Original Article

Authors' awareness of concepts in the authorship of scientific publications: Viewpoints of the dental faculty in India

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ABSTRACT

Background: There is a great deal of enthusiasm amongst the contemporary dental academicians and researchers to publish their research findings and interesting cases. The competitive atmosphere has fostered a 'publish or perish' sentiment following which authors sideline certain essential and valid concepts in authorship and at times resort to unethical behavior knowingly or unknowingly to expand their publication list.

Materials and method: We attempted to assess the current knowledge of the Indian dental teaching faculty regarding some important basic concepts in scientific authorship by means of a questionnaire-based pilot study. The respondents were asked questions pertaining to their knowledge of terms such as "authorship criteria", "conflict of interest", "plagiarism", and other authorship issues.

Results: Our findings suggested significant lacunae regarding the authors' understanding of important basic concepts in scientific writing.

Conclusion: We suggest possible measures to address this concern and also aim to survey a larger section of the academia in the future.

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1. Introduction

The truthful publication and dissemination of scientific literature depends immensely on the conviction readers place in the credibility of the authors.¹ Any ignorance and misconduct on behalf of the authors as it relates to the vital concepts in scientific authorship not only dilutes his/her integrity but undermines the overall quality of the scientific literature published.² In a competitive atmosphere today, when everyone is vying to achieve progressively on the publication front, authors often hurry through the 'instruction to authors section' and do not pay enough heed to familiarize themselves with actual norms and expected standards in scientific publishing. Additionally, there exists the menace of possible publication misconduct such as plagiarism, non-legitimate authorship, and redundant publications.³ For an author to not indulge in any such malpractice, it is imperative to first be aware of the authentic concepts in publication and desired moral behavior. Keeping in mind this backdrop, we designed this questionnaire-based pilot study to gauge the awareness of dental faculty regarding the basic concepts in the authorship of scientific publications.

2. Materials and methods

100 respondents for the study were chosen by participative, convenience sampling from teaching faculty of dental schools in central and south India. The study protocol was approved by the institutional ethical board. The study questionnaire was sent to the participants by email/sharing a weblink. The respondents were requested to complete an online questionnaire comprising of ten multiple choice questions regarding the basic concepts in authorship of scientific publications. Box 1 shows the sample questionnaire with the details of questions and options. The results were analyzed using the SPSS software version 21.

3. Results and discussion

3.1. Respondents

The questionnaire was sent to a total of 100 participants. Out of this, 82 respondents reverted back. 72 responses were complete whereas 10 responses were partial making the completion rate of the study 88%. 37% participants had an academic teaching experience of 0–4 years, 49% participants belonged to 4–9 years experience group whereas 14% had an academic teaching experience of more than 9 years. 95% respondents agreed to have published articles in national/international journals pertaining to

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Box 1. Questionnaire Performa**1. What is your academic teaching experience?**

- 0–4 years
- 4–9 years
- More than 9 years

2. Do you have publications in national/international journals? Yes/No

If yes please state the number.

3. What according to you constitute the authorship criteria for a scientific publication?

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work
- Drafting the work or revising it critically for important intellectual content
- Final approval of the version to be published
- 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.
- Any one of the above
- All of the above

4. Conflict of interest means

- Affiliations with or involvement in any organization or entity with any financial interest.
- Non-financial interest
- Both of the above
- None of the above

5. Have you heard of the term 'plagiarism'? Yes/No**6. Have you heard of the term ghost authorship? Yes/No****7. Have you heard of the term gift authorship? Yes/No****8. If your answer to the question 7 is yes, please select the reasons you think are responsible for gift authorship?**

- Pleasing a senior
- Mutual understanding with a colleague to swell up your publication list
- Both of the above
- Any other, please specify.

9. Have you heard of the term redundant literature? Yes/No**10. Have you heard of ICMJE recommendations and COPE guidelines for scientific publications? Yes/No**

- 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.

It is expected that all the Authors should compulsively meet each criterion listed above.⁴ 66% respondents agreed that all of the above criteria must be met with for awarding authorship whereas 10% believed any one of the criterion would suffice and the remaining respondents (24%) chose a single specific criterion only. It could be inferred that a substantial fraction were either ignorant or misinformed about the authorship criteria. Flanagan and colleagues have noted, "Authorship establishes accountability, responsibility, and credit for scientific information reported in biomedical publications and misappropriation of authorship undermines the integrity of the authorship system".⁵ Hence, there is a definite need toward rethinking our notion of authorship, abandoning the traditional concept of a model based solely on contribution to the development of a writing a paper.⁶

3.3. Conflict of interest (COI)

A conflict of interest arises when an author's objectivity to report data/case is compromised by a fancy for financial benefit, reputation, professional advancement, or a pre-decided outcome. To elaborate on this fact, any affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge, or beliefs) in the subject matter or materials discussed in a manuscript comprise a conflict of interest.⁷

There was considerable variation in the respondents' understanding of this terminology. Approximately only the half respondents (55%) said that both financial and non-financial reasons could comprise a COI. 25% believed that only financial interests and 12% said that only non-financial interest comprise COI. The other 8% responded that COI was unrelated to with both such interests. This major misinformation could be avoided if the authors familiarize themselves with the correct interpretation of COI and a journal's specific instructions in this regard as the requisite comprehensiveness of the COI statement varies from journal to journal.

