



Faculty Member's Views, Attitude and Current Practice As Regards International Committee of Medical Journal Editors Criteria for Authorship

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Abstract

Background: The objective of this study was to assess the knowledge and views of faculty members on criteria for authorship by International Committee of Medical Journal Editors (ICMJE), their current practice of choosing the authors, views on gift authorship and problems they had faced concerning authorship.

Methods: It was a cross sectional survey from January 2011 to July 2011 among faculty members of various private and public sector medical institutions of Pakistan through a self-administered questionnaire. Main outcome measures included awareness and use of ICMJE criteria, which contribution to research merit authorship and their perceptions about gift authorship.

Results: Two hundred eighteen faculty members (180 males, 38 females) participated in the study. One hundred twenty eight (58.7%) were from surgery and allied disciplines. Ninety six percent had published between one to five papers while 60(27.5%) had six to ten papers to their credit. One hundred eleven (50.9%) claimed they were aware about the authorship criteria, only twenty two (19.8%) could name this document. Only four (1.8%) could correctly state this. Only one hundred twenty (55.0%) said that all three criteria's must be met to be eligible for authorship. Ninety three (42.7%) said that they were not included as authors though they deserved it while sixty three said they did not merit but were still included. Forty two (19.3%) said that they were not aware when they were listed as authors.

Conclusion: A vast majority of young faculty members are not aware of the existence of authorship criteria and gift authorship is quite common.

Keywords: ICMJE, Journalism, Authorship criteria, Gift authorship, Faculty members

Introduction

In most of the peer review publications in the late 17th century, authorship of papers generally used to be autonomous and was attributed to the sponsors (1). However, now the readers wish to know who paid for research and who did the work. Problems with authorship persist everywhere despite the International Committee of Medical Journal Editors (ICMJE) criteria (2). Authorship is considered as currency in the field of biomedical sciences and most of the researchers open their first publication account either during their under-

graduate or during postgraduate studies and then continue to add further when they acquire faculty positions (2). Someone with impressive research publications curriculum vitae (CV) has much better chances of selection and it also helps in further academic promotions. Strong publication record also leads to further publications, providing great career opportunities; they are preferred to be considered for tenure status appointments, grants and funding. In addition they also earn respect and admiration in the community of research scientists

(3). Publish or perish has been very popular in the West now for many years. In the developing Third world countries, recognition and credit for published research work for academic appointments in medical institutions started only about two decades ago with the result that now faculty members are under compulsion to write and publish, hence at times the quality of their research is not very good. There is also a temptation to get gift authorship and this menace has been spreading everywhere. It is also considered quite common in the West. It is generally felt that manuscripts having too many authors certainly include a few whose names have been added without any intellectual contribution and they are the recipients of gift authorship. In order to overcome this problem, Rennie proposed contributor-ship system many years ago (4). Listing contributor-ship has many advantages and it makes easier for the editors to detect ghost authors. European Medical Writers Association (EMWA) guidelines state that medical writers and statistician do not qualify for authorship but their role should be acknowledged (5). Issues related to authorship consist of almost 25% of the cases discussed at COPE meetings (6) and this issue is discussed at almost every Peer Review Congress and Medical Editors conferences held in different parts of the world.

Just like everywhere else, in Pakistan too, medical editors have been faced with this issue of authorship and many times even the details of contribution which is now demanded by some journals, do not enable those listed in the bylines as authors but the editors cannot do much in this regard. The objective of this study was to assess the knowledge and ascertain views of researchers on ICMJE criteria for authorship, their current practice of choosing authors of scientific papers, views on gift authorship and experience of authorship problems.

Methods

It was a cross sectional survey of 218 faculty members (180 males and 38 females) of various medical universities (Dow University of Health Sciences-Karachi, Baqai Medical University – Karachi, Liaquat University of Medical Sciences-

Hyderabad, Avicenna Medical College – Lahore, King Edward Medical University – Lahore) through a self-administered questionnaire from January 2011 to July 2011. The data were collected during research writing workshops / seminars in all the institutes. The main outcome measures were awareness and use of ICMJE criteria for authorship, awareness as to which contributions to research merit authorship, perceptions about gift authorship. The participants were also asked about the problems they faced in deciding authorship and what strategies they wish should be adopted to eliminate gift authorship.

