ORIGINAL RESEARCH

Using a podcast to increase awareness of burnout in nurse anesthesia providers

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ABSTRACT

The incidence of burnout among healthcare providers is rising. Certified Registered Nurse Anesthetists (CRNAs) and Student Registered Nurse Anesthetists (SRNAs) are at a particularly high risk due to the inherent stress of the role. This multifaceted issue poses significant concerns to CRNA and SRNA wellbeing, patient safety, and healthcare organizations. The purpose of this project was to evaluate and compare burnout levels among CRNAs and SRNAs working at a large academic medical center and to increase awareness of the consequences of burnout through an educational podcast. Additionally, the development and dissemination of a two-part educational podcast aims to increase awareness of the consequences of burnout and introduce listeners to evidence-based resources to mitigate it. The data collection tool utilized was the Maslach Burnout Inventory- Human Services Survey for Medical Personnel (MBI-HSS). Literature demonstrates this 22-item questionnaire is a valid and reliable tool. A podcast was created to disseminate survey results as well as discuss the phenomenon of burn out. Lastly, the episodes were published to Spotify and Apple Podcasts. This project seeks to provide foundational knowledge of the incidence of burnout among CRNAs and the SRNA community in order to identify needs for future quality improvement interventions for these populations. Increasing awareness of one's own level of burnout is a necessary first step to begin to address burnout in this community.

Key Words: Burnout, Podcast, Certified registered nurse anesthetists, Student registered nurse anesthetists

1. INTRODUCTION

Burnout is on the rise among healthcare providers. Since the onset of the COVID-19 pandemic, Certified Registered Nurse Anesthetists (CRNAs) and Student Registered Nurse Anesthetists (SRNAs) have been particularly susceptible due to the role's inherent stress. In a study conducted at a level one trauma center, researchers identified that 72% of CRNAs experienced some degree of burnout.[1] Burnout is defined as a complex human experience characterized by emotional exhaustion, loss of personal fulfillment, and depersonalization.[2] Emotional exhaustion is characterized by feeling depleted of emotional resources. Loss of personal fulfillment is a decreased sense of accomplishment either professionally or personally. Depersonalization in healthcare is a term used to describe cynicism or lack of empathy towards patients or colleagues.

This phenomenon has deleterious effects on providers, healthcare organizations, and patient safety. Balayssac et al. examined 1,322 French healthcare providers and identified that burnout was associated with significant mental health comorbidities such as anxiety, depression, and substance abuse.[3] Mahoney et al. found CRNAs who suffer from burnout are more likely to quit their jobs, a trend which leads to increased staff turnover which can result in enormous costs to orga-

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nizations.[4] After examining direct and indirect costs of turnover, authors estimated the average figure to replace an experienced CRNA to be $145,000 to $157,000.

Burnout also poses a threat to patient safety. One study examined 1,508 physician anesthesiology residents throughout the United States and studied the effects of burnout on adherence to best practice guidelines.[5] Physician anesthesiology residents who experienced elevated levels of burnout had increased deviation from best practices of care compared to those residents with low levels of burnout ($p < .001$). Additionally, 33% of respondents with high burnout and depression risk reported multiple medication errors within the last twelve months compared with 0.7% of those at a low level of burnout ($p < .001$). Though the literature offers insight into the detrimental effects of burnout on wellbeing, hefty cost of turnover, and potential adverse effects on patient care, there is a scarcity of literature that examines burnout rates among SRNAs.

The first purpose of this project was to examine and compare burnout scores among CRNAs and SRNAs working at a large, academic, level one trauma center via the Maslach Burnout Inventory – Human Services Survey for Medical Personnel (MBI-HSS) to further define the needs of this population. The second purpose of this project was to compare burnout between the three SRNA cohorts within a nurse anesthesia program. This project used results of the MBI-HSS to develop a discussion disseminated via a two-part podcast series.

2. METHODS

To address ethical considerations with implementation, data collection, data analysis, and dissemination, this project was reviewed by the University Institutional Review Board and received approval for the non-human subjects research protocol. There are no conflicts of interest to disclose. Rights to usage and licenses to administer the MBI-HSS were purchased through Mind Garden, Inc., an international publisher of psychological assessments and an industry leader in providing tools to facilitate positive organizational transformation. Funding to purchase the tool's license agreement was acquired through a university grant awarded to the examiners.

