

*Original article* ■

## Ethical Considerations in Publishing Medical Articles in Iranian Journals

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Mohsen Koushan<sup>1</sup>, Akbar Pejhan<sup>2</sup>, Nematullah Shomoossi<sup>3</sup>, Azam Shomoossi<sup>4</sup>

<sup>1</sup>Department of Nursing, Faculty of Nursing and Midwifery, Sabzevar University of Medical Sciences, P.O. Box 319, Sabzevar, Iran

<sup>2</sup>Department of Physiology, Faculty of Medicine, Sabzevar University of Medical Sciences, P.O. Box 319, Sabzevar, Iran

<sup>3</sup>Department of English, Faculty of Medicine, Sabzevar University of Medical Sciences, P.O. Box 319, Sabzevar, Iran

<sup>4</sup>Department of Linguistics, Alzahra University, Tehran 19834, Iran

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### SUMMARY

Publication ethics has always been a major concern of chief editors and members of editorial boards of journals. Therefore, the current study intends to investigate ethical issues in sticking to publication ethics in major medical journals in Iran.

This descriptive analytical study was conducted on Iranian medical journals approved as “scientific research journals” published from 2011 to 2012; the sample included 109 articles from 102 journals published in Persian. For data gathering, a checklist was developed, and completed through careful scrutiny of the articles and contact with authors. Ethical misconducts were recorded and summarized to compute the misconduct cases.

Ethical misconducts included lack of the ethics committee approval (81.7%), un-stated informed consent (45%), authors with insufficient contribution (46.8%), dispute on the order of authors (84.4%), honor authors (8.3%), ghost authors (6.4%), salami publishing (10.1%), concurrent submission (4.6%), missing acknowledgements (49.5%) and not mentioning the financial support providers (56.9%).

The results indicated that some ethical considerations are ignored in publishing medical articles. Therefore, both *journals* and *authors* need to take action to avoid misconducts.

**Key words:** ethics, publication, ethics committee, informed consent, authors

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Corresponding author:

**Nematullah Shomoossi** •

phone: +98 5712264407 •

e-mail: nshomoossi@yahoo.com •

## INTRODUCTION

University academic staff needs to be promoted to a higher rank by publishing articles in major research journals (1). Also, publishing scientific articles in national and international journals is directly related with the science production and a country's ranking in the world (2). Therefore, publishing articles and the industry of journalism, particularly in medical sciences, have now turned into a central concern for academicians. Ethical issues, accordingly, have become the focus of journal editors and reviewers since an article can either degrade or enhance the reputation of the authors and countries; retracted publications can hamper the promotion of an author and lead to the degradation of countries rather than their contribution to science production (3).

In medical fields, research articles and findings are the basis of community-related and clinical decisions (4), in addition to being a criterion for promotion. Most readers take the positive side and trust the findings and the methodology to change their lifestyle and attitude (5). Also, the accuracy of results, when published, is of utmost importance since they are considered as the cornerstone of medical science in general. To achieve this, ethical considerations throughout the stages of *doing* and *publishing* researches are observed to increase the readers' trust in published results; accordingly, they can apply the findings to their career and life conveniently. However, deviation from ethical guidelines can often decrease the possibility of readers' trust in findings, and hampers solving out the public health problems as well as the scientific advances.

To compare the current status of publication ethics in Iranian and international journals, two studies will be reported below. In an international survey, 231 editors-in-chief of Wiley-Blackwell journals were asked about the ethical issues in their journals, where most of them did not seem worried about the issues and believed that misconduct occurred only rarely in their journals (6). However, a case series of ethical misconducts were reflected in one major Medical University in Iran (7); in other universities, reports are not clearly published. Also, cases of unethical behavior and duplication by a few Iranian scientists and senior governmental officials were highlighted in *Nature* (8). As a reaction and in a *Correspondence* to *Nature*, a group of top Iranian scientists responded to the international negative wave towards Iranian academia and attributed such claims to external sources including political influences, and stressed the integrity of scientific research conducted by conscientious scholars (9). Accordingly, in the Editorial of *Nature* (2009), Iranian institutions were urgently advised to investigate scientific plagiarism (10). National efforts have also been vividly made in scientific societies in Iran to oblige contributors to keep to the standard rules of international publishing (11). Also, journals in Tehran University of Medical Sciences are now taking measures against authors with proven misconducts by rejections,

warnings, boycotts and other measures to keep the scientific integrity of their publications (12).

The importance of ethical considerations in publishing is further highlighted when major research journals demand a proof of the research committee of ethics, before they accept and publish articles. In Iran, all clinical trials must be registered at [www.irct.ir](http://www.irct.ir), and obtain the approval of the ethics committee from medical universities and institutes (12). Below, we will present a brief description of some common *publication misconduct* before going to the details of the present study.

