

Burnout Among Early Career Clinical Investigators

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Abstract

Burnout is a pervasive problem among clinicians. However, little is known about burnout among early career clinical investigators, who must balance clinical responsibilities with challenges related to research. We aimed to determine the prevalence of and demographic associations with burnout in a cohort of early career clinical investigators. A cross-sectional questionnaire was administered to 179 trainees at the University of Pittsburgh Institute for Clinical Research Education in 2007–2008. We used chi-square analyses and Fisher's exact test to determine whether associations between demographic characteristics and burnout were significant. Of the participants, 29 (16%) reported feeling burned out. Burnout was more prevalent among those over 35 years of age relative to their younger counterparts (29% vs. 13%, $p = 0.01$) and among females relative to males (22% vs. 10%, $p = 0.03$). With regard to race and ethnicity, burnout was most common among underrepresented minorities (30%) followed by Caucasians (18%) and Asians (3%); these differences were significant ($p = 0.02$). Considering the early career status of these research trainees, rates of burnout were concerning. Certain demographic subgroups—including older trainees, females, and underrepresented minorities—had particularly high rates of burnout and may benefit from interventions that provide them with skills needed to sustain successful clinical research careers. *Clin Trans Sci* 2010; Volume 3: 186–188

Keywords: burnout, clinical researchers, exhaustion, cynicism, under-represented minority, African-American, Hispanic, female, clinical research training programs

Introduction

Burnout, which is characterized by emotional exhaustion, cynicism, and a sense of low personal accomplishment, is a pervasive problem among clinicians.^{1–3} Its prevalence among health professionals is estimated at about one-third, although this figure varies widely by sociodemographic and occupational factors.^{4–6}

Among clinicians, burnout is associated with adverse patient-related outcomes, such as reduced empathy for patients, increased likelihood of making clinical errors, and low patient satisfaction.^{1,2,5,7,8} Additionally, it has been associated with severe emotional, psychosocial, and health-related problems among providers.^{2,8,9} Because burnout can be improved with interventions,^{1,2} it is important to identify those at risk or experiencing difficulty early in their professional trajectory.

The vast majority of burnout-related studies have assessed clinicians, and the few studies that have attempted to characterize burnout among researchers have focused on late-career researchers.^{1,2,7} However, little is known about burnout among early career clinical researchers. Developmentally and professionally, early career academic researchers encounter myriad challenges, including balancing family and work life, establishing expertise in their discipline, and creating collaborative work opportunities. These challenges may be further exacerbated by environmental and sociodemographic factors. Given the importance of promoting and retaining early career researchers, there is value in beginning to assess the scope of and sociodemographic associations with burnout in this population. The purpose of this study was to determine the prevalence of and demographic associations with burnout in a cohort of early career clinical investigators.

Methods

Participants and setting

Participants included medical students, residents, fellows, predoctoral trainees, and faculty enrolled in degree-granting and/or career development programs at the Institute for Clinical Research Education, part of the Clinical and Translational Science Institute at the University of Pittsburgh School of Medicine. All participants were recruited and provided informed consent at the beginning of their training. Participants completed a questionnaire assessing, among other things, sociodemographic characteristics and feelings of burnout. The current study included 179 of the 188 students enrolled between 2007 and 2008 (six declined to participate and three had missing data for the outcome). The study was approved by the Institutional Review Board of the University of Pittsburgh.

Measures

We assessed burnout by asking participants to endorse one of these statements: (1) I enjoy my work. I have no symptoms of burnout; (2) Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out; (3) I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion; (4) The symptoms of burnout that I am experiencing would not go away. I think about frustration at work a lot; or (5) I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help. We transformed "burnout" into a dichotomous variable comparing those "not burned out" (options 1–3) and "burned out" (options 4–5). This item has been shown to have strong validity when measured against the more intensive, previously validated

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	Whole sample*	Not burned out	Burned out	P value
	N (Column %)	N (Row %)	N (Row %)	
All participants	179 (100%)	150 (84%)	29 (16%)	
Age				0.01†
≤35	120 (71%)	105 (88%)	15 (13%)	
>35	49 (29%)	35 (71%)	14 (29%)	
Gender				0.03†
Male	89 (50%)	80 (90%)	9 (10%)	
Female	89 (50%)	69 (78%)	20 (22%)	
Race				0.02‡
Caucasian	95 (65%)	78 (82%)	17 (18%)	
Asian	31 (21%)	30 (97%)	1 (3%)	
Other	20 (14%)	14 (70%)	6 (30%)	
Medical specialty				0.84‡
Medical student	17 (23%)	13 (76%)	4 (24%)	
Resident	17 (23%)	15 (88%)	2 (12%)	
Fellow/postdoctoral scholar	11 (15%)	9 (82%)	2 (18%)	
Faculty	30 (40%)	23 (77%)	7 (23%)	

*N = 179.
†Chi-squared test.
‡Fisher's exact test.

Table 1. Levels of burnout by sociodemographic characteristics.

22-item Maslach Burnout Inventory.¹⁰ Other questionnaire items relevant to this study assessed demographic factors including age, gender, race/ethnicity, and level of training program (e.g., medical student vs. faculty). Age was dichotomized as ≤35 and >35, and race was trichotomized by self-defined status as underrepresented racial and/or ethnic minority (African-American, Hispanic, and/or Native American), Caucasian, or Asian.

Analysis

Descriptive statistics were used to examine the prevalence of burnout by key sociodemographic variables, and chi-square tests and Fisher's exact test were used to assess whether there were significant differences in burnout by sociodemographic variables.

Results

Of the 179 participants, 50% were female, and 65% were Caucasian, 21% were Asian, and 14% were from underrepresented minority groups (Table 1). Forty percent of participants were faculty, 23% were residents, 23% were medical students, and 15% were fellows or postdoctoral scholars. Sixteen percent of participants reported feeling burned out. Burnout was more prevalent among those over 35 years of age compared with those ≤35 (29% vs. 13%, $p = 0.01$) and among females compared with males (22% vs. 1%, $p = 0.03$). With regard to race and ethnicity, burnout was most common among underrepresented minorities (30%) followed by Caucasians (18%) and then Asians (3%); these differences were statistically significant ($p = 0.02$). Differences in burnout by trainee role were not statistically significant.

Discussion

Burnout was 16% in this cohort, which is concerning considering the early career status of these research trainees; indeed, among

those over 35 years of age, the rate of burnout was nearly one-third. Our findings were consistent with prior studies suggesting that women have higher rates of burnout than men.^{2,5} It has been suggested that burnout among female clinicians may be due to balancing work-family responsibilities and the inflexibility of clinical schedules.^{2,5} It is interesting that burnout seems to be just as strongly associated with gender in this sample of early career researchers who may not have similarly intense clinical schedules. Underrepresented minorities had substantially higher point estimates of burnout compared with Caucasians or Asians (30% vs. 18% vs. 3%, $p = 0.02$). Higher burnout in these populations may be because of lack of specialized support for the unique challenges that underrepresented minority members may face in early stages of a research career, including lack of adequate mentor role-models.

Our results are not necessarily generalizable, as our sample was obtained from one large clinical research training program. Additionally, we did not have sufficient numbers of participants to conduct higher order multivariable analyses. Despite these limitations, it is

noteworthy that burnout is commonly reported among early career researchers, even as they begin these careers, and that burnout seems to be strongly associated with older age, female gender, and status as an underrepresented minority. Thus, it may be valuable for clinical research training programs to provide extra support for these demographic groups in order to minimize risk of the occupational and personal hazards associated with professional burnout.

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