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Perspective

The Landscape of Pain Medicine for Women Physicians: A Perspective

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Background: The gender bias in academic anesthesiology is well known. Women are not only a minority in the field but also underrepresented in leadership positions. Reported reasons for this underrepresentation include barriers to career advancement, lack of mentorship, and differences in compensation, among others. Interventional pain, a competitive procedural subspecialty of anesthesiology, sees the trickle-down effects of this disparity. According to a report from the ACGME that sorted medical subspecialties by number of female trainees, pain medicine ranked in the bottom quartile across all disciplines from 2008-2016.

Objectives: To better understand the landscape for women physicians in the field of pain medicine, we undertook this investigation to review the knowledge about the topic and what questions remain unanswered.

Study Design: This study is a review of the current literature and aims to summarize and describe the landscape of pain medicine for women physicians.

Setting: All literature review and manuscript preparation took place at the Yale University School of Medicine.

Methods: We performed a comprehensive search using the PubMed, Scopus, and Cochrane databases for the combined terms "gender disparity," "pain medicine," and "anesthesiology," limiting our search to the year 2000 onward for the most recent literature on the topic. Our initial search retrieved 38 articles. All relevant articles pertaining to this perspective piece were collated. The available literature is discussed below.

Results: Women are underrepresented in interventional pain. The grim scarcity of female pain physicians is unlikely to improve soon, since while the number of Accreditation Council for Graduate Medical Education pain fellowship programs continues to grow, women trainees comprise only between 22-25% of all pain medicine fellows. Additionally, although studies have compared the numbers of male interventional pain faculty to their female counterparts in academic hospitals and shown the ratio to range from 71.84-82% to 18-28.52%, respectively, no studies have truly explored the landscape for women physicians in private practice. Patients prefer and have better experiences with physicians who are racially and ethnically like themselves. In fact, the preference for and the lack of female clinicians have been associated with delayed pursuit of care and adverse health outcomes. The consequences of the burnout and attrition caused by the gender disparity, especially in a field like pain medicine, cannot be understated.

Limitations: The review might not have been comprehensive, and relevant studies might not have been included.

Conclusion: While the gender disparity in academia is well documented for both anesthesiology and pain medicine, the reasons for this disparity have not been fully explored. Moreover, it is also unknown whether the minority of female physicians who select pain medicine as a subspecialty gravitate toward an academic or a private-practice path. To address the existing gender disparity, it is necessary to explore the landscape of interventional pain medicine in both academic and private practices and understand pain physicians' beliefs and sentiments regarding their subspecialty.

Key words: anesthesiology, pain medicine, interventional pain medicine, gender disparity, gender bias, women physicians, academic medicine, private practice

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The gender bias in academic anesthesiology is well known (1,2). According to the Association of American Medical Colleges (AAMC)'s 2022 Physician Specialty Data Report, women make up only 26.1% of all active practicing anesthesiologists. Another study noted that women make up 36% of all full-time faculty in academic anesthesiology in the United States (1). Women are not only a minority in anesthesiology but are also underrepresented in leadership positions. A 2014 study reported that women represented only 18% of full professors and 10% of department chairs (1). Other studies have documented a gender disparity in organizational boards, including the American Board of Anesthesiology and the American Society of Anesthesiologists, as well as the editorial boards of prominent journals such as Anesthesiology and Anesthesia & Analgesia (1).

Interventional pain or pain medicine, a competitive procedural subspecialty of anesthesiology, sees the trickle-down effects of this disparity. Several studies examining the diversity of pain medicine faculty in academic hospitals have shown that the ratio of male to female faculty members ranges between 71.84-82% and 18-28.52%, respectively (3-5). For private practices, the ratio of women to men is truly unknown, since no studies have explored the landscape for women physicians in private practice.

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Results

The grim numbers seem to reflect fewer women choosing pain medicine as a future career, starting from the trainee stages. According to a report from the Accreditation Council for Graduate Medical Education (ACGME) that sorted selected medical subspecialties by number of female trainees, pain medicine ranked in the bottom quartile across all disciplines from 2008-2016 (4). A 2019 study showed that while women made up 48% of all medical students, they comprised only 35% of anesthesiology residents, 22% of pain medicine fellows, and 18% of pain physicians (4). These numbers are unlikely to improve soon because, while the number of ACGME pain fellowship programs continues to grow, women trainees comprise between only 22-25% of all pain medicine fellows (4,6,7). It is noteworthy that fellowship programs directed by women have an increased likelihood of recruiting and enrolling female trainees (6-8). Women physicians have historically gravitated toward specialties that focus on women, children, and families. According to the Association of American Medical Colleges (AAMC)'s 2022 Physician Specialty Data Report, women made up 86.4% of trainees in obstetrics and gynecology compared to just 10.7% in orthopedic surgery (9). Women were also the majority in such specialties as pediatrics, preventive medicine, family medicine, neonatal-perinatal medicine, geriatric medicine, and dermatology (9).

