispensary, and 1 Special Medical Center in Muş, and as of August 2008, there were 207 physicians (97 specialists, 110 practitioners) working in these health care centers. Physicians acting as full-time administrators and not performing clinical duties (1 provincial health director, 1 deputy provincial health director, 10 head physicians/assistant head physicians) were excluded from the study. Forty four of the 195 physicians (22.5%) that comprised the sample group for our study could not be reached for various reasons (e.g. holiday, sick leave). One hundred fifty one physicians were interviewed face to face, informed about the study in detail, and invited to participate in the study. Since 12 physicians (6%) refused to participate, we had a total of 139 physicians (71%) enrolled in our study (Figure 1).

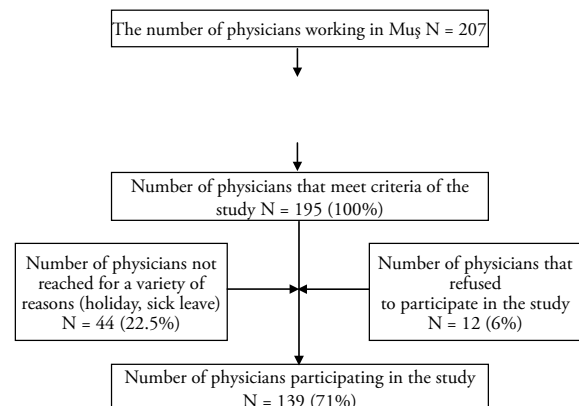


Figure 1. The process followed to generate the sample group

Ethical approval for the study was obtained from the regional ethics committee of Inonu University, Malatya, while permission to conduct this research was granted from the Muş Provincial Directorate of Health.

b. Instruments

1. Sociodemographic and professional data form: This form was developed by the researchers in order to examine the sociodemographic data and features of the participants' work lives. The following sociodemographic data were collected: gender, age, marital status, place of residence (home-public housing, hotel-guest house), and if married, place of residence of his/her partner (together, separated). The following data were collected regarding work life: occupation (specialist, practitioner), work place (hospital, health center), length of time working at this position (years), whether he/she would choose the same profession again, whether he/she would want his/her children to be a physician, how he/she generally evaluates his/her working conditions (good, average, bad), average number of patients examined daily (1-50, 51-100, 101 and over), was there another physician from the same branch in the unit, whether he/she feels his/her income is sufficient, CHS term fulfilled (the first half or the second half), assessment regarding CHS practice (whether he/she finds it useful), and type of CHS appointment (preferred or by general lot).

2. Maslach Burnout Inventory (MBI): This is a scale with a total of 22 items that evaluates burnout in three categories: emotional exhaustion (MBI-EE, 9 items), depersonalization (MBI-D, 5 items), and personal accomplishment (MBI-PA, 8 items) (Maslach and Jackson 1981). Items in the scale were adapted to the Turkish language by Ergin (1993) and are evaluated using a five-point Likert scale, with 0 indicating "Never" and 4 indicating "Every time". While scores obtained from the MBI-D and MBI-EE sub-scales are directly proportional to burnout level, scores obtained from the MBI-PA sub-scale are inversely proportional. The Cronbach alpha coefficients for each of the sub-scales are 0.83 for EE, 0.65 for D, and 0.72 for PA.

3. Beck Depression Inventory (BDI): This is a self-report scale used for measuring the level of symptoms occurring in the somatic, emotional, cognitive, and motivational areas of depression (Beck 1961). It consists of 21 items ranked from "0" to "3" in a four-point Likert scale, where the minimum and maximum amount of points is 0 and 63, respectively. Higher scores indicate that the depression level or its severity is high. The validity and reliability studies in Turkish were performed by Hisli (1989) (Cronbach alpha: 0.74).

4. General Health Questionnaire-12 (GHQ-12): This is a screening test used to determine mental disorders encountered in the public and in clinical environments outside of psychiatry and to identify the psychological stress levels of

individuals. The 12-item version developed by Goldberg (1972) was used in our study, and the validity and reliability studies in Turkish were performed by Kılıç (1996) (Cronbach alpha = 0.78). Two systems are used for grading the scale. In the first system, the scale is graded as 0, 1, 2, or 3. In the other system, termed GHQ type grading, 0 points are assigned to the first two responses and 1 point is assigned to the last 2 responses for each question. According to this method, the cutoff score is 12. Therefore, individuals with scores of "2" or higher are thought to have psychiatric problems. We used GHQ type grading in our study.

