

Research output of Iran over the past two years: Contributions from the European Journal of Translational Myology

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Abstract

Over the last two decades, all branches of science and technology have rapidly progressed, including the medical area. In Middle Eastern countries, including Iran, the increased growth of technology and science production has led to this rapid medical progress. Recent evidence has revealed that the increase in the number of scientific papers generated in Iran after the Iraqi imposed war against Iran has been eight times that in six main countries in the Middle East, including Egypt, Turkey, Jordan, Saudi Arabia, Iraq, and Syria. Although Iran's output in sciences has been still small in comparison to developed countries, it has significantly grown in the last decade, which is hoped to continue to increase and improve. The current paper shows a portion of the science production in Iran over the past two years based on papers published in the European Journal of Translational Myology in 2020 and 2021. Although the Issue 32 (1), 2022 in a special section contains several typescripts from Iran, they were not included in our analysis since they have not been yet indexed in the Scopus database. However, our report would encourage researchers of diverse nationalities to take part in research works and author joint papers. Further, this paper can be used to rate the universities and research centers regarding their science output, as well as being beneficial to university students, lecturers, and governments.

Key Words: European Journal of Translational Myology; EJTM; Iran; research.

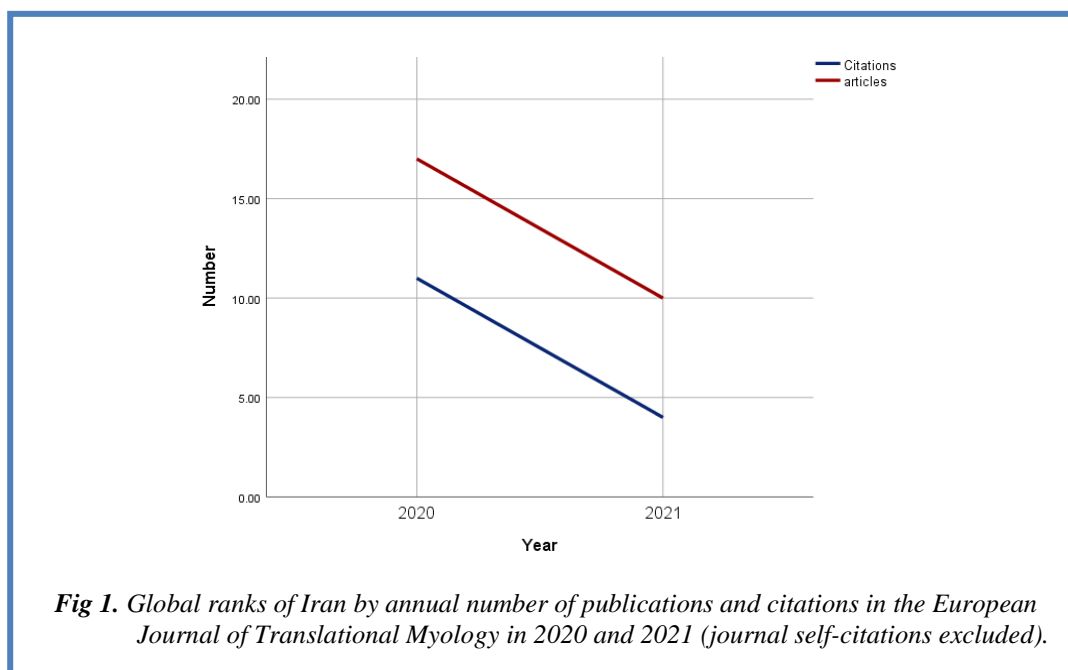
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Quality of Health service is highly dependent on producing, publishing, disseminating, and applying updated biomedical knowledge for the prevention and treatment of diseases and improvement of health services.¹ Since sustainable development of countries deeply relies on research, they should formulate research policies according to the updated information on their research output and science production.² Scintometric indicators, including "number of papers", "citation per paper", and "number of citations" have become dominant instruments to analyze scientific activities and their association with social and economic development. They can evaluate the improvement and performance of national science and technology.² The quantity and quality of published papers indexed by reputable databases play a key role in assessing how each country has contributed to world science and status in international academic rankings.¹ In Iran, the number of published papers has considerably increased in the basic and applied sciences, such as medicine and its subspecialties over the recent years.^{1,3,4} In this regard, Sadeh et al. indicated that Iranian researchers published more than 50,000 papers in 2018, which was 1000 papers

