Gender and authorship in pharmacoepidemiology

Female authorship rate in a Canadian pharmacoepidemiology research network slightly higher than its citing literature, but still well short of parity.

METHODS

• CNODES articles published between 2012 and 2017 were identified using Scopus, a citation database that includes tracking tools and researcher/institutional profiles, and all citing articles were extracted.

• Scopus author IDs for each author were used to extract their full name from the Scopus application programming interface (API).

• A web service (www.genderapi.com) was used to estimate the gender of both the CNODES authors and the citing authors. The service provides an estimated gender and a probability of being correct; all probabilities >80% were converted to “indeterminate”.

• CNODES, funded by CIHR, studies the benefits and risks of post-market drugs using de-identified population-based administrative healthcare data. Simons et al. 2012

RESULTS

• 28 CNODES articles, written by 108 authors: 46 female, 54 males, 8 indeterminate.

<table>
<thead>
<tr>
<th></th>
<th>CNODES</th>
<th>Citing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>99 (36%)</td>
<td>779 (29%)</td>
</tr>
<tr>
<td>Male</td>
<td>168 (61%)</td>
<td>1802 (68%)</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>7 (3%)</td>
<td>83 (3%)</td>
</tr>
</tbody>
</table>

DISCUSSION

- Women represented 36% of CNODES authorship – compared to 32% Pharmacoepidemiology editorial board; 13% Canadian U15 presidents, 47% VPs research, 32% deans; 30% members of CAHS.
- Women as senior authors largest gap to close in STEMM disciplines.
- Barriers to women’s academic productivity identified in the literature related to individual (e.g. self-confidence/self promotion), institutional (e.g. high teaching/clinical loads, limited mentorship) and societal-level factors (e.g. parental/caregiver leave policies).

CONCLUSIONS

- The female authorship rate in the CNODES articles was slightly higher than its citing literature.
- Gender API tool readily implemented and informative; work needed to automate gender analysis to provide ongoing feedback.
- Research needed to determine barriers and facilitators to women’s roles in teams and authorship.

Strengths

- Quick, informative approach to estimate female authorship using an API.
- Process could be reproduced using other platforms (Web of Science, Google Scholar, etc.).
- Potential for real-time monitoring.

Limitations

- Did not apply feminist theory; quantitative approach did not incorporate reasons for gender gaps.
- Used binary estimate of gender and publicly available registers; more difficult for non-Latin alphabet names.
- Overall pharmacoepidemiology research gender breakdown unknown.