Demography of Medical Journals in Iran; a Cross-Sectional Study

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Abstract

Introduction: Policymaking in order to increase the quality of medical journals needs having accurate data from their current status.

Objective: The present study was designed with the aim of introducing a demographic scheme of Iranian journals in the field of medical sciences.

Method: This cross-sectional study was performed on all the medical journals being published in Iran in 2016. The list of all journal titles was extracted by referring to the medical journals databanks (ministry of health, Magiran, IranMedex, Irandoc and…), and the data required for the study were gathered using journals' homepages or by phone or in person, by attending the journal's office.

Results: Totally, 521 journals were assessed. Publication language used was English in 297 (57%) journals and 515 (98.85%) were open access. 381 (73.1%) journals were published quarterly and the year of starting publication was 2010 onwards in case of 245 (48.0%) of journals. There were 29 (5.56%) journals, which were indexed in all 3 databases of ISI, PubMed and Scopus. Only 4.81% of the journals had an official impact factor announced by Thomson-Reuters or Clarivate Analytics Company. Mean time needed for review of articles was 1.89 ± 1.52 (0.5 – 12) months (n = 146) and mean time interval between accepting an article and its print or electronic publication was 3.63 ± 2.17 (0 – 12) months (n = 144). Rate of membership of these journals in COPE and ICMJE were 40% and 27%, respectively.

Conclusion: Most medical journals being published in Iran were English quarterly journals that were regularly published in the fields of general medicine, open access, with university affiliations, centered in the capital, and more than 80% of them had started publishing from 2000 and afterwards.

Key words: Abstracting and Indexing as Topic; Iran; Journalism, Medical; Medicine; Publications

Cite this article as: Safari S, Faghfouri A, Vahdati A. Demography of Medical Journals in Iran; a Cross-Sectional Study. Adv J Emerg Med. 2019;3(2): e14.

INTRODUCTION

The importance of recording and representing knowledge has been considered by humans from a long time ago (1-3). The need for written recording of the findings obtained from researches in the field of healthcare has emphasized the importance of journals as one of the most important tools for sharing science, more than before (4). At the same time, electronic publishing has eliminated many complications related to the publishing field and this has led to a day by day increase in the number of journals in the field of medical sciences (5-7). Iran, having a considerable number of young researchers, has not been an exception in this regard and has faced a significant increase in the number of scientific journals in the past decade. Although the history of journalism in Iran goes back to the publication of Kaghaze Akhbar (paper of news) newspaper in 1838, the first university affiliated medical journal of the country was published in 1942 (8, 9). The age of the oldest

medical journals, with regular and nonstop publishing, in Iran is barely more than 60 years and publication of many of them has ceased after a few years (4). These journals are at different levels regarding quality and while some of them are rated in the first quartile of their related field, some others, despite passing of several years from starting their publication, are not in a good condition regarding being indexed in reputable databases and receiving citation. The highest impact factor that these journals have had based on the official results of Web of Knowledge website has been between 1.5 and 2. Policymaking in order to increase the quality of these journals needs having accurate data from their current status. Until now, collections such as Iran's medical journals databank (http://journals.research.ac.ir) and Iran's journals databank, Magiran (http://www.magiran.com/index.asp) have attempted to gather the data of these journals, but

since the number of evaluated variables is limited, these databanks cannot respond to all the required needs. Therefore, the present study was designed and done with the aim of gathering the data of the mentioned journals and introducing a demographic scheme of the Iranian journals in the field of medical sciences.

METHODS

Study design and setting

This cross-sectional study was performed on all the journals being published in Iran in the field of medical sciences in 2016. The list of all journal titles was extracted from journals databanks (ministry of health, Magiran, IranMedex, Irandoc and…) and by referring to their homepages or by phone or in person, by attending the journal's office, the data required for the study were gathered. The researchers adhered to ethical principles and confidentiality of data based on the recommendations of Helsinki declaration. During extraction of data related to the journals, the required explanations regarding the method of using these data in order to generate a comprehensive databank for medical scientific journals of Iran were given to the staff of the journal.

Participants

Using census method, all the journals being published in the mentioned year were studied. The resources used for gathering the titles of Iranian Journals in the field of medical sciences included: the medical journals website of ministry of health, Iran's journals databank (Magiran), going to the websites of Iranian universities of medical sciences and IranMedex website. The journals that did not have available data due to any reasons such as not having a website, or their office did not answer or had ceased publication, were excluded from the study. No language or location limitation was applied for the journals.

