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SPECIAL ARTICLE

Scientific misconduct encountered by APAME journals: an online survey

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Abstract

In June 2015, invitations were sent by email to 151 APAME journals to participate in an online survey with an objective of gaining insight into the common publication misconduct encountered by APAME editors. The survey, conducted through SurveyMonkey over a 20-day-period, comprised 10 questions with expansions to allow anecdotes limited to 400 characters, estimated to take less than 10 minutes to complete. Only one invitation was issued per journal, targeting (in order of priority) editors, editorial board members and editorial staff, and limited by email availability. 54 (36%) journals responded. 98% of respondents held Editor or Editorial Board positions. All respondent journals have editorial policies on publication ethics and 96% provide instructions related to ethics. 45% use anti-plagiarism software to screen manuscripts, the most popular being iThenticate, CrossCheck and Turnitin. Up to 50% of journals had encountered studies without IRB approval. Author misconduct encountered were (in rank order): plagiarism (75%), duplicate publication (58%), unjustified authorship (39%), authorship disputes (33%), data falsification (29%), data/image manipulation (27%), conflict of interest (25%), copyright violation (17%) and breach of confidentiality (10%). Reviewer misconduct encountered were: conflict of interest (19%), plagiarism (17%), obstructive behavior (17%), abusive language (13%) and breach of confidentiality (13%). Notwithstanding the limitations of the survey and the response rate, a few insights have been gained: (1) the need for strengthening the ethical culture of researchers/authors and reviewers, (2) anti-plagiarism software can improve plagiarism detection by about 15%, and (3) the need for technical support to detect plagiarism, duplicate publication and image manipulation.

Keywords: publication ethics, plagiarism, APAME, scientific misconduct

INTRODUCTION

It is recognized that scientific research and innovation (R&D) are important catalysts for technological growth and economic development in modern societies. The value of the K-economy is mirrored by the fact that the % of GDP spent on R&D is twice to three times higher in advanced (high income) countries than low and middle income countries.[1] In the biomedical field, R&D provides, among other benefits, the evidence for improvements in medical practices and health policies.

Scientific publication is a fundamental component of the research culture. It serves as an important portal for sharing of research discoveries and ideas, enhancement of knowledge, verification of findings and honest discussion, so that research can be translated into applications for the benefit of society. Journal editors, as custodians of this knowledge portal, are always mindful of the need to encourage genuine research while safeguarding against the publication of untruthful "findings." That research misconduct and unethical publications do occur, and with increasing prevalence, is a sad and worrisome phenomenon, spurred perhaps by inappropriate drivers for publication.

Over the years, several platforms to promote integrity in research publication have evolved, among them, the International Committee of Medical Journal Editors (ICMJE), the World Association of Medical Editors (WAME), the Committee on Publication Ethics (COPE) and several regional networks of editors. The Asia Pacific Association of Medical Editors (APAME) serves as a network to promote and support medical journals in the Asia Pacific region, including a commitment to publication ethics.[2]

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In line with the objectives of APAME, an online survey into common publication misconduct encountered by APAME editors was conducted in 2015 to gain insight and encourage collaboration to address these challenges.

METHOD

In June 2015, invitations were sent by email to APAME journals to participate in an online survey with an objective of gaining insight into the common publication misconduct encountered by APAME editors. The intention was to report the findings of the survey to the APAME Ethics and Editorial Policy Committee and the APAME convention in August 2015 for deliberation.

The list and email addresses of journal editors or affiliates within the APAME directory of members were obtained from the WHO Western Pacific Regional Office (WPRO) in Manila, which hosts the Western Pacific Region Index Medicus (WPRIM) and is the contact office of APAME. The list comprised two groups of members: Western Pacific (WP) and South East Asia (SEA).

The survey, conducted through SurveyMonkey over a 20-day-period, comprised 10 questions with expansions to allow anecdotes limited to 400 characters, estimated to take less than 10 minutes to complete (Table 1). Invitees were informed that details of their responses will not be linked to them in the subsequent analysis and report.

Only one invitation to participate was issued per journal, targeting (in order of priority) editors, editorial board members and editorial staff, and limited by email availability. The first wave of invitations to participate was sent for the period 6-19 June 2015, during which two reminders were sent out. After that, the invitation was extended only to non-responding journals, but addressed, where available, to a different person affiliated to the Journal. This extension closed on 26 June 2015.

RESULTS

One hundred and fifty-one (151) journals were invited to participate, comprising 76 SEA journals and 75 WP journals. 54 (36%) journals responded, with a slightly higher response rate from the SEA group. The second wave of invitation only increased response minimally. 98% of respondents held Editor or Editorial Board positions (Table 2).

