

Ethics of authorship of scientific papers

R.D. Ganatra

Rules governing authorship

My nephew, who works as a research scientist in a reputable medical organization, asked me, 'What were the rules governing authorship of a scientific paper in your time?' 'What do you mean?' 'How did you decide who should be the authors of a scientific paper?' 'There are no rules. You decide by way of convention followed in your institution.'

The interval between when I started my research career and when my nephew started his scientific career is about 40 years. It appears to me that the situation regarding authorship of a scientific paper has remained the same over all these years. There are no set guidelines. Each institution has its own traditions. It is still not possible from the list of authors to guess who is the real scientific worker and who are the supernumeraries.

The Indian experience

It is common experience that if the paper is to be presented in a local conference, the person who has done most of the work would be the first author and present the paper. If it is a national conference, the head of the division presents the paper and takes credit as a first author of the paper. If it is an international conference, the director of the institution presents the paper and hogs the limelight.

The names of the authors on an Indian paper are very often in south Indian style. The name of a south Indian would show his community first and then, in a descending order, the names of the village, the grandfather and the father. At the end would be the person's name. The list of authors in an Indian paper follows the same pattern, starting with the director of the institution and going all the way down, the humble scientific worker ending up as the last author of the paper.

Ethical considerations

Are there any ethical considerations involved in deciding the authors of a paper? Are all the authors rightful contributors or is authorship gifted to some? Are all those who have contributed to a scientific project recognized as authors at the time of publication?

All medical research is the collaborative work of a group and multiple authors for a scientific paper is a rule rather than an exception. Who are the persons

whose contribution to a project should be recognized by authorship and who are those whose help can be recognized by a mere mention under 'Acknowledgment'? Is the chief of the institution always to be included as an author in all the papers published from an institution?

These questions are important from the ethical viewpoint because the authorship of a paper confers several benefits to the author, the most important being enhancement of the merit for a job or for a promotion. While evaluating candidates, the list of their scientific papers is always taken into account. This list seldom shows the order of names of authors. Few candidates present a list of only those papers where they are the first authors.

International convention prescribes that the principal scientific worker, the person who has done most of the work, should be the first author of a paper. The order of names after the first name depends on the extent of the contribution of each worker to the research project. If at all the director's name is on the paper, it is as the last author.

Gifting authorship

The one who has done the scientific work usually makes a gift of co-authorship with some ulterior motive - continuation of the job, promotion in the job, sponsorship for a Fellowship or travel abroad. A gift of authorship is a bribe paid by the real scientific worker because he expects something in return. Acceptance of this gift is an obligation to do something in return.

The practice of putting the name of the head of the institution as co-author is justified by the argument that he was responsible for providing facilities for carrying out research. To promote research is the normal task of any director of a research unit. This justification is also applied for including names as co-authors of heads of clinical units from which patients are drawn for research.

Years ago, I had the following argument with a renowned consultant from whose unit I had obtained patients for liver scan.

'I find that you have published a paper on liver scanning where patients were drawn from my ward. 'Sir, I have put the name of your Registrar as a co-author of the paper.' 'But they were my patients.' I was brash and bold then. Moreover, I did not expect anything from that consultant as I was not an employee of the referring hospital. 'Sir, you have not bothered to look at the reports of the liver scans that I have been sending periodically. You have

R.D. Ganatra, MD, retired as Director, Radiation Medicine Centre, Tata Memorial Centre, Bombay. He then served the International Atomic Energy Commission. He now resides at 604, Kamala Apts., Dhobi Galli, Versova Road, Andheri (W), Bombay 400 058.

not even seen the scanner. You have not talked about this procedure to me or to your Registrar. All of us know that they become your patients by the fortuitous circumstance of their reporting to the hospital on Monday.' 'You will not get any of my patients for your nuclear medicine procedures. I do not wish to see you in my ward in the future.' He was so piqued by this incident that he talked to my chief who castigated me for my insouciant behavior.

That consultant was so well-known and well-to-do, from his private practice that having his name on a paper published in an Indian journal did not make an iota of difference as far as his reputation was concerned but such is the lure of authorship that he craved to see his name on the paper.

As a rebound from this incident, I started putting as my co-authors all those who had really or even remotely helped me in that project, including my technicians and laboratory assistants.

The same chief who had shouted at me in the previous incident called me again.

He said, 'In this paper where you describe experiments on five rabbits, you have nine authors.' 'Yes Sir. This is because each of them helped me in the conduct of my experiments.' 'What is the animal house attendant doing on your scientific paper? The fellow cannot even read English.' 'Sir, he got the rabbits for me and helped me in the animal experiments.' 'But that is his job. And why you put my name as a co-author with the animal house attendant?' 'You allowed me to carry out this research project.'

Arbitrarily, he removed some names and reduced the list to five - a number identical to the number of experimental animals reported in the paper. The attendant lost his name but my chief did not remove his name.

