Authorship, gender and geography in journals published by the Royal College of Psychiatrists

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Aims and method To determine female authorship of original articles and editorials between January 1997 and December 2008 in the British Journal of Psychiatry and the Psychiatric Bulletin. Editorials from Advances in Psychiatric Treatment and the geographical region of the female first author of original articles were also included in the study.

Results The gender was determined for 99.2% of the 2324 first authors of original articles and 100% of the 614 editorials. The percentage of original articles by female first authors fluctuated over the study period, ranging from 22.5 to 42.1% (mean 33.6) in the British Journal of Psychiatry, and from 25.5 to 46.8% (mean 37.6) in the Psychiatric Bulletin. There was a gross underrepresentation of females as first authors of editorials in all three journals. The percentage of female first authors of original articles from low- and middle-income countries ranged from 0.3 to 3.4% in both the British Journal of Psychiatry and the Psychiatric Bulletin.

Clinical implications There is an increasing trend in female first authorship of original articles. However, females remain underrepresented, especially in editorials, in the British psychiatric journals examined. The representation of female first authors from low- and middle-income countries is disproportionately low. Strategies to address these inequalities should be implemented.

Declaration of interest M.E.O-E. is female.
aimed primarily at promoting continuing professional development in psychiatry. The majority of editorials in all three journals are commissioned, but some are unsolicited. We hypothesised that over this 12-year period the proportion of female authorship would have increased.

**Method**

We examined all original articles and editorials published from January 1997 to December 2008 in the *British Journal of Psychiatry* and the *Psychiatric Bulletin*. Editorials in *Advances in Psychiatric Treatment* for the same period were also included in the study. *British Journal of Psychiatry* supplements were excluded as they cover selected areas and the editorial approach may differ significantly from the norm for the journal. *International Psychiatry*, also published by the Royal College of Psychiatrists, was excluded as it does not cover all of the study period. We determined the gender of the first author of each original article and editorial. Further information was collected regarding the discipline and geographical region, at the time of the publication, of female first authors of original articles.

The gender of the first authors was determined using a wide range of techniques, including personal knowledge, telephone contact, email contact, searching the General Medical Council website and using the Google internet search engine. In cases where the gender of the first author could not be determined, the authors were included in the total number of authors but excluded from the analysis.

We calculated the total number and percentage of articles by female first authors for each year and for each journal. The percentages were calculated based on the total number of authors whose gender was known. All data were collected and entered into a computer spreadsheet (Microsoft Office Excel 2003). We used descriptive statistics and simple linear regression analysis to test for significance with the aid of NCSS (2004) statistical software for Windows.

**Results**

**Female authorship of original articles**

A total of 1480 original articles from the *British Journal of Psychiatry* and 844 original articles from the *Psychiatric Bulletin* were included in this study. We were unable to determine the gender of the first author in 17 articles (1.15%) in the *British Journal of Psychiatry* and in 1 article (0.12%) in the *Psychiatric Bulletin*. Females were first authors of 33.6% of articles in the *British Journal of Psychiatry* and 37.6% of articles in the *Psychiatric Bulletin* published during the study period.

The percentage of articles with female first authors in the *British Journal of Psychiatry* showed a statistically significant increasing trend \( (P = 0.0128) \) over time (Fig. 1). The lowest female authorship contribution to the *British Journal of Psychiatry* was in 2002, with 22.5%, while the highest was in 2005, with 42.1%.

In the *Psychiatric Bulletin*, the lowest female author contribution was in 2005, with 25.5%; contributions in other years were consistently over 30%, with the highest contribution of 46.8% achieved in 2004. There was no statistically significant increase \( (P = 0.85) \) in female first author contributions to the *Psychiatric Bulletin* during the study period (Fig. 2).