Investigators created a wellness assessment which incorporated the MBI-HSS tool and gathered participant demographic data. The MBI-HSS, developed by Christina Maslach in 1981, is a twenty-two-item questionnaire that has been used extensively to evaluate burnout among healthcare workers, students, educators, and human services workers.[6] It is considered the gold standard for assessing burnout and has demonstrated high reliability with a Cronbach alpha score of > 0.70.[7] Examples of MBI-HSS questions are listed in Table 1. MBI-HSS creators prohibit publishing the entire instrument to maintain its integrity.[8]

Table 1. MBI-HSS for medical personnel instrument examples[8]

Domain	
Emotional Exhaustion (EE)	I feel emotionally drained from my work.
Personal Accomplishment (PA)	I have accomplished many worthwhile things in this job.
Depersonalization (DP)	I do not really care what happens to some patients.

Notes. Copyright ©1981, 2016 by Christina Maslach & Susan E. Jackson.

The MBI-HSS was initially developed as a burnout assessment tool that examined the three subscales of burnout: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA) and categorized subscale scores into three groups: low, moderate, and high (see Table 4).[6] For the EE subscale, scores were categorized as low burnout (< 17), moderate burnout (18-29), and high burnout (> 30). DP scores were categorized as low (< 5), moderate (6-11), and high burnout (> 12). High PA scores are considered protective of burnout: scores (> 40) indicate low burnout, scores of 34-39 indicate moderate burnout, and scores < 33 indicate high burnout.[9]

Investigators created an assessment, titled "Wellness Survey", to administer the MBI-HSS questionnaire. Maslach and Jackson recommend using the title "Wellness Survey" and to avoid using 'burnout' in an MBI-HSS assessment title which may increase sensitization to the term.[8] In addition to the MBI-HSS, the Wellness Survey also asked participants to self-report if they belonged to the CRNA or SRNA group. For the CRNA group, participants were asked to report their years of work experience as a CRNA, how many hours they are scheduled to work each week, and how many hours of overtime they worked in the last month via a Likert scale. For SRNAs, participants were asked to select which cohort within the nurse anesthesia program they belonged to: SRNA1, SRNA2, or SRNA3. At the survey's end, participants were asked via a free text response to share any strategies or activities they use to manage stress.

The license agreement from Mind Garden, Inc. explicitly states that the MBI-HSS may only be used for research purposes and individual burnout scores are not to be shared with participants as this may affect the integrity of the survey.[8] However, the inability of survey takers to see their burnout scores is a limitation of this project as this data would be insightful for CRNAs and SRNAs.

The Wellness Survey was implemented at a large urban, academic, level 1 trauma center with 724 licensed patient care beds. The academic medical center has 34 main ORs and other anesthetizing locations including interventional radiology, catheterization lab, endoscopy, cystoscopy, electrophysiology, and obstetrics. The population chosen consisted of CRNAs of various years of experience who worked PRN, part-time, or full-time and SRNAs in their first, second, and third years of education. Physician anesthesiology attendings, physician anesthesiology residents, and certified anesthesia assistants were not included in the population surveyed.

To disseminate the MBI-HSS to respondents, the survey was imported into RedCap Survey Services, a scientific data management and survey tool. To ensure confidentiality, an administrator not affiliated with the project sent an email to all CRNAs and SRNAs with a link to the survey. The CRNAs were provided with a QR code which, when scanned with a mobile device, directed them to the Wellness Survey. Data from the survey was exported to Microsoft Excel where statistical analysis was conducted. Descriptive statistics were used to summarize the CRNAs' demographic data and describe SRNA cohort representation. Measures of central tendency were calculated for each of the three sections of the MBI-HSS for both CRNAs and the collective SRNA group. A t-test was performed to compare MBI-HSS results between CRNAs and SRNAs using a 95% confidence interval. Measures of central tendency were calculated for each SRNA cohort's MBI-HSS scores to further explore differences in burnout among the three cohorts.

After statistically analyzing the data of the Wellness Survey, a two-part podcast was recorded and edited with the assistance of the university broadcast and podcast innovation hub. The two-part series was published to two major podcast services – Apple Podcasts and Spotify Podcasts – for easy public access (see Figure 1). Dissemination of Wellness Survey results were discussed by investigators in each episode. The first episode defined burnout and its implications for practice. Mitigation strategies to combat burnout which were collected in the free narrative of the survey were discussed along with the CRNA data results. This episode also includes an interview with a currently practicing CRNA of 8 years who gives personal testimony on how burnout has impacted her career. The second episode delves into the SRNA data. An interview with a practicing CRNA of four years explores the stress of attending a nurse anesthesia program and the transition from SRNA to CRNA. Evidence-based strategies to combat burnout, such as mindfulness activities, and campus resources were also presented.

