Does Gender Difference Exist in Resident Self Evaluations?

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ABSTRACT

Introduction: As the number of women in medicine continues to rise across all specialties, gender bias within medical education has become an increasingly important research topic. Several studies on the topic have shown differing degrees of gender bias when residents and medical students are evaluated on their clinical performance1-5. A recent study published in JAMA looking at the evaluations of Emergency Medicine residents, showed a large gender difference in the rate at which milestones were accomplished1. In this study, their milestones were measured solely by subjective evaluations completed by their supervising faculty. Male residents were shown to meet their milestones up to four months earlier than their female counterparts. Similar forms of gender bias have been found in the evaluations of Internal Medicine residents, Gastroenterology residents, OBGyn residents, and even medical students. This bias can have a significant impact on the future careers of physicians, especially as some residencies are considering moving toward graduating residents based on obtaining clinical milestones instead of a strict timetable.

There are limited studies addressing possible determining factors for gender bias in resident evaluations. Bringing awareness and knowledge of why this bias exists could help implement a more objective evaluation of resident clinical performance. One proposed theory is that women tend to be less self confident in their abilities than men. One study showed that women had much lower self evaluation scores than men when performing tasks that were "typically male tasks", even when the performance was the exact same6. The aim of this study was to ascertain if a gender difference exist when residents are asked to perform a self-evaluation of their clinical competence. It can be hypothesized that if residents differ in their self evaluations, this difference could translate into a visible difference in portrayed self confidence, and therefore potentially lower evaluations.

Methods: All anesthesia residents currently in clinical anesthesia years one, two, and three at the University of Texas Health Science Center (UTH) were asked to participate in a self-evaluation survey. The survey was created with the survey vehicle QualtricsTM, and was emailed via an anonymous link. One initial email plus 2 follow-up emails were sent. A total of 68 residents were surveyed. The purpose of the survey was not disclosed, and all responses were kept anonymous. The survey consisted of eight questions concerning clinical competence and interpersonal communication(Figure 1). The questions used in this study mirrored those asked of the attendings at our institution when they evaluate residents. The responses were analyzed using a simple t-test comparing the difference in responses between genders.
Results: A total of 55 self evaluations were collected from 68 residents surveyed (33 men [60%] and 22 women [40%]), giving a total response rate of 81% (Table 1). Female residents evaluated themselves higher in patient care, professionalism, interpersonal and communication skills, and overall clinical competence in Anesthesia compared to male residents. No statistically significant difference was found in scores based on gender (Table 2).

Discussion: Although female and male residents evaluated themselves similarly, female residents rated themselves higher or the same in 5 out of 8 questions. Our findings were intriguing from a gender research perspective. The females in our residency program repeatedly evaluated themselves and their clinical skills higher than the males. What this does point out, is that at least at our institution, there was no gender difference with regards to how the residents feel about their own clinical abilities. What is difficult to determine, however, is if high self-evaluation scores correlate directly with portrayal of self-confidence. This is clearly just one small step in evaluating a complex and multifactorial issue. The next step will be to determine if these scores correlate with how these same residents were evaluated by their faculty members. A limitation of the study was the small sample size. In addition, there could be some selection bias in those that chose to fill out the survey. Our high (81%) response rate does help decrease selection bias, but certainly does not eliminate it. It would also be helpful to replicate this type of study with a larger sample size. If it is repeatedly found that a gender bias exists when faculty evaluate residents, however no gender difference can be found in self evaluations, then effort should be put into determining the cause(s) of this bias.

References:
1. Dayal A, O'Connor DM, Qadri U, Arora VM. Comparison of male vs female resident milestone evaluations by faculty during emergency medicine residency training. JAMA Intern Med. 2017 Mar 6