Sixth version of the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals”: lots of ethics, some new recommendations for manuscript preparation

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Formal education on publication and on publication ethics is an important gap in health careers

In November 2003, the International Committee of Medical Journal Editors (ICMJE) published a revised version of their Uniform Requirements for manuscripts, first launched in 1979 by a small group of editors of general medical journals then simply named the Vancouver Group. This committee has produced six editions of the Uniform Requirements, the last one reviewing the whole document and including in the text a number of separate statements published independently by the ICMJE in the past years. The fifth edition was published in 1997.

More than a half of the present document is devoted to ethical principles related to the process of evaluating and publishing manuscripts in biomedical journals and the relationships between editors, authors, peer reviewers, advertisers, and the media. A considered reading of the text is recommended mostly to editors, authors, and readers of biomedical literature; some main contents are commented on below.

Ethical principles in science publication are as critical as ethical principles in research conduct. Publication is an ultimate stage of scientific research; in fact, as it has been stated, science does not exist until it is published. Scientists have a critical role in most of today’s societies, which are firm believers in science dictations. Health sciences, however, deal with very sensitive constituents of people’s happiness and welfare. Hence, it would be desirable that researchers strictly respect conduct principles to better serve the interests of the community and to causing no damage.

Among the several ethical issues discussed by the ICMJE, authorship is probably one of the major fields for misconduct in biomedical publication, and in which more discrepancies are to be found among researchers, and also among authors and editors. Also it should be said that most of the time misconducts regarding authorship will have no important consequences for the public’s health, but they have an effect on the public perception on the reliability of biomedical science.

Perhaps most of the authors in biomedical sciences simply do not know authorship criteria. Perhaps only readers keen on publication theoretical aspects, the same people who are already familiar and reflective over issues such as authorship, are now reading this editorial in a survey of 66 researchers from a university medical faculty in Britain—half of them with more than 30 published papers—only five respondents were able to quote all three criteria of the ICMJE for authorship, and only one knew that all three criteria were required to credit authorship. We believe that formal education on publication and on publication ethics is an important gap in health careers. But as most of the “authors” of biomedical articles ignore or directly flout common rules regarding authorship, it could make sense first to ask: Do we need any criteria for authorship? And if so, what kind of criteria do we need?

We do think that we need some criteria. And that the criteria by the ICMJE are good enough. The key issue is to guarantee public responsibility for the published information, if really not feasible for every author for the full manuscript, at least of every contributor to the parts in which he or she has participated. But it would be necessary too for at least the designation of a “guarantor” or main person responsible for the work as a whole, as it has been said emulating “ministerial responsibility”. The ICMJE criteria fit this approach: they no longer claim for “public responsibility for the content” to each author of a paper, as in the 1997 edition. They refer to “substantive intellectual contributions” for the authors and they recommend the identification of at least one person “responsible for the integrity of the work as a whole”. The famous three criteria for authorship credit (“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. Authors should meet conditions 1, 2, and 3”) are still in this version of the document with only minor variations: the words “or acquisition of data” were not in the fifth edition. This criterion was added by the ICMJE in 2000 as a separate statement after the experience of the Lancet in disclosing the contributions of their authors: it was noticed that the criteria for authorship outlined by the ICMJE were not completely congruent with the self identified contributions of researchers. Although the claim to accomplish all the three conditions has been criticised by editors’ and authors, in fact criteria (2) and (3) are not strict nor “astonishing out of touch”, as it has been stated, but rather attainable by any category of coauthor. The key issue is then accomplishing the first criterion; and to keep in mind the necessary public responsibility for the whole or appropriate contents of the work. It is worth remembering that the acknowledgements section is a wonderful place to recognise any kind of contribution to the work—for everybody participating in the study to feel that their work has been fairly and publicly acknowledged, as respectable as the byline under the title. Curiously, contributions in the acknowledgements section are commonly described in detail, but the same is the exception for contributions in the byline.

Conflict of interest is another ethical issue profusely discussed in the ICMJE document as related to individual authors’ commitments, to project support, or to commitments of editors, journal staff, or reviewers. As defined by the ICMJE, conflict of interests exits when “an author (or the author’s institution), reviewer or editor has financial or personal relationships that inappropriately influence (bias) his or her actions (…). These relationships vary from those with negligible potential to those with great potential to influence judgement, and not all relationships represent true conflict of interest. The potential for conflict of interest can exist whether or not an individual believes that the relationship affects his or her scientific judgement”.

