Burnout in internal medicine physicians: Differences between residents and specialists

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Abstract

Background: Burnout poses a substantial problem for physicians’ well-being and for the quality of health care. The role of workload in comparison to subjective work characteristics has been rarely studied. The purpose of this study was to explore the associations of burnout with workload and subjective work characteristics in internal medicine specialists and residents.

Methods: A cross-sectional study using an anonymous mailed survey was used. Some 103 specialists and 143 residents participated in the study. Burnout was measured using the Maslach Burnout Inventory. Subjective work characteristics included perceived job demands in terms of time pressure, mental effort and emotional labor. Workload was assessed in terms of average number of hours worked per week.

Results: Emotional exhaustion in medical specialists was only predicted by perceived job demands [odds ratio 3.7 (CI 1.7–7.9), P < 0.001]. Emotional exhaustion in medical residents was only predicted by emotional labor [odds ratio 1.9 (CI 1.2–3.0), P = 0.003]. Depersonalization among medical specialists was only predicted by emotional labor [odds ratio 2.7 (CI 1.1–6.7), P = 0.032], while depersonalization among medical residents was only predicted by number of hours worked per week [odds ratio 1.1 (CI 1.1–1.2), P = 0.007].

Discussion: Perceived working conditions were more important than workload in explaining the variance in burnout. In addition, burnout in medical specialists and residents was linked to different characteristics of their working environment.

Keywords: Burnout; Workload; Medical residents; Internal medicine

1. Introduction

Burnout is a syndrome of depersonalization, emotional exhaustion and a sense of low personal accomplishment [1]. Today, there is no doubt that burnout poses a substantial problem not only for physicians’ well-being, but also for the quality of health care. Studies report prevalence rates ranging from 25% to 60% [2,3]. Recently, some studies have explored burnout in residents in internal medicine and shown that, during residency training, emotional exhaustion and depersonalization are often the norm, reaching a prevalence rate of 76% [3,4]. With the increased specialization of the medical profession, increased administrative duties and managed care, the prevalence of burnout among practicing physicians is likely to increase [5].

Despite its high prevalence rates, the development and causes of burnout in medical professionals remain unclear [6]. Demographic and personality factors have been shown to relate to burnout. For example, burnout seems to be less prevalent among men, younger people and married people [7,8]. In contrast, compulsiveness, self-esteem and perfectionism seem to increase vulnerability [9]. However, studies have mainly highlighted the link between burnout and occupational factors. Job satisfaction has been associated with lower levels of burnout, while job stress has been linked to increased levels of burnout among hospital consultants [10,11]. However, these studies have not
identified the specific characteristics of the working environment that predict burnout. These characteristics need to be defined accurately in order to manage their influence on burnout. Work characteristics can be either objective or subjective. For example, the number of working hours and caseload has been shown to increase the likelihood of burnout in hospital consultants [12]. Parshuram et al. [13] have also shown the importance of workload, sleep deprivation and physical fatigue among senior fellows. Alternatively, in a recent review conducted by Thomas [14], burnout among medical residents was linked to a perceived sense of limited control and a high degree of work–home interference. Similarly, in the work of Ramirez et al. [15], perceived job demands and lack of support from colleagues emerged as important stressors for medical specialists.

However, the comparative influence of workload versus subjective work characteristics in burnout among medical professionals has not yet been systematically examined. Taking into consideration the excessive work demands linked to medical professionals, it is important to examine whether it is the actual workload or the subjective characteristics of the working environment that are more likely to cause feelings of burnout.

We evaluated the relationship of burnout to workload and subjective work characteristics among internal medicine specialists and internal medicine residents working in a Greek hospital setting. The setting of the study in Greece is particularly appropriate when one considers that there are no pre-defined maximum continuous duty hours for physicians working in hospital settings [16]. Indeed, practicing physicians claim that working time ranges between 30 and 48 h, which is higher than the European Union average [17]. In addition, Greece has the lowest doctor per nurse ratio among all EU countries [18].

2. Methods

2.1. Data collection

All internal medicine specialists and residents working in two public hospitals in Thessaloniki, Greece, were considered eligible for the study. We mailed an 84-item self-administered survey to their homes in the period January to March 2004. The accompanying cover letter informed the participants that the purpose of the study was to explore the work characteristics of Greek doctors. The word “burnout” was not mentioned in the cover letter. No financial or other incentives were offered for participation.