Data gathering

For gathering data, a checklist consisting of publication language, frequency of publication, city of publication, the journal being active or deactivated, aim and scope of the journal, receiving or not receiving a publication fee, status of open access, main subject, nationality of the editors, having digital object identifier (DOI), the software used for journal management, organizational affiliations, publisher, starting date of publication, publication regularity, time needed for review, time needed to publish, type of refereeing, and indexing in national and international indices (Medline, Web of Science (ISI), PubMed Central

(PMC), Google scholar, Scopus, Directory of Open Access Journal (DOAJ), Embase, EBSCO, CABI, WHO, Islamic World Science Citation Center (ISC), Scientific Information Database (SID), Index Copernicus, Chemical Abstract), as well as being member of Committee on Publication Ethics (COPE) and International Committee of Medical Journal Editors (ICMJE) was used. Data were gathered by 2 trained medical students. Source of data gathering included the websites of the journals, and phone or in-person conversations with journal offices.

Statistical analysis

Sampling was done via census method. After gathering data they were entered to a pre-designed excel sheet. Then, SPSS 20 software was used for analysis of the data. To describe the findings, descriptive statistics including mean ± standard deviation (SD) or frequency and percentage were used.

RESULTS

A total of 584 journals were evaluated and by eliminating the journals that had ceased publication (63 (10.8%)), in the end, 521 journals were assessed. Table 1 shows the baseline characteristics of the evaluated journals. Publication language used was English in 297 (57%) journals and 515 (98.85%) were open access. 381 (73.1%) journals were published quarterly and the year of starting publication was 2010 onwards in case of 245 (48.0%) of journals. More than 3 fourth of the evaluated journals had an organizational affiliation with 1 of the universities of medical sciences in Iran. Indexing status of the mentioned journals in national and international databases has been summarized in table 2. There were 29 (5.56%) journals, which were indexed in all 3 databases of ISI, PubMed and Scopus. 337 (64.7%) journals were indexed in Google Scholar. One hundred forty-one (27.12%) journals were an official member of ICMJE or adhered to its recommendations and 211 (40.49%) journals were a member or adhered to the principles introduced by COPE. Only 4.81% of the journals had an official impact factor announced by Thomson-Reuters or Clarivate Analytics Company. Mean time needed for review of articles was 1.89 ± 1.52 (0.5 – 12) months (n = 146). Additionally, mean time interval between accepting an article and its print or electronic publication was 3.63 ± 2.17 (0 – 12) months (n = 144). The aim and scope of most journals was general medicine or health and basic science (figure 1). Figure 2 depicts the distribution of these journals in different cities via an infogram,

45% (234) of these journals were published in Tehran, capital of Iran.

Table 1: Baseline characteristics of the studied journals

Variable	Frequency (%)
Publication language	
Persian	206 (39.5)
English	297 (57)
Bilingual	18 (3.5)
Regularity of publications	
Regular	396 (76)
Irregular	125 (24)
Activity	
Active	463 (89)
Deactivated	58 (11)
Publication fee	
No	495 (95)
Yes	26 (5)
Open access	
Yes	515 (98.85)
No	6 (1.15)
International editor	
Yes	272 (52.3)
No	249 (47.7)
Digital object identifier (DOI)	
Yes	101 (19.5)
No	420 (80.5)
University affiliation	
Yes	403 (77.5)
No	118 (22.5)
Year of publication initiation	
Before 2000	84 (16.1)
2000 – 2010	187 (35.9)
2010 – 2017	250 (48.0)
Publication frequency	
Quarterly	381 (73.1)
Twice a year	51 (9.8)
Bimonthly	42 (8.1)
Monthly	37 (7.1)
Yearly	5 (1)
Once every 2 years	1 (0.2)
Weekly	1 (0.2)
Software used	
Yektaweb	212 (40.69)
OJS	134 (25.71)
Sinaweb	66 (12.66)
NeoScriber	59 (11.32)
Other	65 (12.47)
ICMJE	
Yes	142 (27.12)
No	179 (72.88)
COPE	
Yes	209 (40.22)
No	312 (59.88)

Table 2: National and international indexing or abstracting sources of studied journals

