Emergency Medicine Trainee Burnout Is Associated With Lower Patients' Satisfaction With Their Emergency Department Care

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ABSTRACT

Introduction: Emergency medicine (EM) physicians and trainees report high levels of burnout. Burnout negatively impacts physician well-being and career satisfaction but it remains unclear how burnout may influence patient care. We examined the degree to which EM trainee burnout at one institution was associated with patients' satisfaction with their emergency department (ED) care.

Methods: In this cross-sectional, pilot study conducted at a single institution, we measured EM trainee burnout using the Maslach Burnout Inventory through a confidential, electronic survey. We subsequently linked individual trainee burnout results with their individual Press Ganey (PG) ED patient satisfaction scores. We compared burnout scores across sex and postgraduate year using chi-square tests and PG results via analysis of variance.

Results: Twenty-seven of 53 (50.9%) eligible EM trainees completed the burnout assessment. Trainees reported an overall burnout rate of 77.8% (95% confidence interval = 59.2%–89.4%). There were no significant differences in burnout based on sex ($p = 0.888$) or postgraduate year ($p = 0.671$). Trainee burnout was significantly associated with lower trainee-specific PG scores, including patient ratings of resident physician courtesy ($p = 0.011$), taking the time to listen ($p = 0.004$), keeping informed of treatment ($p = 0.014$), and concern for patient comfort ($p = 0.006$). There was no significant association between trainee burnout and patients' overall likelihood to recommend the ED to others ($p = 0.364$).

Conclusion: Emergency medicine trainee burnout is associated with lower trainee-specific PG ED patient satisfaction scores across all four physician domains. In addition to its detrimental impact on physician wellness, burnout may play a significant adverse role in patients' perceptions of their ED providers' interpersonal and communication skills.

Burnout is a syndrome characterized by emotional exhaustion, depersonalization, and a sense of low personal accomplishment.[1] Emergency medicine (EM) physicians and trainees report the highest levels of burnout (55%–65%) among all specialties.[2–5] Burnout negatively impacts physician health, productivity, and career satisfaction.[6–8] There is evidence that physician burnout may also be associated with worse outcomes

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of care.[9,10] However, it remains unclear if physician burnout influences patients' perceptions of and satisfaction with their care. Patient satisfaction is important because it contributes to a successful doctor–patient relationship. Studies have reported that patient satisfaction also serves as an indicator for a range of significant clinical outcomes[11] and is associated with patients' adherence to recommended treatment.[12,13] Furthermore, patient satisfaction surveys are increasingly used by payers, hospitals, and the public to assess healthcare quality and value.[14] In this pilot study, we examined the degree to which EM trainee burnout at one institution was associated with patients' satisfaction with their emergency department (ED) care.

METHODS

Study Design

We conducted a standardized and validated burnout survey in a cross-sectional sample of EM trainees. Results were linked to cumulative individual trainee Press Ganey (PG)[15] ED patient satisfaction scores from the two previous quarters of the same fiscal year.

Study Setting and Population

Emergency medicine postgraduate year (PGY) 1–4 trainees from a single urban, academic, Level I trauma, Accreditation Council for Graduate Medical Education–accredited residency program (88,000 patients annually) were eligible to participate in the burnout survey conducted in May 2016. We excluded two trainees due to their involvement in the study design and knowledge of the study hypothesis. There were no other exclusion criteria.

Study Protocol

Eligible PGY 1–4 EM trainees received an e-mail invitation to complete a confidential survey assessing their levels of wellness. Trainees were not informed the survey was specifically measuring burnout. Respondents consented to the voluntary study by completing the open survey on a secure and Web-based application (Research Electronic Data Capture).[16] Up to three reminder e-mail invitations were sent to nonresponders.

Per institutional protocol, 30% of discharged ED patients were randomly selected to receive the PG patient satisfaction survey, a psychometrically valid instrument widely used to benchmark comparable institutions nationwide.[15] Surveys were attributed to a trainee based on two sources from the electronic medical record. First, if a trainee wrote the "emergency department note" then that trainee was attributed to the encounter. If a trainee did not write the ED note, the encounter was attributed based on personnel assignment per the electronic medical record since another member of the team (i.e., the supervising physician) may have assumed responsibility for documentation while the trainee was involved in other aspects of the patient's care. If neither method identified a trainee, "unknown" was attributed to the encounter and that survey was not included in the study.