in 1997, showing Iran's increased contribution to the world's scientific output from 0.1% to 2.6%.⁴ Along with the significant growth in the number of scientific articles during the recent decades, the number of medical journals published worldwide has also kept increasing.⁵ The European Journal of Translational Myology (EJTM, formerly known as Basic and Applied Myology) is the European reference forum for Translational Myology published by PAGEPress, Pavia, Italy. This English multidisciplinary peer-reviewed journal publishing articles in the fields of orthopedics and sports medicine, clinical neurology, molecular biology, cell biology, and general medicine. This journal also studies Myology from various perspectives, including basic, cellular and molecular, genetic, clinical, and translational proper. The EJTM encourages submission from all authors throughout the world, including Iran. This open-access journal has also been published quarterly since 2010. The Scopus CiteScore Tracker of the EJTM increased from 1.1 in 2018 to 3.6 in 2022, indicating significant scientific progress during recent years. Due to the high rate of growth in research activities in Iran, the number of scientific papers submitted to international medical journals, such as the EJTM, has increased over recent

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years. Nevertheless, no study has been conducted yet to evaluate the content and quality of Iranian articles in the EJTM. Hence, this paper aimed to review Iranian research articles published from the beginning of 2020 to the end of 2021 in the EJTM and summarize their scientific outputs registered in the Scopus database during the same period. As results, the annual number of papers published by Iranian researchers in the EJTM has decreased from 17 papers in 2020 to 10 papers in 2021. General medicine accounts for 40.7%, orthopedics and sports medicine 29.6%, clinical neurology 14.8%, cell biology 11.1%, and molecular biology 0.0% of total publications. Table 1 in Supplementary Materials provides details on each of these papers and their scientific outputs over the last two years.⁶⁻³² Despite the publication of a number of Iranian articles on the EJTM 32 (1), 2022, they were not considered in the analysis since they have not been yet indexed in the Scopus database.³³⁻³⁵

The quality of publications, as determined by the rank of targeted journals, differs considerably across disciplines, with sports medicine and orthopedics constantly outdoing other scientific fields. Nonetheless, the quality defined above does not indicate a significant adverse change over time in most fields, except in molecular biology.

Generally, aggregate citations of Iranian papers have a lower global rank consistently compared to the total number of publications (see Figure 1). This huge decrease implies that although universities have been enrolling more students, they are short of proper educational “capacity” for their instruction. A rise in the number of university seats and students should be proportional to investment in the infrastructure of higher education and research to reach the standard quality. On the other hand, the government’s productionist attitude

towards scientific publication, with the direct/indirect implications of social and demographic variations, has collectively caused a sharp rise in the quantity of Iran’s scientific output over the past few years. The government has not been able to create sufficient jobs for the country’s youth population; however, it has developed expansionist policies on higher education, resulting in a rise in the capacities and number of graduate schools throughout the country. The government uses the scientific production of the country in numerical terms to depict a so-called picture of scientific development. Overemphasizing quantitative measures of scientific productivity has caused a publication bubble with two unwelcome consequences: i) using the country’s human resources inefficiently; ii) growing and supporting academic corruption. Since Iranian researchers are provided with strong incentives to publish in foreign research journals, they often devote little to no attention to the actual technological and intellectual needs of the country. Instead, they almost merely concentrate on studies with a high rate of publishability.

On the other hand, the cohesiveness and analytical depth of Iranian papers are highly undermined since graduate students are writing a vast majority of these articles with minimal input from professors. Overall, in contrast to the government’s frequent claim, the research’s effective productivity in Iran is too small once disregarding numbers and statistics and evaluating outcomes and impacts. In addition to provoking a development delusion by focusing on the number of paper published (publication bubble), Iran’s productionist attitude towards research has primarily led to the entrenchment and growth of diverse forms of misconduct that are being very welcomed and spread unstoppably throughout the universities. Unfortunately, officials are almost indifferent even to fraudulent behavior in this respect,

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e.g., the so-called graduate student research consulting agencies that generate fabricated dissertations and papers in any demanded field over only a week or two. Since the Iranian government has overlooked punishment for such and other types of fraudulent activities, it has currently ranked first for paper retraction rates in the world. If the government keeps not taking any action against fraudulent publication activities, the odds are that some of the honest and credible researchers will also be tempted to give in their strict ethical and research standards for the sake of more publications to be able to compete for research funds and career promotions. New faculty recruitment can also be adversely affected by the type of applicants who benefited from paper-publishing methods or even current students using these fraudulent activities during their doctoral educations.

Corrective actions are highly required to prevent the prevalence of the new research paradigm in order to help the country get out of this vicious cycle and not deprive the research landscape of trustworthy researchers and research materials.

List of acronyms

COVID-19 - Coronavirus disease 2019

HIV - Human immunodeficiency virus

ICU - Intensive care unit

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The author declares no f conflicts of interest.

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