


Authorship diversity in general surgery-related Cochrane systematic reviews: a bibliometric study

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Dear Editor

Despite efforts to address fundamental inequities, surgical residencies lag behind their non-surgical counterparts in attracting women¹. Equity of representation in authorship is an important aspect of evidence-based medicine. This study analysed representation in authorship of general surgery-related Cochrane systematic reviews with respect to gender and country.

Data were collected from the Cochrane Library on 3 September 2022, using the keyword 'general surgery' in an advanced search under the subheading 'All Text'. An online search was used to confirm the gender and country of an author, by discovering a minimum of two web pages (such as LinkedIn, institutional websites, Loop profile, junior editorial profile, and ResearchGate) demonstrating them. The corresponding authors were contacted when deemed necessary.

Some 250 publications that included 1420 authors were included. Four authors had affiliations to two countries. The leading five nations represented in authorship were the UK (562, 39.4 per cent), China (163, 11.5 per cent), Italy (144, 10.1 per cent), Canada (91, 6.4 per cent), and the USA (89, 6.2 per cent) (Fig. 1a).

Syria was the only low-income country that had representation and constituted 0.3 per cent (5 authors). India (8, 0.6 per cent) and Nigeria (2, 0.1 per cent) were the only countries from lower-middle-income groups that had representation.

The male to female ratio in this study was 2.11 : 1 (957 : 453) (Fig. 1b). Gender data for 10 authors could not be retrieved and these were categorized as 'unknown'. There were 169 male (67.3 per cent) and 82 female (32.6 per cent) first authors (gender ratio 2.06 : 1). One study had designated two authors as co-first authors. Eighty-one women constituted 32.4 per cent of all the corresponding authors (male to female gender ratio 2.06 : 1). One article had no corresponding author. One hundred and fifty studies (60 per cent) did not have a female in a lead author (first or corresponding author) position. Fifty-eight studies (23.2 per cent) did not have any female authors, whereas only eight (3.2 per cent) did not have any male authors. In low-income countries, 1 in 5 authors were female. Similarly, in low-middle-income countries, 2 of 10 authors were female. There were no lead female authors

from the low- or low-middle-income countries. Among the high-income countries, 450 of 1395 authors (32.2 per cent) were female. A similar gender gap was present in lead author positions in high-income countries. Among 114 first authors from the UK, only 30 (26.3 per cent) were female. Similarly, there were no women among 21 first and corresponding authors from Italy. Among first authors from the USA, 4 of 14 were female. The temporal trend in female authors is shown in Fig. 1c.

Cochrane reviews are recognized around the world as having among the highest standards in evidence-based medicine. The main reason for this is that Cochrane reviews adopt a common and specific methodology to reduce bias and random error. The main aim of the Cochrane Collaboration is to help healthcare providers, policymakers, and patients and their advocates and carers make well informed decisions about healthcare. There have been articles detailing authorship diversity in Cochrane reviews in various fields^{2,3}, but not much from general surgery.

The present analysis showed that around one-quarter of the articles had no female authors (58, 23.2 per cent), compared with 8 (3.2 per cent) without male authors. This may partly be explained by discrimination through something called disparate impact. This practice, although seemingly very fair from the outside, leads to inequality⁴. Although surgical residencies exhibit a gender gap in comparison to non-surgical residencies, the number of authorship positions taken up by females is small. Increased diversity in leadership can reap benefits, such as improved productivity and clinical outcomes⁵.