The burnout and attrition caused by the gender disparity, particularly in a field like pain medicine, in which patients bear a significant and often adverse psychological and functional burden, cannot be overstated. Patients prefer and have better experiences with physicians who are similar to themselves (10). Furthermore, in general, women physicians spend more time with their patients, are likelier to care for women patients with complex psychosocial issues, and provide

more counseling and preventative care (10). Studies have shown that women hospitalists have better outcomes than men (lower hospital mortality and readmission rates) and are less likely to be sued for malpractice (10). The same study found that female patients were 2 to 3 times likelier to survive a myocardial infarction if their emergency room physician was also a woman (10).

Like many other fields in medicine, there is an existing gender bias when evaluating male patients' pain versus female patients'. A 2021 study confirmed the gender bias in providers' pain estimation. The study, which had perceivers view and judge video clips of the faces of female and male patients with chronic shoulder pain, showed that women's pain is underestimated compared to men's and that perceivers' pain-related stereotypes may be a source of this underestimation (11). Similarly, a 2022 study published in the Journal of the American Heart Association reported that women who visited the emergency department with chest pain waited 29% longer than did men to be evaluated for a myocardial infarction (12). In addition, several studies have demonstrated that when assessing pain in female patients, healthcare providers generally underestimate pain severity while overestimating pain exaggeration and catastrophizing (11).

Therein lies the problem. Studies have consistently shown that doubts over women's pain can lead to undertreatment and worse outcomes (11-13). Women physicians are likelier to care for women patients and have better outcomes; and yet there is a striking lack of women physicians in pain medicine, making the gender disparity of pain medicine physicians even more relevant and concerning.

The underrepresentation of practicing women physicians is not limited to anesthesiology and interventional pain medicine but also affects other procedural specialties, such as orthopedics, otolaryngology, and neurosurgery. Similar trends exist in internal medicine, in which women remain the minority in procedural subspecialities including gastroenterology, cardiology, and pulmonary (3). While there are more women in all medical specialties than in the 1970s, trainees continue to distribute as they always have, and the gender segregation of the 2017 residents and fellows is almost identical to that of the 1980s (14).

Furthermore, a mismatch in compensation is well documented between men and women practicing medicine in general (2,14,15). Interestingly, there is a strong negative correlation between the quantity of female physicians in a specialty and that specialty's salary (14). One study demonstrated that as the proportion of women in a specialty rose, overall compensation for the specialty fell (14). This discrepancy has led to lower morale, a higher rate of burnout, and in extreme cases, an increased attrition of women practicing clinical medicine. Another study demonstrated that in specialties in which men significantly outnumbered women, women physicians reported higher rates of microaggressions, were less likely to recommend their career pathways, and, importantly, were likelier to consider early retirement or leaving medicine due to gender bias (15). The same study found that the percentage of women physicians leaving academic medicine has been steadily increasing each year, rising to 41% in 2019 (15).

Reasons that have been reported for the underrepresentation of women in academic anesthesiology programs include barriers to career advancement, lack of mentorship, unequal scholarly productivity opportunities, unpaid maternity leave, discrimination, work-life balance, and differences in compensation, among others (1,2). A study focusing on compensation showed that compared to men, women anesthesiologists were 56% less likely to be paid at the higher end of salary ranges (2). This compensation disparity persisted even after adjusting for factors like age, experience, work hours, productivity, and academic rank (2).

Limitations

The review might not have been comprehensive, and relevant studies might have been excluded.

Conclusions

While the gender disparity in academia is well documented for both anesthesiology and pain medicine, the reasons for this disparity, specifically for pain medicine, have not been fully explored. A multitude of factors have been hypothesized, including fear of unfair compensation, implicit biases, fear of increased occupational exposure to radiation, lack of female leadership and mentorship, and inadequate access to paid maternity leave (3,4). It is also not known whether the minority of female physicians who select pain medicine as a subspecialty gravitate towards an academic or private practice path. At the time of this writing, we could identify no studies that had reported on the landscape of pain medicine for women physicians. To address the current gender disparity, it is necessary to explore the landscape of interventional pain medicine in both academic and private practices and to under-

stand both male and female pain physicians' beliefs and sentiments regarding their subspecialty., To better understand the reasons for the gender differences, future studies aimed at investigating the above question need to be undertaken.

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