

Burnout, Coping, and Spirituality Among Internal Medicine Resident Physicians

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Abstract

Background Burnout in physicians is common, and studies show a prevalence of 30% to 78%. Identifying constructive coping strategies and personal characteristics that protect residents against burnout may be helpful for reducing errors and improving physician satisfaction.

Objective We explored the complex relationships between burnout, behaviors, emotional coping, and spirituality among internal medicine and internal medicine-pediatrics residents.

Methods We anonymously surveyed 173 internal medicine and medicine-pediatrics residents to explore burnout, coping, and spiritual attitudes. We used 3 validated survey instruments: the Maslach Burnout Inventory, the Carver Coping Orientation to Problems Experienced (COPE) Inventory, and the Hatch Spiritual Involvement and Beliefs Scale (SIBS).

Results A total of 108 (63%) residents participated, with 31 (28%) reporting burnout. Residents who employed

strategies of acceptance, active coping, and positive reframing had lower emotional exhaustion and depersonalization (all, $P < .03$). Residents who reported denial or disengagement had higher emotional exhaustion and depersonalization scores. Personal accomplishment was positively correlated with the SIBS total score ($r = +.28$, $P = .003$), as well as the internal/fluid domain ($r = +.32$, $P = .001$), existential axes ($r = +.32$, $P = .001$), and humility/personal application domain ($r = +.23$, $P = .02$). The humility/personal application domain also was negatively correlated with emotional exhaustion ($r = -.20$, $P = .04$) and depersonalization ($r = -.25$, $P = .009$). No activity or demographic factor affected any burnout domain.

Conclusions Burnout is a heterogeneous syndrome that affects many residents. We identified a range of emotional and spiritual coping strategies that may have protective benefit.

Introduction

Burnout is a maladaptive work-related condition characterized by emotional exhaustion, depersonalization, and a lack of personal accomplishment.¹ Burnout affects 30% to 78% of physicians and residents,²⁻⁴ and can lead to an increased prevalence of suicide, divorce, depression, loss of income, and disruptive behavior in the workplace.^{2,3} Many studies have explored the demographic characteristics associated with burnout,³⁻⁷ and research also has correlated burnout with poor patient care and the potential for increased medical errors.^{8,9} Some studies have shown that

decreasing work hours for residents does not appear to mitigate burnout.¹⁰⁻¹²

Proposed models for a healthy work-life balance focus on stress and depression in residency.¹³⁻¹⁵ Few studies have evaluated coping strategies such as specific behaviors, emotional disposition, and spirituality. Many stressors such as the call schedule and daily work demands largely are beyond the residents' control; however, it is important for residents to understand factors they are able to control. Specific behaviors, such as engaging in outside activities or research; emotional coping strategies, including venting or humor; and spirituality, may impact the effects of burnout. Only 1 study to date has evaluated resident spirituality, finding that increased spiritual well-being correlated with fewer depressive symptoms.¹⁶ Along with other coping techniques, spirituality may be an important factor in mitigating the effects of burnout.

Identifying constructive coping strategies and behaviors that residents employ to protect against burnout may be helpful for reducing errors and improving resident satisfaction. We hypothesize that spirituality, positive emotional coping strategies, and certain behaviors would be associated with less burnout among internal medicine and

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internal medicine-pediatrics (medicine-pediatrics) residents in 3 Yale University programs and 1 Yale University-affiliated program.

Methods

Study Design and Sample

In February 2010, we surveyed residents from the Yale University traditional medicine, primary care medicine, and medicine-pediatrics programs at a regularly scheduled conference, as well as residents in a community-based internal medicine residency program at Greenwich Hospital, Greenwich, CT, at the beginning of a teaching conference. Survey completion was voluntary, and residents anonymously either returned surveys to a member of the support staff or placed surveys in an unmarked envelope in their conference rooms. A third party, not associated with the survey, entered all data into an Excel spreadsheet (Microsoft, Redmond, WA) for further analysis. The Yale University School of Medicine Human Investigations Committee approved the study protocol.

