Introduction

Chinese biomedical editors are always confused about dealing with ethical issues in publishing. Plagiarism is one of the most frequent problems in China. Although plagiarism screening software, such as CrossRef and AMLC (Chinese language screening software, check.cnki.net) are available to most journal editors, the incidence of plagiarism has not obviously decreased. Wager described 16 types of publication misconduct, and provided a guide for authors, reviewers, and journal editors to detect and prevent them. Lu thought that it was ethical standards instead of technical standards that held back the international progress of Chinese science journals. Chinese medical editors usually handle academic ethics when the paper is in the publishing process (secondary prevention) or after the paper is published (tertiary prevention); however, the specifications of instructions for authors (primary prevention) are always overlooked. Chinese medical journals take no account of the instructions for authors.

Atlas reviewed the web-based instructions for authors for 124 high-impact biomedical journals, and suggested that journals should be more proactive in their attempts to influence standards of scientific conduct and publication by giving high visibility to publishing ethical guidelines for research in their instructions to authors. Similarly, Shantikumar et al. surveyed the instructions to authors in surgical journals on reporting by Consolidated Standards of Reporting Trials (CONSORT) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), and suggested journals update their instructions to authors and that they would benefit from being dated and revised regularly to avoid overlooking updated reporting guidance. The standard of scientific reporting in medicine continues to evolve, and those who properly follow these instructions will produce documents that are more helpful to readers and honestly convey study findings. In August
2013, ICMJE released its new guidelines, *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals*, and ethical standards were updated in particular with respect to the conduct and reporting of research.

Wager et al.® investigated 524 science journals in terms of the severity and frequency of 14 types of ethical problems, and found that most editors of science journals seemed not to be very concerned about publication ethics and believed that misconduct rarely occurred in their journals. Bosch et al.®—® surveyed four issues in high-impact biomedical journals, and the results were not encouraging. Biomedical publication faces various ethical problems, and editors have the duty to maintain high ethical standards. To overlook these issues will lead to problems and even misconduct, and it is the duty of medical editors to ensure that they provide adequate guidance to authors on ethical issues.

*Chinese medical journals take no account of instructions for authors*

A Guide to the Core Journals of China (6th edition, Peking University Press, 2011) is often mentioned in Chinese journals or research evaluations. The core medical journals obtained appraisal from 2,003 medical experts in the 6th edition. The impact factor, ratio of articles supported with funding sources (foundation), total yearly pages, and average article length of core journals significantly outperform other medical journals in China.

This research investigated instructions for authors of 229 Chinese-language biomedical journals indexed by A Guide to the Core Journals of China, and discusses the situation in biomedical publishing ethics so as to caution medical journals to upgrade instructions for authors, and to standardize the reporting of research.

**Methods**

**Sample selection**

The biomedical journals were selected from *A Guide to the Core Journals of China*, in the class of Medicine and Health Sciences (Chinese Library Classification), which comprised 248 journals. Nineteen journals on traditional Chinese medicine were excluded (because of the different medical tradition). This resulted in a final sample size of 229 journals – all publishing in the Chinese language.

67 journals were published by the same institute, the Chinese Medical Association Publishing House (CMAPH journals), which were hosted by the Chinese Medical Association (CMA). The other 162 journals were published by various publishing houses (non-CMAPH journals).

**Data collection**

We selected 14 ethics issues, including authorship, methods of peer review, respect for authors’ confidentiality, conflicts of interest statements, duplicate submission, privacy and confidentiality, redundant publication, retractions, integrity and accuracy of the data, plagiarism, register of clinical trials, protection of human subjects in research, protection of animals in research, and secondary publication in multiple languages (without informing the editors) which were based on the ICMJE *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals*, the COPE Code of Conduct, and the recommendations made by the World Association of Medical Editors (WAME).

