

Scientific Publication Efficiency of Organization of Turkic States Scientists in the Field of Medicine: A Bibliometric Study

Türk Devletleri Teşkilatı Bilim İnsanlarının Tıp Alanındaki Bilimsel Yayın Etkinliği: Bir Bibliyometrik Çalışma

Ümit Can DÖLEK^a, Mehmet Kemal GÖKÇE^a, Gulvira AZİMKHANOVA^a

^aDepartment of Emergency Medicine, Akhmet Yassawi University Faculty of Medicine, Turkistan, Kazakhstan

ABSTRACT Objective: The Organization of Turkic States (OTS) was established to produce cooperation between the countries of the Turkic World in fields such as education and health. This study was conducted to evaluate the publication performance in the field of medicine in the Turkish World between the years 2012-2021. **Material and Methods:** The scientific efficiency of OTS countries and Turkmenistan in the field of medicine was examined using the Scopus database. Data such as the total number of articles, the number of citations, and the H-index were analyzed. **Results:** The ratio of the publications published by OTS countries in the field of medicine to the publications published in the world is 2.1%. Türkiye generated 96% of the publications from the OTS countries. Following Türkiye, Kazakhstan, Azerbaijan, Uzbekistan, Kyrgyzstan, and Turkmenistan had 1.8%, 0.8%, 0.69%, 0.4%, and 0.01% of the publications, respectively. It was observed that the scientific publications produced by the countries were in an increasing trend. However the low number of citations of the publications was striking. **Conclusion:** Although OTS countries have progressed remarkably with time in medical publications, the countries that split from the Soviet Union have a lot of room for scientific productivity. Countries themselves or OTS entirely should take steps toward the formation and improvement of the scientific landscape.

ÖZET Amaç: Türk Devletleri Teşkilatı (TDT), Türk dünyası ülkeleri arasında eğitim ve sağlık gibi alanlarda iş birlikleri üretmek için kurulmuştur. Bu çalışma, 2012-2021 yılları arasında TDT ülkeleri bilim insanlarının tıp alanında yaptıkları bilimsel yayınların performansını değerlendirmek amacıyla yapılmıştır. **Gereç ve Yöntemler:** TDT ülkeleri ve Türkmenistan'ın tıp alanındaki bilimsel etkinliği Scopus veri tabanı kullanılarak incelenmiştir. Toplam makale sayısı, atıf sayısı, H-İndeksi ve yayın trendleri gibi veriler analiz edilmiştir. **Bulgular:** Seçilen zaman aralığında, TDT ülkelerinden bilim insanlarının ürettikleri bilimsel yayınlar dünya genelinin %2,1'ini oluşturuyordu. TDT ülkelerinden bilim insanları tarafından üretilen yayınların %96'sının Türk bilim insanları tarafından üretildiği görüldü. Türkiye'nin ardından üretilen yayınların %1,8'ini Kazakistan, %0,8'ini Azerbaycan %0,69'unu Özbekistan, %0,4'ünü Kırgızistan ve %0,01'ini Türkmenistan'ın oluşturduğu görüldü. Ülkelerin ürettikleri bilimsel yayınların artış trendinde olduğu görüldü. Ancak genel olarak çıkan yayınların atıf sayılarındaki düşüklük dikkat çekiciydi. **Sonuç:** Tıp alanında yayınlarda TDT ülkelerinde zamanla birlikte ilerleme göze çarpmakla birlikte özellikle Sovyet Sosyalist Cumhuriyetler Birliğinden ayrılan ülkelerin hâlâ alacakları çok yol olduğu görülmektedir. Tek tek ülkeler ya da TDT ile birlikte ilgili ülkelerde bilimsel ortamların oluşturulması, dikkate alacak şekilde politikalar geliştirilmesi gerekmektedir.

