



The evaluation of burnout and job satisfaction levels in residents of pediatrics

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Abstract

Aim: The aim of the study was to examine the level of job-related burnout and the level of job satisfaction among residents of pediatrics.

Material and Methods: A total of 102 residents of pediatrics who were trained in two Ministry of Health teaching and research hospitals and in two university hospitals in İzmir were included in the study. Demographic data (age, sex), lifestyle (living with parents or not, marital status, number of children) and professional characteristics (total time spent in profession, time spent in residency, number of night shifts per month, institution type: teaching hospital/university) were collected. Maslach Burnout Inventory (subscales: emotional exhaustion, desensitization, personal accomplishment) and Minnesota Satisfaction Questionnaire were used.

Results: High levels of emotional exhaustion and desensitization, and low levels of personal accomplishment and job satisfaction were found in residents of pediatrics. Low levels of emotional exhaustion in teaching and research hospitals and low levels of desensitization in university hospitals were determined ($p<0.05$). We found a positive correlation between age and job satisfaction levels and a negative correlation between age and emotional exhaustion levels ($p<0.05$). There were negative correlations between the length of time in education and desensitization and between the number of night shifts per month and desensitization ($p<0.05$).

Conclusions: In residents of pediatrics, there is a high-level burnout and low-level of job satisfaction. Emotional exhaustion is more common in teaching and research hospitals and desensitization is more common in universities. Younger age, lower seniority, and the higher number of work-shift increases the burnout. (Turk Pediatri Ars 2017; 52: 66-71)

Keywords: Burnout, job satisfaction, residents of pediatrics

Introduction

In our country, physicians receive a 6-year intensive education, which starts with the university examination following high-school education. During this education period, medical faculty students must cope with numerous conditions, which lead to anxiety at different steps. Students who want to receive residency training after graduating from medical faculty are positioned in certain divisions according to the scores they receive in the examination for speciality in medicine and their preferences. Residents who receive training in clinical divisions receive service-based training in hospitals, which is conducted at their workplaces at the same time. However, giving

both service and learning is a difficult process. The person has to cope with the student-worker dilemma. When the service load increases, the time assigned for education will be reduced and when the time of training increases, the time assigned for healthcare service will be reduced. Currently, residents have the lowest seniority in the clinics where they receive training. When their orders of precedence increase, heavy work load decreases gradually, but they provide service as qualified labor force throughout their whole training period. During this period, they confront difficulties in patient care, economic difficulties, shifts, necessity of continuous learning, requests of educators, specialists, and senior residents, and have responsibilities in their own personal lives (1, 2).

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In this study, we aimed to investigate the levels of occupational satisfaction and exhaustion in residents receiving training in the branch of pediatrics in Turkey.

Material and Methods

The population of the study was composed of all residents of pediatrics who had received training for at least for one year at Ministry of Health Tepecik Education and Research Hospital, Clinics of Pediatrics; Ministry of Health Izmir Dr. Behçet Uz Pediatrics and Pediatric Surgery Education and Research Hospital; Ege University Faculty of Medicine, Department of Pediatrics; and Dokuz Eylül University, Faculty of Medicine, Department of Pediatrics (a total of 111 residents). No sample was selected for the study and it was aimed to reach the whole population. One hundred two subjects (91.8%) participated in the study. The data of this cross-sectional study were collected between April 1st, 2010, and June 6th, 2011. No name was written on the questionnaire forms applied. The forms used in the study were completed by the participants under the supervision of the investigator. Three different scales were used for this study:

1. Demographic data form: This form was prepared by the investigators. This form was directed to determine the demographic properties (age, sex), lifestyle (living with the parents, marital status, number of children), and occupational characteristics (period of working as a practitioner, period of working as a resident, monthly number of shifts, institution of work) of the study group.

2. The Maslach Burnout Inventory (MBI): In this study, the Maslach Burnout Inventory, which was developed by Maslach and Jackson (3) in 1981, was used to determine the level of exhaustion perceived by the residents. The Maslach Burnout Inventory was developed as a measuring tool for areas of the profession that especially require face-to-face communication for providing direct service to people. This 22-article inventory is evaluated in three subdimensions including emotional burnout (EB), depersonalization (D), and personal accomplishment (PA). The questions related with EB (9 questions) and D (5 questions) comprise negative expressions, and questions related with PA (8 questions) are composed of positive expressions. The EB subscale measures feelings of being emotionally overextended and exhausted by one's occupation. The D subscale measures unfeeling and impersonal responses towards recipients of one's service, care, treatment or instruction. The PA