Female psychiatrists were responsible for almost half (225/492; 45.7%) of female first authors’ contributions to the *British Journal of Psychiatry* and almost three-quarters (232/317; 73.2%) of female first authors’ contributions to the *Psychiatric Bulletin*. The other authors were female researchers with an educational background in psychology, epidemiology, public health, pharmacy, nursing, sociology, health economics, statistics or health administration, and a small number of unknown professions. Some of these researchers hold positions as senior research fellows, readers and professors. Analysis of female first authors of original articles with regard to their geographical region is presented in Table 1.

**Authorship of editorials**

We determined the gender of all the first authors of the 614 editorials in all three journals. Female first authors contributed 75 of a total of 356 editorials (21.1%) published in the *British Journal of Psychiatry* and 30 of 193 editorials (15.5%) in the *Psychiatric Bulletin*. Female first authors’
editorial contributions to Advances in Psychiatric Treatment occurred in only 6 of the 12 years studied, making a total of 9 of 65 editorials (13.8%).

Discussion

In this study, we focused specifically on the trend of first female authorship in the journals of the Royal College of Psychiatrists. The significant increase in women’s contributions to the British Journal of Psychiatry mirrored what has been reported in a study by Alonso-Arroyo et al. Similar increases have also been reported in journals of epidemiology, intellectual disability (mental retardation) and surgery. This could reflect an increase in the number of original articles being submitted by females or a higher acceptance rate of articles by females for publication, or a combination of both factors. However, women appeared underrepresented as first authors in both the British Journal of Psychiatry (33.6%) and the Psychiatric Bulletin (37.6%), accounting for about a third of all original articles published over the 12-year study period.

We did not investigate the underlying causes of these gender discrepancies in authorship; however, several studies have explored and discussed reasons for the low proportion of female authorship in scientific journals, including a lower rate of acquiring research grants, family commitments (in particular child-rearing), and personal career choices, especially with women devoting more of their time to teaching and clinical activities than to research. Although a number of these factors have not been investigated well, a Swedish study published in Nature in 1997 provided strong evidence of gender discrimination, showing that women in Sweden needed to be two and a half times more productive in terms of publications than their male counterparts to get the same rating for scientific competence. This is particularly interesting, as this was at the same time that the United Nations officially ranked Sweden as the country that performed best worldwide in terms of gender equality. This apparent discrimination may in turn affect opportunities for research grants, publication and academic progression. Yedidia & Bickel suggested that gender inequities often occur early in the academic training process and affect career trajectory and, ultimately, the gender distribution and skill mix of the health workforce.

First authors of editorials

Female underrepresentation was more marked in editorial contributions, where women contributed just one or at most two of every ten editorials published. This significant gender difference in editorial contributions was found in all three journals. This raises concerns regarding the process of editorial selection and publication. Jagsi et al suggested that the low percentage of female editorial contributors in their study may indicate that there is a limited pool of women who have achieved sufficient international recognition and expertise to merit these invitations. It is, however, difficult to argue that this could account for female first authors producing only 13.8% of editorials in Advances in Psychiatric Treatment. The fact that there was no editorial by a female first author for 6 of the 12 years studied is of particular concern. This would suggest the importance of further investigation into the likely causes of this finding.

Geographical region of female first authors

Our study found that the British Journal of Psychiatry (38.6%) had higher international female authorship representation than the Psychiatric Bulletin (4.1%). This, in our view, reflects the high impact factor and listing in international journal databases of the long-established British Journal of Psychiatry. The Psychiatric Bulletin appears to provide an opportunity for UK authors to publish, and George et al reported that it is more trainee friendly. We also noted the high proportion of original articles by international authors from Europe and North America (mainly high-income countries) compared with those from low-income countries. There could be several reasons for this interesting finding, but this study did not investigate the possible causes. However, Patel & Kim reported that authors from high-income countries have a higher submission rate and their articles are more likely to be accepted than authors from low- and middle-income countries.

Conclusions

Our study shows that women made significant contributions to published psychiatric research over the study period. However, there is evidence of significant underrepresentation of female first authors in editorials published in the British Journal of Psychiatry.
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