Authorship of a scientific paper enhances reputations

All heads of institutions have to their credit papers by the hundreds. This is only possible if they allow or force subordinates to put their names as co-authors on all papers published from their institutions. The lure of authorship is so great that many senior scientists accept the "gift" of authorship on papers to which they have contributed nothing. As with all presents, givers often derive some benefit too. If the expectations are higher, the name of the chief is put as a first author. Once one staff member sets this trend, others have to follow.

Vancouver guidelines

The International Committee of Journal Editors (the Vancouver group) drew up criteria for authorship based on the idea that 'each author should have participated sufficiently in the work to take public responsibility for the content.'¹ In view of this recommendation, many journals go through the ritual of obtaining signatures on the consent form from all the authors. This does not eliminate the 'gifted' authorship but does ensure that all authors are aware of the names included in the paper.

The Vancouver guidelines suggest that authorship

should be based only on substantial contributions to (a) conception and design analysis and interpretation of data; (b) drafting the article or revising it critically for important intellectual content and (c) final approval of the version to be published.²

The guidelines emphasise intellectual contributions and do not include fund raising and supervision of the research group as legitimate justifications for authorship. The guidelines do, however, make it clear that between them the authors must take responsibility for all aspects of the work.

Deficiencies in these guidelines

These guidelines were established to safeguard the position of the editors of journals and are concerned primarily with the written version of a scientific paper. They do not consider how the research project was conducted and who collected experimental data. They ignore technicians who slog to collect the data reported.

The guidelines say nothing about researchers who have contributed to the work but whose names are left out of the paper. It is not easy to build safeguards against this, unless the head of the institution defines responsibilities for the conduct of research projects in advance and closely monitors their progress.

Shapiro et al, in their survey of papers in one American journal, found that 62 of their 1176 authors had made no substantial contributions to six major tasks (conception, design, analysis and interpretation, and writing and revision plus collecting data and providing resources), while a further 206 contributed only by providing resources or collecting data.³

The director of a research institution usually reserves the right of approving what is being published from his institution. It is easy to convert this right of approval into that of participation. Even the guidelines referred to above include 'approval right' as a reason for authorship. No staff member grudges the name of the director as a last author if the director at least takes the pain of going through the paper. Having a name of the director as a first author is carrying things too far.

There are several situations which are peculiar to the Indian scientific scene. There may be a string of intermediate bosses. Are they to be included as authors?

Technicians

Technicians are, almost always, deprived of authorship. In India, unlike in the West, most technicians are science graduates. It is beneficial for their careers to have their names on as many papers as possible. They work hard to get data from the experiments devised by someone else. They would also like to

enhance their merit for a job or for promotion, particularly as such opportunities are limited in research institutions. It is an unfortunate fact that this very limitation forces staff members to whom injustice has been done in deciding authorship to remain mute as they cannot leave their jobs.

In research, the most important aspect is conception of an idea and its intellectual nourishment. How are we to decide upon the origin of an idea? Was the idea suggested by your senior or your colleague or by your technician or was it generated during discussions?

Among the technical staff there are two categories: those who participate intelligently and those who carry out assigned tasks in a mediocre manner. Classifying them in this manner is a challenging decision. Usually the primary author does not make such a distinction and includes all his technical staff as co-authors. When you start rewarding mediocrity, you do not know where to stop. Should the laboratory assistants and attendants be included as co-authors?

Electronic media

The problem of electronic media does not, as yet, affect us but it will. soon. Anvbody can put a paper

in Internet without any peer review to save the time taken for publication in print. What criteria on authorship will apply here?

Conclusion

There are many ethical questions involved in the simple task of putting names of the authors on a scientific paper. Are you putting only those names as co-authors who have genuinely helped in the conduct of your research? Have any names that rightfully belonged there been omitted? Answers to these questions are sometimes difficult. No rules or criteria can help. As in all ethical questions, it is more often a matter between your conscience and your common sense, two commodities rather scarce in the medical world.

References.

1. International Committee of Medical Journal Editors: Guidelines on authorship. *British Medical Journal* 1985;291:722.
2. International Committee of Medical Journal Editors: Uniform requirements submitted to biomedical journals. *JAMA* 1993;269:2282-6.
3. Shapiro DW, Wenger NS, Shapiro MF. The contributions of authors to multiauthored biomedical research papers. *JAMA* 1994;271:438-42.

The Journal of Law, Medicine & Ethics

Through the courtesy of Mr. Michael Vasko, Director of Publications, we continue to receive The Journal of Law, Medicine & Ethics gratis.

The journal is the official publication of the American Society of Law, Medicine & Ethics (ASLME), an interdisciplinary educational association whose mission is to provide high-quality debate and critical insights on issues facing the community of professions at the intersection of law, health care, policy and ethics.

Membership in ASLME includes annual subscriptions to two wuarterly publications: The Journal of Law, Medicine & Ethics (formerly Law, Medicine & Health Care) and the American Journal of Law & Medicine.

For information contact ASLME at .

Telephone: 6 17-262-4990 .

Fax: 617-437-7596

e-mail: aslme@by.edu