5. Job Satisfaction Scale (JSS): Job satisfaction is evaluated by 32 items in the scale developed by Batugün and Şahin (2006). The JSS is a five-point Likert scale, and the scores obtained from it are directly proportional to job satisfaction. With six sub-scaled factors (management policies, individual factors, physical conditions, control/autonomy, wage, interpersonal relationships), the Cronbach alpha coefficients of the JSS vary from 0.53 to 0.94.

6. Satisfaction with Life Scale (SWLS): The SWLS is a self-assessment scale consisting of five items developed by Diener (1984). The Turkish validity and reliability study was performed by Yetim (1993). Responses to each question are graded from 1 to 7, and the total score obtained from the scale varies from 5 to 35. The total score and life satisfaction are directly proportional.

7. Professional Quality of Life Scale (ProQOL): The ProQOL was developed by Stamm (2008) and the Turkish validity and reliability studies were performed by Yeşil et al. (2010). The ProQOL consists of three sub scales, including compassion satisfaction (ProQOL-CS), burnout (ProQOL-B) and compassion fatigue (ProQOL-CF). The Cronbach alpha coefficients are 0.87, 0.72 and 0.80, respectively. The score obtained from the ProQOL-CS is directly proportional to the level of gratitude or satisfaction. The ProQOL-B sub scale measures despair and exhaustion resulting from work-related stress. A high score on this test indicates that the exhaustion level is high. The ProQOL-CF sub-scale measures the symptoms caused by stressful situations.

c. Statistical analysis

Data were evaluated with SPSS 11.5. The compatibility of the experimental data to a normal distribution was evaluated by the Kolmogorov-Smirnov test. To compare the averages of numeric variables of two groups, a t test was used for data that were compatible with a normal distribution, and a Mann-Whitney U test was used for those that were not. A unidirectional variance analysis (ANOVA) was used for comparing the numeric values of more than two groups. A chi-square test was used to compare categorical variables, and a Pearson correlation analysis was used to analyze continuous

Table 1. Sociodemographic and professional characteristics of physicians fulfilling CHS and the other physicians

	Physicians fulfilling CHS (n: 100)	Physicians not fulfilling CHS (n: 39)	Statistical analysis
Gender	Female: 35 (35%) Male: 65 (65%)	Female: 11 (28%) Male: 28 (72%)	$\chi^2 = 0.58$ NS
Age (years)	29.6±4.0 (min: 23, max: 41)	34.8±4.8 (min: 28, max: 50)	$t = -6.48^{***}$
Marital status	Married: 41 (41%) Single: 59 (59%)	Married: 31 (80%) Single: 8 (20%)	$\chi^2 = 16.64^{***}$
Residence	Home-Lodging: 74 (74%) Hotel-guest house: 26 (26%)	Home-Lodging: 36 (92%) Hotel-guest house: 3 (8%)	$\chi^2 = 5.69^*$
Residence of wife/husband	n: 41 Together: 24 (58%) Separate: 17 (42%)	n: 31 Together: 28 (90%) Separate: 3 (10%)	$\chi^2 = 8.89^{**}$
Profession	Specialist: 44 (44%) Practitioner: 56 (56%)	Specialist: 19 (49%) Practitioner: 20 (51%)	$\chi^2 = 0.25$ NS
Average years passed in profession	4.7±4.1 (min: 0, max: 16)	9.5±4.3 (min: 3, max: 21)	$t = -6.11^{***}$
Would you choose the same profession again?	Yes: 67 (67%) No: 33 (33%)	Yes: 28 (72%) No: 11 (28%)	$\chi^2 = 0.29$ NS
Would you like your child to be a physician?	Yes: 33 (33%) No: 67 (67%)	Yes: 23 (59%) No: 16 (41%)	$\chi^2 = 7.86^{**}$
How do you consider your working conditions generally?	Good: 8 (8%) Medium: 58 (58%) Bad: 34 (34%)	Good: 12 (31%) Medium: 16 (41%) Bad: 11 (28%)	$\chi^2 = 11.91^{**}$
Average number of patients examined daily	n: 96 1-50: 38 (39%) 51-100: 38 (39%) 101 and above: 20 (21%)	n: 36 1-50: 13 (36%) 51-100: 17 (47%) 101 and above: 6 (17%)	$\chi^2 = 0.67$ NS
Is there another physician from the same specialty in your workplace?	Yes: 75 (75%) No: 25 (25%)	Yes: 24 (61%) No: 15 (39%)	$\chi^2 = 2.48$ NS
Do you think your income is sufficient?	Yes: 25 (25%) No: 75 (75%)	Yes: 17 (44%) No: 22 (56%)	$\chi^2 = 4.59^*$
Do you think CHS practice is useful?	Yes: 52 (52%) No: 48 (48%)	Yes: 25 (64%) No: 14 (36%)	$\chi^2 = 1.66$ NS