2.2. Survey measures

2.2.1. Burnout

Burnout was assessed using the Maslach Burnout Inventory (MBI), which is the most widely used instrument to assess burnout [1]. It is a 22-item questionnaire that measures three dimensions of burnout: emotional exhaustion (9 items), depersonalization (5 items) and personal accomplishment (8 items). The scale has previously been validated and used among Greek health care professionals [19–21].

In agreement with previous research that has suggested that personal accomplishment measures a somewhat distinct dimension, the subscale for personal accomplishment was not included among the criteria for burnout in this study [1]. Emotional exhaustion (e.g., “I feel used up at the end of the workday”) and depersonalization (e.g., “I have become less enthusiastic about my work”) are scored on a seven-point frequency rating scale ranging from ‘0’ (never) to ‘6’ (daily). High scores on the emotional exhaustion and depersonalization subscales are indicative of burnout.

Internal reliability coefficients for the subscales of emotional exhaustion and depersonalization for the two subgroups of our sample ranged from \( \alpha = 0.72 \) to \( \alpha = 0.87 \). Consistent with the recommended guidelines [22], burnout was determined using the 75th percentile as a cut-off score, which represents a conservative estimate of burnout. Scores above these levels are indicative of burnout.

2.2.2. Work characteristics

Workload was assessed by asking participants to report their mean working hours per week. In addition, the total working experience in months was assessed.

Two types of subjective work characteristics were assessed: perceived job demands and emotional labor.

Perceived job demands were measured using the scale of job demands from the Dutch Questionnaire on the Experience and Evaluation of Work [23]. This scale comprises five items assessing quantitative demands, i.e., the extent to which respondents feel they have to work under time pressure or time constraints (e.g., “There is never enough time to complete my work.”) and four items measuring mental job demands, i.e., the extent to which respondents perceive their job to be mentally taxing (e.g., “While working, I have to remember many things at the same time.”). All items are scored on a four-point scale from ‘1’ (never) to ‘4’ (always). Internal consistency coefficients for the two subgroups of our sample ranged from \( \alpha = 0.68 \) to \( \alpha = 0.77 \).

Emotional labor, defined as the process of managing both the experience and expression of feelings to support or achieve work goals, has been considered one of the most demanding characteristics of the health professions [24]. For the purposes of this study, we assessed the level to which respondents had to hide their feelings in order to be effective on the job, using two scales. The first was the Perceived Display Rules subscale of the Emotion Work Requirements Scale [25]. The subscale comprises three items assessing the hiding of specific negative emotions (e.g., “To what extent do you hide your anger about something that someone has said or done?”). Internal consistency was adequate (\( \alpha = 0.70 \) for doctors, \( \alpha = 0.71 \) for residents). The second scale was the
Emotional Labor Scale [26]. This scale comprises three items assessing inhibition of emotional expression in general (e.g., “I resist expressing my true feelings.”). Both scales are scored on a five-point scale (1 = not at all, 5 = always required). Information on the psychometric properties of these scales has been published elsewhere [27]. For the purposes of this study, a global score on emotional labor was derived. Internal consistency was adequate (α = 0.70 for doctors, α = 0.75 for residents).

2.3. Data analysis

Bivariate analyses were initially conducted to explore differences between medical specialists and medical residents on MBI subscale scores, work characteristics and demographic information. In addition, bivariate analyses were conducted to examine differences in demographic data between participants in each group who scored high on the burnout subscales and those who did not. All analyses were conducted using the Fisher exact test for categorical variables and t-tests for independent samples for continuous variables.

In order to examine the role of workload and subjective work characteristics, we performed stepwise logistic regression for each subgroup in our sample. The first step controlled for the influence of demographic characteristics. In the second step, perceived job demands, emotional labor, number of hours worked per week and job tenure were entered simultaneously. All analyses were conducted separately for emotional exhaustion and depersonalization for medical residents and medical specialists. All analyses were conducted using SPSS, version 10.0.

3. Results

The questionnaire was mailed to a total of 280 physicians. Some 244 physicians returned the questionnaire, representing a response rate of 80%. The study sample consisted of 103 internal medicine specialists and 141 internal medicine residents.

