

# Authorship: practices and experiences in the Faculty of Health Sciences of the University of the Free State

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## Abstract

**Background:** The allocation of authorship of papers can lead to controversy. In medical journals, papers tend to be multi-authored and the contribution of each author is not always apparent. The International Committee for Medical Journal Editors provides clear guidelines regarding rights to authorship, and these guidelines are used by some journals. We wished to propose guidelines for the Faculty of Health Sciences of the University of the Free State (UFS) and, in order to do so, first determined the practices and experiences regarding authorship in the Faculty.

**Methods:** Personal confidential interviews were conducted by the researcher in the Faculty of Health Sciences with first authors of papers published in accredited journals in 2000.

**Results:** Eighteen of the 19 first authors interviewed in relation to 28 papers were in favour of a guideline for the Faculty. The issue of authorship was discussed beforehand among the authors for just under half of the papers with more than one author (48%). No problems were experienced regarding authorship in relation to 64% of the papers. In only 9% of the papers with more than one author did all the authors fulfil all three criteria of the international guidelines.

**Conclusion:** On the basis of the positive feedback from the respondents, and their suggestions and experiences, a guideline was drafted for the Faculty. This should assist researchers in problematic cases and ensure that all, and only those, authors who deserve authorship are in fact listed as authors. **(SA Fam Pract 2005;47(4): 57-60)**

## Introduction

The allocation of authorship of papers can lead to controversy. In medical journals, papers tend to be multi-authored and the contribution of each author is not always apparent. From 1975 to 1995, the number of authors per original article published in the *British Medical Journal* increased from a mean of 3.2 per article to 4.5 per article, mainly because of an increased number of professors and departmental heads being included as authors.<sup>1</sup> The greater number of authors leads to a "consequent diminution of accountability".<sup>2</sup> An extreme example of a multi-authored medical paper is that by the Gusto Investigators in their report on an international randomised trial comparing four thrombolytic strategies for myocardial infarction.<sup>3</sup> This study included 41 021 patients from 15 countries and 1 091 hospitals. The number of co-authors of the paper is 972. On a lighter note, in 1993 the paper was awarded the Ig Nobel prize by the journal *Nature*, and it was pointed out

that each author could be held responsible for two words in the article.<sup>4</sup>

Multi-centred trials including many investigators are not unusual in medical research. In an editorial in the *Journal of the American Medical Association*, the proposal is endorsed that, in multi-centre collaborative research, it should be decided beforehand that a few of the investigators have access to all the data and that they are the authors of any subsequent papers. All other investigators should only be acknowledged.<sup>4</sup> It is noted that the increase in authors of medical papers cannot be explained by an increase in collaborative or interdisciplinary research, but rather by factors such as increased competition for funding and promotion based on research.<sup>4</sup> Sheikh points out that, while focusing on research output to improve research quality and excellence, the Research Assessment Exercise on which the funding of higher education institutions in the United Kingdom is based may lead to authorship abuses.<sup>5</sup>

Scandals have occurred with respect to authorship. For example, it was found that papers published by a researcher in the *British Journal of Obstetrics and Gynaecology* in 1994 were based on non-existent findings. Strikingly, the editor of the *Journal* was a co-author of one of these papers. He stated in the press that "The head of department's name is always put on reports out of politeness. I was not part of this work but have trusted Mr...".<sup>6</sup> A study on the source of complaints lodged with the Ombuds Office, Harvard Medical School, Harvard Dental School, Harvard School of Public Health and affiliated hospitals found that authorship disputes are increasing. In 1991/1992, authorship disputes were the source of 2.3% of the lodged complaints compared to 10.7% in 1996/1997.<sup>7</sup> This increase occurred despite the fact that Harvard Medical School has strict authorship guidelines.

As pointed out by Goodman, the current lax view of authorship has the potential to corrupt.<sup>8</sup> Authorship encompasses the two concepts of

“credit” and “responsibility”.<sup>9</sup> Co-authors who have not contributed to the research or the paper have been referred to as “guests”<sup>4</sup> or honorary authors<sup>10</sup> or as having obtained “gift” authorship<sup>6</sup>, and could include people who would bestow a stamp of authority on the work, such as heads of departments, people who have provided funding, or colleagues for whom one wants to repay a kindness.<sup>6,10</sup>

Since 1985, the International Committee of Medical Journal Editors (also known as the Vancouver Group) has been working on guidelines for authorship in medical journals. In 2000, the International Committee for Medical Journal Editors (ICMJE) revised its guidelines regarding manuscripts submitted to biomedical journals. Their guideline for authorship is that authorship should only be based on the following:<sup>9</sup>

- 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.

