Properties of Turkey-related Publications in International Emergency Medical Journals

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Abstract

Aim: To examine the publication characteristics of articles written by Turkish academics published in Science Citation Index Expanded (SCIE) emergency medical journals.

Materials and Methods: In this study, only publications from the field of emergency medicine (exluding emergency nursing and emergency pediatrics) broadcasting and that included in the Science Citation Index or SCI-E and published in 2003 and 2004 were investigated. The publications are summarized and classified according to the number of subjects and authors and the author's country.

Results: Among the 5,715 articles analyzed so far, only 195 of the publications (3.4%) originated from Turkey, whereas the rest of them (n=5,520) were from other countries. The United States ranked first with 2,582 (45.1%) publications, and Turkey was ranked in sixth place with 195 (3.4%) publications. For the topics analyzed, pre-hospital care took first place, accounting for 20.8% (n=1189) of the publications. In Turkey, the most frequent topic identified was cardiovascular (19.5%), followed by neurology (10.2%), bone and joint injury (8.2%), and trauma, resuscitation, and gastrointestinal emergencies (7.7%).

Conclusion: Turkey is ranked higher in the world ranking of countries that have contributed to the literature of emergency medicine. Although the trend in global publications is veering toward pre-hospital emergency topics, currently Turkish emergency academics do not give enough attention to this topic. *(Eurasian J Emerg Med 2016; 15: 86-9)*

Keywords: Emergency medicine, journals, article, case, Turkey

Introduction

Emergency medicine was first established as a distinct field at the Ohio Cincinnati University in 1970 in the United States, and in Turkey in 1994 at the Dokuz Eylul University (DEU) after an invitation to United States' emergency medicine specialist John Fowler. After he started working in Turkey, approval for a new department was announced by the official gazette newspaper in 1993 (1). In this manner, Turkish emergency medicine started to contribute to the international literature in this field.

Qualified information gathered in the indexes is very important. It has been reported that there are over 600 scientific databases in the world. However, only 80 are available for health sciences. All of these databases are available via the Internet. Specifically in the medical field, the most prominent are the Science Citation Index (SCI), Science Citation Index Expanded (SCIE), PubMed, Ovid, Thomson Reuters Web of Knowledge and Science, Scopus, the Cochrane Library, Embase, Sciencedirect, Scirus, Elsevier MD Consult, Index Copernicus, and Google Scholar (2, 3). In Turkey, the articles that are included in these indices are rewarded by the Turkish Academy of Sciences, the Scientific and Technological Research Council of Turkey (TUBITAK), and universities. Publications related to emergency medical journals in these indices are few in number. In Turkey, there are two emergency medical journals, but they have not yet been indexed and abstracted in SCIE. Thus, scholars engaged in the emergency medicine field in Turkey tend to send their articles to other international journals.

The aim of the present study was to examine the articles by Turkish academics published in international emergency medical journals that were indexed in SCIE.

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Materials and Methods

In the present study, only articles that were accepted by publications in the field of emergency medicine (excluding emergency nursing and emergency pediatrics) and that were indexed in the SCI or SCIE and published in the last 2 years were investigated. In June 2015, using the search engine PubMed, articles published between January 01, 2013, and December 31, 2014, were scanned. The journals' International Standard Serial Numbers were searched using PubMed. In the right-hand column of the PubMed search results in the "Results by Year" chart, the number of journal publications in 2013 and 2014 were found. The articles published in 2013 and 2014 were analyzed later by opening their abstracts and noting the name of the journal, the number of authors, the corresponding author's country, and the topic classification.

Publications were classified as research articles, case reports, case series, a brief report (short report/newsletter), short communication (short communication/presentation), correspondence (compilation and reviews), letters to the editor/visual diagnoses/reviews, meta-analyzes, and others (news, guides, biographies etc.); after which, the publications were analyzed and classified by their headings.

