The International Committee of Medical Journal Editors (ICMJE) authorship criteria [1] are often directly quoted, cited, or paraphrased by biomedical journals and other relevant guidelines.

There is, however, very little guidance on the order in which the authors should appear on the byline.

Author position has connotations and currency: current status and responsibility, pecuniary prospects, future collaborations, as well as intellectual and professional advancement [2-4].

The number of authors appearing on the byline is increasing and single-author papers are on the decline. 66.2% of papers indexed in the Web of Science had more than one author in 1981 compared with 89% in 2011 [5,6].

The manuscript by Khachatryan et al broke a record in 2010 with 2080 authors [7].

The Committee on Publication Ethics (COPE) [20] and Good Publication Practice (GPP2) [21] guidelines state that the order of authors should be their joint contribution for the scholarly article and a guarantor is identified.

The majority of these journals (12/18) did not publish details of author contribution. The specialised journals, with a special therapeutic area (pain), had contributed directly as much as the others named. Middle author positions were held by those who had made a significant contribution to specific sections, e.g. statisticians.

Fig 2. The % of journals requesting contributorship information

Fig 3. The % of journals requesting guarantor(s) for work presented

Although there are a number of limitations to the research presented here, it is evident that top-tier journals, those general biomedical journals with international renown and high impact factors, are much more stringent regarding authorship, contributorship and guarantorship criteria. The specialised journals, with lower impact factors, specific to a particular audience or area of thesis appear to be less so.

However, even those top-tier journals which have adopted these criteria, show no indisputable trend in how the order of authors are presented on the byline. Therefore, the ‘historical’ connotations associated with author order, as mentioned in the introduction, do not hold true for top-tier journals.

It is our opinion that further discussion is needed at an appropriate forum, such as a future workshop at an ISMPP annual meeting, to provide guidance to authors on how to decide their order on the byline. Recommendations may be offered on how journals, irrespective of impact factor and specialisation, might present contributorship in a way that is consistent and may be related back to author position in a meaningful and practical way.

Results continued

Although there are a number of limitations to the research presented here, it is evident that top-tier journals, those general biomedical journals with international renown and high impact factors, are much more stringent regarding authorship, contributorship and guarantorship criteria. The specialised journals, with lower impact factors, specific to a particular audience or area of thesis appear to be less so.

However, even those top-tier journals which have adopted these criteria, show no indisputable trend in how the order of authors are presented on the byline. Therefore, the ‘historical’ connotations associated with author order, as mentioned in the introduction, do not hold true for top-tier journals.

It is our opinion that further discussion is needed at an appropriate forum, such as a future workshop at an ISMPP annual meeting, to provide guidance to authors on how to decide their order on the byline. Recommendations may be offered on how journals, irrespective of impact factor and specialisation, might present contributorship in a way that is consistent and may be related back to author position in a meaningful and practical way.

Results

Guidelines

The Committee on Publication Ethics (COPE) [20] and Good Publication Practice (GPP2) [21] guidelines state that the order of authors should be their joint contribution.

There is no mention of author order by the ICMJE.

Of those journals which referenced or paraphrased the ICMJE criteria, many did not refer to the most up-to-date recommendations or were incorrect in their citation.

In the manuscripts of journals citing the ICMJE authorship criteria, there are variations as to their fulfilment according to author position: first authors typically fulfill all the criteria, but the second author less so than the first, the middle authors less than the others, and the last author typically contributes resources rather than participating in data collection.

Author order may vary by country and by scientific field.

Guest, ghost, and gift authorship is still present.

To encourage consistency across biomedical journals, suggestions include authors being listed in descending order of contribution, adopting a quantitative or qualitative assessment of contribution, alphabetically by last name, however, with at least 5 authors listed on the byline.

The manuscript by Khachatryan et al broke a record in 2010 with 2080 authors. Out of 71 biomedical pain journals identified, 20 were randomly selected. Six top-tier general medical journals were also evaluated. Each journal was assessed for contributorship, authorship and guarantorship criteria.

To determine whether there was a pattern between the order of authors and public contribution for each of the speciality and top-tier journals, 17 manuscripts published from 2010 to the present were randomly selected, each with at least 5 authors listed on the byline.

In addition, data were obtained by performing a journal search on a defined therapeutic area (pain). Out of 71 biomedical pain journals identified, 20 were randomly selected. Six top-tier general medical journals were also evaluated.

There is no clear guidance on the number or order of authors. Contributorship criteria have been adopted by several journals to eliminate guest, ghost and honorary authorship. Guarantorship is typically defined, but not the corresponding author or the order of the authors. Listing authors alphabetically and quantifying contributions have been suggested but neither has proved popular in clinical medicine.

In their instructions to authors, 18/26 journals evaluated requested contributorship information (Fig. 2), however, citing the ICMJE did not automatically imply making author contribution public.

The majority of these journals (12/18) did not publish details of author contribution.

5 out of the 6 journals which published author contribution were among the top-tier general journals. The top-tier journal which did not publish contribution required the corresponding author to be accountable for the others on the byline.

In their instructions to authors, 18/26 journals evaluated requested contributorship information (Fig. 2), however, citing the ICMJE did not automatically imply making author contribution public.

The majority of these journals (12/18) did not publish details of author contribution.

5 out of the 6 journals which published author contribution were among the top-tier general journals. The top-tier journal which did not publish contribution required the corresponding author to be accountable for the others on the byline.

In their instructions to authors, 18/26 journals evaluated requested contributorship information (Fig. 2), however, citing the ICMJE did not automatically imply making author contribution public.

The majority of these journals (12/18) did not publish details of author contribution.

5 out of the 6 journals which published author contribution were among the top-tier general journals. The top-tier journal which did not publish contribution required the corresponding author to be accountable for the others on the byline.