Stress, satisfaction and burnout among Dutch medical specialists

Mechteld R.M. Visser, Ellen M.A. Smets, Frans J. Oort, Hanneke C.J.M. de Haes

Abstract

Background: Stress and stress-related illnesses are increasing among medical specialists. This threatens the quality of patient care. In this study we investigated (a) levels of job stress and job satisfaction among medical specialists, (b) factors contributing to stress and satisfaction and (c) the effect of stress and satisfaction on burnout.

Methods: A questionnaire was mailed to a random sample of 2400 Dutch medical specialists. Measures included job stress, job satisfaction, burnout, personal characteristics, job characteristics and perceived working conditions.

Results: The final response rate was 63%. Of the respondents, 55% acknowledged high levels of stress, and 81% reported high job satisfaction. Personal and job characteristics explained 2%–6% of the variance in job stress and satisfaction. Perceived working conditions were more important, explaining 24% of the variance in job stress and 34% of the variance in job satisfaction. Among perceived working conditions, the interference of work on home life (odds ratio [OR] 1.54, 95% confidence interval [CI] 1.35–1.76) and not being able to live up to one's professional standards (OR 1.57, 95% CI 1.37–1.80) were most related to stress. Feeling poorly managed and resourced (OR 2.07, 95% CI 1.76–2.43) diminished job satisfaction. Burnout was explained by both high stress and low satisfaction (41% of variance explained) rather than by stress alone.

Interpretation: Our study showed a protective effect of job satisfaction against the negative consequences of work stress as well as the importance of organizational rather than personal factors in managing both stress and satisfaction.

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Stress-related illnesses, such as burnout, among physicians are receiving increased attention.[1–5] A dramatic rise in these illnesses among Dutch physicians recently prompted disability insurance companies to raise premiums by up to 30%.[4] The negative consequences of stress pose a serious problem, not only for physicians' well-being[5] but also for the quality of patient care.[3,5–7]

Personal, interpersonal and organizational factors have been reported to relate to stress and burnout.[8] For instance, burnout seems to be less prevalent among older people and among married people.[8] Perfectionism, in contrast, increases vulnerability.[8] Stress induced by emotion-laden patient contacts is often considered a cause of burnout.[9] In the well-known model of Karasek,[10] social support[11] is emphasized as being a moderator between high work load, low work control and stress. In the work of Ramirez and colleagues[1,12] workload and a lack of adequate resources emerged as important stressors for medical specialists.

Recent changes in society may be relevant to the growing incidence of stress-related diseases among medical specialists. Patients have evolved from being fully dependent to being partners in medical decision-making. They are better informed, more critical and better protected by law.[13] In addition, in many countries job security has diminished owing to changes in health care organizations.[14,15] In recent years the balance between work and family has been liable to change as well. Family life increasingly demands time and devotion from both partners.[16] These changes may influence physicians' experience of their work.

Ramirez and colleagues[1] found that job satisfaction among British medical specialists protected against the physical and psychological effects of long-term stress. Therefore, to design effective methods of intervention, research into both stress and satisfaction is needed.

The objectives of our study were (a) to assess levels of job-related stress and satisfaction among medical specialists; (b) to investigate the extent to which personal characteristics, job characteristics and the perceived working conditions are related to stress and satisfaction; and (c) to establish the effect of stress and satisfaction on burnout.

Methods

A random, nonstratified sample of 2400 specialists was selected from the total population of Dutch medical specialists (including all specialists except general practitioners [n = 14 540]). Most of the specialists work in hospitals, either salary based in academic hospitals or in financially independent unions (maatschappen) in general and disease-specific hospitals. A small number, mainly psychiatrists, have private practices.

In April 1998 we mailed confidential questionnaires to the specialists together with an introductory letter signed by the project leader (H.d.H.) and the chair of the Dutch Society of Medical Specialists. Because the questionnaire concerned actual work situations, we excluded specialists who had not worked in their profession for at least 6 months before receiving the questionnaire. Oncologists participating in a similar, oncology-

specific study[17] were not approached. Nonrespondents received 2 reminders, with a 1-month interval. One month after the second reminder we sent a nonresponse form to the nonrespondents, seeking information on sex, age, specialty, and levels of stress and satisfaction.

According to a national Dutch law, approval for the study was not required from a medical ethics review board.