Burnout results were linked to PG results and subsequently de-identified by a research assistant with no supervisory or evaluative role with any trainees to maintain confidentiality. Given the sensitive nature of examining burnout among trainees, we instituted a number of additional protections for study participants, the details of which have been published elsewhere.[17] The Northwestern University Human Subjects Review Board approved the study.

Measurements

We assessed burnout using the Maslach Burnout Inventory (MBI), a widely used instrument that conceptualizes burnout across three domains: depersonalization, emotional exhaustion, and personal accomplishment.[1] Consistent with prior work, burnout was dichotomized and defined by high scores in the depersonalization (>12) or emotional exhaustion (>26) subscales of the inventory.[18]

At this institution the PG ED patient satisfaction survey included four questions whereby patients were asked to evaluate the quality of care provided specifically by the resident physician, separate from the care provided by the supervising attending physician. The domains of care that patients evaluated for resident physicians were the same as those for attending physicians, and included: 1) "courtesy of the resident physician," 2) "degree to which the resident physician took the time to listen to you," 3) "resident physician's concern to keep you informed about your treatment," and 4) "resident physician's concern for your comfort while treating you" (Data Supplement S1, available as supporting information in the online version of this paper, which is available at http://onlinelibrary.wiley.com/doi/10.1002/aet2.10094/full). We also examined patients' overall assessment of their ED care with the final PG survey question asking patients' "likelihood

of recommending our emergency department to others." Patients rated each PG question on a 1 to 5 Likert scale (1 = very poor, 5 = very good). Scores for each question were dichotomized and represent only the percentage of responses of "very good," since these scores reflect top decile performance compared with similar institutions.[15]

Data Analysis

We calculated descriptive statistics for key variables. We compared burnout results to sex and postgraduate year using chi-square tests and PG scores via univariate analysis of variance. Statistical significance was set at an alpha of less than 0.05. Analyses were performed using SPSS v23.0 (SPSS, Inc.).

RESULTS

Twenty-seven of 53 (50.9%) eligible EM trainees completed the burnout assessment. Mean trainee age was 28.6 years (95% confidence interval [CI] = 27.9–29.4 years) and most participants were male (70.4%, 95% CI = 51.5%–84.1%). The percentage of responding trainees who were male was not significantly different than the percentage of eligible male trainees in the program (66.7%, p = 0.736). Twenty-one of 27 trainees met criteria for burnout, for an overall burnout rate of 77.8% (95% CI = 59.2%–89.4%). There were no significant differences in burnout by sex (p = 0.888) or postgraduate year (p = 0.671).

Between September 2015 and February 2016 an estimated 15,922 PG ED surveys were mailed, with 1,115 (7.0%) undeliverable. A total of 1,947 surveys were completed and returned for a response rate of 13.1%, which is consistent with PG ED survey response rates among urban academic EDs (15%).[19] The mean number of returned PG ED surveys per trainee was 27.3 (95% CI = 24.4–30.2). The mean percentage of patients who rated as very good the resident physician's courtesy was 71.3% (95% CI = 69.2%–73.3%), took time to listen was 69.2% (95% CI = 67.1%–71.2%), kept informed of treatment was 65.4% (95% CI = 63.2%–67.5%), and concern for comfort was 65.9% (95% CI = 63.8%–68.0%). The mean percentage of patients who rated as very good their likelihood of recommending the ED to others was 56.9% (95% CI = 54.7%–59.1%).

Trainee burnout was significantly associated with lower trainee-specific PG scores across all four physician domains, including courtesy (p = 0.011), took time to listen (p = 0.004), kept informed of treatment (p = 0.014), and concern for comfort (p = 0.006; Table 1). There was no significant association between trainee burnout and patients' overall likelihood to recommend the ED to others (p = 0.364).