Instructions for authors published in the latest issues were collected via the official journal websites, found through manual search, and using full-text databases such as WANFANGDATA (www.wanfangdata.com.cn) and CNKI (www.cnki.net). The texts mentioning the above words in the instructions for authors were read and analyzed by one researcher, and were entered into EpiData v. 2.0. Another member of staff read and checked them. Differences were resolved through consultation. All the data were imported and analyzed with Stata 9.0 software. Results were explored in Stata.

**Results**

**Quantitative findings**

The 229 journals investigated included 37 medicine (general) journals, 26 preventive medicine, public health journals, 25 human anatomy, physiology, pathology, microbiology, and parasitology journals, 20 clinical medicine journals, 24 internal medicine journals, 26 surgery journals, 45 medical specialties journals, 10 radiology, sport medicine, diving medicine,
Need a full strength peer review system?

eCommerce • Electronic Copyright Forms
Digital Sticky Notes • Journal Production Tracking
sales@ejpress.com - 301-230-7601 - www.ejpress.com
About 30% of the journals did not update their instructions regularly.

Table 1. Publishing ethical issues in instructions for authors (n = 229)

| Ethical issues                          | Mention (% of total) |
|----------------------------------------|----------------------|
| Authorship                             | 196 (85.6%)          |
| Duplicate submission                   | 190 (83.0%)          |
| Privacy and confidentiality            | 143 (62.4%)          |
| Integrity of data                      | 133 (58.0%)          |
| Protection of human subjects in research | 105 (45.9%)      |
| Redundant publication                  | 86 (37.6%)           |
| Rules for peer review                  | 84 (36.7%)           |
| Retractions                            | 39 (17.0%)           |
| Conflicts of interest statements       | 32 (14.0%)           |
| Plagiarism                             | 29 (12.7%)           |
| Secondary publication in multiple languages | 28 (12.2%)   |
| Registration of clinical trials        | 26 (11.3%)           |
| Protection of animals in research      | 23 (10.0%)           |
| Respect for authors’ confidentiality   | 22 (9.6%)            |

Significantly different between two groups (P = 0.131). The issue of protection of animals in research was rarely mentioned in both groups, and there was no significant difference between them (P = 0.187).

Timeliness

We collected the most recent version of the instructions for authors for all 229 journals. Of these, 26 (11.4%) were collected via the journal website, 137 (59.8%) were collected in print editions from 2014. Of the other 66 we found only older versions in print copies: 42 (18.3%) from 2013, 10 (4.4%) from 2012, 1 (0.4%) from 2011, 9 (3.9%) from 2010, 3 (1.3%) from 2008, and 1 (0.4%) from 2004.

Additional material

Only 196 journals' instructions listed authorship criteria. In the instructions of these 196 journals, 84 were based on the ICMJE criteria (Uniform Requirements for Manuscripts Submitted to Biomedical Journals, URM 2010), 49 of which were CMAPH journals.

Clinical trial registration was demanded by 26 journals, and the CONSORT (www.consort-statement.org) statement for randomized trials was required by 23 (of 26) journals. Only one journal (Chinese General Practice) required the authors to describe the methods used for

Table 2. Ethical issues in CMAPH journals vs. non-CMAPH journals

| Ethical issues                          | CMAPH (n = 67) | non-CMAPH (n = 162) | χ² value | P value  |
|----------------------------------------|---------------|--------------------|----------|----------|
| Authorship                             | 61 (91.0%)    | 135 (83.3%)        | 2.29     | 0.131    |
| Duplicate submission                   | 63 (94.0%)    | 127 (78.4%)        | 8.20     | 0.004    |
| Privacy and confidentiality            | 51 (76.1%)    | 92 (56.8%)         | 7.55     | 0.006    |
| Integrity of the data                  | 46 (68.7%)    | 87 (53.7%)         | 4.35     | 0.037    |
| Protection of human subjects in research | 56 (83.6%)    | 49 (30.2%)         | 54.31    | <0.001   |
| Redundant publication                  | 55 (82.1%)    | 31 (19.1%)         | 80.10    | <0.001   |
| Rules for peer review                  | 47 (70.1%)    | 37 (22.8%)         | 45.68    | <0.001   |
| Retractions                            | 24 (35.8%)    | 15 (9.3%)          | 22.11    | <0.001   |
| Conflicts of interest statements       | 23 (34.3%)    | 9 (5.6%)           | 32.64    | <0.001   |
| Plagiarism                             | 3 (4.5%)      | 26 (16.0%)         | 5.73     | 0.017    |
| Secondary publication in multiple languages | 23 (34.3%)    | 5 (3.1%)           | 43.11    | <0.001   |
| Registration of clinical trials        | 19 (28.4%)    | 7 (4.3%)           | 27.21    | <0.001   |
| Protection of animals in research      | 4 (6.0%)      | 19 (11.7%)         | 1.74     | 0.187    |
| Respect for authors’ confidentiality   | 21 (31.3%)    | 1 (0.6%)           | 51.53    | <0.001   |
locating, selecting, extracting, and synthesizing data in line with the EQUATOR Network (www.equator-network.org/home).