Survey Instrument

The survey contained demographic data and 3 validated instruments used in studies of burnout and coping behaviors: the Maslach Burnout Inventory (MBI),¹ the Carver Coping Orientation to Problems Experienced (COPE) Inventory,¹⁷ and the Hatch Spiritual Involvement and Beliefs Scale (SIBS).¹⁸ The MBI is the instrument most widely used to study burnout.¹ It contains 22 items that address 3 domains of burnout: emotional exhaustion, depersonalization, and personal accomplishment. The COPE Inventory includes 15 four-item scales that assess a variety of coping strategies including adaptive and maladaptive strategies. Participants indicate how frequently they use each coping strategy on a 4-point scale anchored by “usually do not do this at all” and “usually do this a lot.”¹⁷ The COPE Inventory was designed to evaluate an individual’s response to a stressful environment, and incorporates both “problem-focused” and “emotion-focused” coping strategies.¹⁷

The SIBS instrument investigates broad aspects of spirituality, acknowledging that spirituality incorporates both attitudes and practice.¹⁸ It consists of 26 questions that address broad aspects of spirituality: (1) internal beliefs, such as one’s concept of God; (2) external practices, including how often one worships; (3) personal humility, which is a relational quality; and (4) existential beliefs, including the nature of a “spiritual force that influences my life.” The SIBS also uses language that is not specific to the Judeo-Christian tradition, which we felt was important given the diverse backgrounds of our target population.

What was known

Coping strategies and personal characteristics that protect against physician burnout may be helpful in reducing errors and improving physician satisfaction.

What is new

Residents who place a high priority on healthful relationships, engage in an active spiritual life, and practice humility may be less susceptible to burnout.

Limitations

Single institution study and small sample limits generalizability. No single activity alone had any protective effect against burnout.

Bottom line

Burnout is a heterogeneous syndrome that affects many residents. A range of emotional and spiritual coping strategies may have protective benefit.

Statistical Analyses

We used JMP software (Cary, NC) for all statistical analyses.¹⁹ We calculated composite scores of the MBI, COPE, and SIBS instruments. We used the Student *t* test and chi-square analyses to compare mean values of MBI categories with demographic variables and behaviors. Continuous variables were correlated with the Spearman rank coefficient. Multivariate regression modeling was also used to discern the impact of spirituality and coping on burnout domains.¹⁹ Using post hoc analyses for chi-square calculations, given a sample of 108, an alpha value of 0.05, and an effect size of 0.3, the study’s power is 0.80; and for the Spearman rank correlation coefficients, with a sample size of 108, an alpha value of 0.05, and an effect size of 0.5, the study’s power is 0.97. Corrections of *P* values were made for multiple comparisons using JMP software.

Results

Respondent Characteristics

The overall response rate was 63% (108 of 173). Forty-eight of 94 (51%) internal medicine residents, 27 of 42 (64%) internal medicine-primary care residents, 12 of 16 (75%) medicine-pediatrics residents, and 21 of 21 (100%) residents in the community-based program returned surveys. The average age of respondents was 30 years old (± 4.8 years); 54 (50%) were men; 39 (36%) were married; 17 (16%) had children; and 65 (60%) spent time off prior to medical school.

Burnout

Thirty-one residents self-identified burnout (28%). Based on the MBI, the prevalence of high emotional exhaustion was 94 (86%), high depersonalization was 97 (89%), and low personal accomplishment was 9 (8%). No differences existed between respondents’ program, postgraduate year,

