

Arab's Research Productivity and Contribution to Vascular and Interventional Radiology Literature

Abstract

Objective: Vascular and interventional radiology (VIR) is one of the most rapidly growing fields of medicine. In this report, we evaluate the contribution of Arab countries to VIR publications and literature. **Materials and Methods:** Using PubMed database, we reviewed the total number of VIR publications from all Arab countries. In addition, we evaluated the total number of IR articles from each individual country, number of publications in VIR specialty journals and the type of manuscripts. **Results:** Seventy-four articles from different Arab countries were published in different journals from 1988 to 2016. Only 11 (14.9%) articles were published in interventional radiology journals. The majority of these publications were from Kingdom of Saudi Arabia 31 (41.9%) articles, followed by 20 (27.02%) articles from Egypt, 7 articles (9.5%) from Jordan, 6 articles (8.1) from Kuwait, and 4 articles (5.4%) from Morocco. There was one article (1.4%) from Lebanon, United Arab Emirates, Oman, Tunis, and Qatar. Nine (12.2%) articles from different Arab countries were published in the two highest impact specialty journals in VIR. **Conclusion:** This review demonstrated the limited number of publications and poor contribution of Arab countries to VIR literature. Collaborative efforts of researchers, governments, and funding bodies are needed to improve research output in this important field of medicine.

Keywords: *Angiography, Arab countries, interventional radiology*

Introduction

Vascular and interventional radiology (VIR) is a subspecialty of radiology providing minimally invasive image-guided diagnosis and treatment of diseases in every organ system. During the last decade, several researchers had analyzed and assessed the outcome of scientific research production from Europe, Arab world and Middle East in different fields of medicine including ophthalmology, rheumatology, urology, nephrology, and infectious disease.^[1-9] There are no previous reports regarding the assessment of scientific research production in VIR originating from the Arab region.

This paper examines the contribution by Arab research resources in regard to VIR.

Assessing research activity in any subject in any geographical region is not an easy task given the diversity of academic databases and indexing methods of such databases.

We believe that our study will lead to a better understanding of the current and future status of interventional radiology research the Middle East and Arab

countries. Furthermore, evaluation of interventional radiology research output in the Arab world is important for monitoring and improving this specialty; this could help in putting research activities in the Arab countries into perspective.

Materials and Methods

A PubMed search was performed over the period 1988–2016 for VIR articles published by Arabs authors.

All Arab countries: Jordan, Iraq, Syrian Arab Republic, Kuwait, Egypt, Yemen, Qatar, United Arab Emirates (UAE), Bahrain; Kingdom of Saudi Arabia (KSA), Oman, Sudan, Tunisia, Algeria, Lebanon, Libya, Morocco, Somalia, Djibouti, Comoros, and Mauritania were used as country keys followed by “vascular AND interventional radiology OR angiography” phrase in the PubMed advanced search. All types of research articles were included during the PubMed search.

Only articles with an Arab country citizen/resident as the first author based

Yusof Al Zahrani, Mohammad Arabi

Department of Medical Imaging, Division of Vascular and Interventional Radiology, King Abdulaziz Medical City, Riyadh, Saudi Arabia

Address for correspondence:

Dr. Yusof Al Zahrani, Department of Medical Imaging, Division of Vascular and Interventional Radiology, King Abdulaziz Medical City, Riyadh, Saudi Arabia. E-mail: yusof1403@hotmail.com

Access this article online

Website: www.arabjir.com

Quick Response Code:



How to cite this article: Al Zahrani Y, Arabi M. Arab's research productivity and contribution to vascular and interventional radiology literature. Arab J Intervent Radiol 2017;1:27-9.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

in a primary institution (university, institute or center of scientific research, hospital, nongovernmental organization, other) in one of the Arab countries were included. Articles that are published by Arab immigrants and or trainee based outside Middle East/Arab countries were not included.