Instruments

We assessed work-related stress and satisfaction using 5-point rating scales derived from the Consultants' Mental Health Questionnaire,[12] where 0 means "not at all" and 4 means "very high" levels of stress or satisfaction. To assess burnout, we used the Maslach Burnout Inventory,[18] which measures emotional exhaustion (range 0–48), depersonalization (range 0–30) and personal accomplishment (range 0–42).

We examined 3 areas considered important in relation to job stress, job satisfaction and burnout: personal characteristics (including personality characteristics and life circumstances), job characteristics and perceived working conditions. On the basis of content, validity, reliability and availability in Dutch, we selected the instruments described below. If no suitable instrument could be found in Dutch, English-language questionnaires were translated by 3 investigators separately, and then consensus as to the translation was reached among them.

The personal characteristics assessed were sex, age, being single and having children younger than 18 years. Perfectionism was measured with a shortened, 8-item version of the Multidimensional Perfectionism Scale.[19,20] We used the 4-item communicative responsiveness scale[21] to assess the ability to listen and communicate effectively with people experiencing distress. Life circumstances were assessed with the VOS-D[22] (a scale measuring social support from partner, friends and family), ad hoc questions regarding time spent in sports, hobbies and other relaxing activities, and ad hoc questions addressing life events (e.g., illness or death of a close relative, move).

Job characteristics assessed included type of employment and hospital, specialty, hours worked weekly, being in charge of colleagues, having administrative responsibilities, and experiencing mergers or reorganization.

For perceived working conditions, we assessed the degree of control over the work environment using 6 items concerning amount of work, department policy, availability of support, leave, manner of carrying out the job and arrangement of the job. Social support from colleagues, supervisors and other personnel was assessed with the use of VOS-D.[22]

Stressful and motivating job aspects were measured with the Consultants' Job Stress and Satisfaction questionnaire[12] adapted to the Dutch situation. Data reduction by factor analyses yielded 7 stress factors and 5 motivational aspects. Stress factors included feeling "poorly managed and resourced," pertaining to lack of resources, personnel and administrative support and having opportunities to make a meaningful contribution (7 items; $\alpha = 0.84$); "work–home interference" as a result of time pressure (5 items; $\alpha = 0.83$); "managerial responsibilities" and conflicting responsibilities between, for instance, patient care and administrative tasks (5 items; $\alpha = 0.75$); "societal pressure" due to the legal restriction of professional autonomy and negative publicity regarding financial matters (4 items; $\alpha = 0.67$); the "impossibility of living up to one's standards" because of high workload (3 items; $\alpha = 0.63$); "emotion-laden patient contacts" (3 items; $\alpha = 0.62$); and "problems with colleagues and other staff" (3 items; $\alpha = 0.49$). The 5 motivating aspects included "intellectual stimulation" and opportunities for personal growth (4 items; $\alpha = 0.72$); "feeling valued" and able to contribute positively to one's work (5 items; $\alpha = 0.67$); "job security" (4 items; $\alpha = 0.65$); "having good relationships with patients" and their families (2 items; $\alpha = 0.78$); and "feeling well-resourced" in terms of easy accessibility to resources and personnel (2 items; $\alpha = 0.65$). Scores for stress factors pertained to the frequency with which a stressful situation was encountered. Scores for motivating aspects pertained to the degree to which these aspects contributed to the person's job satisfaction.

Analyses

We tested representativeness in terms of sex and specialty using χ^2 tests to compare the data with data registered nationally.[23,24] We compared the respondents and nonrespondents using χ^2 tests (specialty and sex) and *t*-tests (age, stress and satisfaction). Because of the large sample, effect sizes rather than *p* values were the main outcome measures. Missing values were imputed with the individual mean item score if at least half of the items of a scale were given.

First, to determine the unique contribution of personal characteristics, job characteristics and perceived working conditions to the prediction of stress and satisfaction, we performed stepwise linear regression analyses for these 3 sets of variables separately. Second, we combined all selected variables in an overall analysis. The criterion to enter a variable was an increase in the adjusted R^2 of at least 1% (variance explained). Subsequently, to facilitate interpretation of the contribution of each predictor separately, we calculated odds ratios (ORs) for the selected variables, using logistic regression analyses. For that purpose, we dichotomized stress and satisfaction scales by combining the response categories "not at all," "a bit" and "moderate" into one category, and "high" and "very high" into another category. In addition, continuous variables were categorized into variables with 4-point scales on the basis of quartile scores.

