

Mental health of hospital consultants: the effects of stress and satisfaction at work

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Summary

Background Burnout and psychiatric morbidity among gastroenterologists, surgeons, radiologists, and oncologists in the UK have been estimated by means of a questionnaire-based survey. The relationship between consultants' mental health and their job stress and satisfaction, as well as their job and demographic characteristics, were also examined.

Methods Psychiatric morbidity was estimated using the 12-item General Health Questionnaire. The three components of burnout—emotional exhaustion, depersonalisation, and low personal accomplishment—were assessed using the Maslach Burnout Inventory. Job stress and satisfaction were measured using study-specific questions.

Findings Of 1133 consultants, 882 (78%) returned questionnaires. The estimated prevalence of psychiatric morbidity was 27%, with no significant differences between the four specialist groups. Radiologists reported the highest level of burnout in terms of low personal accomplishment. Job satisfaction significantly protected consultants' mental health against job stress. Three sources of stress were associated with both burnout and psychiatric morbidity: feeling overloaded, and its effect on home life; feeling poorly managed and resourced; and dealing with patients' suffering. Burnout was also associated with low satisfaction in three domains: relationships with patients, relatives, and staff; professional status/esteem; intellectual stimulation. In addition, being aged 55 years or less and being single were independent risk factors for burnout. Burnout was also more prevalent among consultants who felt insufficiently trained in communication and management skills.

Interpretation Consultants' mental health is likely to be protected against the high demands of medical practice by maintaining or enhancing job satisfaction, and by providing training in communication and management skills.

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Introduction

A *Lancet* editorial has argued that reforms to the health service in the UK threaten to increase the stress, and decrease satisfaction that doctors derive from their work.¹ There is ongoing concern about the mental health of medical practitioners.^{2,3} In the UK the suicide rate for doctors is approximately twice the national average.⁴ Doctors are also thought to be susceptible to "burnout", a description for work-related distress that combines emotional exhaustion, depersonalisation (treating people in an unfeeling, impersonal way), and a sense of low personal accomplishment.⁵

Burnout and more generalised psychiatric morbidity warrant careful consideration, not only because they reflect the personal suffering of doctors, but also because they risk impairing the quality of care doctors are expected to deliver. Most of the attention has been focused upon junior doctors and their long hours of work;⁶ however, there have been reports of distress among senior hospital doctors.^{7,8}

This study estimates the prevalence of burnout and psychiatric morbidity among four hospital consultant groups: gastroenterologists, surgeons, clinical radiologists, and clinical/medical oncologists. It will be noted that these groups include two with on-call responsibilities (gastroenterologists and surgeons), one with considerable exposure to dying patients (oncologists), and one providing a clinical support service (radiologists). Our primary hypothesis was that high levels of job stress and low levels of job satisfaction would be associated with burnout and psychiatric morbidity. One of our main aims was to identify the various components of job stress, and satisfaction, so that practical proposals for improving the working lives of doctors could be made.

Methods

Participants

1133 UK consultants were asked to respond to our questionnaire. They comprised a 2 in 3 random sample of gastroenterologists who were members of the British Society of Gastroenterology (299), all surgeons who were members of the British Association of Surgical Oncology (252), a 1 in 5 random sample of clinical radiologists ascertained through the Royal College of Radiologists (260), and all British clinical and medical oncologists, ascertained through the Royal Colleges of Radiologists and Physicians (322).

The questionnaires

Each consultant was sent a questionnaire booklet which assessed:

- Demographic and job characteristics and clinicians' perception of the adequacy of medical training.
- Psychiatric morbidity with the 12-item version of the General Health Questionnaire (GHQ), a widely accepted and reliable screen for psychiatric morbidity in community samples and occupational settings.^{9,10} 12 symptoms of psychiatric morbidity (eg, depression, loss of confidence, sleep disturbance) are rated according to whether they have been experienced "not at all",

"the same as usual", "rather more than usual", or "much more than usual" in the past few weeks. Each item is scored 0 (not at all or the same as usual) or 1 (rather or much more than usual) giving a maximum score of 12. Individuals scoring 4 or more are estimated to have psychiatric morbidity according to studies validating the GHQ-12 against standardised psychiatric interviews,⁹ and this threshold was applied.