Variable	Frequency (%)
Emerging Sources Citation Index (ESCI)	
Yes	31 (5.96)
No	490 (94.04)
Scopus*	
Yes	101 (19.38)
No	420 (80.62)
Institute for Scientific Information (ISI)	
Yes	74 (14.20)
No	447 (85.80)
PubMed central	
Yes	78 (14.97)
No	443 (85.03)
Google scholar	
Yes	337 (64.7)
No	184 (35.3)
Medline	
Yes	43 (8.27)
No	478 (91.73)
Directory of Open Access Journals (DOAJ)	
Yes	246 (47.31)
No	175 (52.69)
Embase	
Yes	94 (18.08)
No	427 (81.92)
Centre for Agriculture and Biosciences International (CABI)	
Yes	73 (13.85)
No	448 (81.15)
WHO	
Yes	115 (22.12)
No	406 (77.88)
Islamic World Science Citation Center (ISC)	
Yes	332 (63.65)
No	189 (36.35)
Scientific Information Database (SID)	
Yes	326 (62.5)
No	195 (37.5)
Index Copernicus	
Yes	258 (42.62)
No	263 (50.38)
Chemical abstract	
Yes	77 (14.81)
No	444 (85.19)
EBSCO	
Yes	359 (68.85)
No	162 (31.15)

* At the time of writing the manuscript, 2 more journals were indexed in Scopus database and therefore the number of journals indexed in Scopus has increased to 103 cases.
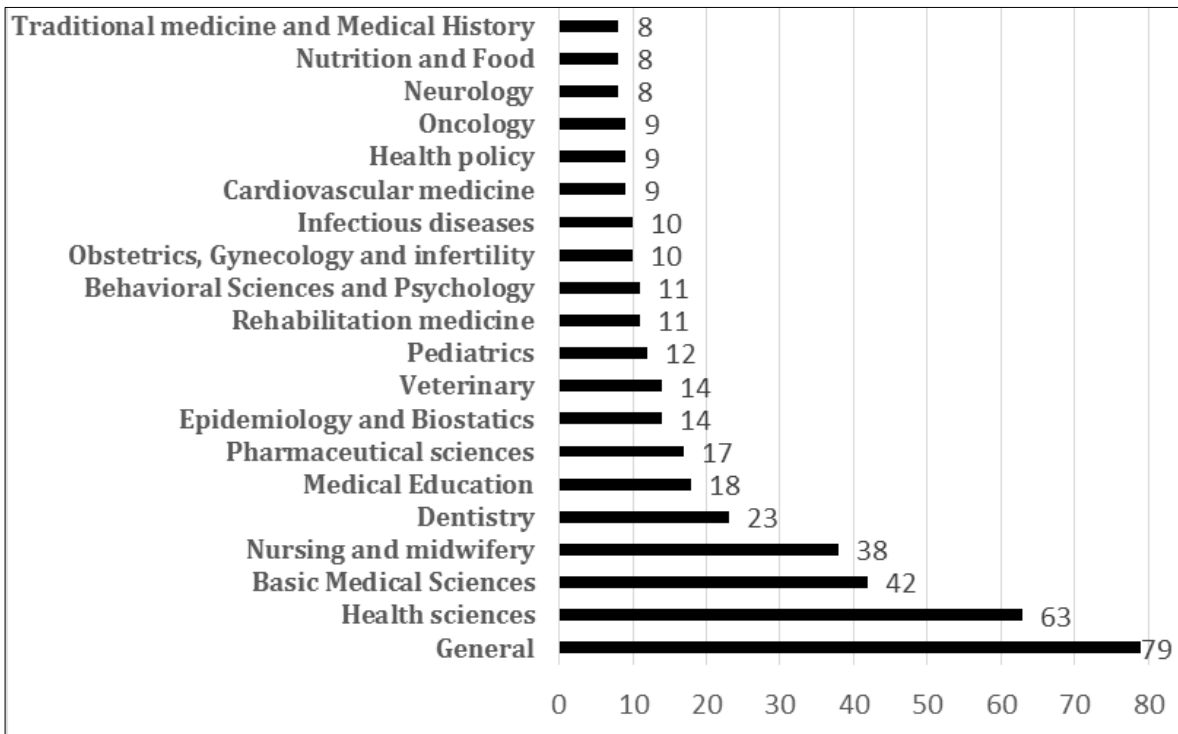
Figure 1: Top twenty aim and scope of the studied journals.
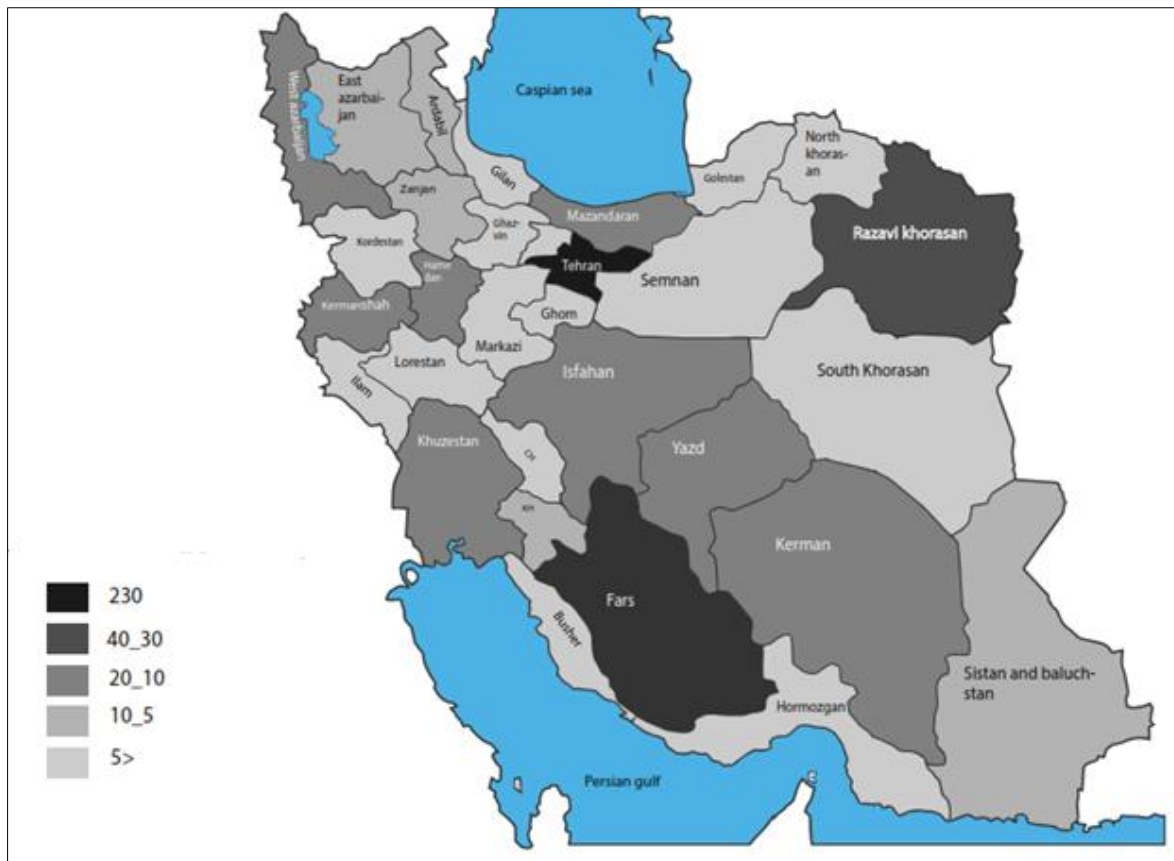