χ^2 = chi square; t = student t test; NS= not statistically significant; * = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$; CHS= Compulsory Health Service

variables. Factors predicting burnout were determined with a linear regression analysis. The most evaluated variables in studies on burnout, including gender, marital status, profession (specialist-practitioner), and the average number of daily examined patients as well as the scores from the BDI, JSS and SWLS were included in the regression model. Since GHQ-12 and ProQOL subscales robustly correlate with BDI ($r=0.67$) and MBI (e.g. between PA and ProQOL-B $r=0.70$) in the correlation matrix, respectively, they are not included in the regression model. The statistical significance level for all tests was accepted as $p<0.05$.

RESULTS

Sixty three of the 139 physicians who participated in our study were specialists (45.3%), and 100 (71.9%) physicians were fulfilling CHS. We defined the enrolled study participants as being in one of two groups: those physicians fulfilling

CHS, and those who were not. The sociodemographic and professional data for each of these groups and the differences between them are presented in Table 1. Comparison between the two groups revealed that the following parameters were statistically lower for those physicians fulfilling CHS: age, time spent working as a physician, percentage of married physicians, percentage of those living together with their partners, and the percentage of those residing in a house or lodging. The physicians fulfilling CHS stated that their working conditions were generally bad, their incomes were insufficient, and that they did not want their children to be physicians. These responses were statistically different from those physicians not fulfilling CHS.

The scores from the GHQ-12, ProQOL-B, and ProQOL-CF were significantly lower for physicians fulfilling CHS than those who were not (Table 2).

The relationship between sociodemographic and professional variables for each subscale of burnout was examined

Table 2. Comparison of physicians fulfilling CHS and those who were not with regard to scale scores

	Physicians fulfilling CHS(n: 100)	Physicians not fulfilling CHS(n: 39)	Statistical analysis
MBI-EE	14.95±6.87	14.82±7.47	t = 0.09 NS
MBI-D	5.97±3.40	5.38±3.15	t = 0.93 NS
MBI-PA	20.04±3.79	21.15±3.92	t = -1.54 NS
GHQ-12	3.31±3.36	1.71±2.83	t = -2.61**
BDI	9.51±7.57	6.94±8.49	t = -1.64 NS
JSS	95.59±18.43	101.48±21.89	t = 1.48 NS
SWLS	20.17±6.61	24.87±5.63	t = 4.20***
ProQOL-CS	31.85±7.92	33.69±7.85	t = 1.23 NS
ProQOL-B	18.73±6.88	15.92±5.71	t = -2.25*
ProQOL-CF	15.62±7.61	12.74±6.80	t = -2.16*

t = student t test; NS = not statistically significant; * = p<0.05; ** = p<0.01; *** = p<0.001; CHS= Compulsory Health Service; MBI-EE= Maslach Burnout Inventory- Emotional Exhaustion; MBI-D= Maslach Burnout Inventory-Depersonalization; MBI-PA= Maslach Burnout Inventory- Personal Accomplishment; GHQ-12= General Health Questionnaire-12; BDI= Beck Depression Inventory; JSS= Job Satisfaction Scale; SWLS=Satisfaction with Life Scale; ProQOL-CS= Professional Quality of Life Scale- Compassion Satisfaction; ProQOL-B= Professional Quality of Life Scale- Burnout; ProQOL-CF= Professional Quality of Life Scale-Compassion Fatigue

in physicians fulfilling CHS. Emotional exhaustion was significantly related to a bad assessment of working conditions, the thought that CHS is useless, the wish not to choose the same profession again, and the wish for his/her child not to become a physician. Depersonalization was significantly related to being a specialist, the number of years spent working as a physician, the institution in which physician works, and having a preferred assignment in CHS. Personal accomplishment was significantly related to having another physician in the workplace, having a CHS assignment via general lot, and the average number of patients examined (Table 3).