3. Results

Ninety-one respondents completed the Wellness Survey. Thirty-two respondents were CRNAs (see Table 2) with the remaining 59 survey-takers being SRNAs (see Table 3). When examining the average number of clinical hours scheduled per week among CRNAs, 96.9% reported working over 30 hours per week. When examining those CRNAs working overtime (over 40 hours) during a month, 50% worked 13 or more hours per month. The survey also asked CRNAs to report their years of work experience as a CRNA. Of the 32 respondents, 75% reported working as a CRNA for greater than 5 years.

Figure 1. QR codes for Apple podcasts and spotify

Table 2. CRNA Sample Characteristics

Characteristics	N = 32	%
Years of CRNA work experience		
< 1	1	3.1
1-3	7	21.9
4-9	9	28.1
10+	15	46.9
Average hours scheduled per week		
< 20	0	0
20-30	1	3.1
30-40	18	56.3
> 40	13	40.6
Hours of overtime worked in last month		
0	8	25
1-12	8	25
13-23	9	28.1
> 24	7	21.9

Table 3. SRNA sample characteristics

Characteristics	N = 59	%
Year in Training		
SRNA1	17	28.8
SRNA2	23	39.0
SRNA3	19	32.2

The SRNA respondents were stratified into cohort classifications (i.e. year 1, 2 or 3). A breakdown of the mean

MBI-HSS scores for each SRNA cohort is displayed in Table 5. All three SRNA cohorts scored in the moderate range of burnout for emotional exhaustion (EE). SRNA3s had the highest EE score (27.21) with SRNA1s having the second highest EE score (23.35). When examining depersonalization (DP) scores, all three cohorts scored in the moderate range of burnout. SRNA1s demonstrated the highest DP score (11.12). For personal accomplishment, SRNA1s had the highest sense of personal accomplishment compared to the other two cohorts.

Table 4. MBI-HSS subscale scoring[6]

Emotional Exhaustion (EE)	**EE < 17**	**EE 18-29**	**EE > 30**
	Low degree	Moderate Degree	High Degree
Depersonalization (DP)	**DP < 5**	**DP 6-11**	**DP > 12**
	Low degree	Moderate degree	High degree
Personal Accomplishment (PA)	**PA < 33**	**PA 34-39**	**PA > 40**
	Low degree	Moderate Degree	High degree

Table 5. SRNA MBI-HSS Results

MBI Realm	SRNA Cohort	Mean Score
Emotional Exhaustion	SRNA1	23.35
	SRNA2	22.91
	SRNA3	27.21
Depersonalization	SRNA1	11.12
	SRNA2	5.00
	SRNA3	8.26
Personal Accomplishment	SRNA1	35.47
	SRNA2	32.48
	SRNA3	31.89

Figure 2 displays the mean MBI-HSS scores for CRNAs and the combined SRNA group. A t-Test was conducted to compare burnout scores between the SRNA group and CRNA group for each realm of the MBI-HSS. A p-value of less than 0.05 was considered statistically significant. Among CRNA respondents, scores for EE, DP, PA correlated with a moderate degree of burnout. When comparing CRNAs to SRNAs, SRNAs scored higher in emotional exhaustion and depersonalization, but this was not statistically significant. Most notably, the CRNA group had statistically significant higher PA scores when compared to the SRNA group ($p <$ .044).