subscale measures the absence of feelings of competence and successful achievement in one's work. A high score in the EB and D subscales and a low score in the PA subscale indicate exhaustion. The Turkish validity study of the Maslach Burnout Inventory has been performed (4, 5). The original Inventory is a 7-point Likert scale. However, it was observed that the answer options, which were composed of 7 steps, were not appropriate for Turkish culture. Thus, the answer options were arranged as 5 steps. In this arrangement, the questions in the EB and D subscales were scored as "never = 0, very rarely = 1, sometimes = 2, mostly = 3, always = 4", and the questions in the PA subscale were scored reversely (never = 4, very rarely = 3, sometimes = 2, mostly = 1, always = 0). A score ranging between 0 and 36 is obtained for EB, a score between 0 and 20 is obtained for D, and a score between 0 and 32 is obtained for PA by adding these scores. A differentiation of presence or absence of burnout cannot be made because of the absence of a cut-off value for scores obtained in these subscales. It is expected that individuals who experience burnout will have high scores in the EB and D subscales, and a low score in the PA subscale. However, the burnout scores included in the first one third of the distribution are considered "low", the burnout scores included in the middle one third of the distribution are considered "moderate", and scores in the final one third are considered "high" when determining levels of exhaustion. The Cronbach alpha coefficient is 0.83 for EB, 0.72 for PA, and 0.65 for D.

3. The Minnesota Job Satisfaction Questionnaire: The Minnesota Job Satisfaction Questionnaire (MJSQ), which was developed in 1967, was used to measure job satisfaction in the residents included in this study (6). This scale was adapted to Turkish, and the Turkish validity and reliability studies were performed in 1985 (Cronbach alpha=0.77) (7, 8). The Minnesota Job Satisfaction Questionnaire is a 5-point Likert scale scored between 1 and 5. It is composed of a total of 20 questions. Scoring is performed in the following way: "not satisfied at all = 1 point", "not satisfied = 2 points", "undecisive = 3 points", "satisfied = 4 points", "very satisfied = 5 points". The questionnaire does not include reverse questions. The highest score is 100, the lowest score is 20, and a score of 60, which is in the middle point, expresses a neutral score. Scores that approach 20 indicate that the level of satisfaction is reduced and scores towards 100 indicate that the level of satisfaction is increased. An individual's level of internal, external, and general satisfaction can be determined with the MJSQ.

In this study, only the general satisfaction levels of the subjects were evaluated.

Approval was obtained from the Ministry of Health Izmir Tepecik Education and Research Hospital Ethics Committee (29.06.2009; number: 89; decision number: 3), Izmir Provincial Directorate of Health, Ege University and Dokuz Eylül University Rectorships. The residents participated voluntarily in this study.

Statistical analysis

In the statistical analysis, numerical data are expressed as mean \pm standard deviation ($m \pm SD$), median, and maximum-minimum values. Categorical data are expressed as number (n) and percentage (%). In the comparison of the mean values of two independent groups, the Mann-Whitney U test was used because the data did not provide parametric properties. In this test, numeric values are expressed as median and interquartile range (IQR). Spearman correlation analysis was used to investigate the correlation between two numeric variables. SPSS (IBM Statistical Packages for the Social Sciences; Armonk, NY, USA) 20.0 statistical program was used in the statistical analysis and p values of <0.05 were considered statistically significant.

Results

Seventy-one (69.6%) of a total of 102 residents included in the study were receiving training in education and research hospitals affiliated to the Turkish Republic Ministry of Health. Sixty-eight of these residents (66.7%) were single and their mean monthly number of shifts was found as 8.0 ± 2.9 (Table 1).

The mean MJSQ value of the pediatric residents indicated low job satisfaction. Only 2 residents reached a score of 60, which was the neutral score. The mean EB, D, and PA scores of the subjects expressed a high level of emotional burnout, depersonalization, and a low level of feeling personal accomplishment (Table 2).

When we investigated how the demographic and occupational properties affected scale scores, we found that residents receiving training in education and research hospitals affiliated to the Ministry of Health had lower EB scores ($p=0.013$), and residents receiving training in university hospitals had lower D scores ($p=0.003$) (Table 3).

As a result of the statistical analysis, it was found that the correlation analyses performed between age and MJSQ

Table 1. Demographic and occupational properties of residents of pediatrics

Variable	
Age (years), $M \pm SD$	27.8 \pm 1.7
Median (min-max)	28 (24-32)
Sex, n (%)	
Female	68 (66.7)
Male	34 (33.3)
Marital status, n (%)	
Single	68 (66.7)
Married	34 (33.3)
Having children, n (%)	9 (8.8)
Living with parents, n (%)	19 (18.6)
Time of general practice, n (%)	
<6 months	76 (74.5)
\geq 6 months	26 (25.5)
Time of residency (months), $M \pm SD$	30.0 \pm 15.5
Median (min-max)	26 (12-60)
Monthly number of shifts, $M \pm SD$	8.0 \pm 2.9
Median (min-max)	8 (2-14)
Institution of work, n (%)	
Institution of work, n (%) University	31 (30.4)
Education-Research Hospital	71 (69.6)