Keywords: Bibliometrics; Central Asia; Eurasia; Organization of Turkic State

Anahtar Kelimeler: Bibliyometri; Orta Asya; Avrasya; Türk Devletleri Teşkilatı

After Soviet Russia's dissolution, Azerbaijan, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, and Turkmenistan with Türkiye have been collaborating thanks to their shared history, culture, and language. One of the latest examples is the Organization of Turkic State (OTS), founded to develop mutual strategies in education, health,

economy, and tourism. Turkmenistan is in observer status at OTS. OTS countries have many natural sources and a population of 161 million people, which makes them one of the largest communities in the world. However, they lag behind developed nations in the number and impact of medical studies.^{1,2}

Correspondence: Ümit Can DÖLEK

Department of Emergency Medicine, Akhmet Yassawi University Faculty of Medicine, Turkistan, Kazakhstan

E-mail: umitcandolek@gmail.com



Peer review under responsibility of Türkiye Klinikleri Journal of Medical Sciences.

Received: 13 Mar 2023

Received in revised form: 12 Apr 2023

Accepted: 13 Apr 2023

Available online: 28 Apr 2023

2146-9040 / Copyright © 2023 by Türkiye Klinikleri. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Research in the medical field has a linear correlation with a country's economic growth, sustainable long-term development, and improvement of living standards and quality.^{3,4} As science and technology advance, a significant increase in scientific publications in the medical field has been noted.⁴ Generation of new information occurs as a result of the contributions of researchers from different countries and institutions.⁵ One of the foremost indicators of contribution to the generation of new information is the number of original scientific publications made by the country or the institution.^{5,6} Bibliometric analyses are practical and reliable methods to infer scientific or academic performance or productivity on a predetermined topic or period.⁷ There is an emerging interest in measuring and comparing the productivity of different countries in many scientific fields, including medicine. OTS countries, despite a young union, should not be excluded from the discussion.

To the best of our knowledge, there is no comprehensive study that reveals the contribution of OTS countries to the scientific literature in the field of medicine and in other health-related fields. The aim of this descriptive bibliometric study is to analyze the scientific publication efficiency of OTS countries, to compare countries within themselves and to investigate their contribution to the world medical literature on a country basis.

MATERIAL AND METHODS

The OTS consists of five countries: Azerbaijan, Kazakhstan, Kyrgyzstan, Türkiye, and Uzbekistan, in alphabetical order. Turkmenistan is an observer country of the OTS.

Bibliometric analyses allow us to analyze the studies published in a scientific field by various institutions or individuals in a specific period, quantitatively assess the relationship between these publications, and compare the differences between countries. The scientific contributions of OTS countries and Turkmenistan, which hold the observer status in OTS, in the medical field in the last ten years were investigated separately.

SEARCH STRATEGY

Scopus retrieved the required literature. Scopus covers more than 23 thousand active titles from over 11,000 publishers in the life sciences, social sciences, physical sciences, and health sciences. The use of Scopus was due to its advantages, which make it suitable for such studies.⁸

In addition, Scopus makes the bibliometric analysis of the retrieved literature easier. In addition, Scopus makes it possible to determine the number, type, country, or institution from which it originated, citation count, and field-weighted citation impact (FWCI) of scientific publications within a specific period. Scopus uses the institutional addresses of researchers to determine the scientific publications of countries. In this study, the scientific publications were in the medical field, of which any researchers were affiliated with an institution within OTS country borders and which were published in magazines in the Scopus database. The period was ten years (1 January 2012-31 December 2021). The screening was performed on 28 December 2022. The screening took place on a single day to prevent citation changes due to the passage of time. Articles, letters, review articles, notes, conference papers, book chapters, editorials, errata, short surveys, books, retracted articles, data papers, reports, and undefined publications were analyzed. The citation numbers account only for citations from the journals scanned on Scopus. If any of the researchers of a publication were affiliated with more than a single institution and one of the institutions was from an OTS country, the publication was a scientific product of that country. If the researchers of a publication were affiliated with more than one institution within different OTS countries, the publication was the scientific product of both countries. (For instance, if the first researcher of a publication is from Kazakhstan and the second researcher is from Türkiye, that publication was acknowledged as a scientific product of both Türkiye and Kazakhstan). The publications of researchers affiliated with universities co-operated by different countries, such as International Ahmet Yesevi Turkish-Kazakh University, are acknowledged as scientific products of Kazakhstan. Similarly, the publications of researchers af-

filiated with Kyrgyzstan-Türkiye Manas University were the scientific product of Kyrgyzstan.