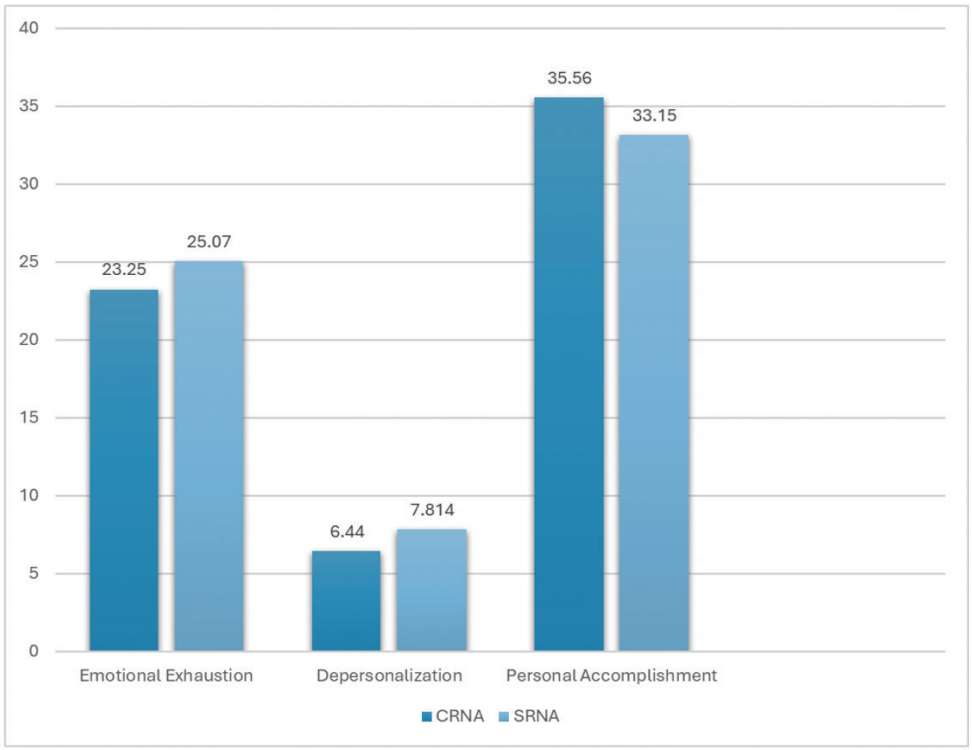

Figure 2. Comparison of Mean MBI-HSS Scores Between CRNAs and SRNAs

4. DISCUSSION

The purpose of this project was to evaluate and compare burnout levels among CRNAs and SRNAs working at a large academic medical center and to increase awareness of the consequences of burnout through a two-part educational podcast. This project is among the first to explore how burnout varies between CRNAs and SRNAs and examine how burnout differs between SRNA cohorts.

Survey results indicate that both CRNA and SRNA survey-takers reported a moderate degree of burnout. This underscores the importance of developing healthy coping mechanisms during SRNA training that can be carried into one's career as a CRNA. The demographic questionnaire for CRNA survey respondents offers additional insight. Many CRNA respondents (46.9%) reported ten or more years of work experience as a CRNA. This suggests burnout incidence may increase as one's career develops. Additionally, 40.6% of CRNA respondents reported working over 40 hours (about 3 days) each week, with 75% of the CRNAs working some amount of overtime in the last month. This is not surprising when considering the short-staffed nature of the clinical site following the COVID-19 pandemic. This may become a significant problem if anesthesia job vacancy rates increase. Future projects may explore how working overtime affects burnout in CRNAs.

Examining the scores of the three realms of burnout sheds light on vulnerabilities within the SRNA respondents. Interestingly, SRNA1s had the highest depersonalization scores compared to SRNA2s and SRNA3s. SRNA1s completed the survey in the second month of the thirty-six-month program. One explanation for high depersonalization scores among SRNA1s is this group recently resigned from high-stress jobs working as critical care ICU nurses. In this role these individuals were considered "experts." This is a sharp contrast to becoming a novice anesthesia provider. Their scores may also be reflective of residual burnout from their jobs at the beside. SRNA1s also attend online courses this first semester, which may be isolating, contributing to increased depersonalization. SRNA3s had the highest scores for emotional exhaustion, as they are nearing the end of a long, arduous program. As SRNA3s prepare to graduate and step into the CRNA role, they are already reporting a significant degree of burnout. Future exploration may focus on examining the experience of new graduate CRNAs as they transition from SRNA to CRNA. Additionally, exploring ways to decrease burnout between graduation and starting one's career may be beneficial.

The SRNA groups reported a low sense of personal accomplishment compared to CRNAs, particularly in SRNA2s and SRNA3s. This is understandable as CRNAs have completed their training and have reached their goal of working as an anesthesia provider. SRNA1s had the highest personal accomplishment scores of all students. This may be related to achieving admission to a nurse anesthesia program. Surprisingly, personal accomplishment scores decreased as trainees progressed in the program. The Dunning-Kruger Effect offers one explanation for decreasing personal accomplishment scores as students progress through the program. David Dunning and Justin Krueger, two psychologists, conducted four studies to examine college students' perceptions of their own performance.[10] They suggest that novices are much more likely to overestimate their skills and proficiency when compared to their more competent peers. With time, they recognize the complexity of their work that they failed to appreciate initially, and their confidence drops.[11] This dip in personal accomplishment scores in SRNA2s and SRNA3s could be explained by this phenomenon.