The number of articles published for each Arab country was counted. Articles published in the highest impact factor IR journals were also counted. The different types of research studies were also analyzed.

Results

Between 1988 and 2016, 74 publications were found in the 60 selected peer-reviewed journals. KSA had the highest research output and contributed to 31 (41.9%) of these articles, followed by Egypt 20 (27%) articles, Jordan 7 (9.5%) articles, Kuwait 6 (8.1%) articles, Morocco 4 (5.4%) articles, UAE 2 (2.7%) articles, and one article (1.4%) from each of Tunisia, Qatar, Oman, and Lebanon [Figure 1]. No publications in the field of VIR were found from Palestine, Djibouti, Comoros, Somalia, Yemen, Sudan, Algeria, or Syria.

Of the 74 articles, a total of 11 (14.9%) articles from the Arab countries we studied were published in specialized interventional radiology journals. These journals are journal of VIR (JVIR), Diagnostic and Interventional Imaging, and Cardiovascular and Interventional Radiology (CVIR) journal. Of the 74 articles, only 10 articles (13.5%) were published in the high impact factor journals. Six of them (8.1%) were published in JVIR and 3 (4.1%) articles in CVIR.

With regard to research type, 30 (40.5%) were retrospective studies papers, 28 articles (37.8%) were case reports, and 8 documents (10.8%) were review articles. Prospective study articles accounted for 2.7% (two articles). Letter to the editor also accounted for 2.7% (two articles). Only one paper (1.4%) from Egypt was described as a

randomized controlled study. 1.4% of the publications were in the form of laboratory study, editorial/technical report and cross-sectional study. Table 1 shows the different publication types. No multicenter studies between the Arab countries or clinical trials were found.

The first article published in the field of interventional radiology in Arab countries was researchers from Kuwait in 1988. The annual number of publications from Arab countries during the recent decade was very low in the 1st years but demonstrated a remarkable increase after 2011. Around 66.2% of publications were published during the last 5 years [Figure 2].

Discussion

The number of articles published in scientific journals reflects the research activity within a country.^[1]

Based on the results obtained from our study, research productivity from Arab countries in interventional radiology is lagging behind. There are several explanations. First, there is a shortage of interventional radiologists in most of the Arab countries. In addition, the clinical workload may prevent many academic interventional radiologists from pursuing research. Inadequate infrastructures in some Arab countries are

Table 1: Type of research study

Type of research study	Number of publications
Retrospective studies	30 (40.5)
Case reports	28 (37.84)
Review article	8 (10.8)
Letter to the editor	2 (2.7)
Prospective studies	2 (2.7)
Randomized control studies	1 (1.4)
Cross-sectional studies	1 (1.4)
Laboratory feasibility studies	1 (1.4)
Editorial/technical reports	1 (1.4)

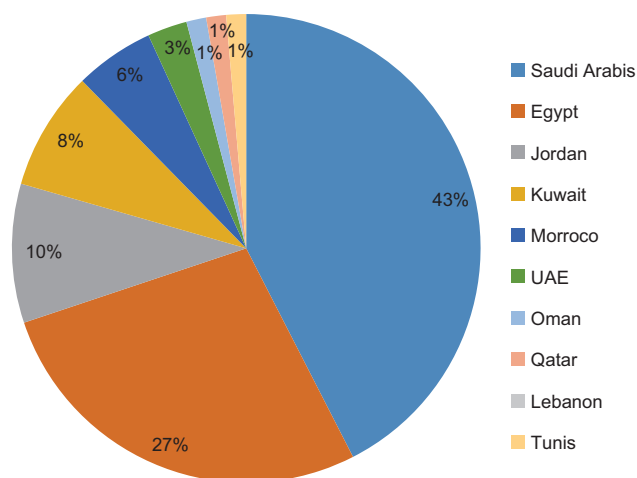


Figure 1: Pie chart of contribution of Arab countries to vascular and interventional radiology research

