What Are the Factors Determining Authorship and the Order of the Authors’ Names?

A Study Among Authors of the Nederlands Tijdschrift voor Geneeskunde (Dutch Journal of Medicine)

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From 1994 to 1995 through 1996 to 1997, 61 (46%) of the 133 authorship issues were from faculty and 45 (34%) were from postdoctoral fellows, interns, or residents. Of these issues, 70 (53%) originated from female complainants and 63 (47%) from males. However, the female complaints represented an average of 0.35% of their smaller average population while male complaints represented only 0.20% of theirs.

The total non–US citizen population of faculty, staff, trainees, and students is not available. However, cases including acknowledgment through publication have grown from 4% of the non–US citizen complaints in 1991-1992 to 21% in 1996-1997.

COMMENT

The increase in reported authorship disputes has been far greater than the increase in either total issues brought to the Ombuds Office or in the size of the population served. It occurred despite the Ombuds Office or in the size of the increase in either total issues brought to disputes has been far greater than the Ombuds Office, can offer an important mechanism to encourage corrective action by management without compromising an individual.

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Voor Geneeskunde (Dutch Journal of Medicine)
METHODS

Authors (N = 450) of all original articles (N = 115) published in the Nederlands Tijdschrift voor Geneeskunde as self-rated by authors (n = 352) on a questionnaire with 23 questions. Criteria for authorship according to the International Committee of Medical Journal Editors rules.

**RESULTS**

Of the 450 questionnaires, 362 (80.4%) were returned and 352 (78.2%) could be analyzed. Contributions the authors considered themselves to have made are shown in the Table.

The discrepancy scores had a Gaussian distribution with the top score at 2 (ie, most authors thought that they had contributed to 2 items more than their coauthors thought); the fifth and 95th percentiles scored 4 and 8, respectively.

The ICMJE criteria were fulfilled by 224 (63.6%) of 352 authors (according to their own scores), regardless of whether they were familiar with them; 79% of the first authors fulfilled the criteria and 58% of other authors fulfilled them. However, in 46 (21%) of 220 authors who fulfilled the criteria according to their own scores, more than 50% of the coauthors reported that the author did not fulfill the criteria.

In the other 4 cases, no coauthors replied.

Of the 352 total respondents, 128 did not fulfill the ICMJE criteria according to their own scores. The most important contributions of these authors were critical reading of the manuscript (77%), providing the patients (63%), and approving the final version of the paper (58%), collecting data (53%), and patient care (51%).

Most authors (202 [59.8%] of 338) stated they did not know the ICMJE criteria: 61% of first, 44% of the last, and 66% of the intermediate authors. In 70% of the articles, at least 1 author indicated that he or she knew the criteria.

Most respondents reported that there had been problems in determining authorship and the authors’ order. A particular source of dispute was that clinical work alone is insufficient for authorship.

**COMMENT**

Although our investigation has a number of flaws (eg, the questions can be interpreted in various ways), an appeal was being made to the memory of the participants after a considerable length of time. International Committee of Medical Journal Editors recommendation of 80.4% and the small discrepancy between the respondents’ and their coauthors’ answers allow a good interpretation of the results.

Intellectual contributions (the idea for and design of the investigation and the critical reading, rewriting, and approval of the manuscript) ranked highest among the 7 ICMJE criteria for authorship in Nederlands Tijdschrift voor Geneeskunde articles. However, more than 50% of the respondents had contributed to or performed the practical work of the investigation (eg, providing patients or research material, carrying out a pilot study, collecting the data). Four authors indicated that they had made no contributions whatsoever.

ICMJE Criteria

The answers showed that 63.6% of the authors fulfilled the ICMJE criteria, regardless of familiarity with them (59.8% of the respondents were unfamiliar with them). Their coauthors felt that 21% did not fulfill the criteria. It may be that the ICMJE criteria are logical or the reflection of good social behavior, but regardless, they were little known as such.

Many authors considered the rules to be too strict. The biggest problem was the failure to appreciate clinical work. According to many clinicians, provision and care of the patients are sufficient criteria for authorship. Because the Nederlands Tijdschrift voor Geneeskunde is a medical journal, most authors are clinicians, and their opinions most likely biased this investigation (eg, in contrast with statisticians).

Our investigation confirms that the ICMJE criteria are insufficiently known. However, many authors appear to apply them implicitly. Confusion regarding authorship could be reduced by making the criteria more widely known.

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**References**

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