



ICMJE criteria for authorship: why the criticisms are not justified?

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Authorship in scientific publications denotes creator of an original idea or a significant intellectual contributor and is a matter of pride as well as responsibility. There are no authorship guidelines that are set in stone. Still, several recommendations are available from global bodies (ICMJE, COPE) publishers or institutional guidelines (National Institute of Health [NIH], Harvard Medical School). The fundamental spirit of each of these bodies is to ensure ethics in scientific publications, promote due credit to deserving individuals, and discourage inappropriate authorship.

International Committee of Medical Journal Editors (ICMJE) first published the uniform reporting of manuscripts (URM's) in 1978. It has since been revised regularly with several incorporations to expand the scope of their recommendations to include all significant aspects of scientific publications. ICMJE guidelines are more popular than others, and numerous biomedical journals use them. With regard to the authorship criteria, there are clear ICMJE guidelines. For one to be eligible for an authorship, all of the following four criteria must be met [1]:

- (1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- (2) Drafting the work or revising it critically for important intellectual content; AND
- (3) Final approval of the version to be published; AND
- (4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. [1]

ICMJE guidelines are also clear on what does not qualify someone as a contributor for authorship, although it may be necessary for a research work. Examples of such standalone activities include funding acquisition, general administrative support, general supervision of a research group, assistance with writing and technical editing, language editing, and proofreading. Several journals also have a mandatory requirement of contributorship statements that reflects the contribution of each author.

What are the contentious issues then [2–5]? Why do some researchers feel that ICMJE allows practices that it was designed to prevent [2–4]? This editorial will address several such issues.

The first criticism is that ICMJE expects all authors to be familiar with the work of others involved in the project and to be able to identify who contributed what. The argument is that this may not always be feasible in multicentric collaborations or multidisciplinary collaborations, in case of which, it may be challenging to know the details of the co-authors' work. This argument appears to be flawed since the ICMJE clearly emphasizes that apart from the accountability for their contributions, the authors should be able to identify which co-authors' have contribute to which specific areas of the study. This in no way means complete technical details or entire details of the co-author's scientific work. It means being aware of what segments of the manuscript have been contributed by each of the co-authors. Is this too much to ask for? Not at all, when one is about to embark on a serious mission of a scientific publication.

The second criticism is that ICMJE guidelines deny authorship to individuals who may have intellectually contributed conception or data acquisition and analysis, if they do not provide final approval (criteria 3) or get involved with drafting or critically reviewing the manuscript (criteria 2). This argument does not hold much ground since ICMJE does not objectively define or measure the criteria terms 'significant' and 'critical', and rightly so. The decision to assess these objectively squarely lies with the authors themselves. The criticism is also flawed since ICMJE has clearly stated [1]:

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“The criteria are not intended for use as a means to disqualify colleagues from authorship who otherwise meet authorship criteria by denying them the opportunity to meet criterion #s 2 or 3. Therefore, all individuals who meet the first criterion should have the opportunity to participate in the review, drafting, and final approval of the manuscript”. [1]

There are several benefits of following all the four criteria and can quickly become a simple habit for serious researchers. It promotes accountability for every author on the by-line. The juniors would learn to contribute more, right from their early careers, and the level of overall research would be enhanced.

The third criticism is that although ICMJE explicitly bans ‘ghost authorship’, its strict criteria promote it. This issue needs further analysis. Ghost authorship refers to the practice of not recognizing substantial intellectual contributions to the research work. It also refers to the practice of academic researchers publishing papers in their name even though someone else may have written it, for example, specific research work driven by the pharmaceutical industry. This is a common argument against ICMJE, and its strict criteria are held responsible for it. There is a general consensus that ghost authorship is unethical. To attribute this to ICMJE’s criteria would be arbitrary. This kind of authorship has to do more with scientific misconduct and vested interest. For argument sake, even if the ICMJE criteria were lax, it would be difficult to comprehend or prove how a researcher with an unethical bend of mind would have resisted his vested interests. To hold ICMJE’s criteria accountable for a deliberate deception would not be correct. Besides, ICMJE is a body that only recommends the highest possible standards and does not attempt to enforce them, as it is not practical and beyond its mandate.

The fourth criticism is that awareness of ICMJE criteria is not high in the scientific community, and many researchers disagree with the essential nature of all the four criteria for authorship. Although this argument has some ground to stand upon, based on the literature, it cannot be held against ICMJE, which advocates widespread dissemination of its guidelines for not for profit and educational purposes without regard for copyright. The responsibility of awareness also lies with individual scientific communities, publishers, and institutions, whose interests equally lie in promoting ethical research. The concept behind the essential nature of the criteria is already addressed in the response to second criticism.

The fifth criticism is that ICMJE confuses authorship criteria and ethical aspects and believes that all would behave well if they know the right criteria. This is not a good argument. ICMJE acknowledges the existence of scientific misconduct and refers to the COPE guidelines in dealing with its various aspects. To attribute promotion of scientific misconduct, or lack of punishments for it thereof, to strict ICMJE criteria is deplorable.

Although there is a considerable overlap between ICMJE and NIH, there may be scope for ICMJE to expand its criteria to include more distinct roles and responsibilities lucidly. However, it is essential to realize that monitoring or enforcing the guidelines is outside the purview of ICMJE or, for that matter, even for the journals and their editors. Ensuring adherence to the standard guidelines and ethical scientific research rests entirely with the authors themselves.

In conclusion, the criticisms of ICMJE have been unduly harsh and do not merit an overhauling of its guidelines. It is the unethical behaviours and factors influencing it that need to be targeted.

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Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

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