Research Week 2021

Investigating Gender Disparities in Case Assignments in an Academic Anesthesiology Department: Implications for Pay and Productivity

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Keywords

Gender disparity, pay, academic medicine

Abstract

Introduction

Gender bias has been described in anesthesiology.[1,2] Inequalities in compensation and career advancement have been reported.[3,4] Gender-based assumptions, such as the perception of women as less agentic (associated with stereotypically masculine qualities such as independence and ambition) and more communal (associated with stereotypically feminine qualities such as gentleness and dependence), are a possible explanation for these gender-based discrepancies.[5] Case scheduling within academic anesthesia departments consists of assigning attending anesthesiologists (attendings) to supervise up to four Certified Registered Nurse Anesthetists (CRNAs) or up to two resident physicians (residents). By supervising CRNAs, the attending has the potential to oversee more cases and may have a greater opportunity to earn American Society of Anesthesiologists (ASA) units and Relative Value Units (RVUs). We hypothesized that female anesthesia attendings are assigned at increased frequency to residents and produce less ASA units and less RVUs, compared to male colleagues.

Methods

This retrospective cohort study qualified for IRB exemption. We reviewed attending assignments within our high-risk operating suite. Inclusion criteria were generalist attendings who worked a minimum of ten days in the high-risk operating suite in a supervisor role between January 1, 2020 and May 15, 2020. Attending assignments are determined by a rotating group of schedulers. Past assignments with respect to CRNA versus resident supervision is generally not considered by schedulers. Pediatric and cardiac attendings who were more likely to receive low ratio resident assignments were excluded. Primary endpoints were type of assignment (CRNA versus resident), ASA unit production, and RVU production. The analysis was by intention-to-treat. Data were analyzed using R Project version 4.0.3. We tested for treatment differences using Welch's t-test for mean comparisons of quantitative data and the chi-squared test for binary characteristics.

Results

Thirteen male and seven female attendings met eligibility criteria. Attendings assigned CRNAs completed a mean of 16 cases per day whereas those assigned residents completed a mean of 6 cases per day. Male attendings were more likely to be Caucasian than female attendings (Table 1). Female attendings generated more RVUs working with residents compared with CRNAs (5.3 RVUs vs. 3.1 RVUs, $p<0.01$). Male attendings generated more RVUs working with residents compared with CRNAs (4.0 RVUs vs 2.8 RVUs, $P=0.07$) (Table 2). Male and female attendings were equally assigned to residents (60.8% vs. 55.7%) ($p=0.75$) (Table 3). Overall, there was a trend towards greater RVU production in female attendings (4.3 vs. 3.6, $p=0.21$), but there was no difference in ASA unit production (99.8 vs. 99.3, $p = 0.94$) (Table 3).

Conclusion

Our hypothesis was incorrect. Male and female attendings were equally assigned to residents. While we did not measure implicit bias in schedulers, our results suggest a lack of gender-based implicit bias with regards to frequency of CRNA assignments. Interestingly, we found that there is greater opportunity to earn RVUs working with residents, compared with CRNAs. This may be due to a preferential assignment of complex cases to residents, which often require more RVU generating procedures, such as invasive monitors. The trend of greater RVU production in female attendings suggests that female attendings may be assigned higher complexity cases. This study is limited to our anesthesia department and may not be generalizable to institutions with different scheduling practices and case mixes. It has been suggested that gender-based pay discrepancy can be corrected with the implementation of a compensation plan that includes objective evaluation measures.[6] A multi-centered study is suggested to determine if gender-based differences in anesthesia attending assignments may help explain the gender pay gap.

Images/Charts

Table 1. Average Percent of Days Assigned to Resident Operating Rooms by Sex

	Male	Female
Average Percent of Days Assigned to Resident Operating Rooms	60.8	55.7
Student T-Test	0.32	
p-value	0.75	
*n=20		

Table 2. Average RVUs by Sex

	Male	Female
Average RVUs	3.6	4.3
Student T-Test	-1.32	
p-value	0.21	
*n=20		

Table 3. Average RVUs by Sex and Whether Worked with Residents

	Average Units Generated		
	Male	Female	Total

Worked with CRNAs	2.8	3.1	2.9
Worked with Residents	4.0	5.3	4.4
Student T-Test	-1.8	-2.9	-3
p-value	0.07	<.01	<.01
n	100	53	153

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