$M \pm SD$: mean \pm standard deviation

Table 2. The Minnesota Job Satisfaction Questionnaire, emotional burnout, depersonalization, and personal accomplishment scores in residents of pediatrics

	MJSQ	EB	D	PA
$M \pm SD$	34.4 \pm 13.5	32.9 \pm 12.5	15.8 \pm 6.4	10.7 \pm 7.8
Median	36	34	15	11
(IQR)	(28-42)	(18-35)	(11-18)	(10-14)
Min-max	20-60	10-36	9-20	8-32

IQR: interquartile range; D: depersonalization; EB: emotional burnout; PA: personal accomplishment; MJSQ: Minnesota Job Satisfaction Questionnaire; $M \pm SD$: mean \pm standard deviation

($p=0.017$; $r=0.235$) and D scores ($p=0.021$; $r=-0.229$), between the time of residency and D score ($p=0.008$; $r=0.262$), and between the monthly number of shifts and D score ($p=0.009$; $r=0.257$) were statistically significant (Table 4).

Discussion

Throughout the world, entrance to medical faculties, becoming a physician after completing medical education, and specializing in a certain branch constitutes a

Table 3. The Minnesota Job Satisfaction Questionnaire, emotional burnout, depersonalization and personal accomplishment scores in residents of pediatrics according to demographic and occupational properties

	MJSQ Median (IQR)	EB Median (IQR)	D Median (IQR)	PA Median (IQR)
Sex				
Female	39 (26-46)	34 (20-30)	16 (12-18)	10 (9-22)
Male	34 (24-40)	32 (20-32)	15 (12-18)	11 (9-22)
p	0.890	0.696	0.974	0.972
Marital status				
Married	39 (32-45)	34 (14-35)	14 (10-18)	10 (8-28)
Single	35.5 (30-42)	34 (12-35)	16 (9-18)	9 (7-30)
p	0.826	0.969	0.285	0.502
Having children				
Yes	37 (32-46)	35 (14-35)	14 (9-18)	11 (8-32)
No	36 (30-44)	34 (18-35)	15 (10-18)	10 (9-31)
p	0.906	0.392	0.929	0.813
Living with parents				
Yes	40 (38-48)	35 (20-35)	18 (9-19)	11 (10-26)
No	36 (28-46)	34 (20-35)	15 (10-18)	11 (10-24)
p	0.387	0.952	0.502	0.790
Time of general practice				
<6 months	35 (30-44)	33 (22-34)	15 (9-17)	11 (9-24)
≥6 months	38 (32-50)	35 (24-35)	17 (12-18)	10 (9-22)
p	0.222	0.776	0.751	0.870
Institution of work				
University	41 (32-50)	24 (18-28)	18 (16-19)	11 (9-26)
Education-Research hospital	44 (32-48)	34 (28-30)	14 (12-16)	11 (9-28)
p	0.563	0.013	0.003	0.775

D: depersonalization; EB: emotional burnout; IQR: interquartile range; MJSQ: Minnesota Job Satisfaction Questionnaire; PA: personal accomplishment

Table 4. Correlation analyses between the variables of age, time of residency and monthly number of shifts and the Minnesota Job Satisfaction Questionnaire, emotional burnout, depersonalization, and personal accomplishment scores in residents of pediatrics

	MJSQ	EB	D	PA
Age				
p	0.017	0.128	0.021	0.845
r	0.235	-0.152	-0.229	-0.020
Time of residency				
p	0.155	0.232	0.008	0.304
r	0.142	-0.119	-0.262	0.103
Monthly number of shifts				
p	0.327	0.239	0.009	0.316
r	-0.098	0.118	0.257	0.100q

D: depersonalization; EB: emotional burnout; MJSQ: Minnesota Job Satisfaction Questionnaire; PA: personal accomplishment

difficult process. This process occurs as a result of devoting one's life to this process, not only passing a series of examinations. In addition, medical service provided to pediatric patients has some important differences compared with adults. These include taking medical history mostly from the parents, a fiduciary relationship between physician and family-child, exhibition of a cool, tolerant and patient attitude, and a careful observation and synthesis of the child and parents. The Turkish and English medical literature contains scientific studies examining the state of exhaustion and job satisfaction in pediatric residents or physicians who work in clinics of pediatrics (9-12). However, there is no similar multi-center study in which only pediatric residents are evaluated. Our study included more than 90% of all residents who had received training in the area of pediatrics in Izmir at the time this study was conducted. Generally, the level of occupational exhaustion was found as high and the

level of job satisfaction was found as low in the residents. Emotional burnout was prominent in education and research hospitals, and depersonalization was prominent in university hospitals. It was observed that young age, low seniority, and increased number of shifts increased the level of exhaustion.