• Burnout with the Maslach Burnout Inventory (MBI).¹¹ This measures the three aspects of the burnout syndrome on separate subscales. Emotional exhaustion (feeling emotionally over-extended by work) is measured by nine items; eg, "I feel emotionally drained from my work". Depersonalisation (an unfeeling and impersonal response towards people) is measured by five items; eg, "I have become more callous towards people since I took this job". Personal accomplishment (feelings of competence and achievement at work) is measured by eight items; eg, "I have accomplished many worthwhile things in this job". Each job-related feeling/attitude is rated on a 7-point scale according to how often it is experienced, from "never" to "every day". The total score for each subscale is categorised "low", "average", or "high" according to predetermined cut-off scores based on normative data from a sample of American health professionals.¹¹ Scores are considered "high" if they are in the upper third of the normative distribution, "average" if they are in the middle third, and "low" if they are in the lower third. A high degree of burnout is indicated by high scores on the emotional exhaustion and depersonalisation subscales and low scores on the personal accomplishment subscale.

• Job stress and satisfaction with a questionnaire designed specifically for the study. Global ratings of stress and satisfaction were obtained by asking clinicians: "Overall, how stressful/satisfying do you find your work?" on scales of 0 to 4 ("not at all" to "extremely"). The questionnaire also included 25 specific sources of stress and 17 sources of satisfaction. Each source of stress/satisfaction was rated by clinicians according to the extent it had contributed to the overall stress or satisfaction they had experienced in their work during the previous few months, on a scale of 0 to 3 ("not at all" to "a lot").

Procedure

The confidential questionnaires were sent out, with a statement of support from the relevant Royal College or specialty organisation, between May, 1993, and May, 1994. Non-responders were sent a second questionnaire with a reminder letter, one month after the initial mailing.

Statistical methods

Differences in the estimated prevalence of psychiatric morbidity (measured by the GHQ-12) and burnout (measured by MBI) according to specialty and perceived adequacy of training were assessed using the χ^2 test with Yates' correction.

The influence of global satisfaction ratings on the relationship between global stress ratings and high burnout scores and estimated psychiatric morbidity (GHQ-12 ≥ 4) were investigated graphically. As only 1% of consultants scored zero on the global stress ratings they were omitted from the graphs. 95% CIs were calculated as described by Simon.¹² For emotional exhaustion and depersonalisation, a logistic model provided a good fit to the data. The data for estimated psychiatric morbidity (GHQ ≥ 4) suggested an interactive effect for stress and satisfaction. The significance of this interaction was evaluated using the likelihood ratio test.¹³ The odds ratios were all derived from the logistic regression analyses.

Using principal components analysis, factors which independently accounted for more than 5% of the common variance are reported. The percentage of responses in each factor rated as contributing "quite a bit" or "a lot" (scores of 2 or 3) to overall job stress was calculated. χ^2 tests with Yates' correction were used to examine differences in stress factor scores across specialist groups and differences according to perceived adequacy of training. A similar exercise was undertaken for the scores of satisfaction factors.

Logistic regression analyses were carried out to examine

	Gastroenterologists %	Surgeons %	Radiologists %	Oncologists %
Estimated psychiatric morbidity (GHQ-12 ≥ 4)	26	22	29	29
Burnout:				
High emotional exhaustion scores	31	27	33	35
High depersonalisation scores	28	19	21	27
Low personal accomplishment scores	38	32	49	37

Table 1: Estimated psychiatric morbidity and burnout among the specialist groups

whether any of the demographic/job characteristics and stress and satisfaction factors were significantly associated with high burnout scores and estimated psychiatric morbidity (GHQ-12 ≥ 4). Because of the large number of variables assessed in these logistic regression analyses, only those with $p < 0.01$ were considered significant. The odds ratios were converted to relative risks for ease of comprehension.

