

Brief Reports

Burnout Comparison Among Residents in Different Medical Specialties

Shahm Martini, M.D., M.P.H.

Cynthia L. Arfken, Ph.D.

Amy Churchill

Richard Balon, M.D.

Objective: To investigate resident burnout in relation to work and home-related factors. **Method:** Maslach Burnout Inventory was mailed to residents in eight different medical specialties, with a response rate of 35%. **Results:** Overall, 50% of residents met burnout criteria, ranging from 75% (obstetrics/gynecology) to 27% (family medicine). The first year of residency, being single, personal stress, and dissatisfaction with faculty were independently associated with burnout. **Conclusions:** Efforts to reduce resident burnout nationally would benefit from expanding beyond the work-hours regulation. (*Academic Psychiatry* 2004; 28:240–242)

The 80 hours-per-week limits implemented nationally on residents' work have been sought, in part, as a response to resident burnout, which has been linked to decreased job performance (i.e., increased medical errors), low career satisfaction, and a decrease in empathic concern, including feeling less humanistic (1,2). Using the Maslach Burnout Inventory (MBI) (8), a validated and reliable tool, one survey of an internal medicine residency program found that 76% of the respondents met criteria for burnout (6). Two years after New York State implemented revisions to the state health code (section 405), which required reduction in on-call work and increased supervision, residents reported diminished fatigue and better patient care (4). Home-related stressors for residents may also play a vital role in work-related fatigue (7).

Dr. Martini is with the Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, Michigan. Drs. Arfken and Balon and Ms. Churchill are also with the Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, Michigan. Address correspondence to Dr. Martini, Department of Psychiatry and Behavioral Neurosciences, UPC-Jefferson, 2751 E. Jefferson, Suite 400, Detroit, MI 48207; shahm_martini@yahoo.com (E-mail).

Copyright © 2004 Academic Psychiatry.

Burnout differs from depression, in that it is confined to the workplace. However, if generalization to the home environment occurs, burnout may progress to clinical depression, although such a temporal relationship is not well established (6).

Based on these results, we undertook a survey of residents to measure their burnout and explore the association with specialty, hours worked, year in training, satisfaction with faculty, and home-related stressors.

METHOD

All residents and interns in dermatology, general surgery, internal medicine, family medicine, neurology, obstetrics/gynecology, ophthalmology, and psychiatry of all years of training at Wayne State University School of Medicine were eligible for participation in the study, with the exception of the first author (a PGY-3 psychiatry resident at the time of conducting the study).

Burnout was measured using the MBI (8). A package containing the MBI questionnaire, a consent form for participation in the study, and a postage-

TABLE 1. Percentage of Residents Meeting Criteria for Burnout by Specialty

Specialty ^a	Number of Residents	Residents Responding		Burnout Rate (%)
		N	%	
Obstetrics/gynecology	36	12	33	75
Internal medicine	114	24	21	63
Neurology	16	8	50	63
Ophthalmology	21	5	24	60
Dermatology	10	6	60	50
General surgery	59	25	42	40
Psychiatry	29	15	52	40
Family medicine	36	15	42	27
Total	321	110	35	49

^aThree responders did not report program affiliation.

paid return envelope was mailed to the residents after obtaining verbal consent from each residency program director. Also included in the package was a supplemental data sheet, which requested the following information: year in training, number of residents in corresponding year, satisfaction with attending faculty, total number of residents in the program, number of working hours per week, patient load, average number of calls for the last 6 months, marital status, number of children, recent family stressors during the last 6 months, relocation within the last year of 50 miles or more, and current mood rating. The packets were sent in three consecutive mailings between February and May of 2003. Response rates differed among specialties, from 60% to 21%, with a combined response rate of 35%.

The study was approved by the Wayne State University Institutional Review Board.

RESULTS

Overall, 50.0% of the residents met criteria for burnout. Although the percentage varied across specialty, it was not statistically significant (Table 1). Burnout was not statistically significantly higher among those who worked more than 80 hours per week. However, residents in their first year had significantly higher rates of burnout (77.3%). As the proportion of respondents in their first year may differ by specialty, a multivariate analysis was conducted, which confirmed that being a first year resident was associated with an elevated rate of burnout, even when controlling for program or working more than 80 hours per week.

