Workıng Condıtıons And Control, Job Satısfactıon, Burnout, Depressıon Levels Among Anesthesıology-Reanımatıon And Internal Medıcıne Physıcians

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Abstract

Aim: Investigation of working conditions and control, job satisfaction, burnout, and depression levels among anesthesiology-reanimation and internal medicine physicians.Material and Method: Resident and specialist physicians working in AR and IM branches in hospitals located at the central district of Ankara province, were included in the study. Maslach Burnout Inventory which analyzes emotional exhaustion, desensitization, and personal accomplishment; Minnesota Satisfaction Questionnaire which measures job satisfaction; Beck Depression Inventory which evaluates the level of depressive signs; adapted survey form of 'Working Conditions and Control Questionnaire' which examines the job conditions and control over those conditions; and the socio-demographic data collection form which assesses the individual characteristics, were delivered to the physicians along with the informed consent form. 412 forms received back from those physicians, were statistically evaluated with independent samples T, one-way variance analysis, Pearson chi-square, Yates chi-square, and Fischer exact tests. Results: In review of burnout in all the physicians, reduction in desensitization was found to occur with aging (p=0.001). Among residents, emotional exhaustion, desensitization and Beck Depression Inventory scores were high (p=0,020, p<0,001, p=0,013), whereas working conditions and control were low. In AR physicians, control was high, while desensitization was lower (p=0.006). Conclusion: We believe, working and personal conditions of physicians should be evaluated at certain intervals and amended when required to.

INTRODUCTION

Burnout syndrome has been first proposed to depict exhaustion, disappointment, and resignation (1). Maslach and Jackson (2) describe this condition, which is used for continuous negative moods, with emotional exhaustion, densensitization, and a decrease in individual abilities and success.

Moreover, demonstration of an unnecessarily high effort (time, emotional involvement, empathy) and low gain (negative result) as well as stressful working conditions (high expectations), are reported to cause burnout (3-6).

Burnout among physicians may occur as a result of dealing with life-threatening diseases, high number of patients, excessive workload and exhaustion, late shifts, sleep deprivation, inefficient quantity and quality of assistants, ethical dilemmas, inadequate support from the administrative body, over expectations from the physician, financial problems, and failure to spare some time to themselves or their private lives (7-9).

Furthermore, the prevalences of psychiatric problems among physicians are reported to be significantly high, while the most common problems are mood disorders, addiction, and depression. In view of the risk factors regarding the profession, overworking in inappropriate conditions is believed to contribute to the depression, as well. Job dissatisfaction leads to burnout and depression in the advanced stages. While depression can cause early retirement, drug addiction, and high suicide rates, this constitutes a risk for patients and the work environment, as well (3-5).

Thus, we aimed to investigate working conditions and control, job satisfaction, burnout and depression levels among AR and IM physicians working in hospitals located at the central district of Ankara province.

MATERIAL AND METHOD

Following acquisition of related approavals from the Ministry of Health, resident and specialist physicians in AR and IM fields, were included in our study. We delivered informed consent forms explaining the aim of the study, socio-demographic data collection survey forms, as well as Maslach Burnout Inventory (MBI), Minnesota Satisfaction Questionnaire (MSQ), Beck Depression Inventory (BDI), and Working Conditions and Control Questionnaire (WOCCQ) tests. Feedbacks were collected by surveyors and evaluated by a psychiatrist.

The survey forms and tests used in the present study are outlined below.

Socio-demographic data collection survey forms: A survey form comprised of 6 questions which aim to evalute the socio-demographic characteristics of the participants.

MBI: The scale with which degree of burnout is assessed. It has been developed by Christine Maslach, comprises 22 questions, and examines burnout in terms of 3 factors: emotional exhaustion (EE), desensitization (D), and personal accomplishment (PA) (10). Among people with burnout, EE and D scores are expected to be high, while PA is expected to be low. EE subscale denotes being overwhelmed by one's job and a state of exhaustion. D subscale represents indifferent, insensitive, and mechanic behavior towards caretakers. PA subscale describes self-efficiency and self-achievement (11). In all subscales, the frequency of experienced emotions are denoted by a Likert-type scoring system and evaluated by scores between 0-4, which elevates as the frequency increases.

MSQ: This is a scale comprised of 20 questions and developed by Weiss, David, England, and Lofquist (1967) in order to assess the job satisfaction. Each question includes 5 choices that describe the job satisfaction level of an individual as follows: very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied. The maximal score that can be reached is 100 and the minimal score is 20, while 60 indicates neutral satisfaction.

BDI: This is a test used for measuring the level of depressive signs among participants and includes 21 questions. The scale provides four-point Likert scale. Each item is assigned a point between 0-3 and total score is calculated by summing up those points. Final score varies between 0-63 (11).

