

One is Too Many: Suicidality in General Surgery Residency

Brian J. Nasca MD MS, Ruoqia D. Li MD MS, Andrew J. Hu MD MS, Gaurava Agarwal, MD, Joshua S. Eng, PhD, Karl Y. Bilimoria, MD MS, Yue-Yung Hu, MD MPH
 Albany Medical College, Albany, NY
 Surgical Outcomes and Quality Improvement Center, Northwestern University Feinberg School of Medicine, Chicago, IL

BACKGROUND

- Suicide is the second leading cause of death in residency
- The identification of modifiable risk factors in residents' work and learning environments may help inform interventions to meaningfully prevent, reduce, and/or mitigate suicidality.

METHODS

Study Design

- Confidential, voluntary cross-sectional survey post-American Board of Surgery In-Training Examination in 2019

Inclusion Criteria

- All clinically active general surgery residents with complete demographic data
- 80.8% answered: "During the past 12 months, have you had thoughts of taking your own life?"

Statistical Analysis

- Multivariable logistic regression to identify individual & program factors associated with suicidality

RESULTS

- 6,956 (85.6%) responded to the survey
- 289 (4.1%) residents endorsed suicidality
- LGBTQ+ residents reported suicidality at twice the level of non-LGBTQ+ residents (8.4% vs 4.2%,)
- Single residents reporting suicidality was over 50% higher than residents in relationships (6.1% vs 3.9%)

Table 1: Individual Factors

	Odds Ratio	95% CI
Gender	Male	REF
	Female	1.06
Race	White	REF
	Non-White	1.01
Gender Identity/Sexual Orientation	Non-LGBTQ+	REF
	LGBTQ+	1.68*
	Prefer not to say	0.39
Relationship Status	Married/Relationship	REF
	No Relationship	1.57*
	Divorced/Widowed	1.26

*denotes p<0.05

Table 2: Program Level Factors

	OR	95% CI
Lack of resident camaraderie	1.11	0.77-1.59
Lack of faculty engagement	1.31	0.91-1.89
Workload and job demands	1.48*	1.07-2.09
Learning vs. blame in adverse events	1.65*	1.16-2.36
Efficient use of resources	1.39	0.98-1.96
Meaning in work	1.58*	1.10-2.27
Sexual harassment	2.18*	1.59-2.98
Gender discrimination	0.75	0.51-1.11
Racial discrimination	1.14	0.81-1.62
Bullying	2.34*	1.49-3.68

*denotes p<0.05

RESULTS (cont.)

Individual Factors

- LGBTQ residents had a 1.68 (95%CI 1.02-2.77) odds of compared to their non-LGBTQ+ peers
- Single residents had a 1.57 (1.14-2.16) odds of suicidality

Program Factors

- Increased workload and job demands (i.e., multiple duty hour violations, or less than 1 day off in every 7) had increased odds of suicidality (OR 1.48, 95% CI 1.07-2.09)
- Residents who reported their program emphasized blame over learning in adverse events had a 1.65 odds of suicidality (1.16-2.36)
- Sexual harassment significantly increased suicidality (OR 2.18, 95% CI 1.59-2.98).
- Gender and racial/ethnic discrimination did not significantly affect suicidality.

LIMITATIONS

- Cross-sectional survey
- Possible seasonality to suicidal ideation
- Non-response bias
- Social desirability bias
- No mental health assessment

CONCLUSIONS

- **Factors in the learning environment are associated with increased risk of suicidality**
- Every effort should be made to prevent the loss of a life by **maintaining vigilance** for at-risk residents, and **optimizing the learning environment** for safety and learning