STATISTICAL ANALYSIS

The study primarily aimed to determine the number of publications according to years as a demonstration of the contribution of OTS countries to the medical sciences. The countries were sorted by academic productivity. The total number of scientific publications, international and national publications (publications with researchers or researchers that are from a single country), publications per million people, and the average growth ratio were productivity indicators.

The total citation count, citation count per article, FWCI, and Hirsch index (H-index) were the scientific impact indicators. Data such as article count, country distribution of authors, publication year, average citation per article, and FWCI were from the Scopus database. H-indices of countries for 2021 were from the Scimago website.⁹ The population of the world and member countries are analyzed using data from the World Bank.¹⁰ Microsoft Word and Excel created the tables and graphs. The growth rate was according to the following formula: $((\text{a complete data year value} - \text{start year value}) / \text{start year value}) * 100$. Field-weighted Citation Impact in SciVal indicates how the number of citations received by an entity's publications compares with the average number of citations received by similar publications in the data universe. The Scopus database calculates the FCWI automatically. In addition, the following parameters were at the analysis: the language of publications, document type, and journal category (quartile). The primary aim of this study is to determine the scientific productivity of OTS countries in the medical field. Therefore, no hypothesis test was present.

ETHICAL STATEMENT

Simple descriptive statistical measures, such as article count, ratio, sum, percentage, and mean were used. Since this study is bibliometric, consent from an ethical committee was not necessary.

RESULTS

A total of 176,215 scientific publications in the medical field between 2012 and 2021 from the Scopus

database that had at least one researcher affiliated with an institution within an OTS country were analyzed. This number comprised 2.1% of the publications worldwide during the same period. Türkiye generated 96% of the publications from the OTS countries. Following Türkiye, Kazakhstan, Azerbaijan, Uzbekistan, Kyrgyzstan, and Turkmenistan had 1.8%, 0.8%, 0.69%, 0.4%, and 0.01% of the publications, respectively. The percentage of publications from Türkiye, of which all researchers were affiliated with an institution only in Türkiye, was 86.8%. On the other hand, only 10% of Turkmenistan's publications had researchers only affiliated with institutions from Turkmenistan. The citations per publication were highest in Kyrgyzstan, with an average of 128.8, while the country with the lowest average citation number was Uzbekistan, with only 4.9.

Kazakhstan has the highest growth rate, an astounding 1,253%. The growth rate for Turkmenistan could not be calculated because the country had no publications in 2012. Türkiye surpassed the world average for the number of articles per million people with 1993 publications. Kazakhstan and Uzbekistan followed Türkiye with 168 and 146 articles per million people, respectively. The countries with the lowest FWCI were Uzbekistan and Türkiye, with values of 0.56 and 0.76, respectively. The country with the highest H-index was Türkiye, with 363, with Kazakhstan coming next with 74 (Table 1). The total number of publications of OTS countries in 2012 was 14,760. This number rose to 24,350 in 2021. OTS countries increased their number of publications consistently except for 2017 and 2018, in which the number declined. In the last decade, Kazakhstan's number of publications increased consistently, similar to the world trend in that period, while the total number of publications from Uzbekistan increased dramatically in 2020 and 2021 (Figure 1, Figure 2). Regarding the publication type, most publications from all countries were articles. Errata and retracted publication ratios of all OTS countries lagged behind the world average for these document types (Table 2). The most prevalent language of the publications was English (72.6%). The country with the highest percentage of publications in the Russian language was Azerbaijan (31%). Across all OTS countries, the second most