Editorial policy on publication ethics

All respondent journals had editorial policies on publication ethics and 96% provided instructions related to ethics (Table 3). 45% use anti-plagiarism software to screen manuscripts, the most popular being iThenticate, CrossCheck and Turnitin. The use of anti-plagiarism software appeared to increase the plagiarism pick-up rate by as much as 15% although the difference was not statistically significant (Table 4).

Author misconduct

Up to 50% of journals had encountered studies without Research Ethics Committee /Institutional Review Board approval. Author misconduct encountered were (in rank order): plagiarism (75%), duplicate publication (58%), unjustified authorship (39%), authorship disputes (33%), data falsification (29%), data/image manipulation (27%), conflict of interest (25%), copyright violation (17%) and breach of confidentiality (10%). Table 5 shows the distribution of journals reporting such misconduct by WHO region. The most alarming anecdotes returned by responding journals are listed in Table 6.

Reviewer misconduct

Reviewer misconduct encountered were (Table 5): conflict of interest (19%), plagiarism (17%), obstructive behavior (17%), abusive language (13%) and breach of confidentiality (13%). The most alarming anecdotal accounts are listed in Table 6.

DISCUSSION

In the design of this survey, we have taken care to ensure that only one response per journal is considered, priority being given to editors and editorial board members. We are pleased that 98% of responders were in the above categories, as they would be more aware of the misconducts encountered by their respective journals. The survey, however, was limited to only 10 questions and did not delve into details on how misconduct was detected or determined and how they were subsequently managed. Notwithstanding the limitations and the response rate of (only) 36%, a few valuable insights have been gained.

The provision for responders to give their own accounts of up to 5 author and 3 reviewer misconducts drew some alarming anecdotes which hit home the brazenness of some of the misdemeanors. Rather than ignorance of publication etiquette, some accounts reveal a

TABLE 1: On line survey questions on publication ethics posed to APAME journals

1. Name of Journal
2. Position of person filling survey (choose one of the below)
   - Editor/Associate Editor/Sub-Editor
   - Editorial Board member
   - Editorial secretariat member
   - Other (please specific)
3. Does your journal practice editorial policies related to publication ethics (choose one of the below)
   - Yes
   - No
4. Does your journal provide instructions to authors on editorial policies related to publication ethics (choose one of the below)
   - Yes
   - No
5. Does your journal use an anti-plagiarism software to check all manuscripts received (choose one of the below)
   - Yes
   - No
6. If the answer to question 5 is yes, please specify the software. If no, please click "Next" to proceed to question 7.
7. Has your journal encountered the following ethical issues in manuscripts received in the last five years? (Click against all issues encountered)
   - Plagiarism
   - Data falsification
   - Fraudulent manipulation of images or figures
   - Duplicate publication
   - No Research Ethics Committee/Institutional Review Board approval
   - Unethical study design/experiment
   - Unjustified authorship
   - Authorship disagreements
   - Breach of confidentiality of research subject
   - Copyright violation
   - Conflict of Interest
8. If your journal has encountered any of the misconducts listed in Question 7, can you please give a brief account of them? (Maximum of 5 accounts) (Limit of 400 characters per account). If no misconduct had been encountered, please click "Next" to proceed to question 9.
9. Has your journal encountered any of the following ethical misconducts by reviewers in the past five years? (Click against all issues encountered)
   - Plagiarism
   - Breach of confidentiality
   - Obstructive behavior
   - Abusive language
   - Conflict of Interest
10. Referring to Question 9, please briefly describe any ethical misconduct by reviewers that you have encountered. (Maximum of 3 accounts) (Limit of 400 characters for each account). If no misconduct by reviewers has been encountered, please click "Done" to exit this survey.

TABLE 2: Profile of responders

	SEA journals	WP journals	Total
Survey invitations	76	75	151
Bounced email	7 (9.2%)	4 (5.3%)	11 (7. 3%)
Response	**32 (42.1%)**	**22 (29.3%)**	**54 (35.8%)**
Editor	26 (81.3%)	18 (81.8%)	44 (81.5%)
Editorial Board	4 (12.5%)	3 (13.6%)	7 (13.0%)
Editorial Staff	1 (3.1%)	0	1 (1.9%)
Past Editor	1 (3.1%)	1 (4.5%)	2 (3.7%)

TABLE 3: Editorial policies of respondent journals

	SEA journals	WP journals*	Total
Has Editorial policy on publication ethics	32/32 (100%)	21/21 (100%)	53/53 (100%)
Provides instruction to authors on ethics	31/32 (96.9%)	20/21 (95.2%)	51/53 (96.2%)
Use anti-plagiarism software	14/32 (43.8%)	10/21 (47.6%)	24/53 (45.3%)
• Cross Check	0	4	4
• Turnitin	0	4	4
• iThenticate	8	1	9
• Viper	1	1	2
• etblast	1	0	1
• Antiplagiarist	1	0	1
• Duplichecker	1	0	1
• Online SmallSEOtools	1	0	1
• Not specified	1	0	1

