

Correspondence on 'Gender disparity in authorship of guidelines and recommendations in rheumatology'

We congratulate Dr Adami *et al*¹ on their recent bibliometric analysis of first authors of rheumatology guidelines over the last 15 years. This analysis demonstrated increasing representation of women as first authors, towards gender parity.

The work by Dr Adami *et al* is encouraging and aligns with our recent analysis that showed gender parity for first authors of original rheumatology research published from 2015 to 2019.² However, our analysis showed that women are under-represented in senior authorship positions in original rheumatology research articles.² As Dr Adami *et al* reported findings only for first authors, it is not known whether under-representation of women senior authors also occurs in rheumatology clinical practice guidelines, or whether women are equally represented overall in authorship of rheumatology clinical practice guidelines.

We analysed the representation of women as first authors, as senior authors and as any author in disease-specific rheumatology clinical practice guidelines published in the last decade (2011–2020) from the major multinational rheumatology professional societies; American College of Rheumatology (ACR), European League Against Rheumatism (EULAR) and Asia Pacific League Against Rheumatism (APLAR). Guidelines were identified through searches on the society websites, with additional searches through PubMed. Data were extracted into a Microsoft Access database, including the society, year, disease, gender of first and senior author, proportion of women authors from total authors, citations and downloads. When the author's gender was unclear, an internet search using the author's name and institutional affiliation was used to identify individual web pages or online profiles that included a photograph of the individual. If the gender remained unclear, the author's first name was entered into <https://api.genderize.io/?name=> which returns the gender and probability of certainty. Probabilities <0.5 were labelled as 'unknown'.

We identified 50 disease-specific guidelines (15 from ACR, 30 from EULAR, 3 from APLAR and 2 from ACR/EULAR collaborations). Overall, women were first authors of 42% guidelines, and were senior authors of 26% guidelines (table 1). Women were both first and senior authors of 14% guidelines, compared with men, who were both first and senior authors of 46% guidelines. The median percentage of all women authors in any authorship position was 34%, ranging from 13% for a guideline on the diagnosis of gout to 71% for a guideline on the transitional care of young

people with juvenile-onset rheumatic diseases. Women in first authorship positions increased from 30% to 50% guidelines over the last 5 years, while women in senior authorship positions increased from 20% to 30% guidelines. Over this time, the median percentage of all women authors in any authorship position increased from 33% to 37%.

As reported by Dr Adami *et al*, our results confirm a shift towards gender parity for first authors of clinical practice guidelines. However, women remain under-represented in senior authorship positions, as well as the overall percentage of women authors. These findings may reflect the gender disparities in senior academic leadership roles in rheumatology.^{3,4} The included rheumatology guidelines were highly cited (mean citations 267) and downloaded (mean downloads 22 924); thus, participation in development of clinical practice guidelines provides important opportunities for career development and academic prominence. We note the recently established EULAR Task Force on Gender Equity in Academic Rheumatology, and encourage all rheumatology professional societies to prioritise gender equity.

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Table 1 Representation of women as authors of rheumatology clinical practice guidelines

	All (n=50)		2011–2015 (n=20)		2016–2020 (n=30)	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
First author gender, women	21	42 (29 to 56)	6	30 (13 to 52)	15	50 (33 to 68)
Senior author gender, women	13	26 (15 to 39)	4	20 (7 to 42)	9	30 (16 to 48)
First and senior author, women	7	14 (6 to 26)	2	10 (2 to 29)	5	17 (6 to 33)
First and senior author, men	23	46 (33 to 60)	12	60 (38 to 79)	11	37 (21 to 55)
Percentage (%) of women authors from total authors per guideline*, median (range)	34 (13 to 71)		33 (13 to 46)		37 (13 to 71)	

*Calculated from total known author genders. Six papers each included one author with unknown gender.



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