Only individuals who fulfil all three requirements may be co-authors. The Committee explicitly states that the “acquisition of funds, the collection of data, or general supervision of the research group, by themselves, do not justify authorship”. They also state that each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content, and that one or more authors should take responsibility for the integrity of the work as a whole, from inception to the published article.<sup>9</sup> These guidelines have been adopted by many medical journals. In an attempt to further limit the number of authors, some journals require a special motivation for including more than six authors on a paper. Prominent medical journals, such as *The British Medical Journal* and *The Journal of the American Medical Association*, have gone even further, listing not only authors but also contributors (who need not be authors). For each contributor, details are provided about what that person did with respect

to the research project and the final paper. One or more contributors are listed as guarantors of the paper, namely that they are prepared to take public responsibility for the paper as a whole.<sup>11</sup> In fact, the ICMJE has made a recommendation that authors should provide information on what each author contributed and that journals should publish this.<sup>9</sup>

Some journals that follow the ICMJE guidelines do not provide a list of the criteria in the journal. Furthermore, it does not seem that authors take the guidelines seriously. A study among authors of the *Nederlands Tijdschrift voor Geneeskunde* found that, although the journal enforces the ICMJE criteria, most authors who published in the journal in 1995 (202/338=59.8%) did not know the criteria.<sup>12</sup> It has also been reported that few amendments to author lists have been made since the *British Medical Journal* started asking authors of accepted papers to confirm that they meet the ICMJE criteria.<sup>6</sup> This is not interpreted as authors fulfilling the criteria, but rather as a reflection of a cavalier attitude to authorship and guidelines regarding authorship.

Some journals make no reference in their guidelines for authors regarding co-authorship, whereas others require a declaration, signed by all the authors, that each author has contributed substantially.

The ICMJE guidelines aim to ensure that credit is given only where it is due, and that it is given wherever it is due.<sup>9</sup> There should thus not be “guest” authors, as mentioned above, nor should there be “ghost” authors – individuals who made substantial contributions to the research or writing of the article but are not named as authors.<sup>10</sup>

In a survey of corresponding authors of articles published in three peer-reviewed, large-circulation general medical journals and three peer-reviewed, smaller-circulation medical journals in 1996, 19% of the 809 articles had guest authors and 11% had ghost authors. Guest authors were more common in review articles.<sup>10</sup>

No guidelines regarding the allocation of authorship have been in existence in the Faculty of Health Sciences of the University of the Free State. A manual on protocol writing used

widely in the Faculty outlines that any person who makes an intellectual contribution or any person who gives significantly more input into the completion of the study than his/her routine work should be given co-authorship.<sup>13</sup> The funding of researchers in the Faculty is done nearly exclusively on the basis of published articles, which makes the decision about co-authorship fraught with tension. The Research Committee of the School of Medicine therefore decided to draft a proposal regarding authorship. It was decided to first investigate Faculty members’ practices and experiences regarding authorship so as to be able to draft appropriate guidelines.

## Methods

Personal, semi-structured confidential interviews were conducted by the researcher in the Faculty of Health Sciences with first authors of papers published in accredited journals in 2000. Most studies investigating authorship have used anonymous questionnaires to enhance confidentiality. However, at the time of this study, many questionnaires were being sent to staff of the School of Medicine regarding the new MBChB programme and therefore it was decided to use interviews to enhance the response. The list of publications was obtained from the University’s Research Administration. During the interviews, the guidelines of the International Committee for Medical Journal Editors were shown to the interviewees. Their comments regarding these guidelines and guidelines in general, information regarding the authorship specific to their published article(s), as well as any problems experienced or suggestions they could make, were gathered. The protocol was approved by the Ethics Committee of the Faculty of Health Sciences of the UFS.

## Results

A total of 47 papers (44 articles, two research letters and one abstract) that appeared in accredited journals in 2000 were identified, each of which had a member of the Faculty of Health Sciences as first author. Thirty-six first authors were identified in this way. The number of authors per paper varied from

**Table I:** Reasons for inclusion of persons who do not fulfil ICMJE guidelines as authors

- Provided necessary equipment
- Did the laboratory work
- Initiated the project
- Collected the samples
- Helped with the write-up
- Wrote patient reports
- Evaluated article critically
- Treated the patients
- Involved in project in some way
- Supervisor of postgraduate research
- Did the work
- Gave practical inputs
- Gave critical intellectual inputs
- Wanted to involve the person
- It was the student's project
- Did the analysis
- No input in project but wanted to give person some recognition
- Persons' names always added, departmental practice

**Table II:** Suggestions regarding authorship

- Technical help and expertise must be acknowledged through authorship
- Person who provides essential equipment must be acknowledged
- Person who provides patient data and patient care must be acknowledged
- Co-supervisor of postgraduate research must be co-author
- There must be an extra, intellectual contribution apart from normal work
- Authors must be involved in the whole research process
- Any contribution must be given co-authorship
- Statistician as co-author gives stamp of authority
- All authors must read the article
- Authorship must be discussed in advance and can change
- There must be a clear agreement with students
- Could the study have been done without this person?
- Authorship must be considered seriously
- Someone who only checks the manuscript is not a co-author
- Head of department should not automatically be co-author