WOCCQ: Measures work conditions and control over work conditions in 6 dimensions (proper support, task management, risks, work program, time management, future) (12). (i) Appropriate support comprises all the help that an individual can obtain while facing challenges. (ii) Task management is each individual's right to have a say on processes concerning their tasks and working conditions. (iii) Risks represent the dangerous events in the workplace. (iv) Work program evaluates the easy and difficult aspects of the time-related limitations in the workplace. (v) Time management indicates flexibility of work hours within certain limits. (vi) Future involves assessment of expectations about the job. Based on the questionnaire whose Turkish version has not yet been approved for validity/reliability, this survey was prepared in four-point Likert system as to include 78 items.

The analysis of the data were carried out by SPSS 11.5 (Statistical Package for Social Science) package program. The consistency of the distribution of data measured in a continuous fashion relative to the normal distribution, was evaluated by Shapiro-Wilk test. Definitive statistics were expressed as mean±standard deviation, whereas nominal variables were presented as number of cases. While 'Indenpendent Samples T test' and 'One-way Variance Analysis' were used for comparing the mean values of the groups; 'Pearson Chi-square test', and when required to, 'Yates Chi-square test', and 'Fischer Exact test' were employed for categoric variables; and 'Pearson Correlation test' was used for evaluation of the correlation between the tests. $p \leq 0,05$ was recognized as statistically significant. Prior to the study, margin of error was 0.05, theoretical power was 0.80, and total number of subjects was 201 in the AR group and 211 in the IM group. The calculations were performed by Gpower 3.1 package program. The final power acquired at the end of the study was 0.92.

RESULTS

412 resident and specialist physicians from various fields filled out the delivered survery forms and tests. The study was conducted between December 2008-February 2009.

Individual characteristics of the 412 included physicians are shown in Table I.

Figure 1

TABLE I. Age, gender, marital status, and title frequencies of individuals relative to their medical branch

		CLINIC			
		AR (n:201)		IM(n:211)	
		n	n %	n	n %
GENDER	Male	76	52,4	69	47,6
	Female	125	46,8	142	53,2
MARITAL STATUS	Married	146	51,4	138	48,6
	Unmarried	55	43,0	73	57,0
TITLE	Resident	124	44,3	156	55,7
	Specialist	77	58,3	55	41,7

AR: Anesthesiology-Reanimation, D: Internal Medicine

Mean age of the physicians working in the AR and IM fields were 33,70±6,41 and 31,63±6,40 (Mean±SD), respectively (Table II).

Figure 2

TABLE II. Statistically significant average scores of age, length of work term, burnout, and Beck depression inventory relative to the medical branches

	Branch / Title	n	Mean	SD	p value
Age (year)	AR	201	33,69	6,41	0,001*
	IM	211	31,64	6,40	
Length of work term(year)	AR	201	6,70	6,13	0,024*
	IM	211	5,40	5,51	
D	AR	201	5,23	3,34	<0,001*
	IM	211	6,41	3,41	
EE	Resident	280	16,34	6,04	<0,009*
	Specialist	132	14,73	5,37	
D	Resident	280	6,46	3,51	<0,001*
	Specialist	132	4,52	2,82	
PA	Resident	280	19,37	4,03	<0,001*
	Specialist	132	21,53	3,93	
BDI	Resident	280	8,89	7,81	0,013*
	Specialist	132	6,87	7,50	

*p<0,05
AR: Anesthesia-Reanimation, IM: Internal Medicine, D: Desensitization, DT,Emotional Exhaustion, PA: Personal Accomplishment, BDI: Beck Depresyon Inventory

The mean age of physicians working in AR was significantly higher than that of those working in IM (p=0.001). Total length of work term in AR and IM were 6,70±6,13 and 5,40±5,50 (Mean±SD), respectively. The length of work term was significantly higher among physicians in AR than among those working in IM (p=0.024). This result was explained by the difference in titles between groups working in the AR and IM (p=0.008). While 40% of residents were working in the AR, the percentage of specialists working in the same field was 59.8%. No statistically significant difference was found regarding burnout subscale averages, gender, and marital status. However, D values in unmarried pysicians and PA values among married ones were found to be higher. The entire burnout subscale averages demonstrated a statistically significant difference with regard to the titles. The D and EE values of residents were higher. Among specialists, PA values were found to be high. D, one of the burnout subscale averages, showed difference in terms of the physicians' branch (p=0.006) (Table II).

No significant difference was observed between Beck Depression Inventory (BDI) and Minnesota Satisfaction Questionnaire (MSQ) with regard to average scores (p>0.05). Although not statistically significant, BDI scores were found to be lower in the 41+ group.