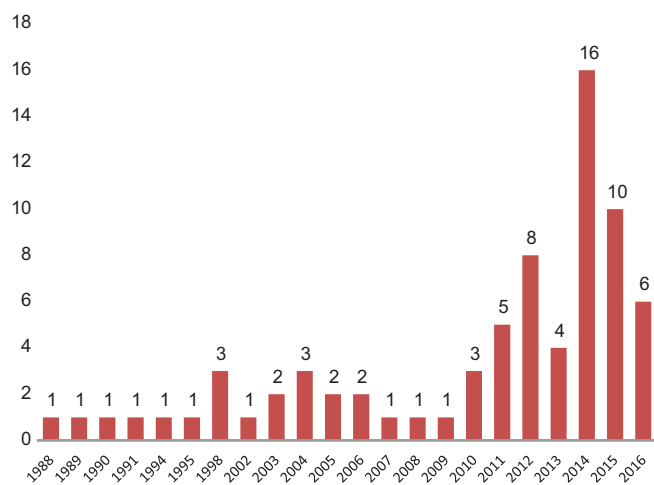


Figure 2: Annual number of interventional radiology publications from Arab world

another contributor for this limited research outcome from Arab countries.

It was expected that interventional radiology research output was highest from KSA and Egypt. It is believed that these two countries had the highest research productivity in other medical fields. This is explainable by the fact that KSA is a rich country and a lot of financial support has been pumped into medical research and health services in KSA. In case of Egypt, being the largest in population size in Arab countries contributes to the high research productivity compared with other Arab countries.

Our review also showed the limited number of articles (13.5%) from Arab world in the high impact factor journals in VIR. Majority of the publications were retrospective studies and case reports. These publications also lack clinical trials and multicenter studies.

Conclusion

Arab countries need to improve research output in interventional radiology. Considering the specifics of this region's population, collaboration between individual Arab countries needs to be strengthened to improve the scientific research output in this dynamic growing field of medicine. To achieve this, collaborative efforts of researchers, governments, academic, and funding bodies are needed. Establishing peer-reviewed journals in the field of interventional radiology is an important step toward promoting research activity in the Middle East and Arab countries.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Philipson L. Medical research activities, funding, and creativity in Europe: Comparison with research in the United States. *JAMA* 2005;294:1394-8.
2. Sweileh WM, Zyoud SH, Sawalha AF, Abu-Taha A, Hussein A, Al-Jabi SW. Medical and biomedical research productivity from Palestine, 2002-2011. *BMC Res Notes* 2013;6:41.
3. Bissar-Tadmouri N, Tadmouri GO. Bibliometric analyses of biomedical research outputs in Lebanon and the United Arab Emirates (1988-2007). *Saudi Med J* 2009;30:130-9.
4. Bayoumy K, MacDonald R, Dargham SR, Arayssi T. Bibliometric analysis of rheumatology research in the Arab countries. *BMC Res Notes* 2016;9:393.
5. Sweileh WM, Al-Jabi SW, Shanti YI, Sawalha AF, Zyoud SH. Contribution of Arab researchers to ophthalmology: A bibliometric and comparative analysis. *Springerplus* 2015;4:42.
6. Benamer HT, Bredan A, Bakoush O. Scientific publication productivity of Libyan medical schools: A bibliometric study of papers listed in PubMed, 1988-2007. *Educ Health (Abingdon)* 2009;22:310.
7. Diab MM, Taftaf RM, Arabi M. Research productivity in Syria: Quantitative and qualitative analysis of current status. *Avicenna J Med* 2011;1:4-7.
8. Tadmouri GO, Tadmouri NB. Biomedical research in the Kingdom of Saudi Arabia (1982-2000). *Saudi Med J* 2002;23:20-4.
9. Tadmouri GO, Bissar-Tadmouri N. Biomedical publications in an unstable region: The Arab world, 1988-2002. *Lancet* 2003;362:1766.