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The participation of International Authors in Journals indexed in Islamic World Science Citation Database (ISC)

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Abstract

Purpose: This study investigates and analyzes the extent of international scientific cooperation among researchers publishing in Iranian journals indexed in the ISC (Islamic World Science Citation Database) between 2020 and 2022.

Methodology: This applied scientometric study examines all scientific articles with international co-authors published in Iranian journals indexed in the ISC database from 2020 to 2022. The data were analyzed using SPSS software, employing descriptive statistics to uncover patterns of international collaboration.

Findings: A total of 195,377 articles from Iranian publications were indexed in the ISC database during the study period. Of these, 5,934 articles involved international co-authorship, representing 3% of the total articles each year. The distribution of these co-authored articles spanned 115 countries, with the United States, Canada, Australia, and Germany as the leading international partners. The analysis also revealed that the geographical reach of collaboration was broader in 2020 compared to 2022. The primary fields of international collaboration were medicine (22.19%), biochemistry, genetics, and biomolecular sciences (11.24%), engineering (11.1%), and agricultural and biological sciences (7.33%). Regionally, Europe (35.65%) was the most frequent partner, followed by Asia (30.43%), Africa (20.88%), the Americas (11.30%), and Oceania (1.74%).

Conclusion: Developed countries, particularly the United States, have played a pivotal role in Iran's international scientific collaborations. To enhance global engagement and scientific development, Iran must continue to foster international partnerships and implement policies that support these collaborations.

Value: The study underscores that developed countries, particularly the United States, are key partners in Iran's international scientific collaborations. To enhance global engagement and scientific development, Iran must implement policies that foster stronger international research partnerships and address barriers such as language and funding limitations.

Key Words: ***International Participation, Co-Authorship, Scientometrics, ISC database, Iranian Journals***

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Extended Abstract

Introduction: In recent decades, international scientific collaboration has become a cornerstone of global research efforts, showing significant growth, particularly in co-authored publications (Csomós et al., 2020). The percentage of international co-authored publications increased from 4.7% in 1980 to 25.7% of all global scientific publications by 2021 (Aksnes & Sivertsen, 2023). Such collaborations offer various benefits, including higher-quality publications, increased visibility in high-impact journals, and greater citation rates (Low et al., 2014; Velez-Estevez et al., 2022). Moreover, they provide access to advanced research tools, diverse communities, and fresh intellectual perspectives—advantages that are particularly valuable for researchers in resource-constrained countries (Low et al., 2014). The research resulting from these collaborations typically enjoys greater global recognition and dissemination, thus expanding its international impact (Wong et al., 2024; Abramo et al., 2021). Given the growing significance of international cooperation in scientific research, evaluating the scope and patterns of such collaborations is essential for informed research planning and policy development. Scientometric studies serve as a valuable tool for this evaluation, offering insights into national and international research trends. In this context, international co-authorship provides a key metric of a country's scientific engagement with the global community (Moradi Moghadam, 2021).
For this study, international scientific collaboration refers to the participation of Iranian researchers in joint publications with authors from other countries, which serves as an indicator of Iran's global scientific involvement.

Purpose: This study aims to assess the participation of international authors in articles published in Iranian journals indexed in the ISC database between 2020 and 2022. The analysis focuses on the patterns of international scientific collaboration in terms of geography, discipline, language, and key partnering countries.

Methodology: This applied scientometric study analyzed a total of 195,377 articles indexed in the ISC database from Iranian journals published between 2020 and 2022. The research community comprised 5,934 articles with international co-authors. Data related to author affiliations, journal languages, publication details, and participating countries were extracted from the ISC database. Descriptive analysis was performed using SPSS software to identify patterns of international collaboration.

Findings: The findings revealed that 5,934 articles from 115 countries involved international co-authors, constituting an average of 3% of the total articles published annually in Iranian journals indexed in the ISC database. The geographical distribution of co-authors indicated that international collaboration was more widespread in 2020 compared to 2022. The United States was identified as the leading partner, followed by Canada, Australia, and Germany. Collaboration with countries within the Organization of Islamic Cooperation (OIC) accounted for 1,228 articles, with Turkey, Iraq, and the UAE as the top contributors.

Table 1. Number of Articles with International Co-authors in Iranian Journals Indexed in ISC (2019-2021)

Year	Total Number of Articles in ISC-indexed Iranian Journals	Number of Articles with International Co-authors	Percentage of Articles with International Co-authors to Total Articles
2019	69,451	2,207	3.18%
2020	67,585	1,986	2.94%
2021	58,341	1,741	2.98%
Total	195,377	5,934	3.04%

Regarding language, the majority of co-authored articles were published in English (65.8%), followed by Persian (31.3%) and Arabic (0.65%). Notably, Persian-English journals accounted for 2% of the multilingual articles.

Fields with the highest numbers of co-authored articles included medicine (22.19%), biochemistry, genetics, and biomolecular sciences (11.24%), engineering (11.1%), and agricultural and biological sciences (7.33%). At the national level, Tehran's universities emerged as the central hubs for international scientific collaboration. Regionally, Europe was the most frequent partner, followed by Asia, Africa, the Americas, and Oceania.

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Table 8. Language of Journals with International Co-authors

Language of Journals	Number of Journals	Number of Articles with International Co-authors	Percent of Articles with International Co-authors
Persian	712	1,858	31.3
English	579	3,903	65.8
Persian-English	32	107	1.8
Arabic	16	38	0.6
Arabic-English	9	16	0.3
Russian	1	3	0.1
Turkish-English	1	2	0.03
Arabic-French	2	2	0.03
Persian-Arabic	2	2	0.03
French	1	2	0.03
Arabic-English-French	1	1	0.02
Total	1,356	5,934	100

Conclusion: This study underscores the importance of international scientific collaboration in advancing Iran's global research standing. Developed countries, particularly the United States, have played a crucial role in fostering these partnerships. To further strengthen Iran’s international scientific engagement, the implementation of supportive policies, such as centralized funding for research activities, strategic collaboration with key international partners, and addressing barriers such as language and resource limitations, is essential. The experience of other countries, such as India, which has successfully increased its international research collaborations, can offer valuable insights for policy development (Dua et al., 2023).

Value: The study underscores that international collaboration is essential for advancing Iran's scientific research. To foster deeper international cooperation, Iran must focus on strategic partnerships with developed countries, increase funding for collaborative research, and address challenges such as language barriers. Policy initiatives aimed at supporting these efforts could significantly boost Iran's position in global scientific networks, leading to greater research impact and visibility."

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