As in most other studies of burnout,[8] we considered the 3 dimensions of burnout as separate dependent variables. The independent variables were stress and satisfaction. We applied first linear and then logistic regression analyses. For logistic regression, we dichotomized burnout scales using Dutch normative data.[18] As a cutoff, we used the highest quartile score for emotional exhaustion and depersonalization, and the lowest quartile score for personal accomplishment.

Results

Of the 2400 questionnaires mailed, 1573 (66%) were returned. We excluded 138 questionnaires because they did not meet the inclusion criteria. This left 1435 questionnaires (63%) for our analyses. Of the 816 nonresponse forms sent, 441 (54%) were returned. The nonrespondents were on average 1 year older and experienced less stress than the respondents. Effect sizes, however, were small (0.12 for age) or very small (0.09 for stress).[25]

Of the respondents, 13% were psychiatrists, 9% internists, 7% anesthesiologists, 7% surgeons, 7% pediatricians, 6% radiologists, 5% neurologists, 5% gynecologists

and 41% other specialists. According to the national registration information, internists were slightly underrepresented in the study sample (9.1% v. 11.9%; χ^2 = 16.28, 8 degrees of freedom, p = 0.004). The characteristics of the sample are given in Table 1.

Of the respondents, 55% reported experiencing high or very high levels of stress, whereas 81% reported high or very high job satisfaction (Table 2). Stress and satisfaction were inversely related (r = –0.25; p < 0.001).

Personal characteristics and job characteristics explained only 2%–6% of the variance in stress and satisfaction (Table 3). Perceived working conditions, however, explained 24% of the variance in stress and 34% of the variance in satisfaction.

When all of the variables were combined, 25% of the variance in job stress (n = 1317) and 35% of the variance in job satisfaction (n = 1295) were explained. Factors associated with stress were work–home interference, impossibility of living up to one's standards and experiencing societal pressure. Satisfaction was best explained by feeling poorly managed and resourced. Job security, feeling valued, intellectual stimulation, communicative responsiveness and social support by colleagues contributed about equally.

Job stress and job satisfaction both appeared important predictors of emotional exhaustion (41% of the variance explained) (Table 4). That is, when stress is high (OR 4.94, 95% confidence interval 3.09–6.26) and satisfaction is low (OR 3.02, 95% confidence interval 2.39–3.81), emotional exhaustion is most likely. Stress and satisfaction were less important in predicting depersonalization (13% of variance explained) and personal accomplishment (11% of variance explained).

Table 1: Characteristics of Dutch medical specialists

Characteristic	% of specialists* *n = 1435*
Personal	
Male sex	82
Mean age (and SD), yr	46.9 (7.8)
Single	9
Children < 18 yr	61
Job related	
Salaried position	48
Group practice	51
Private practice	9
Type of hospital	
Academic	24
Community	64
Secondary or tertiary care	9
Mean no. of hours worked weekly (and SD)	53.5 (13.6)
In charge of colleagues	64

Note: SD = standard deviation.
*Unless stated otherwise.

Interpretation

The key findings of our study were the protective effect of job satisfaction against the negative consequences of work stress and the importance of organizational rather than personal factors in managing both job stress and job satisfaction. Despite relatively high levels of stress, Dutch medical specialists are remarkably satisfied with their work. The mean burnout scores (emotional exhaustion 15.5, depersonalization 7.4 and personal achievement 27.3) were even somewhat below the average for Dutch health care professionals.[18] This, however, does not imply that medical specialists never run the risk of experiencing burnout. When stress was high and satisfaction low, the risk for emotional exhaustion — the central aspect of burnout — increased considerably. This protective effect of satisfaction on the relation between job stress and emotional exhaustion was also found among British medical consultants.[1]

Our findings showed a minimal relation between personal characteristics and levels of stress and satisfaction. More surprisingly, job characteristics also contributed little to stress and satisfaction. The specialists' levels of stress and satisfaction were best understood by their perception of working conditions. Negative consequences of time pressure were important factors. Both the extent to which work intrudes into private life and the extent to which workload makes one feel unable to work according to one's standards contributed to the stressfulness of the job. Changes in society affect job stress as well. The restriction of professional autonomy, job insecurity owing to mergers and the fear of lawsuits were mentioned by our respondents.