Results

Response rates

882 of 1133 consultants (78%) returned their questionnaires. These included 241 gastroenterologists, 161 surgeons, 214 radiologists, and 266 oncologists. 12% of consultants were female and 5% were single. 3% were aged 35 or less, 44% were aged 36–45, 37% were aged 46–55, and 16% were aged more than 55.

Psychiatric morbidity and burnout

27% of consultants had a GHQ-12 score of 4 or more (indicating likely psychiatric morbidity) and there were no significant differences across the four specialist groups (table 1). Although the frequency of high emotional exhaustion and depersonalisation was similar across the specialist groups, low personal accomplishment subscale scorers were more common among radiologists (*vs* gastroenterologists, $p=0.02$; *vs* surgeons, $p=0.002$; *vs* oncologists, $p=0.009$).

Job stress, satisfaction, and mental health

1% of consultants reported finding their work not at all stressful (0 on job stress scale), 24% scored 1, 34% scored 2, 35% scored 3, and 6% scored 4 (extremely stressful). No consultants scored 0 (not at all) on the global job satisfaction scale, 5% scored 1, 21% scored 2, 51% scored 3, and 23% scored 4 (extremely satisfying). Statistical analysis showed that the global rating of job



Figure 1: Effect of job satisfaction on the relation between job strain and emotional exhaustion (with 95% confidence intervals)



Figure 2: Effect of job satisfaction on the relation between job stress and depersonalisation (with 95% CI)

stress by consultants was related to having high emotional exhaustion, high depersonalisation, and psychiatric morbidity. Global job satisfaction was positively related to high personal accomplishment and inversely related to high emotional exhaustion, high depersonalisation scores, and estimated psychiatric morbidity.

The global ratings of job stress and job satisfaction were inversely related to each other. The influence of global job satisfaction on the relationship between global job stress and MBI and GHQ scores, indicative of burnout and psychiatric morbidity, was examined. Higher job satisfaction had a significant protective effect on the relationship between job stress and emotional exhaustion (OR=2.9, $p < 0.0001$, figure 1).

Global job satisfaction was similarly protective against the impact of global job stress on depersonalisation (figure 2). At each point on the stress scale, consultants with low satisfaction were more likely to have high depersonalisation than those with moderate satisfaction (OR=1.5, $p < 0.001$), who in turn were more likely to have high depersonalisation than those with high satisfaction (OR=1.5, $p < 0.001$).

The adverse effect of global stress on estimated psychiatric morbidity (GHQ ≥ 4) was also significantly ameliorated by global satisfaction ($p < 0.0001$) (figure 3). Logistic modelling suggested that the higher the stress score the greater the protective effect of satisfaction. Using the derived logistic regression model to compare two consultants with low stress (score of 1), but different levels of satisfaction (scores 1 or 2 *vs* 4), the consultant with lower satisfaction has a moderately increased risk of



Figure 3: Effect of job satisfaction on the relation between job stress and estimated psychiatric morbidity (with 95% CI)

Factor	Percentage of responses in factor rated as contributing "quite a bit" or "a lot" to overall job stress			
	Gastroenterologists %	Surgeons %	Radiologists %	Oncologists %
Feeling overloaded and its effect on home life	61	63	51	56
Feeling poorly managed and resourced	39	41	45	39
Having managerial responsibilities	31	33	28	29
Dealing with patients' suffering	17	31	13	36
Significance of differences	Overload p	Feeling poorly managed and resourced p	Managerial responsibilities p	Patients' suffering p
Gastroenterologists vs surgeons	NS	NS	NS	<0.001
Gastroenterologists vs radiologists	<0.0001	<0.01	NS	NS
Gastroenterologists vs oncologists	<0.01	NS	NS	<0.0001
Surgeons vs radiologists	<0.0001	NS	NS	<0.0001
Surgeons vs oncologists	<0.001	NS	NS	NS
Radiologists vs oncologists	<0.05	<0.01	NS	<0.0001

NS=not significant.

Table 2: Stress factor scores according to specialist group

having a GHQ-12 score of 4 or more indicating likely psychiatric morbidity (odds ratio=1.6). However, comparing two consultants with high stress (score of 4) and satisfaction scores of 1 or 2 *vs* 4, the increased risk of having GHQ-12 of 4 or more is much greater (OR=6.2).