The relationship between burnout in physicians fulfilling CHS and the scores from the scales used in the investigation were evaluated, and we found that all of the relations, except those between personal accomplishment and JSS as well as ProQOL-CF (Table 4) were statistically significant.

Linear regression analysis revealed that BDI, JSS, SWLS, and the average number of patients examined were predictors of

Table 3. Factors related to burnout in physicians fulfilling CHS

	Emotional Exhaustion	Depersonalization	Personal accomplishment
Gender	t= 0.66 NS	t= -0.73 NS	t= 1.70 NS
Age	r =0.15 NS	r =0.15 NS	r =-0.00 NS
Marital status	t= 1.70 NS	t= 1.33 NS	t= -1.32 NS
Residence	z= -0.74 NS	z= -0.83 NS	z= -1.00 NS
Residence of wife/husband	t: 0.12 NS	t= 0.06 NS	t= -0.58 NS
Profession	Specialist: 16.18±6.96 Practitioner: 13.98±6.71 t= -1.60	Specialist: 6.97±3.15 Practitioner: 5.17±3.40 t= -2.70**	Specialist: 19.70±3.81 Practitioner: 20.30±3.78 t= 0.78
Average years passed in profession	r =0.15 NS	r =0.24*	r =-0.06 NS
The institution in which the physician works	State Hospital: 15.62±7.06 Health Center: 14.09±6.75 t= 1.08	State Hospital: 6.82±3.38 Health Center: 4.76±3.13 t= 3.07**	State Hospital: 19.46±3.84 Health Center: 20.85±3.70 t= -1.80
Would you choose the same profession again?	t= 3.18** (no > yes)	t= 1.06 NS	t= -1.71 NS
Would you like your child to be a physician?	t= 2.08* (no > yes)	t= 0.56 NS	t= -1.73 NS
How do you consider your working conditions generally?	Good: 11.50±4.47 Medium: 14.17±6.64 Bad: 17.08±7.27 F=3.15*	Good: 6.50±2.44 Medium: 5.41±3.00 Bad: 6.79±4.06 F=1.90	Good: 19.75±2.43 Medium: 20.37±3.53 Bad: 19.52±4.45 F=0.55
Average number of patients examined daily	1-50: 13.18±6.54 51-100: 15.73±6.87 101 ve ↑: 16.40±6.83 F=2.02	1-50: 4.71±2.81 51-100: 6.52±3.56 101 ve ↑: 6.85±3.49 F=4.03*	1-50: 21.36±3.89 51-100: 19.21±3.44 101 ve ↑: 19.50±3.96 F=3.51*
Is there another physician from the same specialty in your workplace?	z= -0.89 NS	z= -1.53 NS	z= 2.29* (no > yes)
Do you think your income is sufficient?	t= 0.83 NS	t= 0.35 NS	t= 0.72 NS
Completed CHS period	z= -0.51 NS	z= -0.55 NS	z= -0.68 NS
Dou you think CHS practice is useful??	No: 16.33±6.92 Yes: 13.67±6.65 t= 1.96*	No: 6.50±3.49 Yes: 5.48±3.26 t= 1.50	No: 19.85±3.71 Yes: 20.21±3.89 t= -0.46
CHS lot preference sequence	t= 0.85 NS	t= 2.50* (preference > general lot)	t= -2.37* (general lot > preference)

t = student t test; z = Mann Whitney U test; F= one way variance analysis; NS = not statistically significant; * = p<0.05; ** = p<0.01; *** = p<0.001; CHS= Compulsory Health Service

Table 4. Relationship between burnout and scale scores in physicians fulfilling CHS