TABLE 1 **MASLACH BURNOUT INVENTORY RESULTS, RESIDENT SELF-PERCEPTIONS, AND ACTIVITIES**

		n = 109
Maslach Burnout Subscales, n (%)		
High Emotional Exhaustion		94 (86%)
High Depersonalization		97 (89%)
Low Personal Accomplishment		9 (8%)
Self-Perceptions, n (%)		
Do you consider yourself....		
Burned out?		31 (28%)
Religious?		8 (7%)
Spiritual?		44 (40%)
Reported Activities, n (%)		
Do you engage in the following:		
Exercise at least 3x/week?		53 (49%)
Regular meetings with a mentor?		20 (18%)
Actively involved in a scholarly project?		24 (22%)
Regular counseling with a professional?		3 (3%)
Regularly read outside of medicine?		59 (54%)
Regularly read within medicine?		71 (65%)
Take time out with family/friends?		93 (85%)
Take time out for self?		79 (72%)
Regular commitment to outside activities or hobbies?		42 (39%)
Moonlight?		30 (28%)

sex, age, marital status, parenthood, or ethnicity or taking time off prior to medical school and any burnout domain. The role of concrete behaviors, such as reading outside the field of medicine, regular exercise, and taking time for family, did not demonstrate a protective effect (TABLE 1).

Coping Strategies

Several emotional coping strategies correlate against burnout, namely, those residents who employed the strategies of acceptance, active coping, and positive reframing had lower emotional exhaustion and depersonalization (TABLE 2). Residents who employed denial or disengagement had higher emotional exhaustion and depersonalization scores. Self-blame was associated with higher emotional exhaustion scores only ($r = +.21$, $P = .03$). Humor was associated with increased emotional exhaustion ($r = +.32$, $P = .001$) and depersonalization ($r = +.38$, $P = .01$). In the domain of personal accomplishment, disengagement ($r = -.21$, $P =$

.03) and venting ($r = -.20$, $P = .04$) were negatively correlated. There were no differences in coping strategies based on residency program (TABLE 2).

Spirituality

TABLE 2 reveals the correlation between the SIBS score and the burnout domains. Personal accomplishment was positively correlated with the SIBS total score ($r = +.28$, $P = .003$), as well as the internal/fluid domain ($r = +.32$, $P = .001$), existential axes ($r = +.32$, $P = .001$), and humility/personal application domain ($r = .23$, $P = .02$). The humility/personal application domain was also negatively correlated with emotional exhaustion ($r = -.20$, $P = .04$) and depersonalization ($r = -.25$, $P = .009$). Multivariate regression revealed that the emotional coping strategies with the humility/personal axis accounted for 39% of emotional exhaustion ($P < .001$), 45% of depersonalization ($P < .001$), and 25% of personal accomplishment ($P = .001$).

Discussion

Several aspects of our residents' emotional and spiritual coping correlated significantly with the burnout domains. Most importantly, these data suggest that residents who place a high priority on healthful relationships, engage in an active spiritual life, and practice humility may have important personality traits that protect against burnout. In particular, the domain of personal accomplishment correlated with the SIBS score, as well as the internal/fluid, existential, and humility/personal application spirituality domains. Only the SIBS domain of personal application and humility affected all 3 burnout domains: emotional exhaustion, depersonalization, and personal accomplishment. The humility/personal application domain explores themes of relationship and reconciliation, asking questions like, "When I wrong someone, I make an effort to apologize," and "When I am ashamed of something I have done, I tell someone about it." This finding is interesting and has not previously been reported in the literature. Although this study evaluates correlation only and not causation, we speculate that residents who seek reconciliation and practice humility may have other qualities that foster healthful relationships, perhaps an ability to identify with others or the confidence to seek forgiveness. Residency culture often prizes intelligence and competitive drive, and humility may be an important personality trait to foster. How to address this is unclear, but one arena in which to start would be modeling this quality by the residency leadership. This is a provocative area for further study.

