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EDITORIAL

rpth research & practice in thrombosis & haemostasis

Gender gap in women authors is not worse during COVID-19 pandemic: Results from *Research and Practice in Thrombosis and Haemostasis*

Scientific discovery and dissemination has radically transformed during the coronavirus disease 2019 (COVID-19) pandemic. For COVID-19 research, this includes rapid research funding opportunities with streamlined application processes, self-funded research, fast-tracked clinical trials, and research studies being completed in a fraction of the normal time. Unfortunately, the downside has been complete closure of research laboratories and stoppage of clinical trials not related to COVID-19. Hematologists and scientists in the thrombosis, hemostasis, and vascular biology fields are front and center in this science owing to the sinister coagulopathy associated with severe acute respiratory syndrome coronavirus 2 infection.[1] At *Research and Practice in Thrombosis and Haemostasis* (*RPTH*), we instituted measures to ease author stress during the pandemic, and to provide rapid dissemination of scientific and clinical information.[2] This includes science related to COVID-19 and our "usual" science. For COVID-19–related science, we commissioned and also considered several uncommissioned Forum articles that presented hypotheses about COVID-19 treatment strategies. We waived open access publication fees for articles about COVID-19. We encouraged reviewers to refrain from proposing unnecessary revisions requiring extra laboratory or clinical experimentation. At the time of the writing of this editorial, laboratory researchers are either sequestered at home working remotely or are beginning the gradual transition back to laboratories. Many clinician scientists have been assigned more patient care time. There is great uncertainty as we face the possibility of future waves of infection that may again reduce time spent in research. In light of this, it is important to consider the impact on science productivity and career advancement, and there are myriad factors to consider.

RPTH has committed to gender equity in scientific publishing.[3,4] Since COVID-19 has been accompanied by school closures, a hypothesis may be made that the demands of supervising children while working at home impact women disproportionately to men. Also, women may have disproportionate responsibility for household chores during this time. This might lead to less scientific productivity among women compared to men at this time.

One report (first-authored by a man and senior-authored by a woman) examined US researchers publishing on COVID-19–related science in 2020, as compared to 2019 articles published in the same journals as COVID-19 articles.[5] Authors observed a 23% decline in first-authorship by women for COVID-19 papers compared to overall papers published in 2019. Last-authorship was 16% lower, and these declines were greatest in infectious diseases, radiology, pathology, and public health. The authors did not report findings for hematology.

To examine these findings further, we tabulated author gender for *RPTH* manuscripts submitted or resubmitted between March 1, 2020, and May 21, 2020, to reflect a window of time where stay-at-home orders were active in different parts of the world. We compared gender distribution of first and corresponding authors to the same time period in 2019. Each article was counted only once, and gender was determined by author self-report in our manuscript handling system. In 2019, there were 15 articles submitted or resubmitted, compared to 74 in 2020, supporting increasing popularity of the journal but also a massive rise that might be attributable to curtailed travel and improved writing productivity.

Figure 1 illustrates results. In 2019, 33.3% of first authors were women, and 40.0% of corresponding authors were women. In 2020, 35.1% of first authors were women, and 37.8% of corresponding authors were women. There was 1 author in 2019 and 2 authors in 2020 (with typically male names) who preferred not to report gender and were included in the denominators. Among 23 COVID-19–related articles (7 invited), 21.7% of first authors and 30.4% of senior authors were women, perhaps reflecting less flexibility of women to respond with new research during the pandemic or a more cautious approach to publishing among women. In a previous report of *RPTH* data from October 2018 to July 2019 among published articles in RPTH, 38% of corresponding authors and 52% of first authors were women.[4]

To summarize the above results, the COVID-19 stay-at-home months did not result in a reduction of women authors participating in publishing in RPTH. Results differ from the recent report addressing COVID-19 articles with a much larger sample that did not address hematology publishing.[5] Our smaller sample of COVID-19 articles

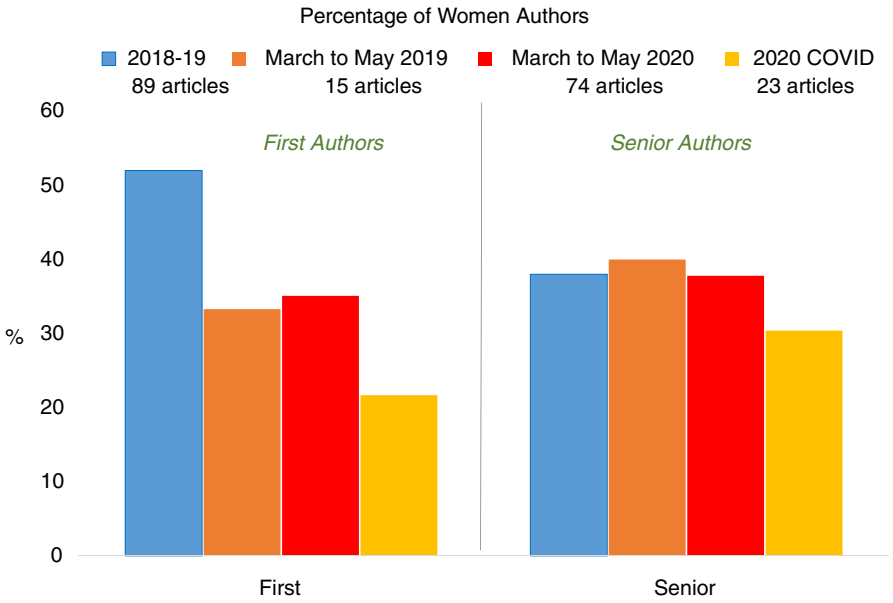

FIGURE 1 Author gender for published articles in 2018-19 (blue), submitted articles during March-May in 2019 (orange) and 2020 (red), and COVID-19–related articles in 2020 (yellow)

cannot rule out lower activity of women authors conducting new science on COVID-19, especially first authors. While women *RPTH* authors were less common during the stay-at-home months than for the entire 2018-19 publishing year, the percentage did not differ from the same months in 2019, suggesting a hypothesis that women submit less during this time of the year.

RPTH continues to track gender authorship and will regularly report this to the research community. We call on other journals to report their gender representation.

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REFERENCES

1. Bikdeli B, Madhavan MV, Jimenez D, Chuich T, Dreyfus I, Driggin E, et al. COVID-19 and thrombotic or thromboembolic disease: implications for prevention, antithrombotic therapy, and follow-up. J Am Coll Cardiol. 2020;75 2950–73. https://doi.org/10.1016/j.jacc.2020.04.031
2. Cushman M. Publishing in the COVID era. Res Pract Thromb Haemost. 2020;4:438.
3. Cushman M. Diversity and inclusion in a new medical journal: Advancing science in the 21st century. Res Pract Thromb Haemost. 2018;2:620–1.
4. Cushman M. #WomenInMedicine: Progress in gender equity at research and practice in thrombosis and haemostasis. Res Pract Thromb Haemost. 2019;3:560–2.
5. Andersen JP, Nielsen MW, Simone NL, Lewiss RE, Reshma J. Meta-research: is COVID-19 amplifying the authorship gender gap in the medical literature. arXivorg, 2020.