The other 12 publishing ethics were described in one or two sentences, without extension or guidance.

Conclusions

From this investigation, we conclude that Chinese biomedical journals in general pay insufficient attention to the instructions for authors. About 30% of the journals did not update their instructions regularly, and one set of instructions was 10 years old, which is incredible.

Of the 14 publishing ethics issues, the issues of authorship, duplicate submission, privacy and confidentiality, and integrity of the data were mentioned in more than 50% of journals. Researchers, authors, sponsors, editors, and publishers all have ethical obligations with regard to the publication and dissemination of the results of research and the issue of protection of human subjects in research was mentioned in 105 (45.9%) journals. In 2005, although this subject was not widely discussed, authors from the Journal of Peking University (Health Sciences) addressed this issue and reported that they included guidelines in their instruction for authors.

Authorship disputes are hard to resolve and should be handled with caution. In this investigation, most instructions listed the authorship’s criteria; however, 33 journals unfortunately did not mention authorship. In 2013, the criteria for authorship were updated in the new ICMJE Recommendations but none of the journals in this investigation had updated their guidelines. Medical journals should provide clear and consistent guidelines on authorship although the awareness of this issue is not high in Chinese medical journals.

Clinical trials should be registered before first patient enrollment for several reasons and this has been recommended by ICMJE for more than 10 years. However, only 26 (11.3%) journals in this research recommended authors to register, and 23 (of 26) journals recommended authors to follow CONSORT guidelines. Li et al. surveyed the instructions for authors of 200 high-impact medical journals in China and found that neither the CONSORT Statement, nor the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (URM) developed by the ICMJE were frequently mentioned.

CMAPH, which published 128 well-received biomedical journals in 2014, has declared that it will ‘purify’ the academic environment and create first-class journals. CMAPH provides relatively uniform publishing guidelines to standardize its publications, and holds conferences to discuss new criteria. Though CMAPH journals outperform non-CMAPH journals in many publishing ethics issues, the 76 CMAPH sample journals, indexed by A Guide to the Core Journals of China, still do not pay enough attention to academic ethics.

In this study, 14 ethical issues were investigated, but this number is small. There are lots of other issues facing scholarly publishing, such as image manipulation, commercial funding, and ghostwriting, none of which were found in any instructions for authors in this study. The publishing ethics issues are extracted from the instructions for authors, but we do not know all the ethical decisions made by each journal. Maybe there exists information bias which needs further analysis through questionnaire survey. The sample journals of this study were selected from A Guide to the Core Journals of China, a Chinese-language database, and there are many English-language biomedical journals in China, which may lead to selection bias. The performance of English-language biomedical journals in China is an area for further investigation.

Chinese biomedical editors should be more aware of publishing ethics in order to reduce opportunities for problems in the publication process. It is hoped that there will be significant progress through the concerted action of editors’ associations, publishers, and journals in dealing with ethical transgressions in submissions. Salamat et al. concluded that the quality of publication ethics, as helped by author instructions, could improve the quality of journals. We call on the biomedical journals of China to attach greater importance to publishing ethics issues, to include guides and to update instructions for authors, and to improve publication practice.
Acknowledgements
This work was supported by Shanghai Universities Journal Research Programme (No. SHGK2014A05). Thanks are due to Professor Huijin Chen (from Xinhu Hospital affiliated to Shanghai Jiaotong University School of Medicine, Shanghai, China) for giving advice about the study design.