### Misconduct before submission

Before an article is prepared for submission, and at the stage of doing a research, misconduct issues may include doing the research without the approval of the research ethics committee as well as lack of informed consent, particularly in clinical trials. For a detailed list and discussion of research ethics, we recommend readers to visit the official website of COPE at <http://www.publicationethics.org/>. However, this is not the main concern of the present study, and the major focus of the present study will fall on what is presented in the following section.

### Misconduct with manuscript preparation

While publication misconduct may not include honest error or differences of opinion, fraudulent publication (including fabrication, duplicate publication and plagiarism) is considered as the most severe type of ethical violation (13). Nine possible types of misconducts will be briefly introduced below.

(a) Fabrication is publishing forged articles which are considered as the most unacceptable type of fraud in publication. Unfortunately, publishing unreal research results remarkably damage the reputation of science.

(b) Falsification can be described as manipulating research materials, equipment or processes, such that the research is not accurately represented in the research report.

(c) Plagiarism is citing another person's ideas, processes, results or words without proper referencing and citations (including self-plagiarism or verbatim copying or reuse of one's own research) (13, 14).

(d) Duplicate publication of an old work as a new research article.

(e) Dual submission of an article to more than one journal.

(f) Misrepresentation of research findings or using selective or fraudulent data to support a hypothesis or claim.

(g) Failure to disclose the financial support providers or grants.

(h) Failure to declare conflict of interest which happens when a primary interest or inclination (e.g. keeping the interests of patients or the reputation of the study) affects another interest (e.g. competitive or financial gains) (2).

(i) Failure to provide *Acknowledgements*.

### Authorship issues

A related concern is that the articles are mainly the output of a team work; occasionally, it happens that the list of authors is headed by someone with the least cooperation (referred to as gift author); or someone with the highest cooperation is left out of the authors list (referred to as ghost author), which all indicate ethical misconducts in publishing. Gift or honor authors, on the one hand, are often senior researchers (e.g. heads of departments) whose names are added and listed as authors while having no significant contribution to the research, and therefore do not fulfill the authorship criteria. On the other hand, there are ghost authors who make a significant contribution to a research project but are not listed as authors (15). In such cases, the final article is not read and reviewed by each author, which is compulsory for an academic publication. To minimize the author disputes, three possible ways are suggested: (a) encouraging a culture of ethical authorship, (b) discussing authorship when you plan your research, and (c) deciding authorship, particularly the order of author names, before you start each article (15).

### The present study

In the present article, we will report a study conducted on the medical journals of Iranian universities (published in 2011 and 2012) to see if the ethical considerations are observed upon publishing or not. Details of methods and materials will follow.

### MATERIALS AND METHODS

This descriptive analytical study was conducted in Iran during 2010 and 2011 to investigate the degree to which medical journals and authors adhere to ethical guidelines in publication. A total of 109 research articles were randomly selected from 102 research journals regularly being published and distributed throughout the country. In fact, the inclusion criteria of the journals were related to the publication language; in other words, journals being published in Persian were included and those in English or Arabic were not. Therefore, 102 journals were selected, and the rest (54 journals in languages other than Persian) were excluded.

In order to collect data, a checklist was developed on the basis of the current literature and experiences of the authors who were the staff and editors of a medical journal in Sabzevar, Iran at the time the re-

search was being planned and conducted. The articles were closely observed and reviewed for ethical considerations; the corresponding authors of the articles were contacted in order to complete the aforementioned checklist.

The obtained data were summarized and analyzed in SPSS to provide a report about ethical deviations in the articles. Finally, the total misconducts were reported. Also, the relationship between different types of ethical misconducts was investigated.

### RESULTS

The results are based on the evaluation of 109 articles randomly selected from 102 medical journals published (in Persian) by Iranian universities and institutes of medical sciences. It was observed that 11.9% stated the type of study only in the abstract of the articles; 24.8% of the articles did not state the type of study (Table 1).

As for the time between doing and publishing the studies (Table 2), 2.8% of the studies were published in the same year as they were conducted. Others were published with a delay of 1, 2, 4, 5, and 6 years from the time they had been conducted. However, 62.4% of the articles did not state the year of their being conducted (Table 2).

Finally, the main findings of the present study are summarized in Table 3. The results indicated that 81.7% of the articles did not state the approval of the research committee of the relevant institute where the study was conducted; this deviation occurred in clinical trials (11 articles) and experimental studies (7 articles); also, 18 out of 19 quasi-experimental articles did not discuss the approval of the research committee, which indicates that this violation is common with interventional studies ( $p < 0.02$ ) (Table 3).