The publication topics were classified according to the index of contents located in the book *Tintinalli Emergency Medicine A Comprehensive Study Guide, 2012 Edition*. These topics were as follows: emergency wound management, disaster preparedness, analgesia-anesthesia and invasive sedation, environmental injuries, skin diseases, endocrine emergencies, infectious disease, gastrointestinal emergency, eye-ear-nose-throat and oral surgery, pre-hospital care, hematologic and oncologic emergencies, abuse and assault, cardiovascular disease, musculoskeletal disorders, bone and joint injuries, neurology, obstetrics and gynecology, special occasions, pediatrics, psychosocial disorders, pulmonary emergencies, renal and genitourinary diseases, resuscitation, resuscitative interventions, toxicology, and trauma.

Moreover, the institutions' of the first authors (universities, educational research, and other), the province, and citation counts were recorded. Google scholar (https://scholar.google.com.tr/) was used for determining the number of citations of academic publications in Turkish. After the full name of the publication had been written into the search bar, the results for "Cited Number" was recorded as the number of citations of the publications. The obtained data was recorded and analyzed using the SPSS for Windows 17.0 statistical package program.

Results

In terms of journal included in the specified indices, 12 journals that publish only in the field of emergency medicine met the study criteria. In these journals, 5715 published articles were screened and included. Only 195 of these publications (3.4%) originated from Turkey, while the remainder (n=5520) were from other countries (Table 1).

When the journal publications in 2013 and 2014 were investigated, it was found that out of 70 different countries, the United States of America (USA) ranked first with 2,582 (45.1%) publications, and Turkey ranked sixth with 195 (3.4%) publications (Table 2).

The number of authors listed in the whole publications were as follows: 9.7% (n=554) one author, 16.5% (n=939) two authors, 16% (n=913) three authors, 16% (n=913) four authors, 13.4% (n=767) five authors, 9.2% (n=531) 6 or more authors. The number of authors listed in Turkish publications (n=195) were found to be one author in 4.6% (n=9) of publications, two authors in 4.6% (n=9), three authors

Table 1. Distribution of articles and journals from Turkey and the rest of the world in 2013 and 2014

Name of journal	Number of publications from all countries n (%)	Number of publications from Turkey n (%)
Academic Emergency Medicine	423 (7.4)	7 (3.6)
American Journal of Emergency Medicine	1379 (24.1)	137 (70.3)
Annals of Emergency Medicine	642 (11.2)	0
Canadian Journal of Emergency Medicine	297 (5.4)	0
Emergency Medicine Australasia	288 (5.2)	4 (2.0)
Emergency Medicine Clinics of North America	116 (2.0)	0
Emergency Medicine Journal	701 (12.2)	13 (6.7)
European Journal of Emergency Medicine	260 (4.5)	3 (1.5)
Internal And Emergency Medicine	326 (5.7)	2 (1.0)
Journal of Emergency Medicine	954 (16.6)	29 (14.9)
Prehospital Emergency Care	171 (3.0)	0
Scandinavian Journal of Trauma Resuscitation & Emergency Medicine	158 (2.7)	0
Total	5715 (100)	195 (100)

Table 2. Distribution of publications by country

Order	Country	Number of publications (%)
1.	America	2582 (45.2)
2.	England	396 (6.9)
3.	Australia	356 (6.2)
4.	Canada	352 (5.7)
5.	Italy	317 (5.5)
6.	Turkey	195 (3.4)
7.	Taiwan	160 (2.8)
8.	China	148 (2.4)
9.	South Korea	138 (2.4)
10.	France	108 (1.9)
11.	Others	991(17.1)
	Total	5715 (100.0)

in 12.3% (n=24), four authors in 21% (n=41), five authors in 25.1% (n=49), and six or more authors in 10.3% (n=20).