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Author contributions

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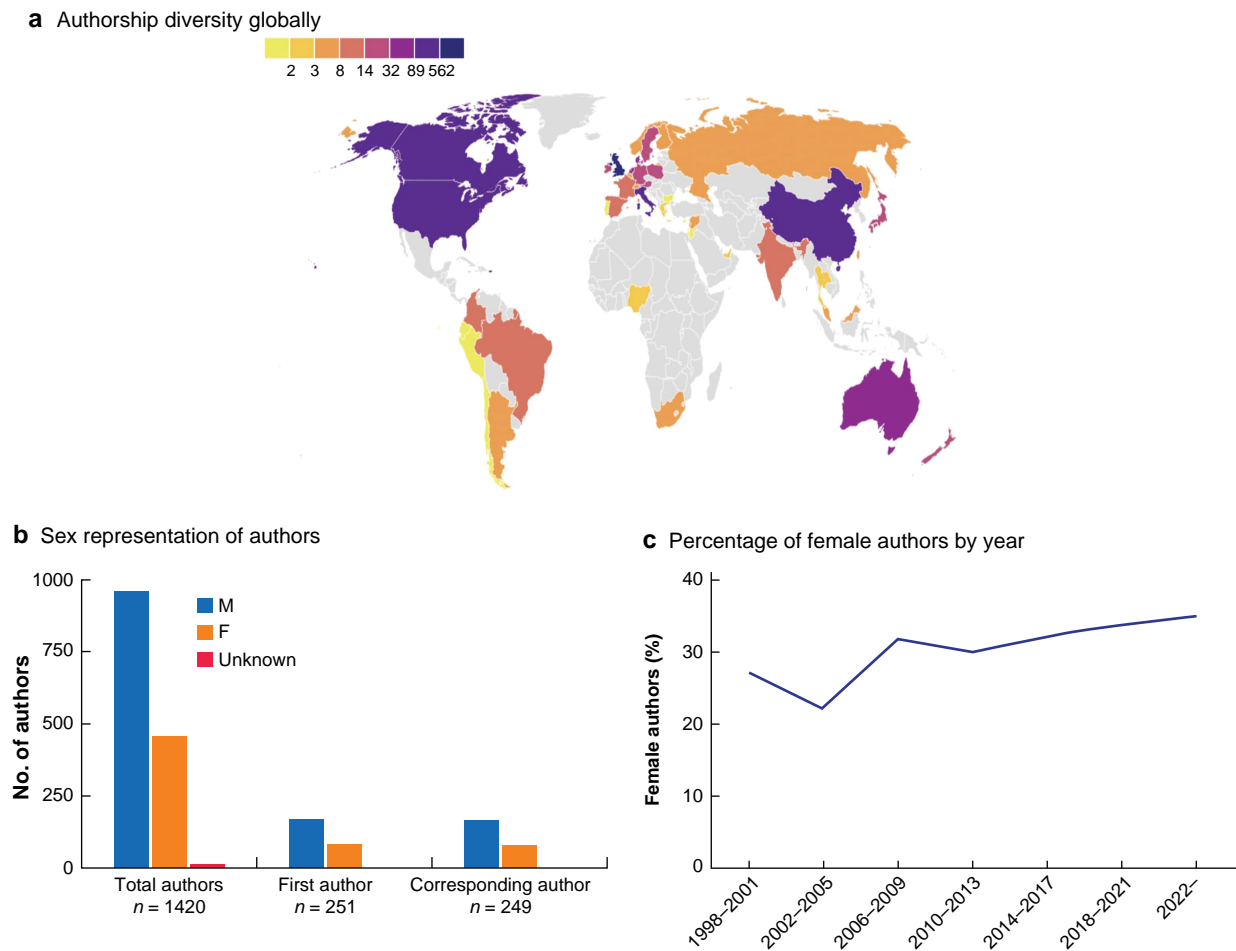


Fig. 1 Authorship diversity in general surgery-related Cochrane systematic reviews

a Choropleth map showing nationwide author contributions in general surgery-related Cochrane systematic reviews, **b** gender representation in authorship, and **c** female authorship trend in general surgery-related Cochrane reviews over time.

(Data curation), Jethin Joseph (Formal analysis), Vincent Kipkorir (Methodology), and Arkadeep Dhali (Conceptualization, Writing—review & editing).

Data availability

Data used in this article will be made available on reasonable request to the corresponding author.

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