Analysis performed on gender, marital status, and branch of the physicians revealed no difference between the BDI and MSQ average scores (p=0,349, p=0,374; p=0,746, p=0,745; p=0,942, p=0,890, respectively).

BDI average scores were found to be statistically significant for residents and specialists. BDI average scores of residents were significantly higher than those of specialists (p=0.013). No significant difference was determined between the MSQ average scores (Table II).

In work conditions and control questionnaire, no statistically significant difference was found between average values in terms of gender (Table III).

Figure 3

TABLE III. Title: Average scores for the items of working conditions and control questionnaire

	Title/Branch	n	Mean	SD	p value
Task Management	Resident	280	2,38	0,47	<0,001*
	Specialist	132	2,73	0,48	
Appropriate Support	Resident	280	2,61	0,44	<0,001*
	Specialist	132	2,86	0,41	
Time Management	Resident	280	2,47	0,60	<0,001*
	Specialist	132	2,78	0,70	
Work program	Resident	280	2,06	0,47	<0,001*
	Specialist	132	2,32	0,46	
Task Management	AR	201	2,57	0,50	0,004*
	IM	211	2,43	0,50	
Time Management	AR	201	2,65	0,71	0,022*
	IM	211	2,50	0,58	
Risks	AR	201	2,34	1,33	<0,001*
	IM	211	1,85	0,48	

AR: Anesthesiology-Reanimation,IM: Internal Medicine

According to that questionnaire, average values of task management (p<0.001), appropriate support (p<0.001), time management (p<0.001), and work plan (p<0.001) question groups displayed a significant difference based on titles. No difference was detected for the average values of 'future' and 'risks' question groups (p=0,086 ve p= 0,378, respectively). Among residents, contribution to task management, benefiting from appropriate supports, and initiative in time management were found to be lower than in specialists.

Regarding 'physicians' branch', a significant difference was determined for the average scores of task management (p=0.04), time management (p=0.022), and risks (p<0.001). No significant difference was observed in average scores of the other question groups (Table III). Contribution to task management and initiative over time management were

found to be higher among physicians working in an anesthesia clinic, whereas the risks they face at workplace were higher.

According to the Pearson test, a positive correlation between the personal average scores of 'task management' and 'appropriate support' question groups, and 'personal accomplishment' subscale scores of Maslach Burnout Inventory was determined; whereas personal average scores of the 'future' question group were found to show a positive correlation with the 'personal exhaustion' subscale scores of Maslach Burnout Index.

In this survery, personal average scores of the 'task management' question group were found to show positive correlation with the scores of Minnesota Satisfaction Questionnaire, whereas personal average scores of the 'future' group were found to have a negative correlation with the scores of Minnesota Satisfaction Questionnaire. Personal average scores of 'Future' question group in the survey was determined to display a positive correlation with the scores of the Beck Depression Inventory (Table IV).

Figure 4

TABLE IV. Correlation of burnout subscale scores, job satisfaction, and Beck Depression with WOCCQ.

Pearson Correlation	Task Management	Appropriate Support	Time Management	Work Program	Future	Risks
EE	-0,277**	-0,206**	-0,268**	-0,156**	0,481**	0,147**
D	-0,276**	-0,193**	-0,153**	-0,117*	0,318**	0,086
PA	0,398**	0,374**	0,291**	0,163**	-0,229**	-0,069
MSQ	0,372**	0,266**	0,298**	0,122*	-0,303**	-0,094
BDI	-0,293**	-0,214**	-0,185**	-0,090	0,317**	0,144**

** Correlation is significant at 0.001 (2-tailed)
* Correlation is significant at 0.05 (2-tailed)
EH: Emotional Exhaustion, D: Desensitization, PA: Personal Accomplishment, MSQ: Minnesota Satisfaction Questionnaire, BDI: Beck Depression Inventory

DISCUSSION

Although validity and reliability of WOCCQ, one of the tests used in the present study, has not yet been approved for our country, our preliminary study is an evidence that it can be employed in our country, as well. Further studies concerning adaptation of WOCCQ as well as analyzing its validity and reliability for our country, are planned.

Studies focused on physicians from different fields report high EE and D dimensions of burnout, and personal accomplishment dimension is noted to be negatively influenced. Medicine is reported to be an occupation susceptible to burnout (3,8,13,14). A study performed among anesthesiologists have noted following predisposing factors for burnout: having less acquiantance with patients and their relatives, occasionally taking part in operations with uncertain cause or outcome, taking care of chronic diseases in the intensive care, long work hours, inadequate wage, and being accused of complications.

In the present study, in review of the burnout subscales relative to the physicians's clinic, AR physicians were found to have low average scores for subscale D. We believe that this result developed due to the individual characteristics of physicians working in AR clinics such as ability of empathy.