The respondents' job satisfaction depended on feeling well managed and well resourced. If specialists do not feel supported by colleagues and by the organization, their satisfaction level falls, a finding also reported by Freeborn[26] in a study among physicians employed by health maintenance organizations. The promotion of personal growth and security in finance and employment influenced satisfaction levels positively, a conclusion also drawn in a US study on job satisfaction.[27]

Our data do not support the general assumption that stress among health care professionals is induced by emotion-laden patient contacts.[9] Although this was the most

Table 2: Levels of job-related stress and satisfaction among specialists

	% of specialists	
Level	Stress *n = 1371*	Satisfaction *n = 1362*
Not at all	1.0	0.4
A bit	13.4	2.7
Moderate	30.1	16.2
High	41.5	61.2
Very high	13.9	19.5

frequently encountered "stressor," it did not contribute substantially to overall stress and satisfaction. This finding underscores the relevance of the current shift to organizational stressors in burnout research.[28]

An important limitation of our study was its cross-sectional nature, which makes it difficult to ascertain causality. A second caveat concerns the generalizability of our findings, as health care systems differ across countries. An important feature of the Dutch health care system is that patients first see their general practitioner before going to a specialist. This is comparable to, for instance, the British and the Canadian health care systems but not to the US system. Other aspects under investigation, such as patient attitudes and work–family roles,[1,16,29] are less dependent on the specific Western country. The similarity between our conclusions and those reached in studies performed in other countries[1,5,26,29] shows that our findings have international value. Third, the fact that both the variables and the outcomes were self-reported may have increased their relation. It is the specificity in the relation between variables and outcomes that we should focus on. Fourth, our response rate was only 63%. However, the similarity between our sample and population characteristics and the results of the nonresponse analyses indicate that our sample was representative of working Dutch medical specialists.

Our study shows that explanations for stress, satisfaction and burnout are primarily found in how specialists experience their working conditions. The profession of medical specialist is inherently stressful and requires a high level of dedication. Owing to societal changes, traditional benefits, such as financial security, status and autonomy, can no longer be taken for granted. What is called for is a focused approach to specialists' stress and satisfaction on both an organizational and a health policy level. For example, other types of rewards and support, such as recognizing extra effort by allowing a conference visit, could be provided. Better administrative support and availability of resources and services could help as well. If time is freed up for more crucial and rewarding tasks, particularly patient care, the negative consequences on perceived quality of work may decrease. Moreover, a better balance may be obtained between time spent at work and time spent at home. Reward and support can also be realized by providing more systematic, preferably positive, feedback. Finally, a work climate could be created in which the social support of colleagues offers a safety net.[5,30]

Table 4: ORs and amount of variance explained for the variable(s) of burnout selected as relevant in the overall regression analyses

Burnout dimension	OR (and 95% CI)	% of variance explained (R^2)
Emotional exhaustion *n = 1027*		41
Stress	4.94 (3.90–6.26)	
Satisfaction*	3.02 (2.39–3.81)	
Depersonalization *n = 1027*		13
Stress	1.87 (1.56–2.24)	
Satisfaction*	2.07 (1.69–2.55)	
Personal accomplishment *n = 1043*		11
Satisfaction	2.28 (1.86–2.80)	

*To facilitate interpretation of the ORs, satisfaction scores were reversed.

Table 3: Odds ratios (ORs) and the amount of variance explained for the variables of job-related stress and satisfaction selected as relevant in the overall regression analyses

	OR (and 95% CI)	
Variable	Job-related stress *n = 1308*	Job-related satisfaction *n = 1308*
Personal characteristics		
Communicative responsiveness	–	1.39 (1.20–1.61)
Perceived working conditions		
Social support from colleagues	–	1.14 (1.18–1.62)
Feeling poorly managed and resourced	–	2.07 (1.76–2.43)*
Work–home interference	1.54 (1.35–1.76)	–
Societal pressure	1.31 (1.16–1.47)	–
Impossibility of living up to one's professional standards	1.57 (1.37–1.80)	–
Intellectual stimulation	–	1.38 (1.17–1.62)
Feeling valued	–	1.44 (1.19–1.75)
Job security	–	1.65 (1.39–1.95)
% of variance explained (R^2)	24	34

Note: CI = confidence interval.
*To facilitate interpretation of the OR, scores for this scale were reversed.

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The authors are with the Department of Medical Psychology, Academic Medical Centre, Amsterdam.

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Correspondence to: *Dr. Mechteld R.M. Visser, Academic Medical Centre, PO Box 22700, 1100 DE, Amsterdam, The Netherlands; fax 31 20 566 9104; m.r.visser@amc.uva.nl*