The most common form of publications was an original article (47.8%; n=2732), followed by case reports/case series (24%; n=1374), brief report (short report/newsletter)/short communication (short communication/presentation)/correspondence (compilation and reviews) (15.9%; n=910), letters to the editor/visual diagnoses/reviews, (5.3%; n=304) other (news, guides, biographies, etc.) (6.1%; n=347), and meta-analysis (0.9%; n=48). The 195 publications from Turkey were of the following types: case reports (42.6%; n=83), research papers (31.3%; n=61), correspondence (compilation and reviews) (17.4%; n=34), letters to the editor (8.2%; n=16), and others (news, guides, biographies, etc.) (0.5%; n=1). The average number of authors in the articles originating from countries other than Turkey was 4.5±2.1, whereas it was 4.9±2.0 for Turkey.

When the publication area of the topics were analyzed, it was found that pre-hospital care took the first rank with 20.8% (n=1189), followed by cardiovascular, resuscitation, and trauma with 10.9% (n=623), 8.7% (n=497), and 8.2% (n=468), respectively. In Turkey, the most frequent topics identified were cardiovascular with 19.5%, followed by neurology with 10.2%, bone and joint injury with 8.2%, and trauma, resuscitation, and gastrointestinal emergencies with 7.7% (Table 3).

In Turkey, the institutions of the corresponding authors were divided into three categories: university hospitals, education and research hospitals, and others (government hospitals, private hospitals, etc.). Of the 195 publications, 59% (n=115) were from university hospitals, 29.2% (n=57) were from education and research hospitals, and 11.8% (n=23) from others (public hospitals, private hospitals, etc.). When publications were examined according to the city where the first author was localized, 34 different cities of Turkey were identified. Among them, Ankara took the first rank with 48 (24.6%) articles, followed by Izmir with 26 (13.3%), and Istanbul with 25 (12.8%).

The publications from Turkey were also analyzed according to the number of citations. It was found that 88 publications received no citations, while 107 publications were cited 1–28 times. When further examination was carried out on the basis of the first author's institution for the 107 cited publications, 65 (60.7%) of them were from university hospitals and 32 (29.9%) were from educational and research hospitals. Case reports were the most cited type of publication with 43% (n=46) citations, followed by research articles with 42% (n=45) citations. Cardiovascular was the most cited topic with 17.7% (n=20) of 107 citations, followed by resuscitation and neurology with 10.3%, and gastrointestinal tract with 9.3%.

Table 3. Distribution of publications according to topics

Topics	Turkey (%)	Other Countries (%)
Emergency Wound Management	0.5	0.4
Disasters and Preparedness	0	0.7
Anesthesia Analgesia and Invasive Sedation	2.1	1.7
Environmental Injuries	3.6	1.2
Skin Diseases	0	0.3
Endocrine Emergencies	0	0.8
Infection Diseases	3.6	5.3
Gastrointestinal Emergencies	7.7	4.3
Eye-Ear-Nose-Throat and Oral Surgery	1.0	2.3
Pre-Hospital Care	1.5	20.8
Hematologic and Oncologic Emergencies	2.1	2.2
Abuse and Assault	0	0.5
Musculoskeletal Disorders	19.5	10.9
Bone and Joint Disorders	2.1	1.2
Neurology	8.2	2.8
Obstetrics and Gynecology	10.2	5.4
Exceptions	0.5	0.9
Special Occasions	0	0.4
Pediatrics	4.6	5.6
Psychosocial Disorders	0.5	2.2
Pulmonary Emergencies	3.6	2.2
Renal Diseases and Genitourinary Diseases	2.1	1.8
Resuscitation	7.7	8.7
Resuscitative Interventions	5.6	5.1
Toxicology	5.6	4.1
Trauma	7.7	8.2
Total	100	100

Discussion

Although the establishment of emergency medicine only took place quite recently, it appeals to a wide audience and the area is open to a wide range of scientific topics, including the medical and surgical medical sciences. For determining Turkey's position in the area of emergency medicine worldwide, the number of publications in international journals and citation numbers are important indicators. Although it is open to debate, the number of scientific publications and the number of citations to these publications are recognized as scientific indicators of academics' performances.

