

Guest Editorial

Changing trends toward women authorships in ophthalmology journals

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It is said that ophthalmology in current times is a 'women's specialty branch' and that the number of women in ophthalmology has increased at a very rapid pace, and soon, this balance will shift toward more women in ophthalmology compared to men.

The number of women in ophthalmology is increasing at a more rapid pace than men. A recent study in Women in Ophthalmology found that globally, 25–30% of ophthalmologists and 35–45% of ophthalmology trainees are now women.^[1] Moreover, this is showing an increasing trend. Another study in Nepal found that 46% of ophthalmologists in Nepal are females. A workforce census conducted by the Royal College of Ophthalmologists in New Zealand and Australia in 2018 showed that 69% of the consultant workforce is male and 31% female.^[2] In 2016, 21% of Australian and New Zealand ophthalmologists and 35% of ophthalmology trainees were female.

A US-based study found that out of a total of 12,844 board-certified ophthalmologists, nearly half (47%) reported a subspecialty as their primary practice area, of whom the majority were male (65%). In the first decade, men outnumbered women reporting subspecialty practices by more than 2:1. Over time, the number of women subspecialists increased, whereas the number of men remained stable, such that by 2020 women comprised almost half of new American board of ophthalmologists (ABO) diplomates reporting subspecialty practice. When all subspecialists were compared within gender, there was not a significant difference between the percentage of male (46%) and female (48%) ophthalmologists reporting a subspecialty practice.^[3]

In India, the data of all India ophthalmological society members revealed that the numbers of men versus women ophthalmologists members are currently 1:1, though, before 2014, it was 2:1 in favour of men and, currently, in the past decade, it is 2: 1 in favour of females.

The point to ponder is that has the authorship of women in ophthalmology in journals increased at a similar pace? Literature shows that as far as leadership and authorship are concerned, women's ophthalmologist numbers have grown but not at the pace that they should have been. Both leadership and authorship generally go hand in hand (though this may not always be a rule), as leaders tend to be leaders in their organisations or institutions, leaders tend to be Chairs in panels as they are authorities in their fields, and leaders tend to be in societies as executive and board members and hence tend to be more academically involved.

Literature has shown that over the past decade the proportion of women as authors and as senior authors has increased significantly. One cross-sectional study investigated the proportion of female authorship in editorials published between 2005–2009 and 2015–2019 in three journals: Ophthalmology, Journal of American Medical Association (JAMA) Ophthalmology, and American Journal of Ophthalmology. It found that the proportion of female senior authors increased by 68.0% between 2005–2009 and 2015–2019, but female authors represented only 25.5% of editorialists.^[4] Studies have also found a positive correlation between senior authors and first authors, indicating that there is a greater tendency for women to be first authors if the senior author is a woman. The chances of a female as a first author have been found to be 1.89 times higher if the senior author was a woman ophthalmologist; this can be because either they were more comfortable with a woman as a senior author or senior authors tended to give more opportunities junior to women researchers.

Another interesting fact that some studies have found is that the number of women on editorial boards has increased, and female authorship has been found to be significantly higher in journals where the editorial board's important positions are of women ophthalmologists. There are regional differences,

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as per the study by Park *et al.*^[5]. In North America, the proportion of women editors was 23%, whereas, in India, we conducted a survey in 2022 and found that this number remains extremely low, that is, 9.5%.^[6]

A study of women's authorship of reviews in ophthalmology journals revealed that over the past 20 years, women as authors have significantly increased (first authors 19–44% and senior last-named authors 16–29%), but they are still lagging behind men (in 2019 more than 55% of first authors and more than 70% of senior authors were men).^[7] Review articles are different from original articles because, as a general norm, review articles are invited by the editor or an editorial board member. This invitation is generally given to a researcher who is an expert in their field, and in review articles, by convention, the senior author is last named; this may not be so in original articles. Keeping this convention in mind, 2019 data revealed that 77% of senior authors (last named) for review articles were men, indicating the gender gap that still exists and needs to be closed.

Reasons for the gender gap in authorship need to be identified and analysed. One of the major reasons seems to be time constraints for women ophthalmologists where they find it challenging to balance personal and professional life and, in this process, they give research publication a low priority as compared to the clinical work. A survey conducted in India highlighted this fact. As per the survey, the majority of the women believed that their most desirous result in ophthalmology is patient satisfaction ($n = 274$, 52.2%), followed by surgical joy ($n = 208$, 39.6%), with lesser preference for clinical research ($n = 18$, 3.4%), fame and progress ($n = 16$, 3.0%), conferences and presentations ($n = 6$, 1.1%) and monetary benefit ($n = 3$, 0.6%). Although a significant number of women ophthalmologists showed an interest in research if given an opportunity, the preference was only after clinical work satisfaction and after there was enough time to do so.^[3] One major barrier seems to be isolation, in which they are unable to do work related to research and publications.

Another reason, as is evident from studies, is that the number of fewer invitations may be due to gender bias and the mindset that they may be short of time due to their multiple responsibilities. More so, they are less comfortable with men as senior authors, or senior authors may be less comfortable with junior women ophthalmologists as first authors.

It is time to take the initiative to close this gap as part of these initiatives, research and publication teaching sessions can

be carried out to familiarise women ophthalmologists more about how to write a publication. Giving more opportunities to keep the gender gap in mind would help in addressing this issue. Men ophthalmologists, if made aware of this gap, could be encouraged to take women ophthalmologists as first authors. Special issues of women authors, like this one, are a welcome initiative that will go a long way in addressing this gap. While forming editorial boards, diversity needs to be an important point to consider promoting more women in editorial boards, which, in turn, would promote a greater number of publications by women ophthalmologists, as is evident from the literature. A new initiative toward optimum utilisation of resources and time could be in this 'work from home' era that women be involved in authorship during mandatory inevitable breaks in their career or when they want to work outside the home for a lesser number of hours so that they remain involved in their profession from home and simultaneously contribute to ophthalmology along with moving toward equal representation; this would be a very optimum utilisation of a resource that was otherwise getting not utilised.

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