Emergency medicine resident well-being: stress and satisfaction

W. Hoonponsimanont¹, M. Murphy², C. H. Kim¹, D. Nasir³ and S. Compton²

¹Center for Trauma and Injury Prevention Research, University of California, Irvine School of Medicine, Irvine, CA, USA, ²Department of Emergency Medicine, UMDNJ-New Jersey Medical School, Newark, NJ, USA, ³Department of Emergency Medicine, University of California, Irvine School of Medicine, Irvine, CA, USA.

Correspondence to: W. Hoonponsimanont, University of California, Irvine School of Medicine, 101 The City Drive South, Orange, CA 92868, USA. Tel: +1 714 456-1672; e-mail: whoonpon@uci.edu

Background Emergency medicine (EM) residents are exposed to many work-related stressors, which affect them both physically and emotionally. It is unknown, however, how EM residents perceive the effect of these stressors on their well-being and how often they use unhealthy coping mechanisms to manage stress.

Aims To evaluate EM residents’ perceptions of stressors related to their overall well-being and the prevalence of various coping mechanisms.

Methods An online survey instrument was developed to gauge resident stress, satisfaction with current lifestyle, stress coping mechanisms and demographics. A stratified random sample of EM residents from three postgraduate years (PGY-I, PGY-II and PGY-III) was obtained. Descriptive statistics and one-way analysis of variance were used to compare residents across PGY level.

Results There were 120 potential participants in each of the three PGYs. The overall response rate was 30% (109) with mean age of 30 and 61% were male. On a 0–4 scale (0 = completely dissatisfied), respondents in PGY-I reported significantly less satisfaction with lifestyle than those in PGY-II and III (mean rating: 1.29, 1.66 and 1.70, respectively; P < 0.001). There were no significant differences in mean ratings between PGYs on each of the other stress categories: work relationships (1.37), work environment (1.10) and response to patients (1.08). Residents reported exercise (94%), hobbies (89%) and use of alcohol (71%) as coping methods.

Conclusions Residents reported low satisfaction with current lifestyle. This dissatisfaction was unrelated to perceived work-related stress. Some undesirable coping methods were prevalent, suggesting that training programs could focus on promotion of healthy group activities.

Key words Alcohol; coping mechanism; emergency medicine resident; lifestyle satisfaction; residency training; stress management; well-being; wellness; work stressors; workplace health promotion.

Introduction

The practice of emergency medicine (EM) involves dealing with multiple sources of stress. There are many local, national and international reports concerning resident burnout and its effect on patient care and professionalism [1]. EM residents may experience stressors unique to their specialty, including sleep deprivation, patient overload, low status in the hospital hierarchy and lack of negotiation skills [2]. EM stressors create a significant impact on residents both emotionally and physically, resulting in a negative effect on EM residents’ personal life, cognitive functioning, job performance, professionalism, interaction with colleagues and motivation [3,4]. EM residents who develop unhealthy coping strategies have the potential of harming themselves and others.

We examined how residents perceive the impact of these stressors on their overall well-being and how often various coping mechanisms are used by EM residents. Since a prior study in 1992 found that EM residents have higher rates of substance use and abuse than residents of other specialties [5], we were interested in whether the prevalence of using drugs and alcohol as coping mechanisms has changed. Therefore, the purpose of this study was to assess EM residents’ perceptions of...
stressors related to their overall well-being as well as the prevalence of both healthy and unhealthy coping mechanisms.

Methods

The population of interest for this study was all EM residents in the USA. The available email addresses of 1076 EM residents were obtained, accounting for ~20% of the target population. The sample was stratified by training year (i.e. by postgraduate years: PGY-I, PGY-II or PGY-III). Due to their limited numbers, fourth-year residents were excluded. Perception of stressors and frequency of use of various coping mechanisms were compared between training years. A sample size of 360 participants was determined to be required, drawn equivalently \( n = 120 \) across each strata. The study was approved by the University of Medicine and Dentistry of New Jersey Institutional Review Board.

An online survey of 44 questions was developed to address six themes related to resident well-being: (i) work relationships, (ii) work environment, (iii) response to patients, (iv) impact on personal life, (v) coping mechanisms and (vi) participant demographics. Each question on the survey used a 5-point Likert scale, coded from 0 to 4. Selected participants were emailed a notification that they had been randomly selected to participate and were emailed the survey link within the same week. Follow-up emails were sent to those who did not respond. We calculated summary scores for each of the themes identified in the survey. Comparative analyses were conducted using one-way analysis of variance, independent sample \( t \)-tests and chi-square tests as appropriate.