	MBI-EE	MBI-D	MBI-PA
MBI-EE	-	0.73***	-0.42***
MBI-D	0.73***	-	-0.45***
MBI-PA	-0.42***	-0.45***	-
GHQ-12	0.64***	0.46***	-0.33***
BDI	0.53***	0.48***	-0.28**
JSS	-0.38***	-0.36***	0.18 NS
ProQOL-CS	-0.48***	-0.48***	0.54***
ProQOL-B	0.70***	0.59***	-0.45***
ProQOL-CF	0.44***	0.47***	-0.13 NS
SWLS	-0.43***	-0.28**	0.20*

Pearson's correlation coefficient; NS = not statistically significant; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; CHS= Compulsory Health Service; MBI-EE= Maslach Burnout Inventory- Emotional Exhaustion; MBI-D= Maslach Burnout Inventory-Depersonalization; MBI-PA= Maslach Burnout Inventory- Personal Accomplishment; GHQ-12= General Health Questionnaire-12; BDI= Beck Depression Inventory; JSS= Job Satisfaction Scale; SWLS= Satisfaction with Life Scale; ProQOL-CS= Professional Quality of Life Scale- Compassion Satisfaction; ProQOL-B= Professional Quality of Life Scale- Burnout; ProQOL-CF= Professional Quality of Life Scale-Compassion Fatigue

emotional exhaustion; that BDI, JSS, and the average number of patients examined were predictors of depersonalization; and that BDI, the average number of patients examined, and gender (female > male) were predictors of personal accomplishment (Table 5).

Table 5. Factors predicting MBI subscales in physicians fulfilling CHS

Dependant variable	Independent variable	B	SH	t
Emotional exhaustion	BDI	0.34	0.08	0.37
	JSS	-0.07	0.03	-0.21
	Average number of patients (0=1-50; 1=51 and above)	2.64	1.15	0+.19
	SWLS	-0.20	0.10	-0.19
R ² (Corrected R ²)				0.41(0.36) ***
Depersonalization	BDI	0.19	0.04	0.42
	Average number of patients (0=1-50; 1=51 and above)	1.73	0.57	0.25
	JSS	-0.04	0.01	-0.24
R ² (Corrected R ²)				0.42(0.37) ***
Personal accomplishment	BDI	-0.14	0.05	-0.27
	Average number of patients (0=1-50; 1=51 and above)	-2.07	0.74	-0.26
	Gender (0=female; 1=male)	-1.92	0.76	-0.23
				-2.52*
R ² (Corrected R ²)				0.24(0.18) ***

B=Beta coefficient not standardized; β = Beta coefficient standardized; SH=Standard error; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; CHS= Compulsory Health Service; MBI= Maslach Burnout Inventory; BDI= Beck Depression Inventory; JSS= Job Satisfaction Scale; SWLS=Satisfaction with Life Scale

DISCUSSION

The aim of this study was to investigate the effects of CHS on physicians within the context of burnout. The data obtained from the study were evaluated in two separate stages. In the first stage, we aimed to compare the factors that the physicians on CHS were undergoing versus those who were not on CHS. In the second stage, we aimed to assess the factors that could be related to burnout in physicians on CHS. Our study differs from other studies performed on this subject in two ways. To our knowledge, this is the first quantitative study that investigated burnout in physicians fulfilling CHS. Second, unlike other studies that have been performed in Turkey, the sample group of this study includes all of the physicians working within the borders of the province. As a consequence, there is no sample selection bias in this study.

Although they were not significant, the burnout levels of physicians fulfilling CHS as measured by MBI were higher than those who were not on CHS. However, burnout levels of physicians on CHS evaluated with the ProQL-B subscale were significantly higher than those not on CHS. Psychiatric symptoms and psychological stress levels measured with GHQ-12 were significantly higher in physicians fulfilling CHS. Based on these results, we concluded that CHS causes the burnout level to increase by creating additional stress on physicians.