DISCUSSION

This exploratory study is the first to investigate the relationship between emergency physician burnout and patients' perceptions of and satisfaction with their ED care. Although the use of patient satisfaction to assess quality of care is controversial,[20] its inclusion as a marker of quality represents the growing importance of patient-centered care models that take into account what is meaningful and valuable to the individual patient.[21] We focused specifically on patients' satisfaction with their ED physicians and our results demonstrated that trainee burnout was significantly associated with lower PG scores across all physician domains. This is consistent with studies in other health care settings that showed provider burnout is associated with lower patient satisfaction.[22–24] Prior work on ED patient satisfaction demonstrated that the interpersonal and communication skills of ED providers, rather than their perceived technical skills and waiting times, were most influential in determining patient satisfaction.[11] Our results suggest physician burnout may influence patients' perception of their doctors' verbal and nonverbal expressions of information and empathy.

Table 1
Comparison of the Percentage of Press Ganey Patient Satisfaction Survey Ratings of "Very Good" Between EM Trainees With and Without Burnout

	No Burnout	Burnout	p-value
Physician domains			
Courtesy of the resident physician	77.0	65.9	0.011
Degree to which the resident physician took the time to listen to you	76.6	61.0	0.004
Resident physician's concern to keep you informed about your treatment	69.2	57.1	0.014
Resident physician's concern for your comfort while treating you	72.1	56.2	0.006
Overall assessment			
Likelihood of recommending our ED to others	60.9	55.8	0.364

Although trainee burnout was associated with lower PG scores in the physician domains, we did not find a significant relationship between trainee burnout and patients' overall likelihood to recommend the ED to others. This may be due to the many other components of ED care that contribute to this final item in the PG survey, including the care of the supervising physician, nurses, ancillary staff, and other operational factors such as wait times and length of stay. Although trainee burnout appears to influence patients' perceptions of the professionalism and communication skills of the resident physician, it was not significant enough to impact patients' overall impression of their ED care.

Our study's rate of trainee burnout (78%) was higher than prior estimates among EM trainees (55%–65%).[3–5] Recent work, however, demonstrates a trend of increasing burnout rates among EPs and trainees, with current estimates between 70 and 75%.[25,26] There are many speculated reasons for this phenomenon among all physicians, not just EPs, and our study did not seek to address this issue.[25] Nevertheless our results add to growing literature that suggests an association between physician burnout and negative patient care experiences.[3,5,10] Residency programs may need to identify and address trainee burnout not only to enhance the well-being of individual residents but also to potentially improve the quality of care they provide to patients.

LIMITATIONS

There are several limitations to this exploratory study. First, our results from a small sample of EM trainees at a single site may not be generalizable to other environments. Second, the impact of our burnout survey response rate and institutional PG survey response rate on outcomes is unclear. Third, we recognize that our patient-reported outcome of patient satisfaction via PG surveys are limited by the tool's many known drawbacks (e.g., selection, spectrum, reporting biases). Despite these shortcomings, PG scores are still regularly used by 40% of U.S. hospitals and remain highly relevant—including for reimbursement—for multiple stakeholders. Fourth, we were unable to compare burnout between responding and nonresponding trainees. Fifth, as each patient receives care from multiple ED providers over the course of their ED stay, we could not determine if patients who completed the PG surveys were able to correctly identify the primary resident physician responsible for their care. For example, we do not know if patients were able to distinguish resident from supervising ED physicians, consulting physicians from other specialties, or ED resident physicians who assumed responsibility for their care after initial evaluation by the primary ED physicians. Finally, even though burnout results via the MBI are considered stable for up to 1 year,[1] our burnout survey was administered over 1 month and the results were compared to PG surveys from the preceding 6 months.

CONCLUSION

In this pilot study emergency medicine trainee burnout was associated with lower patient satisfaction scores across all physician domains. Future work involving multiple sites and larger samples are necessary to confirm these results. An improved understanding of the relationship between emergency medicine physician burnout and its impact on patients' perception of care may meaningfully shape efforts under way to promote patient-centered care.

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Supporting Information

The following supporting information is available in the online version of this paper available at http://onlinelibrary.wiley.com/doi/10.1002/aet2.10094/full

Data Supplement S1. Press Ganey survey.