The issue of the informed consent was asserted only in 26.4% of the articles; in clinical trials, the issue was not discussed in one-third of the articles. However, 19% of the studies were conducted on animals, where the issue of informed consent may not apply. As for the conflict of interest, 45% did not disclose it in the articles. *Acknowledgements* were not stated in 49.5% of the articles; and 56.9% of the articles did not disclose the financial support providers (Table 3).

The authorship was also investigated; the results indicated that the majority of authorship orders and appearance in the articles were based on personal agreement of the authors involved (84.4%); in the rest, the authors were ordered alphabetically (15.6%), which may indicate equal contribution of all authors. In 46.8% of the articles, not all authors had contributions to the formation of the study and the articles (46.8%); some authors were gift authors (8.3%), and some were omitted from articles (6.4%) (Table 3).

The investigation of publication misconduct indicated that parts of some articles were already published

in other journals (10.1%), i.e. salami publication; also, 8.3% of the articles were published in a language other than Persian (i.e. English). Concurrent submission of the

articles was also reported in a few cases by the corresponding authors (4.6%).

**Table 1.** Types of studies reported in the articles (Iran, 2011-2012)

Type of the study	Percentage
Descriptive	18.3%
Quasi-experimental	17.4%
Cross sectional analytical	11.9%
Clinical trial	11%
Experimental	6.4%
Case Reports	4.6%
Case Control studies	4.6%
Prospective	1.8%
Not stated	24.8%
<b>Total</b>	<b>100%</b>

**Table 2.** Conducting and publishing dates of articles (Iran, 2011-2012)

Year conducted	Publication year	Years in between	Percentage
2010	2012	2	13.8%
2010	2011	1	10.1%
2007	2011	4	7.3%
2011	2011	0	2.8%
2006	2011	5	1.8%
2005	2011	6	1.8%
Not stated	2011	Not stated	62.4%
<b>Total</b>			<b>100%</b>

**Table 3.** Summary of the misconducts (Iran, 2011-2012)

Percentage		Ethical Misconducts
Conflict of interest		45%
Authorship misconduct	Ghost author	8.3%
	Omitted author	6.4%
Publication misconduct	Fabrication	0.00
	Duplicate publication	10.1%
	Plagiarism	0.00
Acknowledgements		49.5%
Financial support disclosure		56.9%
Approval of the Ethics Committee		81.7%

## DISCUSSION

The present study was conducted on a sample of Iranian medical journals to see if the ethical considerations are observed upon publishing or not. The results indicated that some articles did not state the type of the study reported (24.8%); a great majority did not state the approval of the research committee (81.7%); some did not disclose the conflict of interest (45%) and the financial support providers (56.9%); and some did not present *Acknowledgements* (49.5%). Also, there were cases of salami publication (10.1%), dual submissions (4.6%), authorship disputes including gift authors (8.3%) and ghost authors (6.4%). In general, some deviations from the standard publication ethics were observed in the articles.

Not surprisingly, misconducts are not limited to the Iranian authors. For instance, of 660 articles published in 3 major surgery journals in India, cases of identical sections (11.6%), almost identical (7.6%) and identical copies (3%) were observed (16). In another survey, 788 English language research papers retracted from the PubMed database between 2000 and 2010 were evaluated, which were based on data fabrication or falsification and represented a calculated effort to deceive (17). Below, we will discuss some reasons why these deviations occur in Iranian journals (including the external pressure and lower standards of the medical journals publishing in Persian); also, some practical suggestions will be made.

### External pressure

While Specific National Ethical Guidelines for Biomedical Research were compiled and developed in 2005 (18), causes of occasional misconducts may originate in

hasty efforts to publish due to an emphasis on the scientific proliferation in research institutes and gauging scientists according to their publications (1,7). Also, critics criticize the metric ruler-based evaluation of research and science production in Iran, and find this a wrong strategy leading to less robust research (1), also highlighting a weak research infrastructure (17). Accordingly, some authors are allured to ignore ethical rules in publishing to hastily produce an article for promotion purposes. The result will be an abundance of medical research often by novice writers doing elementary research at the expense of neglecting research and publication ethics; they often diffuse responsibility across many co-authors (17), with senior researchers as the first author.

### Standards of Persian medical journals

Another reason why ethically unjustifiable publications are published may be attributed to the lenient acceptance criteria of the medical journals in Iran, particularly those published in the past decade. This fact led the Ministry of Health and Medical Education to take action against unethical behavior first by evaluating the journals and then by training the journals staff (19); in evaluating medical journals (2004-2006) from the perspective of scientific credibility, registry and year of service, journal management, technical quality and accessibility, a team of researchers found an upward developmental trend in medical journals; evaluations, they believed, can promote compliance to international standards and lead to the indexing of journals in accredited international indices (19). Also, lower standards of the Iranian medical journals are criticized to lead the authors toward a myopic perspective of international stan-

dards(20); it was revealed that only a few Iranian biomedical journals were indexed by Web of Science, Medline, Scopus and Biological Abstracts, while most of them were covered by Index Copernicus and Index Medicus for Eastern Mediterranean Region; the critics recommended enhancing journals' basic publishing standards to increase the number of Iranian medical journals in reputable indexes and databases (20), which is deemed to improve Iranian contribution to the world science.