Physicians fulfilling CHS were younger than those who were not. This is because the physicians fulfilling CHS were

appointed just after they had completed their specialty or medical faculty training. Physicians who were not on CHS had worked for longer times as physicians and the percentage of these physicians who were married was higher. Previous reports have shown that burnout level decreased as age and professional experience increased (Taycan et al. 2006, Dolunay 2002, Ergin 1996, Pejuskovic et al. 2011). Therefore, the younger age and fewer years of professional experience of physicians fulfilling CHS may have contributed to their higher burnout levels. We also determined that the percentage of physicians residing in a house or lodging was lower in those fulfilling CHS than those that were not. The CHS period in Muş varies from 300 days to 450 days. Some physicians prefer to live in hotels or guest houses instead of houses or other lodging during this time period. Since some married physicians plan to depart from Muş as soon as they complete their CHS, they prefer to live alone instead of bringing their spouse and children to Muş. The additional stress created by the living situation in Muş can cause physicians to have negativity towards their living arrangements and towards their jobs, which eventually can lead to burnout. There was a significant difference between the two groups with regard to the place the physicians lived and the percentage of married physicians living with their partners. These factors were assessed as a contribution to the burnout level in physicians fulfilling CHS. There was no significant difference between the two groups in their answers to the question "If possible would you prefer the same profession again?" However, the physicians fulfilling CHS gave significantly negative answers to the question "Would you like your child to be a physician?" These responses show that the physicians fulfilling CHS did not regret their profession, but that they did not wish their children to be physicians and encounter the same negative conditions as they did. Helplessness and hopelessness are the most important symptoms of burnout, which can lead physicians to alienate to their job and cause their burnout level to increase. While both groups examined the same average number of patients daily and worked in similar conditions, the physicians fulfilling CHS perceived their working conditions more negatively. In a study performed with 1435 specialists in the Netherlands, the predictors of job satisfaction and stress were influenced by the way the physicians perceived their working conditions (Visser et al. 2003). Although both groups were receiving approximately the same income, the physicians fulfilling CHS regarded their income as inadequate. The relationship between burnout level and the feeling that physician income was inadequate has been reported in other studies (Havle et al. 2008). We concluded that the main difference between the two groups was that CHS had negative effects on physicians.

When we compared our results with those of other studies, we determined that burnout and depressive symptom scores

were generally higher in physicians fulfilling CHS than those who were not (Ünal et al. 2001, Erol et al. 2007, Havle et al. 2008, Aslan et al. 2005). MBI and BDI scores were higher in physicians fulfilling CHS while JSS and ProQOL-CS scores were lower, but these differences were not significant. This could be because both physician groups in Muş were exposed to adverse working conditions. GHQ-12, ProQOL-B, and ProQOL-CF scores were significantly higher, while SWLS scores were significantly lower in non-CHS physicians. Although the differences measured were not always statistically significant, we concluded that physicians fulfilling CHS had higher levels of stress, burnout, depression, and general psychiatric symptoms, and their life satisfaction, work satisfaction, and overall quality of life was lower.

When physicians fulfilling CHS were investigated with regard to burnout, we determined that depersonalization was higher in specialists when compared with practitioners. Also, depersonalization levels increased with the amount of time spent working as a physician. All of the specialists worked in state hospitals or private medical centers while the practitioners worked mainly in health care centers and state hospitals. Depersonalization was significantly higher in physicians working in state hospitals, which may be because state hospitals are often associated with high stress and workloads. While some previous studies have reported that depersonalization decreases with age and work experience, there are some other studies which reported similar findings with ours as depersonalization increases with age (Erol et al. 2007, Özyürk et al. 2006, Pejuskovic et al. 2011). We found that levels of emotional exhaustion were higher for physicians who stated that they would not choose to work in the medical profession again, that they would not wish their children to be physicians, and that they viewed their working conditions and their fulfillment of CHS negatively. Sayıl et al. (1997) reported that emotional exhaustion was higher in physicians and nurses who had problems in their work environment and did not choose their profession willingly. As has been reported previously in studies related to burnout, we determined that depersonalization increased, while personal accomplishment decreased with an increase in the number of patients examined daily (Erol et al. 2007, Karlıdağ et al. 2000). In a study conducted with mental health professionals, an increased number of patients examined, unsatisfactory physical conditions, an unwilling choice of the profession, and a hopeless evaluation of the future were related to burnout level (Oğuzberk and Aydın 2008). Personal accomplishment scores were higher in physicians not having a colleague from the same branch working with them. Working alone contributes to an increased sense of personal accomplishment in physicians by giving them a feeling of competency and the capacity to perform autonomously (Penson et al. 2000).