**Table III:** General problems regarding authorship

- Authorship and working relationships problematic
- People do not take it seriously
- People insist on being co-authors
- People who only provide the material for investigation want to be co-authors
- Co-supervisor of postgraduate research often gives little input
- Pressure to publish complicates authorship issues
- First author fails to give other authors the opportunity to fulfil ICMJE criteria 2 and 3
- Person who does editing wants to be co-author
- Lack of writing experience
- How much recognition does a student get if the supervisor has to write the publication?
- In contract research client must approve and often requests co-authorship

one to nine, with a median of four, which indicated that the issue of authorship needs attention.

Of the 36 first authors of papers that appeared in 2000, 16 persons (the first authors of 18 papers) had left the Faculty

by the time this study was done. Interviews with reference to 28 papers were conducted with 19 of the remaining 20 persons, who were first authors of 29 papers. These persons were from:

- The School of Nursing (three

persons, three papers),

- Ten departments in the School of Medicine (12 persons, 21 papers),
- Two departments in the School for Allied Health Professions (two persons, two papers), and
- FARMOVS/Parexel, a joint contract research organisation of the University and a private company (two persons, two papers).

The issue of authorship was discussed before publication in just under half of the papers with more than one author (48%). No problems regarding authorship were experienced in relation to 64% of the papers. In those cases where problems were experienced, they related to the lack of input from co-authors, non-participating persons (such as the funder) who themselves wanted to be co-authors, non-participating researchers whose names were added by one of the co-authors, and funders not allowing a participating researcher to be a co-author.

In only two (9%) of the papers with more than one author did all the authors fulfil all three criteria of the ICMJE guidelines, and both of these articles had only two authors. The range seen in the other papers was from only one out of six authors fulfilling all three criteria, to seven out of nine authors fulfilling all three criteria. For four (17%) of the multi-authored papers, one or more co-author did not fulfil any of the criteria. These articles had at least five authors. The reasons provided were that these senior colleagues' names always appear on all papers, and that the researcher wanted to involve a new colleague or give a research assistant recognition. For only one paper was a person who fulfilled all three criteria not in fact listed as an author. This paper had four authors. Of the 109 authors involved in the multi-authored papers, 56 (51.4%) fulfilled all three criteria. Authors who did not fulfil the criteria mostly did not satisfy criteria 2 and/or 3 (83%), and only a third of the authors did not fulfil criterion 1.

Respondents were generally positive about the ICMJE guidelines, although 10 out of 17 suggested changes to make them more practical and lenient. It was apparent that no clear or uniform guidelines were used to decide on authorship ranging from any contribution

to full participation (see Table I), and that a variety of problems had been experienced (see Table II). A wide variety of comments and suggestions were made (see Table III). The majority of respondents (18/19) were in favour of the Faculty having guidelines, with nine stating that guidelines would help in problem cases.

### Discussion and recommendations

Although this is a small study, it provides insight into the practices and experiences regarding authorship in the Faculty of Health Sciences. "Guest" authorship was less common than in other studies, and it is encouraging that most authors fulfil criterion 1 of the ICMJE guidelines. The first author is often at fault for not ensuring that co-authors fulfil criteria 2 and 3. In medical research, a wide variety of people is involved in various parts of a research project, such as patient care and laboratory work. Some respondents felt a need to acknowledge any contribution to a project by authorship, but they also indicated that they found this problematic. In the light of the ICMJE guidelines, guidelines were proposed and submitted to the research committees of the three schools in the Faculty for approval. After their suggestions had been incorporated, the Faculty Board approved the following guidelines:

A person must fulfil each of the following three criteria:

1. Make a substantial intellectual contribution to at least two of the following:
  - initiation
  - planning
  - data collection
  - analysis
  - interpretation
2. Critically evaluate the manuscript
3. Approve the final manuscript before submission to the journal

All other co-workers should be listed under Acknowledgements. In addition, authorship (as well as the order of names) should be discussed in the planning of the project. Changes can be made later with the approval of all

the authors. The corresponding author handles correspondence with the journal, but, if fundamental changes are required, all the authors must see the revision.

A specific problem mentioned by the respondents was student projects, both undergraduate and postgraduate. Therefore, a clear agreement must be entered into with students at the start of the project that a manuscript must be prepared within three months of completion of the thesis/report. If the student does not deliver, the supervisor takes over the role of first author.

These guidelines should assist researchers in problematic cases and ensure that all (and only those) researchers who deserve authorship are in fact listed as authors.

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