Results

Majority of the respondents 105 (48.2%) out of 218 faculty members who participated in the study were senior registrars and again one hundred twenty eight (58.7%) were from surgery and allied disciplines because the principal investigator was himself a surgeon. Ninety six (44.0%) had between one to five publications while 60 (27.5%) had six to ten published papers to their credit (Table 1).

Table 1: Demographic profile of the respondents (n = 218)

	n (%)
Gender	
Male	180 (82.6)
Female	38 (17.4)
Position	
Senior Registrar	105 (48.2)
Assistant Professor	65 (29.8)
Associate Professor	34 (15.6)
Professor	14 (6.4)
Specialty	
Surgery and allied	128 (58.7)
Medicine and allied	90 (41.3)
Number of scientific publications	
Nil	27 (12.4)
1-5	96 (44.0)
6-10	60 (27.5)
11-20	19 (8.7)
>21	16 (7.3)

One hundred eleven participants (50.9%) said they were aware about the existence of guidelines on criteria for authorship however only twenty two

(19.8%) could name this document, only four (1.8%) could correctly state the criteria for authorship suggested by the ICMJE (Table 2).

Table 2: Knowledge of ICMJE criteria of authorship (n = 218)

	Yes
Are you aware of the existence of guidelines to determine authorship of scientific papers?	111 (50.9)
If yes, can you name the document and its source? N = 111	22 (19.8)
Do you know about ICMJE	52 (23.9)
What is ICMJE stands for?	16 (7.3)
Do you know the ICMJE criteria of authorship? If yes, please state the criteria	4 (1.8)

Responding as to what they thought of the ICMJE authorship criteria, 201 (92.7%) agreed with the first criteria as regards substantial contribution to conception and design, acquisition of data and its analysis, interpretation while 186 (85.3%) also agreed with drafting the article and revising it critically and an almost similar number 179 (82.1%)

agreed with the final approval of the version to be published. However, only 120 (55.0%) said that all the above three criteria must be met to be eligible for authorship (Table 3). Views of the participants as regards contributions which merit authorship for scientific publications are given in Table 4.

Table 3: Attitude about the ICMJE criteria of authorship(n = 218)

	Agree	Disagree	Don't know
Substantial contribution to conception and design, or acquisition of data, or analysis and interpretation of data	201 (92.7)	0	16 (7.3)
Drafting the article or revising it critically for important intellectual content	186 (85.3)	16 (7.3)	16 (7.3)
Final approval of the version to be published	179 (82.1)	16 (7.3)	23 (10.6)
All three criteria must be met	120 (55.0)	62 (28.4)	36 (16.5)

Table 4: Faculty view of criteria which alone contribution merits author of scientific publication (n = 218)

	n (%)
Conceiving the research idea	135 (61.9)
Designing the study	184 (84.4)
Obtaining the research grant	36 (16.5)
Conducting the literature review	123 (56.4)
Collecting data	177 (81.2)
Entering data	98 (45.0)
Analysis and interpretation of data	143 (65.6)
Providing technical help	79 (36.2)
Providing writing assistance	97 (44.5)
Drafting and revising the article	89 (40.8)
Approving the final version	54 (24.8)
Disbursement of funds	7 (3.2)
Critical review of the proposal	80 (36.7)
Providing statistical advice on ongoing basis	83 (38.1)

Table 4: Continued...

	n (%)
Providing statistical advice on ad hoc basis	14 (6.4)
General supervision of the research group	88 (40.4)
Providing and caring for study patients	63 (28.9)
Being head of the department/unit	16 (7.3)
Working in the same department/unit	16 (7.3)
Personal relationship with principal investigator	7 (3.2)
Being head of a research group	43 (19.7)
Obtaining additional funding	7 (3.2)
Providing access to research subjects	54 (24.8)
Providing access to specialist equipment	19 (8.7)
Formatting and proofreading paper	70 (32.1)

Only 34 (19.7%) of the respondents felt that authorship should be based on contributions while 98 (45.0%) felt it is decided by the main author who also decide the order of authorship (Table 5). Ninety three (42.7%) stated that they were not included as authors in the study though they deserved to be while sixty three said that they were included as authors though they did not merit. Strangely 42 (19.3%) said that they were not aware when they were listed as authors; 52 two said they had been assigned inappropriate co-authorship and the same number had perception of incorrect placing in authorship order (Table 6).

