Women’s representation at an academic dermatology conference: trending upwards, but not equal yet

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Abstract
Although women make up a significant portion of the workforce in dermatology, they remain underrepresented in academia. This study investigates the number of male and female symposium speakers at the American Academy of Dermatology annual meetings over a three-year period and compares research productivity and academic rank between the men and women invited to speak. The results demonstrate a steady increase in the representation of female symposium speakers at the conference from 2016 to 2018, although a higher proportion of invited male speakers hold professorships and leadership positions. This upward trend in women’s representation may translate to more opportunities for female engagement in academic dermatology. Although women make up over 60% of residents in dermatology, they are not proportionally represented in this conference sample. This imbalance in representation demonstrates that further interventions to increase the representation of female professors and chairs may be necessary.

Keywords: gender balance, academic medicine, speaking opportunities, gender disparities, academic dermatology

Introduction
Although women enter academic medicine in significant numbers, female physicians have not achieved parity in terms of leadership roles and academic rank. As the percentage of women entering medical school continues to rise, it is increasingly important to understand the representation of women in academic settings. Although women represented nearly 50% of practicing dermatologists in 2016 [1], the advancement of women in academic dermatology lags behind. For example, women constitute the majority of assistant professors but only make up a minority of associate professors and full professors [2].

Advancement in the academic setting is influenced by multiple factors, including number of peer-reviewed publications, as well as the number of first authorships and senior authorships. Prior research has shown that in three major dermatology journals, female first or solo authorships comprised 48% of publications at a time when women comprised 40% of the workforce [3]. This finding suggests that variables other than publication differences play a role in mediating the gender gap in academic advancement [3]. Research on other mediating factors, such as participation in national conferences, differences in job opportunities, and gender bias may help to better address this gap. To determine the representation and composition of speakers invited to give symposium presentations, this study compared the gender, research productivity, and academic rank of speakers at a major national conference in the field of dermatology from 2016, 2017, and 2018.

Data was collected from the conference guides for the 2016, 2017, and 2018 American Academy of Dermatology (AAD) Annual Meetings. Invited symposium speakers who held an MD, DO, or MBBS degree were included in the data collection. H-index,
number of publications, and number of citations were obtained from Elsevier’s SCOPUS. The H-index was used as a bibliometric measure that represents the volume and impact of academic output [4]. Academic ranking was obtained from accredited university websites and gender was obtained from Google searches and department websites.

There were 1,368 symposium speakers included in the analysis from all three years. Over this period, there were 647 female speakers (47.3%) and 721 male speakers (52.7%). In 2016, women made up 45.5% of symposium speakers. In 2017, 47% of invited symposium speakers were female and 53% were male. In 2018, female speakers comprised 49.4% of the 453 invited symposium speakers. In all three years, male symposium speakers had significantly higher H-indices, number of publications, and citations than female speakers (P<0.001). Table 1 summarizes, by gender, the proportion of speakers in each academic rank or chair position, as well as their average H-indices. The proportion of female chairs did not show a steady increase across the three years.

Discussion
Despite the overall increasing representation of women in dermatology, these results demonstrate that women are underrepresented at the level of senior academic ranks; the proportion of female speakers who hold a professorship has not increased, although it has trended upwards for men. Even in 2018, when nearly the same number of men and women were invited to give symposium presentations, women remained clustered in junior ranks. As compared to male speakers, of whom 35.8% were professors, only 17% of invited female speakers held professorships. Although 18.8% of male speakers held a position of department chair, only 3.8% of invited female speakers held this position.

The composition of speakers at conferences matters. Invitations to speak can have a critical impact on academic advancement and can bring presenting physicians to the attention of trainees and collaborators, making them potential mentors [5]. In this way, the increasing representation of women in this national forum may encourage female trainees to pursue careers in academic medicine, but these findings demonstrate that the representation and visibility of women at higher academic ranks is still lagging behind that of their male counterparts.

Conclusion
Efforts to increase the representation of female speakers who are department chairs and professors at the national level may help improve the gender disparity in academia.

Potential conflicts of interest
The authors declare no conflicts of interests.

Table 1. The proportion of men and women presenting, the proportion of invited female speakers in each academic rank, and bibliometric data (H-index) from 2016-2018.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of female professors</td>
<td>17.9%</td>
<td>21.3%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Proportion of male professors</td>
<td>31.9%</td>
<td>35.7%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Proportion of female speakers who were chairs</td>
<td>2.4%</td>
<td>4.2%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Proportion of male speakers who were chairs</td>
<td>12.1%</td>
<td>12.7%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Proportion of female assistant professors</td>
<td>21.7%</td>
<td>21.3%</td>
<td>26.8%</td>
</tr>
<tr>
<td>Proportion of male assistant professors</td>
<td>8.1%</td>
<td>11.5%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Mean H-index, women</td>
<td>19.48</td>
<td>17.06</td>
<td>14.30</td>
</tr>
<tr>
<td>Mean H-index, men</td>
<td>30.70</td>
<td>27.53</td>
<td>24.66</td>
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References