Sources of job stress

16 of 25 questionnaire items concerning perceived sources of stress were aggregated into four stress factors by factor analysis: work overload and effect on home life; poor management and resources; managerial responsibilities assumed; and dealing with patients' suffering. Of these four factors, work overload made the greatest contribution to overall job stress, followed by feeling poorly managed and resourced, then managerial responsibilities, and lastly dealing with patients' suffering. Among items which did not aggregate into the above factors, keeping up to date with current clinical and research practices, being responsible for the quality of the work of other staff and having to deal with distressed, angry, or blaming relatives were scored as contributing substantially to overall job stress by more than 30% of consultants. In contrast the threat of being sued for malpractice, feeling poorly paid and difficulties with junior doctors and administrative staff were scored by less than 20% of consultants. Differences in levels of stress between the specialist groups are shown in table 2.

Sources of job satisfaction

15 of 17 items concerning perceived sources of satisfaction aggregated into four factors: good relationships with patients, relatives, and staff; professional status/esteem; intellectual stimulation; and good management and resources. Of the four factors, having good relationships with patients, relatives, and staff and having professional status/esteem jointly made the greatest contribution to overall job satisfaction, followed by deriving intellectual stimulation and feeling well managed and resourced. Two individual items which did not form part of any of the four factors—having a high

level of autonomy and having variety on the job—were also important sources of satisfaction, with 60% and 83% of consultants respectively scoring them as contributing substantially to overall job satisfaction. The overall pattern across the specialist groups was for surgeons to report the highest levels of satisfaction for all four factors and for the radiologists to report the lowest levels (table 3).

Demographic characteristics, stress, satisfaction, burnout, and psychiatric morbidity

The demographic/job characteristics and stress and satisfaction factors which were associated with MBI and GHQ scores indicative of burnout and/or psychiatric morbidity at the $p < 0.01$ level, according to logistic regression analyses, were as follows. High emotional exhaustion was associated with high levels of stress from feeling overloaded and its effects on home life, feeling poorly managed and resourced, and dealing with patients' suffering, as well as low satisfaction levels from intellectual stimulation. In addition, being aged 55 years or more and being single were independent risk factors for high emotional exhaustion scores. High depersonalisation was similarly associated with high levels of stress from work overload, low satisfaction, and from dealing with patients' suffering as well as low levels of satisfaction from relationships with patients, relatives, and staff. High depersonalisation was also associated with being aged 55 years or less. Low personal accomplishment was associated with low satisfaction from relationships and low professional status/esteem. Estimated psychiatric morbidity (GHQ-12 ≥ 4) was associated with high levels of stress from perceived work overload, poor management and resources, and having to deal with patients' suffering.

Adequacy of training

Gastroenterologists, surgeons and oncologists were asked whether they felt they had received adequate training in

the treatment of disease and in symptom control. The overwhelming majority felt they had received adequate training in these aspects of patient care (96% and 84% respectively). All four specialist groups were asked about the adequacy of their training in communication and management skills. Only 45% judged that they had received adequate training in communication skills and only 22% in management skills.

Consultants who felt insufficiently trained in communication skills were more likely to feel high depersonalisation and low personal accomplishment than those who felt themselves to be sufficiently trained. More of those who felt inadequately trained in management skills had high depersonalisation and low personal accomplishment.

Fewer of the consultants who felt insufficiently trained in communication skills reported job satisfaction from having good relationships with patients, relatives and staff, having professional status and esteem, deriving intellectual stimulation, and feeling well managed and resourced.

More of the consultants who felt insufficiently trained in communication skills and management skills reported feeling poorly managed and resourced as a source of stress than those who felt sufficiently trained. In addition, more of those who felt insufficiently trained in management skills reported that feeling overloaded and its effect on home life contributed to their job stress.