Burnout has been reported to be higher in; young and unmarried individuals than in married and old ones, inexperienced than in experienced who worked for a longer term, and female physicians than in male ones (9,12,13,16); moreover, people below age of 40 years have also been noted to be under risk for burnout syndrome. Regarding marital status and burnout relationship, D scores have been found to be higher among the unmarried subjects (17).

In the current study, among people at advanced ages, average D values were found to be low, whereas average PA values were found to be high; average EE values exhibited no difference. No difference was determined between the burnout scale scores with regard to gender. As a result of various results obtained in the past studies, we believe, stress factors concerning the job should be determined based on the gender, and precautions should be taken for those. We found average S subscale scores lower than those of unmarried ones.

Intense work life and being on a training for his job, facilitates occurrence of burnout (19). Following reduction in work hours, burnout levels of residents have been reported to decrease (20,21). Moreover, failure to feel oneself autonomous due to the hierarchical system, receiving substantial amount of supervision, and being obliged to perform the routine procedures, may lead to burnout, as well (22). Similar to other authors, we determined a relationship between title and burnout subscales too. EE and D scores were higher among residents, whereas PA scores were higher in specialists.

Individuals have been shown to feel more succesful as their professional experience, ability, and technical background elevated (23). In our study, length of work term was not found to have an influence over EE and D, however, determined to affect personal accomplishment. As the length of work term elevated, personal accomplishment scores raised, as well.

In Western countries, high rates of mood disorders and

depression among physicians and healthcare workers, are explained by the conflict between the career and private life, anxieties concerning role and responsibilities, fear of making a mistake and lawsuits, intense and excessive work hours, and sleeplessness. Problems associated with depression such as raised irritability, reduction in the abilities of decision making, and memory disorders, influence the professional skills of the physician in a negative way and elevate the risk of making a mistake or harming a patient (3-5).

According to the studies, depression is most commonly seen during the first years, and decreases as the career roll forward. In terms of gender, depression has been found to be more common among female physicians. With regard to working conditions, stressful and disorganized work environments have been reported to elevate the depression. Moreover, depression in physicians is observed to differ in terms of the medical branch and countries. Observing differing results in different countries is very natural due to regional, cultural and religional differences (3-5).

In the present study, assessment of depression revealed no significant difference between average BDI scores with regard to age, gender, marital status, medical branch, and physician's hospital. Only in terms of title, average BDI scores were observed to be higher in residents than in specialists. Moreover, burnout was elevated in that group, as well. It was concluded that the ones with higher burnout levels, would display an increase in BDI scores too.

Absence of burnout in people who are satisfied with their profession, is a remarkable data. Professional satisfaction can be affected by personal characteristics such as age, gender, and education level, as well as environmental and institutional factors such as content of the job, payment policy, and working conditions (25-26). Among residents, factors such as long work hours, exposure to ill-manners both verbally and emotionally, having doubts about the future, and economic hardships have been shown to negatively influence job satisfaction (27). People who work in the same field and/or institution for a long time are known to have a higher job satisfaction. Moreover, job satisfaction is reported to increase with job experience (28).

In the current study, average MSQ scores showed no difference relative to the age. One of the reasons behind that result may be the high age of residents in our study group leading to a poor relationship between the age and job experience.

The most common factors that cause burnout at work among physicians are reported to be work load, daily work hours, number of patients cared for, number of shifts, and irregular sleeping hours (18,23). Emotional exhaustion and desensitization rates are observed to be high in physicians who attend shifts more frequently, have longer work hours, and sleep less (18,23). Heavy work load, lengthy daily working hours, and working condition that are perceived as poor, have an influence over burnout, as well (29).

In medicine, high job responsibility accompanies inefficient job control utilities (30). In our study; contribution to task management at work environment, benefiting from appropriate supports, and initiative over time management were found to be higher among residents than in specialists.

In a study including higher number of anesthesiology residents compared with specialists of the same field, anesthesiologists have been reported to be disadvantageous with regard to control over risks, time management, and work program (31). In the present study, physicians who work in an anesthesiology clinic had a higher score in terms of contribution to the task management and initiative over time management as well as encountering higher amount of risks in the work place. Although our results were consistent with the above mentioned study regarding the risks, it differed in terms of time management. The reason behind that difference may be the more advantageous profile of AR specialists over AR residents with regard to time management.

Problems arising from socio-economic conditions and organizational shortcomings of institutions that neither the institution nor the personnel can bring a solution in the short-term, may have negative reverberations on the relations between employees and the people they serve. Therefore, we believe that reviewing the occupational condition at intervals, making amendments where required to, developing an institutional awareness additional to the individual methods, and starting a search for solutions, will be beneficial for the patient, physician, and institutions.

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