Burnout syndrome and reduced job satisfaction are observed in healthcare workers throughout the world and this condition is considered an occupational disease (2, 13-17). Emotional burnout is an internal dimension of exhaustion and individuals who experience this condition think that they are not sufficiently helpful for the people to whom they provide service. Going to work each morning is a source of anxiety for these individuals. An individual who experiences depersonalization withdraws from humanistic behaviors and exhibits a sarcastic, cynical, rigid, insensitive, and indifferent attitude. These individuals prefer to behave in accordance with rules rather than solving the problems of the people they serve. Presence of a rigid, seniority-based and bureaucratic organization increases D. Individuals who have a low level of personal accomplishment usually feel themselves insufficient. They think that the efforts they make are useless and they cannot progress in their work (18, 19). Reduced job satisfaction is associated with occupational exhaustion, depression, and anxiety (9). Studies have shown that physician candidates experience anxiety related with their profession even when they just study medicine, and burnout emerges as a significant problem in students in senior classes (2, 20). In previous studies, it was observed that EB and D were high and job satisfaction and PA levels were low in residents, practitioners, and residents of surgical branches (9, 13, 17). We could find no studies that investigated residents of pediatrics only in the Turkish literature. In a few scientific publications in the English literature, it has been reported that burnout is a significant problem and insufficient occupational success with high work load, negativities in the healthcare system, and increased frequency of inappropriate requests of families contribute to this problem (11, 12, 19, 20). In our study, a reduced level of occupational satisfaction and increased levels of EB and D were found and it was observed that the subjects felt themselves unsuccessful. We think that the difficulty of practicing medicine, as well as working under the pressure of education, service, seniority, and intensive work load contributes to this negative picture.

Occupational burnout is affected by various individual and social factors. Studies have shown that sex, age, the

period of profession, familial structure, and the state of social support may affect the state of burnout (16, 17). However, unexpected results may be obtained in healthcare workers. In a study conducted in Harran University, it was reported that age, sex, marital status, and seniority in profession did not affect the levels of burnout and job satisfaction (21). In a study conducted with physicians of all seniorities, it was found that D was higher in women and EB was higher and job satisfaction was lower in single physicians. In the same study, it was observed that the level of burnout was higher in residents compared with practitioners and specialists, and job satisfaction was lower in residents and practitioners compared with specialists (15). In a study that was conducted in an education hospital in Izmir, in which all residents were evaluated, D was higher in women and in subjects who had no children (9). In a study conducted in Malatya with physicians who worked in the provincial center, job satisfaction was found as the most important factor that affected life satisfaction; life satisfaction scores were higher in women, married subjects, and faculty members (11). In France, a survey was conducted 6 times between 2010 and 2012 in residents of pediatrics who worked in the same hospital, and it was reported that the level of burnout increased as seniority increased (11). Again, the highest level of burnout was reported in residents who were in the third year of residency in a study conducted in South America (12). In our study, it was observed that sex, marital status, living with parents, and having children did not affect the level of burnout and job satisfaction. However, it was found that job satisfaction increased and D decreased as age and seniority increased, in contrast to the publications from France and South America. We think that the initiation of residency with a high number of shifts in educational institutions in our country and the reduction in the number of shifts in time might have caused this finding. While EB was higher in residents who worked in education and research hospitals, D was found higher in residents who worked in university hospitals. This may be explained by the fact that education and research hospitals affiliated to the Ministry of Health give service to a much larger numbers of patients and the difference of seniority is felt to a greater degree in university hospitals.

Increased work load is a significant cause of occupational exhaustion. Face-to-face, long-term and numerous interactions lead to a higher level of burnout (16, 17). It has been shown that a high number of shifts leads to burnout and low job satisfaction (9, 15, 21, 22). In our study, the mean monthly number of shifts of residents was 8, and this corresponds to a working period

of 78 hours per week (two weekend shifts and six weekday shifts; no day off following a shift). In accordance with the literature, the level of D increased in residents as the number of shifts increased.

It has been reported that burnout is observed less and job satisfaction increases in residents as their professional seniority increases (9, 15). Similarly, D was observed less as the time of training increased in the residents in our study. However, it was found that the time spent in general practice did not affect the level of burnout and job satisfaction.

With this study, we obtained significant information related with burnout, an occupational disease, in residents of pediatrics. In light of this information, it is thought that a reduction of weekly working hours and reduction of work load by increasing the number of educated allied health personnel might positively affect the present picture. In addition, we think that a reduction of the labor load of residents by increasing the number of specialists in education and research hospitals who work under intensive patient load, and rehandling the trainer-student relationship in university hospitals in which the difference of seniority is felt with a higher degree, may be helpful in reducing burnout syndrome.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Ministry Health İzmir Tepecik Training and Research Hospital (29.06.2009; no: 89 / 3).

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