### Practical suggestions

While publication misconduct may originate from ignorance, poor ethical knowledge, poor writing skills, ambition, fierce competition, pressure from seniors along with many other factors, ethical misconduct by Iranian writers could have been the result of *ignorance* rather than *intentional misconduct*. Iranian scientists have always been among science producers; some have even predicted Iran to be one of the most powerful countries in the field of science in the world in future (21). However, we feel that the way they manifest their findings is different from the western tradition of writing. As an ancient tradition in Persian culture, the role of language and concepts used to be considered superior to the format and structure of the written product, as in most oriental cultures (22). Therefore, in the modern era, they need training in the style and rules of English writing for publication. In an earlier publication, we portrayed three stages for publishing articles (pre-preparation, preparation and post-preparation stages)(3); here, we feel that authors need to pay more attention to the third stage

(i.e. the post-preparation strategies) so that the publication ethics are given a second consideration before an article is published. Since most authors are not trained for writing articles, short courses and workshops as well as hands-on programs to train professional article writers are suggested (23, 24). Cooperation of professional editors and translators is also recommended and expected.

### CONCLUSION

In general, both *journals* and *authors* need to take immediate action against any sort of ethical misconduct to preserve the integrity of medical science on the one hand, and to help evaluators defend the credibility of Iranian authors on the other. Educational workshops and short courses can also enhance the researchers' knowledge of medical ethics (25). Also, policymakers should develop a standard guideline for local ethical committees in medical universities in Iran (26).

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## RAZMATRANJE ETIČKIH NORMI KOD PUBLIKACIJE RADOVA IZ OBLASTI MEDICINE U IRANSKIM RADOVIMA

Mohsen Koushan<sup>1</sup>, Akbar Pejhan<sup>2</sup>, Nematullah Shomoossi<sup>3</sup>, Azam Shomoossi<sup>4</sup>

<sup>1</sup>*Departman za strukovne studije za medicinske sestre, Fakultet za strukovne studije za medicinske sestre i akušerstvo, Sabzevar Univerzitet medicinskih nauka, Sabzevar, Iran*

<sup>2</sup>*Katedra za fiziologiju, Medicinski fakultet, Sabzevar Univerzitet medicinskih nauka, Sabzevar, Iran*

<sup>3</sup>*Departman za engleski jezik, Medicinski fakultet, Sabzevar Univerzitet medicinskih nauka, Sabzevar, Iran*

<sup>4</sup>*Departman za lingvistiku, Alzahra Univerzitet, Teheran, Iran*

### Sažetak

**Etika u izdavaštvu je oduvek bila prioritet urednika časopisa i članova uređivačkih odbora. Stoga je cilj ove studije bio da razmotri etička pitanja i poštovanje izdavačke etike na primerima značajnijih medicinskih časopisa u Iranu.**

**Ova deskriptivna, analitička studija je sprovedena na medicinskim časopisima koji se vode kao "naučno-istraživački časopisi", a objavljeni su u periodu od 2011. do 2012. godine. Uzorak je činilo 109 radova iz 102 časopisa koji su objavljeni na persijskom jeziku. Za prikupljanje podataka sastavljen je spisak nakon detaljne provere radova i razgovora sa autorima. Zabeleženo je kršenje etičkih normi, a zatim sumirano kako bi se izračunao broj ovakvih slučajeva.**

**Kršenje etičkih normi je uključilo izostanak odobrenja etičkog komiteta (81.7%), pismene saglasnosti (45%), zatim autore sa nedovoljnim doprinosom radu (46.8%), spor o redosledu autora (84.4%), počasnim autorima (8.3%), autorima koji se unajmljuju i plaćaju za pisanje radova ("ghost authors"), a čije se intelektualno delo prisvaja od strane lica koja se izdaju za autore (6.4%), "salama publikacije" (10.1%), duplikate radova (4.6%), izostanak pasusa "Zahvalnost" na kraju rada (49.5%) i nenavodenje izvora finansijske pomoći (56.9%).**

**Rezultati su pokazali da se neke etičke norme ignorišu kod publikacije radova iz oblasti medicine. Iz tog razloga bi i časopisi i autori trebalo da povedu računa kako bi se ove situacije izbegle.**

**Ključne reči:** etika, publikovanje, etički komitet, pismena saglasnost, autori