Table 5: Faculty Current trend of Co –authorship and order of authorship (n = 218)

Co authorship	
Solely by the main author	98 (45.0)
After consultation with co-authors	72 (33.0)
According to contributions	43 (19.7)
On request of co-authors	16 (7.3)
Order of authors	
Solely by the main author	99 (45.4)
After consultation with co-authors	60 (27.5)
According to contributions	18 (8.3)
On request of co-authors	0 (0)

Table 6: Faculty perception of any problems with authorship (n = 218)

Not included when authorship felt to be deserved	93 (42.7)
Included when contribution did not merit authorship	63 (28.9)
Not aware of being named as an author	42 (19.3)
Assigned inappropriate co-authorship	52 (23.9)
Perception of incorrect placing in authorship order	52 (23.9)

Discussion

Fifty percent of respondents in our study had knowledge about the existence of some guidelines regarding criteria for authorship but only 19.8% could name it whereas only four out of 218 (1.8%) could state the ICMJE authorship criteria which is a very dismal picture. Details about the ICMJE authorship criteria were given in the same questionnaire. Hence those participants, who claimed that they were aware of it but had forgotten, could have easily picked it up from there. Since they could not, it proved that they were not aware of it. Similar findings have been reported by Bhopal et al. (7). In their study fifty out of sixty respondents supported the criteria for authorship though only a few knew about it or used it and only five people could specify all the three criteria and out of them only one knew that all the three criteria's have to be met as against 55% in our study who felt that all three criteria's must be met for authorship. They also reported that gift authorship was quite common which was promoted by pressure to publish, to motivate research team and main-

tain working relationship. They were of the view that a signed statement which could justify authorship besides contributions by each author could help tackle the issue of gift authorship. Their conclusions were that there is a gap between the editor's criteria for authorship and researchers practice. Lack of knowledge about the criteria was just a partial explanation. They believe that the future criteria for authorship should be agreed by researchers and it should not be imposed by the editors.

In a French study Pignatell et al. who interviewed 39 investigators who submitted 48 proposals during 1994-96, half of the respondents said that they were aware of the authorship criteria and also knew about ICMJE but most of them did not apply this while deciding authorship. Most of them disagreed with the obligation to meet all the three criteria justifying co-authorship because they found it too rigid and inapplicable which is similar to the findings in our study. Again 59% in the French study had been recipients of gift authorship and they felt that there was a need to have French guidelines for authorship. French resea-

rchers had serious reservations regarding third criteria i.e. approval of the final version to be published. Few people question ghost or gift authorship and most of them consider it normal which is a serious problem requiring in-depth debate and discussions. They also suggested that guidelines on authorship should be prepared by professionals, by learned societies, representatives of biomedical journals besides public research institutes and national organizations (8).

In a survey from India among teaching faculty (9), 39% of respondents out of 77 reported conflict on authorship issues like pressure for gift authorship, academic competition, personality differences and intellectual passion besides ownership of data. They felt that individual authors contributions could help check undeserved authorship. They also suggested training in ethical concerns in research at undergraduate level. Though most authors do understand the authorship issues but as stated by Dr. Samuel Johnson "it is not sufficiently considered that men require more often to be reminded than to be informed".

In a debate on authorship issues in BMJ, Scot Tim remarked that the present authorship system should continue its slow evolution since it reflects the real power relations in science (10) but Richard Smith, editor BMJ reported that authorship is influenced by power and departmental politics (11). Currie opined that authors saw fraud, misconduct and unfairness to more junior staff and the culprits are most often the senior researchers. Few authors suggested that number of publications given on CV should be limited. Those applying for Specialists Registrars should be asked to choose two of their best publications for inclusion in CV and they should be prepared to discuss one of the two publications they have submitted in the previous year. For consultants merit awards and CME points should be related more to quality and relevance than to number of publications (11).

Tramara Bates and colleagues in their study reported that as per authors published contributions, number of honorary authors was highest in Annals of Internal medicine 21.5% followed by BMJ 9.5% and JAMA 0.5%. The number of articles

with honorary authors was 60% in Annals, 215 in MBJ and 4% in JAMA (12).