References
1. Zhang, Y. 2010. Chinese journal finds 31% of submissions plagiarized. Nature, 467(7312): 153. http://dx.doi.org/10.1038/467153d.
2. Wager, E. 2007. Ethical publishing: the innocent author’s guide to avoiding misconduct. Menopause International, 13(3): 98–102. http://dx.doi.org/10.1258/175405077s1805604.
3. Lu, J. 2013. Technical and ethical standards in China: long on framework but short on action. Learned Publishing, 26(4): 257–258. http://dx.doi.org/10.1087/20130404.
4. Atlas, M.C. 2003. Emerging ethical issues in instructions to authors of high-impact biomedical journals. Journal of the Medical Library Association, 91(4): 442-449. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC209510/.
5. Shantikumar, S., Wigley, J., Hameed, W., and Handa, A. 2012. A survey of instructions to authors in surgical journals on reporting by CONSORT and PRISMA. Annals of the Royal College of Surgeons of England, 94: 468–471. http://dx.doi.org/10.1016/j.amsu.2013.08.002.
6. Schriger, D.L., Wears, R.L., Cooper, R.J., and Callaham, M.L. 2003. Upgrading our instructions for authors. Annals of Emergency Medicine, 41: 565–567. http://dx.doi.org/10.1016/j.annemergmed.2003.134.
7. Rosenberg, J., Bauchner, H., Backus, J., De Leeuw, P., Drazen, J., Fritze, E., Godlee, F., Haug, C., James, A., Laine, C., Reyes, H., Sahni, P., and Ziaori, G. 2014. The new ICMJE recommendations. Indian Journal of Medical Microbiology, 32(3): 219–220. http://dx.doi.org/10.4103/0255-0857.136945.
8. Wager, E., Fack, S., Graf, C., Robinson, A., and Rowlands, I. 2009. Science journal editors’ views on publication ethics: results of an international survey. Journal of Medical Ethics, 35(6): 348–353. http://dx.doi.org/10.1136/jme.2008.028324.
9. Bosch, X., Hernández, C., Pericas, J.M.,Doti, P., and Marasač, A. 2012. Misconduct policies in high-impact biomedical journals. PLoS One, 7(12): e51928. http://dx.doi.org/10.1371/journal.pone.0051928.
10. Bosch, X., Pericas, J.M., Hernández, C., and Doti, P. 2013. Financial, nonfinancial and editors’ conflicts of interest in high-impact biomedical journals. European Journal of Clinical Investigation, 43(7): 660–667. http://dx.doi.org/10.1111/eci.12200.
11. Bosch, X., Hernández, C., Pericas, J.M., and Doti, P. 2013. Ghostwriting policies in high-impact biomedical journals: a cross-sectional study. JAMA Internal Medicine, 173(10): 920–921. http://dx.doi.org/10.1001/jamainternalmed.2013.339.
12. Bosch, X., Pericas, J.M. Hernández, C., and Torrents, A. 2012. A comparison of authorship policies at top-rankied peer-reviewed biomedical journals. Archives of Internal Medicine, 172(1): 70–72. http://dx.doi.org/10.1001/archinternmed.2011.600.
13. Ren, S. 2005. Editing scientific journals in mainland China. European Science Editing, 31(1): 8–10. http://image.sciencenet.cn/olddata/kexue.com.cn/blog/admin/images/uptitle/2008520123131819758.pdf.
14. Wang, M., Zhou, Z., Fang, H., and Liu, X. 2011. The bibliometric characteristics of Chinese medical core journals. Serials Review, 37(1): 9–13. http://dx.doi.org/10.1016/j.serrev.2010.11.002.
15. Chinese Library Classification. Last updated 15 September 2014. http://en.wikipedia.org/wiki/Chinese_Library_Classification (accessed 10 March 2015).
16. International Committee of Medical Journal Editors. The Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals. Last updated December 2014. http://www.icmje.org/icmje-recommendations.pdf (accessed 10 March 2015).