The rate of burnout was also significantly higher among residents who were dissatisfied with their clinical faculty, unmarried, and experiencing a family-related stress (Table 2). There were no associations between burnout and having a child or having relocated a distance of 50 miles or more. Mood was significantly lower (Mann-Whitney $U = 857$, $p < 0.001$)

TABLE 2. Percentage of Residents Meeting Criteria for Burnout by Work and Home Factors

Factor	Residents Meeting Burnout Criteria (%)
Year of residency**	
First year	77.3
Second year or higher	41.8
Hours worked	
More than 80 hours per week	56.8
80 hours or less	43.5
Satisfaction with clinical faculty**	
Dissatisfied	65.0
Satisfied	40.6
Family stress*	
Recent family stress	58.6
No report of recent family stress	38.8
Marital status**	
Married	40.0
Single, divorced, or other	65.2
Family	
Have 1 child or more	36.4
No children	56.5
Relocation	
Relocated more than 50 miles	71.4
Did not relocate more than 50 miles	45.7

* $p < 0.05$. ** $p < 0.01$.

among those who met criteria for burnout. In multivariate analysis, first year in residency, mood, dissatisfaction with clinical faculty, recent family stress, and being unmarried were all significantly associated with increased likelihood of meeting criteria for burnout.

DISCUSSION

To our knowledge, this is the first study comparing burnout among residents across medical specialties. Our lack of findings of statistically significant differences in burnout rates among specialties may be due to low and perhaps differential response rates (Table 1). It is plausible that those residents who felt burned out were more or less likely to respond, even to three mailings. Our findings of comparable burnout rates among family medicine residents at Wayne State University and in South Carolina (9) and internal medicine residents at Wayne State University and the University of Washington (5) lead us to believe, although with caution, that our results might be generalized to settings outside of Wayne State University, particularly in nonurban communities.

Our study is limited by the low response rate and small numbers of residents in some specialties, which may have affected our findings. In a survey of medical students' attitudes and concerns regarding possible repercussions of completing a depression survey, only 48% finished the survey (40% of those completed the depression inventory with 10% admitting to recording dishonest answers and 19% ad-

mitting to concerns about the research) (10). These results are in accord with verbal feedback from residents to the first author, expressing concerns of confidentiality and potential negative consequences of self-reporting.

Distribution of the surveys between February and May might have affected our findings. According to Bellini et al., depression and fatigue symptoms increased among interns 5 months into their internship and persisted throughout (3). This period took place during Winter, which also may have affected mood.

The finding that first-year residents have a high rate of burnout may indicate that they are a vulnerable group. Special attention by program directors may be needed to reduce this high rate of burnout. The association of dissatisfaction with faculty and more depressed mood ratings could be a consequence of burnout or predisposition to burnout. Because of the cross-sectional design of the study, we were unable to investigate the direction of these associations.

Our findings indicate that the first year of residency is an independent factor contributing to burnout, and policy changes targeting that particular year of training with regular monitoring of burnout might have the highest impact on its reduction as well as the promotion of healthier academic and clinical environments.

This paper was presented at the American Psychiatric Association 55th Institute for Psychiatric Services Annual Meeting, Boston, Oct. 29–Nov. 2, 2003.

References

1. Lemkau J, Rafferty J, Gordon R Jr: Burnout and career-choice regret among family practice physicians in early practice. *Fam Pract Res J* 1994; 14:213–222
2. Maslach C, Schaufeli WB, Leiter MP: Job burnout. *Annu Rev Psychol* 2001; 52:397–422
3. Bellini LM, Baime M, Shea JA: Variation of mood and empathy during internship. *JAMA* 2002; 287:3143–3146
4. Conigliaro J, Frishman WH, Lazar EJ, Croen L: Internal medicine housestaff and attending physician perceptions of the impact of the New York State Section 405 regulations on working conditions and supervision of residents in two training programs. *J Gen Intern Med* 1993; 8:502–507
5. Shanafelt TD, Bradley KA, Wipf JE, Back AL: Burnout and self-reported patient care in an Internal Medicine Residency Program. *Ann Intern Med* 2002; 136:358–367
6. Iacovides A, Fountoulakis KN, Kaprinis ST, et al.: The relationship between job stress, burnout and clinical depression. *J Affect Disord* 2003; 75:209–221
7. Geurts S, Rutte C, Peeters M: Antecedents and consequences of work-home interference among medical residents. *Soc Sci Med* 1999; 48:1135–1148
8. Maslach C, Jackson SE, Leiter MP: *Maslach Burnout Inventory Manual*, 3rd ed. Palo Alto, Calif, Consulting Psychologists, 1996
9. Michels PJ, Probst JC, Godenick MT, Palesch Y: Anxiety and anger among family practice residents: a South Carolina Family Practice Research Consortium study. *Acad Med* 2003; 78:69–79
10. Levine RE, Breikopf CR, Sierles FS, Camp G: Complications associated with surveying medical student depression—the importance of anonymity. *Acad Psychiatry* 2003; 27:12–18