The development and publication of a two-part podcast series demonstrates podcasts as convenient, engaging, and cost-effective when utilized to disseminate educational material and resources to anesthesia providers. Shifrin identified that with the rise of screen-based educational materials, podcasts can be an engaging alternative for adult learners to meet educational objectives.[12] This project implemented two virtual podcast sessions via Apple Podcasts and Spotify to report survey results and introduce mobile mindfulness as a feasible option to decrease stress and mitigate burnout. Podcasts were chosen to engage CRNAs and SRNAs in a modern, convenient way and to allow listeners to access the content on their own time. This project utilized results of the "Wellness Survey" to develop the topics of discussion for a two-part podcast series. These episodes revealed the results of the Maslach Burnout Inventory to listeners and delivered evidence-based resources to help mitigate burnout. The podcast achieved 112 total listens, 26 hours of total listening time, and an average of 22 minutes of play time per listen as provided by the analytic tool on Apple and Spotify Podcasts. A future project is in development to create further podcast episodes to address perception and management of burnout. Anecdotally, the podcasts did spur conversation and raise consciousness of the deleterious effects of burn out among nurse anesthesia providers.

Awareness of the CRNA and SRNA burnout experience at a large academic medical center underscores the importance of ongoing interventions to help mitigate instances of burnout within the profession and its training pipeline. Increasing knowledge of burnout implications on provider wellbeing, patient care, and healthcare delivery is the first step toward improvement.

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AUTHORS CONTRIBUTIONS
All authors were equally responsible for study design, data collection, manuscript creation and revising. All authors read and approved the final manuscript.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT
No additional data are available.

REFERENCES
[1] Vells B, Midya V, Prasad A. Experiences of burnout among nurse anesthetists. OJIN. 2021; 26(2). https://doi.org/10.3912/OJIN.Vol26No02PPT41

[2] Maslach C, Jackson SE. The measurement of experienced burnout. J Organ Behav. 1981; 2(2): 99-113. https://doi.org/10.1002/job.4030020205

[3] Balayssac D, Pereira B, Virot J, et al. Burnout, associated comorbidities and coping strategies in French community pharmacies—BOP study: A nationwide cross-sectional study. PLoS One. 2017; 12(8): e0182956. PMid:28800612 https://doi.org/10.1371/journal.pone.0182956

[4] Mahoney CB, Lea J, Schumann PL, et al. Turnover, burnout, and job satisfaction of Certified Registered Nurse Anesthetists in the United States: Role of job characteristics and personality. AANA J. 2020; 88(1): 39-48.

[5] de Oliveira GS Jr, Chang R, Fitzgerald PC, et al. The prevalence of burnout and depression and their association with adherence to safety and practice standards: A survey of United States anesthesiology trainees. Anesth Analg. 2013; 117(1): 182-193. PMid:23687232 https://doi.org/10.1213/ANE.0b013e3182917da9

[6] Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory. Scarecrow Education; 1997.

[7] Poghosyan L, Aiken LH, Sloane DM. Factor structure of the Maslach Burnout Inventory: An analysis of data from large scale cross-sectional surveys of nurses from eight countries. Int J Nurs Stud. 2009; 46(7): 894-902. PMid:19362309 https://doi.org/10.1016/j.ijnurstu.2009.03.004

[8] Maslach C, Jackson SE. MBI - Human Services Survey for Medical Personnel - MBI-HSS (MP). Mind Garden; 2016.

[9] Maslach C, Leiter MP. The problem with cut-offs for the Maslach Burnout Inventory. Mind Garden. Published 2018. Accessed December 5, 2024. Available from: https://www.mindgarden.com/documents/MBI-Cutoff-Caveat.pdf

[10] Kruger J, Dunning D. Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. J Pers Soc Psychol. 1999; 77(6): 1121-1134. PMid:10626367 https://doi.org/10.1037/0022-3514.77.6.1121

[11] Rahmani M. Medical trainees and the Dunning-Kruger effect: When they don't know what they don't know. J Grad Med Educ. 2020; 12(5): 532-534. PMid:33149817 https://doi.org/10.4300/JGME-D-20-00134.1

[12] Shifrin M. Everyone is listening: Podcasts as an innovative educational approach in graduate level education. J. Nurs. Educ. 2024; 63(10): 1-3.