3.4. Plagiarism

The Committee on Publication Ethics (COPE), UK has defined plagiarism as "the unreferenced use of others published and unpublished ideas".⁸ Though plagiarism can be difficult to define, it can be perceived as the theft of other authors' ideas, results, words, figures without giving them their due credit, and passing it off as one's own work. Majority of the respondents (86%) were aware of the term "plagiarism" whereas 14% exhibited complete ignorance regarding the same. Thus, even though this was a minor fraction, being unaware of this terminology, it implies that authors could be indulging in some or the other form of plagiarism without knowing that it is a serious malpractice and goes against the basic tenets of ethical publishing.

3.5. Ghost authorship

Ghost authors are those who participate in research, data analysis, and/or writing of a manuscript but are not named or disclosed in the author byline or acknowledgments.⁹ Ghost authors qualify for authorship but their names are not listed.

various branches of dentistry. The number of publications varied from 1 to 63.

3.2. Authorship criteria

The International Committee of Medical Journal Editors (ICMJE) has identified the following criteria for defining authorship, which has been adopted by many journals:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work
- Drafting the work or revising it critically for important intellectual content
- Final approval of the version to be published

50% of the respondents of our study were completely ignorant of this term and the other half replied in the affirmative. With the easy availability of medical writers ghost writing in biomedical sciences has of late boomed into a full-blown industry, particularly in the pharmaceutical sector.¹⁰ Another form of ghost authorship that usually tends to happen in an academic scenario is the suppression of a junior colleague/student who might have contributed to the research and the manuscript but does not get his due credit by the senior authors. It is expected that any support/professional help taken in drafting the manuscript should be duly mentioned in the acknowledgements section of the manuscript.

3.6. Gift authorship

Gift authorship is authorship awarded to an individual who has not contributed significantly toward a manuscript and is listed as an author.¹¹ The respondents' awareness of this phrase was marginally better as compared to ghost authorship. 58% respondents said they were aware of gift authorship and the remaining 42% were oblivious of it. The respondents who replied in the affirmative were further asked the possible reasons for gift authorship. Majority believed that pleasing a senior and mutual understanding with a colleague to enhance their curriculum vitae are the reasons of gift authorship. Another interesting observation made by one of the respondents was sharing the financial burden in case a manuscript is submitted to a journal that charges the authors for publication. Regardless of its reason, the fact remains that gift authorship is an unethical practice that gives a false notion of an individual's competency while in reality it does not exist.

3.7. Redundant publication

Redundant publication implies substantial republication of data with modest new outcome or result supplementing the author's work published previously.⁴ 71% of the respondents were completely ignorant of this term. Redundant publications are a cause for concern because they can misrepresent the importance of a single study, biasing scientific literature, particularly when systematic reviews and meta-analyses are performed. Studies in various specialties have suggested that redundancy is prevalent at astonishingly high levels – the encouragement for such a behavior being the pressure to publish.¹²

3.8. Awareness of ICMJE & COPE recommendations

The ICMJE is a working group of medical editors that has proposed recommendations regarding conduct, reporting, editing, and publication of scholarly work in medical journals.⁴ COPE is a similar organization that provides advice to editors and publishers on all aspects of publication ethics and ways to handle cases of research and publication misconduct.⁸ Most journals of repute follow the recommendations proposed by these bodies. 34% respondents admitted that they had never heard of these recommendations. The significance of guidelines provided by these authorities and the need to be well versed with them is essential to all involved in scientific publishing.

Table 1 summarizes the results in brief.

Table 1

Representing the ignorance of respondents regarding the various questions asked.

Sl. no	Questions	Percentage of respondents mis-informed/unaware
1	Authorship criteria	34%
2	Conflict of interest	45%
3	Plagiarism	14%
4	Ghost authorship	50%
5	Gift authorship	42%
6	Redundant authorship	71%
7	Awareness of ICMJE & COPE recommendations	34%

4. Conclusion

The findings of this questionnaire-based pilot study suggest scolding unawareness regarding certain essential concepts in scientific publishing. The training for an attempt to publish often occurs as an after-thought and is based on concepts being inculcated in a mentor–protégé relationship rather than an authentic preparation, with the result being wrong notions and misconducts in authorship being passed off as something acceptable. Hence, there is a need for concerted efforts to educate trainees/students at the curricular level. Further studies involving a larger section of the academia are needed to provide a better understanding of this issue. All said and done, the truth of scientific publications ultimately zeroes in on the honesty of its creator which can be hoped for, after awareness and positive reinforcement of the expected morals.

Conflicts of interest

The authors have none to declare.

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