Out of 6,686 researches only 68% fulfilled the ICMJE criteria as per author's contributions lists of radiology articles published during 1998-2000 (13). Position in the byline indicated a significant difference in fulfillment. American researchers had higher percentage of fulfillment 78% than from other countries 57%. These criteria of fulfillment decreased as the number of authors increased, 2,316 researchers (35%) contributed to one or two categories. This study further showed that a total of 2,172 (32.5%) out of 6,686 authors appearing in the bylines did not fulfill the ICMJE criteria for authorship (13). In our study over 80% of the respondents opined that designing the study and collection of data were important followed by conceiving the research idea besides literature search and review as regards eligibility for authorship. Goodman reported that one third of 84 authors did not meet authorship criteria in an analysis of twelve articles (14) while Shapiro after survey of 184 articles with multiple authors from ten medical journals reported that 268 (26%) of 1014 authors had insufficient contributions to research to meet authorship criteria (15).

Ana Marusic and colleagues did a single blind randomized trial of 1462 authors of 232 manuscripts from a general medical journal who answered one of the three different contribution disclosure Forms. They asked the respondents to decide in their own words their contribution to the submitted manuscripts. They found that the structure of the contribution disclosure Form significantly influenced the number of contributions reported by the authors and their compliance with ICMJE criteria. Their study also discovered many important aspects of communication between editor's and authors. They have concluded that editors of journals should not take the existing contribution disclosure and the authorship Forms on their face value (16).

More than half of the major papers published in American Journal of Roentgenology (AJR) had five or more co-authors (17). The incidence of undeserved co-authors increased from 9% on papers with three authors to 30% in papers with

more than six authors which mean that more authors a manuscript has, more are the chances of gift authorship. Gift authorship was primarily attributed to those who had some control over the first author because of fear or obligation. Moreover a temporary staff member they found was more likely to gift the authorship than a permanent faculty (17).

Conception and design, analysis and interpretation and drafting of articles were recognized as the most important of the ICMJE criteria (18). Final approval and critical revision should be taught as important authorship criteria to the future scientists (18). Vesnallakovac and colleagues in their study which included 919 authors of 201 articles submitted to a general medical journal found that more than two third of the corresponding authors (67.9%) differed in at least one contribution choice between the two disclosure statements made about their own contributions (19). Some others studies report that giving medical students clear guidelines and exposing them to high ethical standards should be a long term solution to the problem of authorship abuses in the field of medical research (20).

A recent study from Iran reported that 89% of published bio-medical articles in Iran have at least one honorary author. More than 50% of article authors did not meet the authorship criteria according to ICMJE. About 20% authors confessed they had colleagues omitted from the authors list of the final manuscript. This shows that things are not much different between the two neighboring countries. The author of this Iranian study concluded that regardless of authorship criteria recommended by ICMJE and followed by many journals, still there are cases when authorship criteria is not followed (21).

It all shows that we have not yet found an answer which is acceptable to the editors, authors as well as researches as regards authorship and this debate still continues and perhaps will continue for some more time. Various suggestions are being put forward to redefine the criteria for authorship but the final word has not yet been spoken. It is also evident from the fact that authorship is an important topic which comes under discussion at various

forums. ICMJE, other bodies of science editors as well as representatives from research institutions and researchers need to come up with authorship guidelines which are acceptable to most of the stakeholders. Finding a hundred percent consensus is neither possible nor it should be aimed at since some people will continue to have their own view point on this issue.

Limitations of the study

Majority of our participants in the study was junior faculty members i.e. Registrars or Assistant Professors who had just begun their academic career and an overwhelming majority one hundred eighty out of two hundred eighteen participants were male. Most of this junior faculty had either not written any or just one to five papers. This means that they were not fully exposed to the world of scientific publishing. Hence they were either not aware about the existence of any guidelines or familiar with ICMJE. This was also the main reason that over 98% of them could not correctly state the ICMJE criteria of authorship. Yet another limitation was that in a self-administered questionnaire based survey, participants tend to provide information which may not be 100% correct.

Suggestions

Medical students should be exposed to the art of medical writing from the beginning and those institutions which have not yet included the subject of medical writing and research methodology in their curriculum must be advised to do so. Similarly regular workshops particularly for junior faculty members, postgraduates on medical writing, guidance on how to plan, conduct study, highlighting the existing guidelines on authorship by various bodies including ICMJE will help them expose to the scientific publishing world thus improving the quality of their studies as well.

Conclusion

A vast majority of young faculty members are not aware of the existence of authorship criteria by

ICMJE and gift authorship is quite common in Pakistan.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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