Figure 2: Geographical distribution of journals being published in the field of medical sciences in Iran.

DISCUSSION

Based on the findings of the present study most medical journals being published in Iran were English quarterly journals that were regularly published in the fields of general medicine, open access, with university affiliations, centered in the capital, and more than 80% of them had started publishing from 2000 and afterwards. 144 (27.63%) journals are indexed in at least one of PMC, Scopus, or ISI databases and 29 journals are indexed in all 3 mentioned databases. Rate of membership of these journals in COPE and ICMJE were 40% and 27%, respectively.

The first English journal of the world in the field of medicine was published in London in 17th century named Medicina Curiosa (10). In 18th century the number of general medicine journals increased little by little and this pattern continued with specialization of the journals in the next years (11). Meanwhile, the first medical journal published in the United States named The Medical Repository goes back to 1797 to 1824, and the first journal in the field of medical sciences published in Iran, named the journal of faculty of medicine affiliated to Tehran University of Medical Sciences, was published in 1942. From that year until 2000 a slow growth was seen in Iran regarding increase in the number of journals and from 2000 and especially in the past decade, with medical journalism becoming hot, the number of journals in the field of medicine increased significantly.

Advances made in the field of information technology in the past decades led to facilitation of publishing articles in electronic format and for better and cheaper access to electronic content generated, the open access process was considered (12). In developed countries including America, England, and Germany access to medical journals has moved towards open access (13, 14). The number of journals with open access rises each year, which indicates the increasing tendency of authors and readers to journals with open access. Fortunately, in recent years, open access articles have become prevalent in Iran and more than 98% of articles in Iran are open access. The frequency of publication is considered as a tool for evaluating their quality (15). With increase in the frequency of publication in journals, the time is saved for the authors and consequently their satisfaction increases (16).

The findings of this study indicate that currently, the majority of Iranian journals are published quarterly; therefore, one of the proper measures that can be taken for increasing the quality of journals is improving their publication frequency.