17. Committee on Publication Ethics. Last updated 7 March 2011. Code of conduct and best practice guidelines for journal editors. http://publicationethics.org/files/Code_of_conduct_for_journal_editors_1.pdf (accessed 10 March 2015).
18. The WAME Publication Ethics Committee. Recommendations on Publication Ethics Policies for Medical Journals, http://www.wame.org/about/recommendations-on-publication-ethics-policies (accessed 10 March 2015).
19. World Medical Association. WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects. Last updated October 2013. http://www.wma.net/en/30publications/10policies/b3/index.html (accessed 10 March 2015).
20. Wang, L. and Zhou, C. 2006. Some matters deserving attention in instruction for authors for medical journals [in Chinese]. Acta Editologica, 18(12 Suppl.): 99–101. http://www.cnki.com.cn/Article/CCFDTotal-BJXB200651041.htm.
21. Albert, T. and Wager E. How to handle authorship disputes: a guide for new researchers. Last updated 2003. http://publicationethics.org/files/oa/2003p012.pdf (accessed 10 March 2015).
22. Wager, E. 2007. Do medical journals provide clear and consistent guidelines on authorship? Medscape General Medicine, 9(3): 16. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2100797/.
23. Wager, E. and Elia, N. 2014. Why should clinical trials be registered? European Journal of Anaesthesiology, 31: 397–400. http://dx.doi.org/10.1097/EJA.0000000000000294.
24. De Angelis, C., Drazen, J.M., Fritze, E.A., Haug, C., Hoey, J., Horton, R., Kotzin, S., Laine, C., Marusic, A., Overbeke, AJ, Schroeder, T.V., Sox, H.C., Van Der Weijden, M.B., International Committee of Medical Journal Editors. 2004. Clinical trial registration: a statement from the International Committee of Medical Journal Editors. New England Journal of Medicine, 351(12): 1250–1251. http://dx.doi.org/10.1056/NEJMoa048225.
25. Li, X.Q., Tao, K.M., Zhou, Q.H., Moher, D., Chen, H.Y., Wang, E.Z., and Ling, C.Q. 2012. Endorsement of the CONSORT statement by high-impact medical journals in China: a survey of instructions for authors and published papers. PLoS One, 7(12): e50368. http://dx.doi.org/10.1371/journal.pone.0050368.
26. Cyranoski, D. 2012. Chinese publishers vow to cleanse journals: editors swear allegiance to scientific integrity.
Nature News, 25 April, http://dx.doi.org/10.1038/nature.2012.10509 (accessed 10 March 2015).

27. Bosch, X. 2014. Improving biomedical journals’ ethical policies: the case of research misconduct. Journal of Medical Ethics, 40(9): 644–646. http://dx.doi.org/10.1136/medethics-2013-101822.

28. Salamat, F., Sobbani, A.R., and Mallaei, M. 2013. Quality of publication ethics in the instructions to the authors of Iranian journals of medical sciences. Iranian Journal of Medical Sciences, 38: 57–61. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3642946/

Qiang ZOU (corresponding author)
1665 Kongjiang Road
200092, Shanghai Institute for Pediatric Research
Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine
Shanghai, China
Email: zooqiang@live.com

Yang WU
Office of Journal of Shanghai Jiaotong University (Medical Science)
Shanghai Jiaotong University School of Medicine
Shanghai, China

The Association of Learned & Professional Society Publishers

ALPSP social...

Connecting and informing the scholarly publishing community

Follow @alpsp and @LearnedPublish
Search for ALPSP LinkedIn groups
Subscribe to blog.alpsp.org
Watch and share videos on ALPS YouTube

Follow ALPSP social media channels for news, views and more.
www.alpsp.org