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The interest of the committee in the disclosure of any potential conflict of interest has led to the recommendation of including in the manuscript a page for the notification of conflict of interest as a part of the manuscript, following the title page, “to prevent the information on potential conflict of interest for authors from being overlooked or misplaced”. In the online system for the submission of manuscripts to the Journal of Epidemiology and Community Health authors are prompted to declare if there is or there is not any potential conflict of interest regarding their work. However, our experience shows that authors declaring conflict of interest are a minority. This can be because conflict of interest is not frequent among our authors or because disclosure of conflict of interest is not yet a common practice among them, whatever the reasons. The British Medical Journal has developed very active policies in relation to conflict of interest, including authors, editors, reviewers, and journal staff. Interested readers can consult the editorial policy and recommendations regarding disclosure of conflict of interest on the BMJ web site (http://www.bmj.com). But also according to the experience of this journal, authors declare conflict of interests only rarely. It seems sensible to hypothesise that conflict of interest, or a conflict between the private interests and the official or public responsibilities of a person in a position of trust, can be quite frequent in relation to biomedical publication. Focusing on authors, almost everyone will have personal interests in career advancement, academic promotion, or future research funding not necessarily related to the public interest or on the availability of relevant and useful scientific knowledge. This is quite a tricky situation. For example, should an investigator declare that he or she is particularly prompted to publish because it is very convenient for an approaching chance of academic promotion? Also, although we have not found this category in the usual lists of situations with a potential of conflict of interest: love (for example, between editors and authors) could be a cause of conflict of interests (that is, bias inappropriately editorial decisions). But for the moment, we do not think it is necessary for editors and authors to disclose publicly their love interests. However, public trust on scientific conduct and publication practices could be easily damaged by these common place situations, we as health researchers (enjoying a significant public trust) should not forget it.

Non-financial (or non-directly financial) conflicts of interest could be very difficult to handle. As it is not habitual to declare any kind of conflicts, the discloser seems immediately suspicious. But occurrence of conflict of interest is not synonymous of misconduct: a researcher can become immensely rich, let’s say, as a consequence of a published discovery, without transgressing any ethical principle in the conduction and publication of the study. However, the right procedure is to disclose any previous relationships that could be affected by the performance or the publication of the study.

Becoming immensely rich is not a frequent risk among public health researchers. Most of the famous cases of conflict of interests are related to research on drugs. But also public health issues are frequently related to strong financial interest, tobacco is only one of several examples. As stated by Richard Smith, transparency is the key. And the emphasis should be on disclosure of conflict of interest associated to financial relationships, as these are “the most easily identifiable forms of conflict of interest and the most likely to undermine the credibility of the journal”, according to the ICMJE. However, as long as disclosure of conflict of interest is not common, authors will continue to be reluctant to expose themselves to the suspicious of editors and readers. More knowledge is needed on the effects of disclosure and not disclosure of conflict of interest, as well as more education on these practices for everyone.

Several other interesting recommendations related to ethical issues are discussed in the ICMJE document, as they state, “based largely on the shared experience of a moderate number of editors and authors, collected over many years” and “accompanied by a rationale that justifies them”. It is not possible to comment here on every aspect presented in the document (editorial freedom, peer review, overlapping publication, electronic publishing, medical journals, and the media, etc) and again we recommend a thorough reading of the full text.

Lastly, this edition of the Uniform Requirements also presents some new points regarding manuscript preparation that deserve attention. Authors are encouraged to follow reporting guidelines relevant to their specific research design, and a reference is done to the CONSORT statement. For observational research, the use of guidelines such as the proposal for reporting meta-analysis of epidemiological studies could be also worth considering. The ICMJE establish that manuscripts should be accompanied by a cover letter providing information on redundant publication, conflict of interests, or authorship if that information is not included elsewhere. If the manuscript has been previously rejected by another journal, it is recommended to include the previous editor’s and reviewers’ comments along with the authors’ responses to these comments, a laudable procedure that may help editors to “expedite the review process” (perhaps even more than that would be desirable for the already rejected authors).