We can say that Turkey is ranked at a high position in the world among the many countries that contribute to the emergency medicine literature. We believe that these data are promising compared to other developing countries. When the origins of the specified publication are analyzed, Turkey was ranked 6th out of 70 different countries. In our study, the top five countries were the United States of America (USA), the United Kingdom (UK), Australia, Canada, and Italy, respectively. It is disturbing to see that Turkish publications are not well distributed throughout the journals, but instead are clustered in one journal. In Turkey, most authors prefer the American Journal of Emergency Medicine. This is probably because of its easy acceptance and faster evaluation period than other journals. Their unbiased attitude toward research sent from countries like Turkey may also play a role.

Of the 12 journals reviewed, 45% of the publications originated from the USA. Wilson et al. showed that in the emergency medicine field, 14,605 articles have been published in the world between the years of 1996–2005, including the highest number of publications from the USA (58.5%, n=8550). In the same study, Turkey was ranked

9th with 227 (1.55%) publications (4). The USA, UK, and Canada took the highest rankings in the emergency medical field as well as in other fields of medicine as it has been shown that they have a high potential and output of scientific publications. According to the publication by TUBITAK in 2009 named 1981–2007 Turkey Scientific Publication Indicators, Turkey was ranked 26th out of 45 countries. In terms of the number of scientific publications in recent years, it was observed that Turkey has risen to a higher rank.

Taking the Turkish Higher Education Council official website data for the year 2009 as a base, it was seen that only the top five universities produce the most publications in Turkey, with a total number of 5,728. On the other side of the coin, the universities with the mentioned workload indicate that they have a total workforce of 8,768 regular faculty members. By seeing the big picture, it is clear that the publication rate is about 0.65 per academic. Thereby, in these most productive universities in Turkey, an average academic cannot even produce one publication. In England in 2008, the average was reported as 1.49 per academic. On the other hand, when Thomson ISI Web of Science was taken as a reference, it is seen that by June 30, 2010, 343 scientific publications were published per one million academics in Turkey.

As for academic advancement in Turkey, one needs original articles, but about half of the publications were research articles. The criteria in Turkey can be said to be forcing academics to do researches. However, as the number of publications in journals with high impact factors (IF) is very limited from Turkey, it could be suggested that authors are interested in the quantity rather than the quality of the papers produced.

In the research, we saw that the highest number of papers were in the cardiovascular field (19.5%). This was followed by neurology, resuscitation, and trauma, respectively. When all the topics of publications were examined in the countries other than Turkey, pre-hospital emergency had the highest rate in emergency medical journals (21%). However, in publications originating from Turkey, pre-hospital emergency medicine related publications were as low as (1.5%). In Turkey, it was observed that emergency medical academics pay little or no attention to the issues related to the pre-hospital field.

Jones et al. (5) found that out of the 163 publications included in their study, 28 (17%) were related to pain management, 24 (15%) to orthopedics, and 13 (8%) to pre-hospital and cardiovascular topics. Shuaib et al. (6) demonstrated that the first three subjects were cardiovascular with 20%, followed by toxicology (15%) and pain management (12%), respectively. Tsai et al. (7) reported that the first five topics were toxicology with 30.3%, followed by trauma (19.2%), resuscitation (17.2%), cardiovascular (10.1%), and pediatrics (7.7%). The differences presented here may be due to variations in the years of research or may be caused by the emergency medicine specialists periodically changing their attention in various topics.

Study limitations

In this research, we did not take into attention other articles that were published in the scientific journals other than those covering emergency medicine. Another limitation is that, we just included the articles indexed in SCIE. Recently, many papers have started to be published in open access journals not included in SCIE.

Conclusion

Turkey is ranked high in the world ranking of countries that contribute to the literature in emergency medicine. Although the trend in the world is toward pre-hospital emergency topics, Turkish emergency academics do not give enough care to this topic. There are still many emergency topics and emergency journals in which Turkey makes no contributions. Instead, there is a tendency of accumulation of the papers toward specific emergency journals instead of more even distributions.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

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