Table 1 shows demographic data, MBI subscale scores and work characteristics for the two subgroups in our sample. As expected, medical specialists were significantly older and had more working experience than medical residents. There were more women in the medical residents group, while no differences were observed between the groups in terms of marital status.

Participants reported the following mean scores on the MBI subscales: for medical specialists, depersonalization: 6.1 (S.D. = 5.6), emotional exhaustion: 22.4 (S.D. = 13.1); for medical residents, depersonalization: 11.3 (S.D. = 5.9), emotional exhaustion: 27.3 (S.D. = 10.7).

In terms of work characteristics, medical residents worked significantly more hours per week and reported more perceived job demands. In order to avoid multicollinearity, quantitative job demands and mental job demands (r = 0.72) were collapsed into one scale.

In terms of burnout symptoms, a significantly higher proportion of medical residents (35%) than medical specialists (9%) reported feelings of high depersonalization. No statistically significant differences were observed between the two groups concerning feelings of emotional exhaustion.

Bivariate analyses showed that age was the only demographic variable that significantly differentiated participants reporting high scores of depersonalization from those who did not. In both groups, younger participants reported higher levels of depersonalization (P = 0.023 for medical specialists, P = 0.002 for medical residents). No associations were found between gender and marital status and the dimensions of burnout in either group.

Multivariate logistic regression showed that emotional exhaustion in medical specialists was only predicted by perceived job demands [odds ratio 3.7 (CI 1.7–7.9), P < 0.001]. Emotional exhaustion in medical residents was only predicted by emotional labor [odds ratio 1.9 (CI 1.2–3.0), P = 0.003]. Depersonalization among medical specialists was only predicted by emotional labor [odds ratio 2.7 (CI 1.1–6.7), P = 0.032], while depersonalization among medical residents was only predicted by number of hours worked per week [odds ratio 1.1 (CI 1.1–1.2), P = 0.007].

4. Discussion

This study represents one of the first attempts to compare the influence of workload and subjective work characteristics on burnout in medical professionals specializing in
internal medicine. It is also one of the first studies to examine the different ways in which work characteristics influence burnout in medical specialists and medical residents.

Compared to medical specialists (9%), a higher proportion of medical residents (35%) fit the criteria for high depersonalization. The difference between the two groups for high emotional exhaustion (for medical specialists 6.5%, for medical residents: 22%) did not reach statistical significance. Medical residents reported working more hours per week and perceived their job as more demanding in terms of time pressure and mental effort than medical specialists. Multivariate analysis, adjusted for demographic characteristics, showed that medical specialists were more likely to be emotionally exhausted if they perceived their jobs as demanding, both mentally and in terms of their time. Alternatively, medical residents were more likely to be emotionally exhausted if they perceived their jobs as emotionally demanding. In terms of depersonalization, emotional labor was important for medical specialists and number of hours worked per week was important for medical residents. The fact that emotional labor was a strong predictor of burnout is consistent with the fact that relationships with patients can be emotionally demanding and require a high amount of empathy and emotional involvement. Indeed, a recent review of the literature indicates that there is an unequivocally positive relationship between emotional work and emotional exhaustion. Physicians are primarily involved in people work, and the ‘helping’ relationship with patients or clients involves high interpersonal or emotional demands, which can lead doctors to feelings of emotional exhaustion and depersonalization.

Consistent with previous research, no gender differences were found for either perceived job demands or emotional labor. Our findings should be interpreted with caution due to several limitations.

Participant recruitment for this study was performed using a convenience sampling procedure. Participants were recruited from two city hospitals, something that could compromise our ability to generalize our findings. In addition, no demographic or other information was available on non-responders. However, the mean scores for emotional exhaustion and depersonalization were similar to those reported in previous studies. Indeed, Table 2 indicates that burnout rates in the present sample, calculated using the Schaufeli and Enzmann approach, are consistent with those among Dutch doctors. Moreover, recalculating the scores using the approach recommended by the U.S. version indicates that the rates are also similar to those among doctors in the U.S.

In terms of burnout, the cut-off score approach adopted is the more conservative one and, as such, increases the validity of the analysis. The response rate was similar to that in previous studies on samples of medical professionals. No rewards were offered for participation. Future research should examine the associations identified in this study using randomized or stratified sampling procedures.

