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A threat to research integrity:

A mapping overview of studies assessing predatory journals and conferences within the biomedical sciences

Introduction and objective

Predatory journals and conferences (PJ and PC) exploit the open-access model for profit, disregarding scientific standards [1]. This undermines well-conducted science [2] and can therefore threaten scientific integrity.

The **objective** was to map the results of reviews assessing PJ and PC within the biomedical sciences focusing on methodologies used and characteristics of PJ and PC identified by reviews.

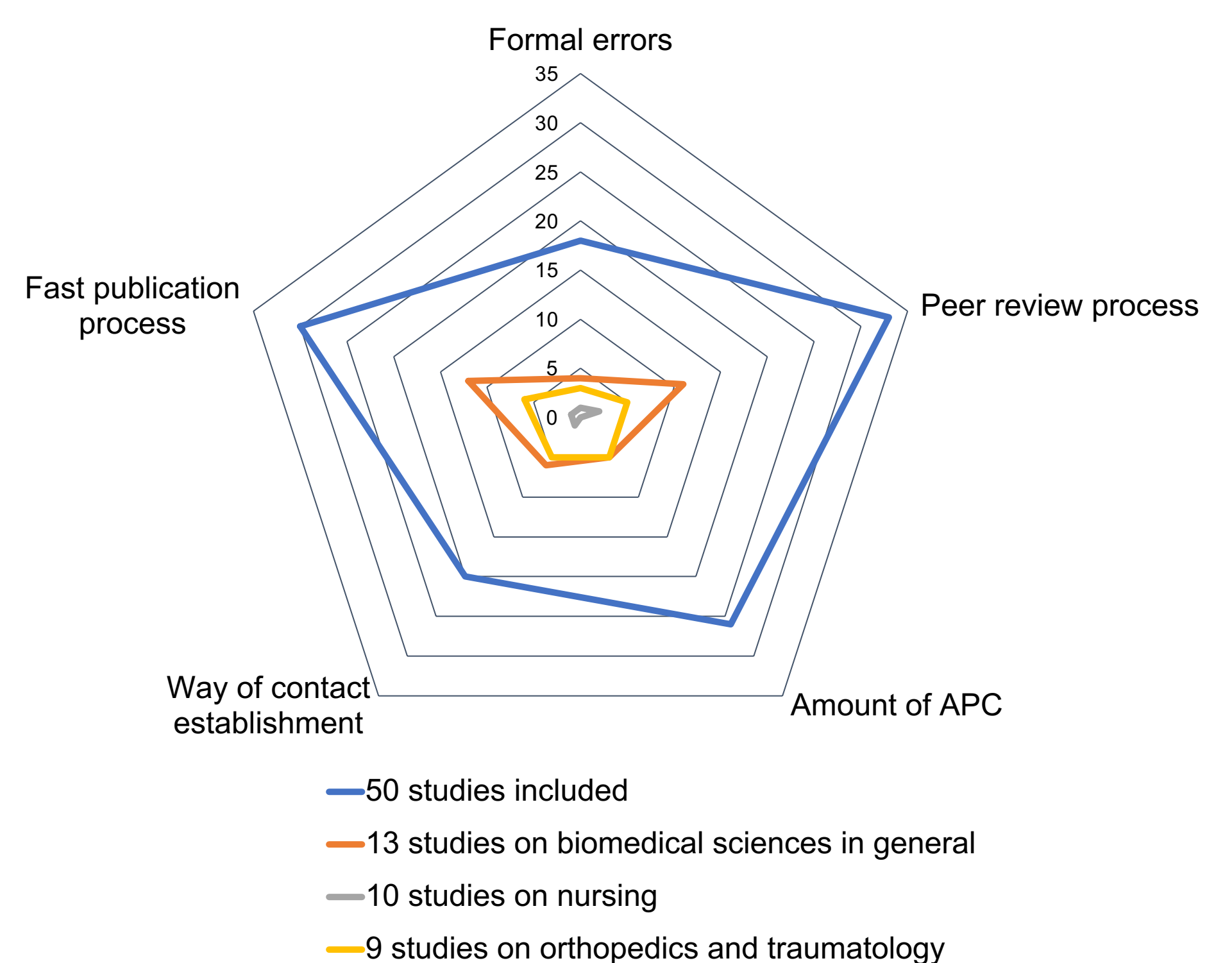
Methods

A literature search was performed on January 18, 2023, using three major databases PubMed, Web of Science and Scopus. Relevant articles were selected. Using a standardized data extraction table, information on the methodology of the reviews was investigated using items of the AMSTAR-2 [3] checklist and the advice of the Cochrane Handbook for Systematic Reviews of Interventions (chapter 1.5 and 5.5.3) [4].

Results

The initial search led to 1,148 unique results. After the **selection process**, 49 articles on PJ and one on PC were included. Concerning the **characteristics of the studies included**, most first authors of the reviews were from North America (19/50). Studies on PJ and PC were first published in 2015. More than four-fifths of the studies were published from 2018 onwards. Overall, 14 different biomedical disciplines were investigated. Uncommon approaches towards characteristics were made by five studies that assessed the physical address of the headquarter of predators. Two studies stated they fear legal consequences and therefore did not report names of presumed PJ. Concerning **methodology**, the median of databases assessed was 2 (IQR 2-4). Nearly half of the studies used Beall's list to identify predatory journals. None of the studies met all suggested criteria, 28 studies did not meet any of the suggested criteria. Around 40 studies did not meet the suggestions concerning the selection and extraction process respectively.

Five most analysed characteristics of PJ and PC by 50 studies assessed



Conclusion

The number and quality of review-type studies on predatory journals is rather low. More well-conducted, non-empirical studies are needed to develop strategies to identify predatory practices and keep informed in the face of rapid change.

[1] Grudniewicz A, Moher D, Cobey KD, et al (2019) Predatory Journals: No Definition, No Defence. Nature 576:210–212

[2] Maurer E, Walter N, Histing T, Anastasopoulou L, El Khassawna T, Wenzel L, Alt V, Rupp M (2021) Awareness of Predatory Journals and Open Access Publishing Among Orthopaedic and Trauma Surgeons - Results from an Online Survey in Germany. BMC Musculoskelet Disord 22:365

[3] Shea BJ, Reeves BC, Wells G, et al (2017) AMSTAR 2: A Critical Appraisal Tool for Systematic Reviews That Include Randomised or Non-Randomised Studies of Healthcare Interventions, or Both. BMJ j4008

[4] Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (2022) Cochrane Handbook for Systematic Reviews of Interventions Version 6.3 (updated February 2022). Cochrane, 2022. www.training.cochrane.org/handbook