There are several emotional coping strategies that correlate with protection against emotional exhaustion and

TABLE 2 SPEARMAN RANK CORRELATION BETWEEN BURNOUT DOMAINS, SPIRITUALITY, AND EMOTIONAL COPING			
Parameter	Emotional Exhaustion (P value)	Depersonalization (P value)	Personal Accomplishment (P value)
SIBS domains	−.11 (.25)	−.13 (.17)	+28 (.003)
Internal/fluid	−.07 (.46)	−.05 (.58)	+32 (.001)
Existential	−.09 (.38)	−.12 (.20)	+32 (.001)
Humility/personal application	−.20 (.04)	−.25 (.009)	+23 (.02)
External/ritual	−.04 (.69)	−.08 (.44)	+17 (.07)
Coping strategies			
Acceptance	−.21 (.03)	−.29 (.003)	+0432 (.66)
Active coping	−.30 (.002)	−.29 (.003)	+09 (.33)
Denial	+25 (.009)	+21 (.03)	−.03 (.74)
Disengagement	+40 (<.001)	+42 (<.001)	−.21 (.03)
Humor	+32 (.001)	+38 (<.001)	+06 (.53)
Strategy planning	−.15 (.14)	−.13 (.18)	+18 (.07)
Positive reframing	−.22 (.02)	−.25 (.01)	+31 (.001)
Self-blame	+21 (.03)	+11 (.27)	−.0238 (.81)
Venting	+26 (.006)	+27 (.005)	−.20 (.04)

depersonalization, such as acceptance, active coping, and positive reframing. Some coping strategies may appear to worsen emotional exhaustion and depersonalization. The strongest variable is disengagement, which had correlation coefficients of +.40 ($P = .001$) with emotional exhaustion, +.42 ($P = .001$) with depersonalization, and −0.21 ($P = .03$) with personal accomplishment. Similarly harmful strategies, such as denial, self-blame, humor, and venting, may be seen as variations of disengagement and objectification. These may be maladaptive responses to dealing intimately with patient suffering. In contrast, residents who seek reconciliation, actively engage with their vocation, and constructively solve problems have less emotional exhaustion and depersonalization.

Several variables were found to not affect burnout. Age, marital status, and parenthood were both positive or negative markers of stability or family support, suggesting that the presence of a spouse may or may not be a positive influence during the challenges of residency and, similarly, that raising children could be either an added stress or a humanizing experience. Previous data on family life and burnout are also equivocal,^{8,20,21} and we hypothesize that it is not the presence of a spouse or children in a resident’s life but rather the quality of those relationships that is important.

No single activity, including exercising, meeting with a mentor, or being involved with a scholarly project, had any protective effect against burnout. We theorized that engaging in extracurricular activities could be a marker of abiding interests that might foster a healthful work-life balance as well as time management skills. Also, taking intentional time with family and friends could provide needed respite from the demands of residency. Similarly, engaging in profession-building activities such as research and mentoring might provide support and perspective in one’s vocation outside of direct patient care, yet, none of these activities affected burnout. We conclude that because burnout is a complex syndrome of emotional coping, successful mitigation requires several interventions, including a programmatic and an individual response.

Our study has several limitations. Three of the 4 residency programs are from the same institution, limiting generalizability. Also, while no extracurricular behaviors affected burnout, the quality of these experiences was not evaluated. In light of the ACGME duty hour limits, perhaps skills around efficiency and communication will be important variables to coping. Work-based health may be related to efficiency and other job skills as well as an emotional disposition. Finally, our data are cross-sectional, yielding

associations only, not causation. Given this exploratory analysis, we did not perform a priori power calculations.

Conclusion

Our findings have several implications for residency program leadership. First, emotional maturity, proactive coping, and humility should be incorporated into selection criteria, in addition to board scores, recommendations, and interviews. Second, it is frustrating that those activities which we can assign, such as mentorship, research, and retreats, are the variables that seem not to impact burnout. While the new ACGME-mandated duty hour regulations may impact burnout, the data on prior changes are equivocal.^{10–13} Exploring creative ways to foster emotional health and proactive coping will be important in this new era where the shift-work style of medicine and demands for increased efficiency may actually increase depersonalization and emotional stress. If the most powerful predictor of job wellness was practicing humility and reconciliation, perhaps the most important thing we do is foster a culture of respectful, courteous relationships.

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