In terms of causality, the internal validity of the study is limited by the cross-sectional design. Future research should longitudinally assess the pattern of relationships identified in this study. Assessment of workload was based on self-report; thus, it is possible that medical professionals reporting higher levels of burnout perceived that they worked more hours. However, the average number of hours worked per week reported in this study is similar to the number reported in previous surveys.

The main strength of our study lies in the examination of the association of burnout with workload and subjective work characteristics. The present study is consistent with previous studies suggesting that future research should focus on “perceptions of factors that increase and decrease burnout.” Moreover, it provides a more comprehensive picture by comparing workload to subjective work-related factors. Overall, results of the study show that perceived working conditions are more important in explaining the variance in burnout than the number of hours worked per week. Similar results were found in a previous study conducted with Dutch medical specialists. In addition, this study suggests that burnout for internal medicine specialists and residents in internal medicine is related to different characteristics of their working environment. For medical specialists, workload is not as important as it is for medical residents.

The results of this study have implications for the design of evidence-based programs aimed at the prevention/treatment of burnout in medical professionals. In practical terms, it is important to distinguish between objective characteristics that can imply job redesign/flexible hours and subjective characteristics, which can imply more person-oriented interventions. Moreover, we need to design interventions targeting the specific work characteristics involved in burnout for each group of medical professionals. The results of this study indicate that it is advisable to train health care providers in coping with demanding situations.

Table 2

<table>
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<th></th>
<th>Emotional exhaustion (≥ upper quartile)</th>
<th>Emotional exhaustion (&gt;10)</th>
<th>Depersonalization (≥ upper quartile)</th>
<th>Depersonalization (&gt;27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical specialists</td>
<td>17 (16.5%)</td>
<td>32 (31%)</td>
<td>9 (9%)</td>
<td>18 (17.5%)</td>
</tr>
<tr>
<td>Medical residents</td>
<td>31 (22%)</td>
<td>70 (59%)</td>
<td>49 (35%)</td>
<td>86 (61%)</td>
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a Cut-off suggested by Schaufeli and Enzmann (1998).

b Cut-off suggested by the MBI manual (1996).
The results with regard to perceived job demands and working hours strongly suggest that an organizational intervention is called for with regard to work redesign, time management, self-management and workload management. For example, time management training, multi-faceted “burnout” workshops and interpersonal skills training have been successfully used to reduce burnout [32–34].

The results concerning emotional labor suggest that medical doctors should receive training in dealing with the emotional demands of their work. Such training could take the form of undergraduate or postgraduate training in communication skills and emotional management. In terms of medical education, the need to train students to understand and cope with emotional demands is in contradiction to the fact that emotional detachment is often promoted as part of the hidden curriculum of undergraduate and postgraduate training. Alternatively, the incorporation of reflection groups within the medical setting, where doctors can deal with the difficult emotional situations they have encountered at work before they go home, could be very effective.

This study adds to the picture of the overworked resident by showing that medical residents not only report more working hours, but also perceive their job to be very demanding mentally and in terms of time pressure. These results are in agreement with those of a recent review showing that burnout in medical residents was linked to intense work demands and a limited sense of control [14]. Compared to medical specialists, medical residents reported significantly more feelings of depersonalization. Such a large difference is important when one considers that depersonalization is highly contagious. Thus, such doctors may also have an impact on the performance of both their colleagues and respective health care teams [37]. Identifying the risk factors of burnout may prevent medical errors from occurring and may lead to more effective training of health care professionals working with cancer patients. Eur J Oncol Nurs 2004;8:234–44.

Finally, the results of the present study are particularly interesting when one considers the context in which it was conducted. Greek medical professionals work long hours with low doctor-to-nurse ratios [16–18]. Traditionally, the Greek health care system has relied very heavily on the service input of junior doctors and medical residents. Cover at night has been provided by medical residents who remain in the hospital whilst the consultant is on call from home. The European Working Time Directive (EWTD), which came into force in 1993, initially excluded medical residents [38]. An agreement was reached in 2000 for doctors in training to be included within the Directive [39]. Greece is currently in the process of applying the EWTD to qualified medical specialists as well as to medical residents. This study represents one of the first in a Greek context and thus it is expected to contribute to this transition towards more flexible working environments within hospital settings.

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References