Discussion

This is the first study to examine both job stress and satisfaction among hospital consultants and the impact of both of these upon doctors' mental health. The response rate in this survey was high. The findings are therefore likely to be a valid account of the effect of job stress and satisfaction on the mental health of the whole population of consultants asked to participate. A follow-up survey is planned of the consultants who participated in this study to examine the effects of change over time, and to test predictions based on the current findings.

This study focused upon occupational risk factors for poor mental health. It is likely, of course, that personality also plays an important causal role in burnout and psychiatric morbidity among doctors. Assessment of personality was not however undertaken in this survey because the intention was to concentrate on potentially remediable issues.

The estimated prevalence of psychiatric morbidity, based on GHQ-12 scores of 4 or more, among British consultants in this study (27%) is broadly similar to the prevalence of 21% recently reported among 500 Scottish consultants using a 28-item version of the GHQ with a cut off of 6 or more.⁸ The relatively large number of consultants in individual specialties in the current study supports and strengthens the findings of the Scottish study that there are no significant differences in the levels of psychiatric morbidity between consultant physicians, surgeons, and radiologists. The levels of psychiatric morbidity reported in both these studies are much lower than the 47% reported by Caplan⁷ based on all 81 hospital consultants working in the North Lincolnshire Health Authority.

Importantly, the findings of this study indicate that job satisfaction protects the mental health of consultants against job stress. The occupational research of Karasek¹⁴ indicates that, for individuals involved in jobs with high

Factor	Percentage of responses in factor rated as contributing "quite a bit" or "a lot" to overall job stress			
	Gastroenterologists %	Surgeons %	Radiologists %	Oncologists %
Having good relationships with patients, relatives and staff	76	83	64	75
Having professional status/esteem	76	80	72	73
Deriving intellectual stimulation	45	59	39	44
Feeling well managed and resourced	46	52	37	42
Significance of differences	Good relationships p	Professional status/esteem p	Intellectual stimulation p	Feeling well managed and resourced p
Gastroenterologists vs surgeons	<0.001	NS	<0.0001	<0.01
Gastroenterologists vs radiologists	<0.0001	NS	<0.05	<0.0001
Gastroenterologists vs oncologists	NS	NS	NS	<0.05
Surgeons vs radiologists	<0.0001	<0.01	<0.0001	<0.0001
Surgeons vs oncologists	<0.001	<0.01	<0.0001	<0.0001
Radiologists vs oncologists	<0.0001	NS	<0.05	<0.05

NS=not significant.

Table 3: Satisfaction factor scores according to specialist group

demands such as medicine, the amount of discretion a person has over his/her work is an important determinant of mental health. This study confirms that autonomy and feeling well managed and resourced make a substantial contribution to overall job satisfaction. In this context, the transfer of various responsibilities from clinicians to managers may undermine professional morale, as may the practice of establishing standards against which doctors' performance is judged, without their involvement.

Looking at the differences between the specialist groups, surgeons generally had the highest scores for stress and satisfaction factors. In contrast, radiologists reported the lowest scores on the stress factors (with the exception of feeling poorly managed and resourced, for which they reported the highest scores) and also had the lowest scores for all four satisfaction factors. Relatedly, radiologists reported the most burnout in terms of low personal accomplishment. It is likely that surgeons are protected from burnout and psychiatric morbidity, in part, by the considerable control and discretion they have over their work and also by the positive and immediate feedback that they regularly receive from patients and relatives. Radiologists, by the nature of their role as a clinical support service, do not benefit to the same extent from positive feedback from patients and relatives, while feedback from colleagues is often negative when there has been a diagnostic error. The work patterns of radiologists are less at their discretion, having to deal with colleagues' requests for inappropriate examinations and with the continuous expectations of colleagues to do their work immediately.

The finding that a large proportion of consultants considered that they had received inadequate communication and management skills training and that these consultants were at increased risk of burnout, underlines the need for more effective training in communication and management skills.

Significantly reducing the workload of consultants may not be achievable with the introduction of commercial pressures in the health service. The mental health of

consultants may nevertheless be protected by maintaining or enhancing their job satisfaction through giving them autonomy and variety in their work, as well as providing effective training in communication and management skills.

The contribution of job stresses to the suicide rate among doctors requires investigation.

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