*1 journal did not respond to these questions

TABLE 4: Pick-up rates for plagiarism with and without software

	SEA journals	WP journals	Total
Journals without anti-plagiarism software	11/18 (61.1%)	8/10 (80%)	19/28 (67.9%)
Journals with anti-plagiarism software	11/14 (78.6%)	9/10 (90%)	20/24 (83.3%)

Fisher's exact test. P=0.34

TABLE 5: Types of publication misconduct encountered by respondent journals

	SEA journals	WP journals	Total
Author misconduct*	**n=32**	**n=20**	**n=52**
• Plagiarism	22 (68.8%)	17 (85.0%)	39 (75.0%)
• Data falsification	12 (37.5%)	3 (15.0%)	15 (28.8%)
• Fraudulent manipulation	10 (31.3%)	4 (20.0%)	14 (26.9%)
• Duplicate publication	15 (46.9%)	15 (75.0%)	30 (57.7%)
• No IRB approval	18 (56.3%)	8 (40.0%)	26 (50.0%)
• Unethical study	5 (15.6%)	4 (20.0%)	9 (17.3%)
• Unjustified authorship	12 (37.5%)	8 (40.0%)	20 (38.5%)
• Authorship dispute	10 (31.3%)	7 (35.0%)	17 (32.7%)
• Breach of confidentiality	2 (6.3%)	3 (15.0%)	5 (9.6%)
• Copyright violation	5 (15.6%)	4 (20.0%)	9 (17.3%)
• Conflict of Interest	6 (18.8%)	7 (35.0%)	13 (25.0%)
Reviewer misconduct**	**n=30**	**n=18**	**n=48**
• Conflict of interest	5 (16.7%)	4 (22.2%)	9 (18.8%)
• Plagiarism	4 (13.3%)	4 (22.2%)	8 (16.7%)
• Obstructive behaviour	4 (13.3%)	4 (22.2%)	8 (16.7%)
• Abusive language	2 (6.7%)	4 (22.2%)	6 (12.5%)
• Breach of confidentiality	3 (10.0%)	3 (16.7%)	6 (12.5%)

*2 journals skipped this question
**6 journals skipped this question

TABLE 6: Most alarming anecdotes of misconduct reported by respondent journals

Author misconduct	Reviewer misconduct
• Lifting paragraphs off books, review articles and published literature • Data fabrication/manipulation to increase sample size • Published case report submitted with different authors • Forgery of co-author signature • False/non-existent IRB approval • Copying figure from internet • Photo-shopping previously published figure • Right-left reversal of CT images • Long list of co-authors (esp. clinical departments) • Entry of new author at galley proof stage	• Steals rejected study and submits as own • Posting manuscript for review on a yahoo group for comments • Brief (inadequate) review but abusive language • Obstructing a paper due to conflict of interest • Fearful of being critical of a senior author

true intention to "cheat" or a blatant disregard of fundamental ethical conduct. The words of one of the responders that "our experience is authors are not worried about quality, they just want immediate publication" is a poignant indictment of the research and publication culture among authors that Editors have to face. While Editors may uphold the ethical standards of publications through punitive actions such as rejection and retraction of papers, and reporting of misconduct to relevant authorities, there is nevertheless a clear need for strengthening the ethical culture of young researchers/authors as well as reviewers. Workshops, mentoring and role-modeling may have important parts to play towards this.[3]

This survey revealed that plagiarism was the most prevalent (75%) misconduct encountered, and that the use of anti-plagiarism software may improve plagiarism detection by up to 15%. In today's climate, and considering the increasing load of manuscripts that journals now face, technical support to detect plagiarism, duplicate publication and image manipulation, will be increasingly needed. APAME should consider what guidance and collaborations can be facilitated.

The detection of publication misconduct is not an easy task. While journals may place the responsibility of ethical conduct on the authors themselves, and depend heavily on the effectiveness and goodwill of peer reviewers, there will always be the need for editorial judgement. There are as many grey zones as there are questions. What should be the cut-off for plagiarism? Is IRB approval always necessary, and is its approval always enough? Are author signatures necessary? How may conflict of interest be detected if not declared? Along the same vein, how may copyright violations be detected if not declared?

Finally, why does publication misconduct occur? What are the root causes of such behaviour, such that the need to attain a publication becomes so overwhelming that it drives some to be beyond care that false work can actually be harmful to Society? Should Editors and networks such APAME venture outside their journals to develop more reasonable measures of good scholarship and research?

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