Some new recommendations relate to the use and citation of references in the manuscript. References to original research are preferred to references to review articles whenever possible. Extensive lists of references are claimed not to be necessary; moreover, we would suggest that these lists now could be indicative of intellectual laziness or poor literature knowledge by the part of the authors, and are not really useful to the readers (although surely contribute to increase individual’s and journal’s so-called “impact factors”). The ICMJE has introduced some changes in the style of references; most noticeably, for articles in journals a full stop should be now added at the end of the journal’s abbreviated title, and citation of changing electronic material on the internet should include, together with date of citation, the updated date of consulted information.

Writing and publishing in health sciences are necessary stages for the knowledge and diffusion of critical issues related to people’s health and welfare. The sixth edition of the ICMJE Uniform Requirements establish some basic principles related to these tasks, which must be known for every actor in the scene: mostly authors, editors, and readers. The ICMJE document also contributes to the debate on many new and old issues related to publication in health sciences, basic ethical principles and other concerns. Although, as suspected by Davidoff it is likely that “we will still wrestling 50 years from now with the same patchwork, after-the-fact, fundamentally unsatisfactory solutions to the same vexing ethical problems we are struggling with today”.

**REFERENCES**

THE JECH GALLERY

Sweet smell of success

SUCCESSFUL TRADITIONAL METHODS

In the medina of Fès, an acrid stink leads you to the tanneries, the most pungent souls (markets). Visitors grasp sprigs of mint to abate the smell. Redolent of medieval life, soft hides are stomped with red, yellow, and brown dyes. In the high noon sun or bone chilling air, men and boys squat over, or stand in the colourful (albeit toxic) giant vats. A challenge in the informal sector, such as parts of Morocco’s famous leather industry, is that it is less regulated, and perhaps, less safe. This raises the importance of smart choices, influenced by all the social, economic, and cultural factors that affect behaviour. Successful traditional methods can benefit from innovations, such as those that increase productivity and reduce pollution from heavy metal laden effluents. Large wastewater projects developed in Fès and Casablanca are evidence that plants for water treatment and recycling chromium can meet modern safety standards.

EVOLUTION OF WORK ORGANISATION

In some parts of the world, the organisation of work is moving from hierarchical to a flatter organisation. With this power shift, leadership is required of every worker, with the capacity to make independent decisions. On the bright side, a flatter organisation can offer workers more authority and autonomy. While increasing personal choice is generally attractive, when it comes to health and safety on the job, relying on individuals to protect themselves is the least desirable form of protection. The preference is to engineer hazards out of the workplace.

ETHICAL ISSUES

Eventually, codes of conduct need to be developed to protect health and safety of workers throughout the world. In the USA, most Fortune 500 companies already have codes of conduct or voluntary initiatives for socially responsible, sustainable business. Voluntary standards such as ISO 9000 for quality, ISO 14000 for environmental management, and the hazard analysis and critical control point (HACCP) food safety system are becoming mandatory for trade. By the same token, global standards need to reflect the current reality of labour, and promote health and safety with enlightened, fair minded policy.

FAIR TRADE LABELLING

Thanks to concerted action by consumers and producers, fair trade certification is already available for certain agricultural products (for example, coffee, cocoa, sugar, bananas). Manufactured products are future candidates for Fairtrade certification. Ethical issues have boosted the Trade Justice Movement in the UK with the Fairtrade Labelling Organisations (FLO) outlining a range of international labour standards and health and safety requirements. In the USA and Canada, Fair Trade is marketed via Ten Thousand Villages, SERRV, Equal Exchange, Global Exchange, and Bridgehead. With impressive buying power, consumers may yet have the greatest impact on how products are manufactured and food is grown, how items are processed and delivered, and ultimately, who profits in the scheme of things.

PRINCIPLES OF ECONOMIC AND SOCIAL JUSTICE

Unfortunately, low literacy and low levels of training in many areas dampen available choices or hopes of the sweet smell of success. Although awareness of health and safety problems is low among workers in the informal sector, awareness of ways to improve working conditions is even lower. Clearly, the reward of formal education in developing skills is of great consequence. Progressive leaders can shape policies to comply with international labour standards (providing effective enforcement). Beneficiaries are the artisans and workers in the small scale industries, and those who purchase their wares.

REFERENCE