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EDITORIAL

Authorship and institutional affiliation are two determining factors for the correct identification and recovery of the intellectual production of a researcher in the different databases. It is a key ethical issue to define the authors and the order in which they appear in scientific articles or manuscripts. Failure to determine authorship before or during the development of the research may cause conflicts among those responsible for a publication. Commonly, the definition of the first author (or "main author") and collaborators (co-authors), and their order in a publication, considers criteria established by leading researchers, and involves a lot of subjectivity [1].

Defining authorship in scientific articles is fundamental, although it is not given due importance in most cases. The definition of authorship in articles on scientific research faces severe problems due to the lack of criteria on who can and should be the author and on the recognition of the participation of people other than the authors in the research work. Many external factors contribute to the fact that the various sets of criteria that have been proposed are not widely accepted or met. Some of them include the pressure to publish for academic promotion, the practice of crediting with authorship those who have partially collaborated in a study, the use of the name of one or more people to facilitate publication, and the lack of initial agreement among researchers on fundamental aspects of authorship [2].

Some editors consider that the definition of authorship is vital to increase the integrity and credibility of the journal's content. For this reason, indexed journals have tried to establish standard criteria to qualify an individual, including the name as an author; however, a consensus has not yet been reached on the definition of an author, although there are important qualitative guidelines and principles for solving this problem. One of the difficulties for the collaboration of national, international, and interdisciplinary projects, lies in the disagreements among researchers and various disciplines on applying the existing qualitative guidelines to define authorship credits in emerging publications [3].

In one of its guidelines, very significantly titled How to handle authorship disputes: a guide for new researchers, The Committee on Publication Ethics (COPE) clearly identifies three conditions to be considered an author in a very concrete and extraordinary single sentence because it is difficult to express more with fewer words. Its origin is in the norms of the world of biomedical publications, and it is one of the most repeated phrases in the guides regarding the subject: "Authorship credit should be based only on: (1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; (2) drafting the article or revising it critically for important intellectual content; and (3) final approval of the version to be published.
Next, and to clear up any doubts, they indicate "conditions (1), (2), and (3) must all be met". Most importantly, these standards act as both inclusion and NO exclusion criteria to prevent the attribution of false authors or the exclusion of real authors. In summary, this is what might be avoided [4]:

- Denial of authorship: the author is completely deprived of the authorship rights, without giving due credit to people who have made sufficient contributions.
- Honorary authorship: authorship to someone who has not made sufficient contribution
- A moral hazard, namely, the non-assumption of responsibilities by the authors in the case that once published, the work receives criticism.

Contribution in scientific articles

The COPE standards consider that, since an article is the result of research or previous academic work, there are two dimensions to consider in the contributions to an article: i) research: in this dimension are the contributions that can be developed a) in the research design, b) in the acquisition or c) in the analysis and interpretation of the data and ii) the article itself: in this other dimension are the contributions that can be made d) in the draft of the article or e) in the critical review in very significant aspects.

From here, the COPE standards consider that substantial or critical contributions are necessary for both dimensions. Therefore, an observation, a comment, or a mere exchange of opinions, for example, is not enough to deserve authorship. Furthermore, it is not enough to contribute to one of the two dimensions, even in a substantial way. It must consist of a contribution to both: research + article.

There is also an additional condition: the co-authors must have given their approval to the final version of the article before sending it for publication. The most important thing is that, in the first dimension, research, the COPE recommendation uses an "or", which is why it does not require that the contribution is in all aspects of this section. In this sense, Authorship credit should be based on (1) to "the conception and design" or (2)

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to "the acquisition of data" or (3) to its "analysis and interpretation".

Accordingly, who can and who cannot be a co-author? It would be just as unethical to leave out of co-authorship someone who only participated in the conception and design, as someone who only participated in the acquisition of data, as long as they also participated in some of the following points. Such contribution, in any case, must be substantial.

Regarding the contributions to the article, the COPE points out a similar case with another interesting "or". It indicates that the author either (1) has contributed to the writing of the article (most obvious case) or (2) has revised it. The first case does not need much clarification: contributing to the writing seems most justifiable for a co-authorship (if they have also participated in the first dimension). In the case of revision, what it says is that just any revision is not enough. It requires that the contribution consisted of a critical review on very significant aspects.

Considering Moral Hazard, this condition indicates that, once the article is published, if there is a problem, for example, criticism of its validity or, in the worst case, an accusation of plagiarism or bad practices, none of the co-authors can be considered safe from them. If we are willing to obtain the benefits of co-authorship, we must also be prepared to take on potential problems. And in this case, the problems affect all authors. Responsibility cannot be avoided.

This case of (false) reasoning is exactly what point 3 of the COPE rules expressly prohibits. In this way, publishers (and the public) hope that, as authors, contributions are taken seriously, precisely because we are not supposed to want our name to be associated with failure. When someone does not satisfy the preconditions, a good practice could be: a) acknowledge their contribution in the acknowledgments section; b) cite any of their publications as long as it is directly related to the article and ideas from it have been used and cited; c) both. But what is clear is that this collaborator cannot be added as a co-author [4].

Regarding the order of the authors in scientific articles and the meaning of each position, the COPE standards indicate the following: Editors and evaluation agencies (and the general public) interpret that the first author is the researcher who carried out the main contribution to the article. This is also a common-sense interpretation. There is also a little more diversity when interpreting the position of the other authors. The most common (and no less intuitive) interpretation is to consider that the order of authors should reflect the declining importance of their contribution. This approach is known as the SDC approach, due to the expression sequence-determines-credit [5]. Another common variation, which makes sense in the context of evaluations of scientific activity, is one that considers the first and last authors of equal importance. In this case, between the first and the last author, the sequence is considered to indicate decreasing contributions. It is known as the FLAE approach, from the expression first-last-author-emphasis [5]. Less frequently, the option of appearing in alphabetical order, in which case the convention of considering the contributions of all authors equivalent, is adopted. This alphabetical order can affect all positions or only from the second. In this case, the pre-eminence of the first author is maintained, and from the second, it is considered that all contributions have had the same importance.

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