
**Background:**
- Physician distress is common. Factors such as physician burnout, job dissatisfaction, and low quality of life have been associated with negative effects on patient care.
- Despite the relevance of physician well-being to patient care outcomes, factors associated with resident distress have not been well described at a national level.

**Goal/Hypothesis:**
- To measure well-being in a national sample of IM residents and to evaluate relationships with demographics, educational debt, and medical knowledge.
- They hypothesized that distress would be associated with greater educational debt, lower test scores, and decreased learning.

**Methods:**
- Prospective cohort study of IM residents using data collected on 2008 and 2009 IM-ITE scores and the 2008 IM-ITE survey.
- **Main outcome measures:** quality of life, symptoms of burnout, year of training, sex, medical school location, educational debt, and IM-ITE scores reported as percentage correct
- Medical knowledge determined by % of correct answers on IM-ITE.
- Learning measured by change in score from 2008 to 2009.
- QOL measured on a scale of 1-5 ranging from “as bad as it can be” (1) to “as good as it can be” (5).
- Assessed residents’ satisfaction with balance between personal and professional life on a similar 5-point Likert scale.
- Symptoms of burnout assessed by using two single-item measures: emotional exhaustion and depersonalization

**Statistical Analysis:**
- Applied standard univariate statistics to characterize sample
- 2-tailed statistical significance was set at an alpha level of 0.01.
- Multivariable analyses were conducted using logistic regression for binary outcomes, ordinal logistic regression for ordinal outcomes, and multivariable generalized linear models for continuous outcomes.

**Results:**
- Study population - 22132 US IM residents → 19831 returned surveys → 17820 with valid responses → 16394 responded to at least 1 variable in study
- QOL was rated “as bad as it can be” or “somewhat bad” by 14.8%
- Symptoms of emotional exhaustion at least weekly reported by 45.8%
- Symptoms of depersonalization at least weekly reported by 29%
- Decreased QOL, decreased satisfaction with work-life balance, and increased frequency of burnout symptoms were associated with lower IM-ITE scores.
- Quality of life and satisfaction with work-life balance were both lower in residents with educational debt.
- Symptoms of emotional exhaustion decreased as year of training increased, while symptoms of depersonalization increased after the PGY-1 year.
- Burnout was less common among international medical grads than among US medical grads (45% vs 59%).
- Greater educational debt (> $200,000) was associated with presence of at least 1 symptom of burnout (61.5% vs 43.7%) and was associated with lower IM-ITE scores (mean of 5.0 points lower than those with no debt).
- Men had steeper declines in test scores with higher debt levels than did women.
• No association of debt and well-being with learning was seen.

Discussion:

• One possible explanation as to why depersonalization increased at the same time emotional exhaustion decreased is that the accumulated effects of emotional exhaustion lead to long-term erosion of physician idealism. This may argue in favor of further protections during internship.
• One possible explanation for the observation that IMGs were less likely then US grads to report high levels of emotional exhaustion and depersonalization is that IMGs training in US residency programs represent a subset of international grads that are more resilient and less prone to burnout.
• One possible explanation for why there was no association of debt and well-being with learning is that the stress of the exam itself might affect residents’ well-being at the time but not correlate with cumulative performance over the course of the training.

Limitations:
• Study limited to internal medicine residents
• Survey given at the end of a 340-question exam, predisposing residents to feeling exhausted and distressed
• Possible nonresponse bias
• Not all domains of well-being were assessed, such as job satisfaction and depression
• Many demographic variables not evaluated such as race, socioeconomic status, marital status, or program factors such as research emphasis
• Impossible to determine causation from this study, so observed relationships are best interpreted as associations.

Bottom Line:
• Suboptimal QOL and dissatisfaction with work-life balance were common in this national cohort of IM residents, as were burnout symptoms of emotional exhaustion and depersonalization. Additional research is needed to see how factors affecting the well-being of residents interact with each other and with clinical competency.

Food for thought:
• Why do we care about emotional burnout in trainees? What are the consequences?
• Does it affect quality care long-term?
• What are the possible solutions?