Another striking result from our study was that burnout levels were higher in physicians appointed by choice in the CHS lot drawing. Appointments for CHS are performed by drawing lots, and physicians must choose 5 preferences from vacant positions. Physicians who cannot be appointed to one of their preferred positions are appointed randomly to positions that were not preferred by anyone. We hypothesize that the lower burnout levels reported by the physicians appointed to Muş by general lot are related to their low expectation levels. While individuals appointed to their preferred location may have expectations regarding their work place, those individuals appointed randomly may not have as many problems with their existing conditions since their expectations were already low, having been appointed to one of the worst places. Unsatisfied expectations in those who were appointed to their place of preference can lead to burnout by causing a decrease in motivation and a sense of desperation.

We found a significant relationship between burnout and all of the scale scores, except for MBI-PA, JSS, and ProQOL-CS, in CHS physicians. This was an expected result since our sample group had such high levels of stress and burnout. Similar results have been reported in other studies (Erol et al. 2007, Özyurt et al. 2006, Ünal et al. 2001, Thommasen et al. 2001).

The predictors for burnout in physicians fulfilling CHS were examined in the last section of our study. Depressive symptom levels and the average number of patients examined were the predictors of all three subscales of burnout. Although symptoms of burnout and depression overlap, they are considered to be different syndromes that can occur simultaneously (Mc Knight and Glass 1995, Ahola et al. 2005, Bakır et al. 2010). The close relationship between depressive symptom levels and the number of patients examined daily has also been reported in other studies (Ahola et al. 2006, Erol et al. 2007, Oğuzberk et al. 2008, Karlıdağ et al. 2000). In our study, we concluded that job satisfaction was a predictor of both emotional exhaustion and depersonalization. Other studies have reported that work load (Shanafelt et al. 2009) and job satisfaction level (Visser et al. 2003) were predictors of burnout as well.

Results of our study revealed that female gender is a predictor for personal accomplishment. Female physicians considered themselves more successful when compared to their male colleagues. Previously reported results have been inconsistent regarding the relationship between personal accomplishment and gender. There are studies reporting no relationship (Pejuskovic et al. 2011, Sayıl et al. 1997, Şahin et al. 2008), while other studies report that personal accomplishment level in males are higher (Havle et al. 2008), while some state that the opposite is true (Dikmetaş et al. 2011). In a study conducted with 117 assistant physicians, Erol et al. (2007) reported that MBI-D and BDI predict emotional exhaustion,

that MBI-EE and the number of shifts worked predict depersonalization, and that JSS predicts personal accomplishment. In another study, MBI-PA, MBI-EE, JSS, and age were found to be the predictors for depersonalization (Kocabıyık and Çakıcı 2008).

The cross-sectional characteristic of our study was a limitation for determining the causality of burnout. Another limitation was that we did not compare our results with the results of physicians working in a region with higher socio-economic development. Such a comparison may help to clarify the problems and results related to CHS. Also, the “Health Transition Program” that was applied in our country has caused various changes in the presentation of health care services. The performance system, the increase in work and patient load, the noticeable increase in violence against physicians/ physicians not feeling safe, the erosion in professional prestige, and the effects of these problems are still being discussed among medical staff. These problems may contribute to burnout. Since the effects of these variables were not controlled in our study, this may be considered another limitation.

Taken together, these results show that burnout levels are high among physicians fulfilling CHS. At the personal level, burnout causes depressed mood, a sense of unworthiness, short temper, a decrease in self-respect, intolerance to criticism, hopelessness, deterioration of friendships in and out of the workplace, and frequent mistakes. At the organizational level, burnout causes workers to leave their jobs, causes economic loss, damage in labor peace, a decrease in work yield, a decrease in job satisfaction, a decrease in the quality of service, and damage to the physician-patient relationship (Kaçmaz 2005). CHS contributes to an increase in burnout by exposing physicians to stressful factors and to conditions out of their control, such as an excessive work load, professional and social isolation, professional and social inadequacies in the region in which the physician is working, unfair practices during the appointment as well as after the completion of service, and administrative problems. If possible, we recommend that this disputable practice be repealed. If it is not possible to repeal within a short time, necessary measures for resolving the problems must be implemented to decrease physician burnout, increase their job satisfaction, and to increase the quality of service received by the patient.

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