Review policy and time from submission to sending the results of review to the authors is another quality index for journals. It is obvious that decreasing this time is necessary for increasing satisfaction, decreasing waiting time of the authors and consequently increasing the chance of journals for receiving more manuscripts.

In the past few decades, English language has played an important role in distribution of knowledge in a way that even in European countries with a variety of languages the preference has been to publish articles in English (17). In addition, indexing databases mostly index English journals. Considering the afore-mentioned points, it is no surprise if Iranian journals tend to English language, which is in line with the results obtained in this study and the higher frequency of English journals.

Regular publishing is another index showing the quality of a journal and is deemed an indicator of its commitment to its audience. In this study, only 76% of the journals were published regularly, which means journals should make more effort for publishing more regularly.

Management of journal is deemed a full time and independent non-governmental job and with time passing the specialists in different disciplines in management of journals give their place to medical journalism specialists (18). Great and qualified journals of the world are mostly managed independently and without any governmental and university affiliations. Meanwhile in Iran the majority of journals have an organizational affiliation to scientific societies or universities. This can be an obstacle to innovation, creativity and presenting innovative ideas for quality improvement of these kinds of journals.

With medical sciences becoming more specialized, the necessity of creating journals with more specialized scopes was felt and nowadays, limited scope of the journals related to a specialized field is one of the scales for becoming indexed in reputable indexing databases. However, most journals being published in Iran had general fields of medical or basic sciences. It seems that paying attention to development of journals with more specialized scope can be of help in this regard.

Indexing of a journal in reputable indexing databases will unconsciously attract the attention and trust of the authors for submitting manuscripts with higher quality and this will naturally lead to quality improvement of the journal's articles. In addition, being indexed in these databases leads to increased visibility and therefore, probability of citation for their articles. Various indices exist

around the world, each of which has their own reputation and value. Among the most reputable and attractive ones, PubMed, Scopus and ISI can be pointed out. Currently Iranian journals make up only 0.26% of 30000 journals that are indexed in PubMed gateway. Findings of the present study regarding indexing of Iranian journals are indicative of the relatively acceptable status of the journals in this regard. However, there is still a long and rough road ahead for the editors and managers of these journals for reaching a desirable status and increasing the impact factors of the journals. The number of journals indexed in ISI in all sciences was 2459 and Iranian medical journals with 74 journals made up 3.00% of them (Available in: http://isindexing.com/isi/journals.php). The number of journals indexed in EMBASE in all science was 8300 and Iranian medical journals with 94 journals made up 1.13% of them (Available in: https://www.elsevier.com/solutions/embase-biomedical-research/embase-coverage-and-content). Considering the increase in the number of journals around the world, publication rules needed revision and from a few years before, different committees including ICMJE and COPE were created to establish the policies for publication. Nowadays, recognized journals of the world make an effort to adhere to the principles of these committees to increase their validity and the trust of their readers. Iranian journals of medical sciences with 27.12% and 40.22% are members of ICMJE and COPE, and for improving the quality of Iranian journals more journals should become members of these committees and adhere to their principles.

Finally, it is likely that Iranian medical journals are in a good place regarding their quantity; however, regarding quality and the number of audience, they are at a lower level compared to the world. It seems that after the growth in the quantity of the journals in recent years, currently there is a need for qualitative growth of the journals by paying more attention to the policies of the ministry of health and journals commission of the ministry of health and universities.

Suggestions

It seems that changing the language of the journals to English or at least making them bilingual, regular publication, decreasing review time and waiting time to publish, making an effort for becoming members of reputable international indexing databases, specializing the field of the journals, decreasing organizational affiliation of the journals and finally becoming a member and adhering to the recommendations of international committees active in the field of publishing are the most important approaches to quality improvement of national journals in the field of medical sciences.

Limitations

Considering the great number of medical journals in Iran, there were limitations regarding data gathering. Among these limitations were ceasing publication suddenly and without notice, the journal office not answering the phones indicated on their websites, and not having proper sites for extracting data in some journals. It should be noted that the data were gathered in 2016 and it is obvious that some of the parameters in journals such as indexing might have changed.

CONCLUSIONS

Most medical journals being published in Iran were English quarterly journals that were regularly published in the fields of general medicine, open access, with university affiliations, centered in the capital, and more than 80% of them had started publishing from 2000 and afterwards. 144 (27.63%) journals are indexed in at least one of PMC, Scopus, or ISI databases and 29 journals are indexed in all 3 mentioned databases. Rate of membership of these journals in COPE and ICMJE were 40% and 27%, respectively.

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