Results

Surveys were emailed to 360 EM residents of whom 28 in PGY-I, 41 in PGY-II and 40 in PGY-III responded. Sixty-one percent of respondents were male, most (72%) practiced in urban areas and completed university-based residencies (81%). Due to the low response rate \( n = 109; 30\% \), the analysis was focused on comparing different stressors and coping mechanisms between PGY levels.

The mean rating for each of the subscales ranged from mild to moderate and did not differ by PGY level. However, as PGY levels increased, stress related to work relationships slightly decreased and stress caused by the work environment increased (Figure 1). Mean values of satisfaction ranged from ‘A little’ (1) to ‘Somewhat’ (2) and all residents reported the least satisfaction with their time for exercise compared with all other life factors. Respondents in PGY-I and PGY-II were less dissatisfied with their financial situation and those in PGY-III had the least dissatisfaction with time for sleep. The most common coping mechanisms for stress reported by residents were exercising and pursuing a favorite hobby. We identified the use of alcohol as the third most reported coping mechanism for stress, with 72% of all respondents reported turning to alcohol. Other less common undesirable coping mechanisms reported by residents include using illegal drugs (6%), prescription medications (17%) and nonprescription medications (18%) (Table 1).

![Figure 1. Stressor rating by residency year.](image-url)
Discussion

EM residents, especially those in their first year, were not satisfied with their lifestyle. In general, this dissatisfaction did not seem to be related to work stressors. We also found that a high percentage of EM residents employed undesirable coping mechanisms, such as using alcohol and medications, to deal with stress. The major strength of this study was using a survey to directly ask the EM residents about their perceived work-related stress levels and their satisfaction with their lifestyle.

The study had some limitations. One limitation was the low response rate of 30%, which is consistent for previous research studies conducted in EM [6]. Response bias was another limitation since residents who felt burned out may have been less likely to respond or vice versa. Finally, it is possible that there are some positive coping mechanisms that are prevalent, yet were not included in our survey.

Contradictory to many reports published regarding residents in other specialties [7,8], we identified that overall EM residents were not overly stressed by work life in many aspects. However, residents did report overall dissatisfaction with their lifestyle, which aligns with a study done in 2007, where residents described residency as a time where they felt a ‘loss of self’ [9].

Our study found that although exercising and participating in a favorite hobby were common coping mechanisms, more than two-thirds of respondents turned to alcohol. A study performed by McNamara and Margolies showed that EM physicians could not identify alcohol problems in their residents [10], which shows the importance of directly asking resident about their habits. To detect unhealthy coping mechanisms, a program should be created to identify severely stressed residents and aim to improve lifestyle satisfaction, promote wellness and provide graduating residents with long-term coping strategies.

In summary, in this study, EM residents—particularly those in their first year—were not satisfied with their lifestyle. Since such dissatisfaction can be associated with career burnout, we suggest further studies to explore nonwork-related stressors and the association between lifestyle satisfaction and career burnout. Additionally, a high proportion of residents reported undesirable coping mechanisms, suggesting that programs could focus on monitoring and screening, offering practical resources and promotion of healthy group activities.

Key points

• Emergency medicine residents, particularly those in their first year of residency, reported low levels of satisfaction with their current lifestyle.
• Perceived stress levels due to work-related stressors were also found to be low, which suggests that future research on the well-being of emergency medicine residents should explore nonwork-related stressors.
• Since a high percentage of emergency medicine residents admitted using undesirable coping mechanisms to deal with stress, residency directors should consider incorporating activities and education to promote healthy coping strategies.

Acknowledgements

The authors would like to thank Samer Roumani for his contribution to the manuscript preparation process.

Conflicts of interest

None declared.

References

Wanted: Questionnaires and Questionnaire Reviewers

Occupational Medicine, the journal of the Society of Occupational Medicine, is running a series of articles covering questionnaires used in OH clinical practice. If you use a particular questionnaire in your practice and would be willing to review it and submit it for consideration for publication please contact Angela Burnett at om@som.org.uk to check we haven’t already got a review of that questionnaire underway and for guidance on the review content we are looking for.