TABLE 1: Number and impact of the scientific publications of the Organization of Turkic States countries.							
	World	Türkiye	Kazakhstan	Azerbaijan	Uzbekistan	Kyrgyzstan	Turkmenistan
IN publications		22,410	1,976	543	424	559	19
N publications		147,147	1,236	943	799	164	2
Total number of publications	8,032,002	169,557	3,212	1,486	1,223	723	21
Citations to IN publications		753,703	87,937	47,356	7,483	95,516	357
Citations to N publications		846,192	3,703	584	518	396	0
Total citations	107,286,505	1,599,895	91,640	47,940	8,001	95,912	357
Citations per article	13.4	9.4	28.5	32.3	6.5	132.7	17
Growth	46.3%	56.6%	1237.3%	124.7%	1067%	617%	-
Articles per million people	1,017	2,000	169	146	35	108	3
FWCI	1	0.77	2.32	2.02	0.77	10.06	2.41
H-index (2021)		363	74	58	55	61	11

IN: International; N: National; FWCI: Field weighted citation impact; H: Hirsch.

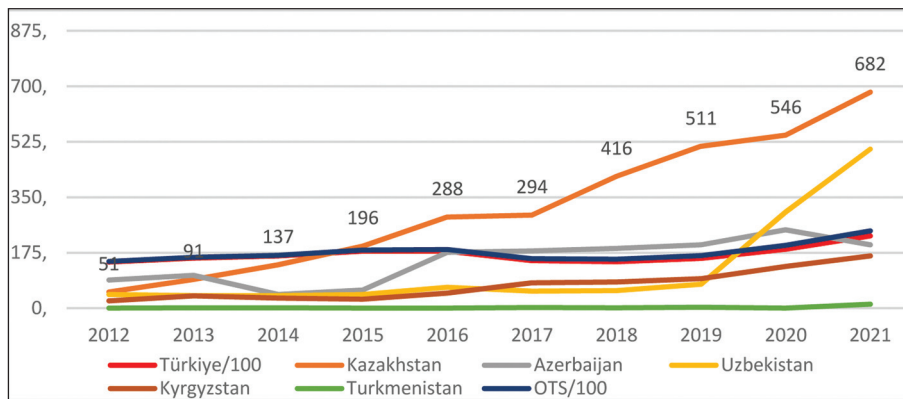


FIGURE 1: The graphic shows the publications status of the countries by the years. OTS: Organization of Turkic States

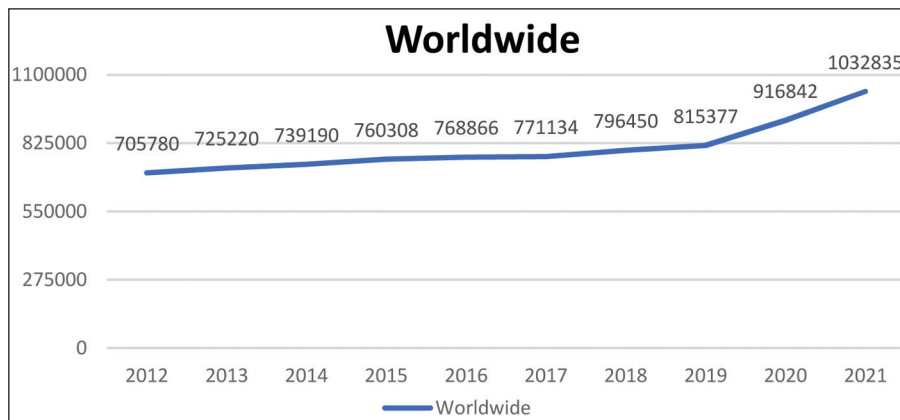


FIGURE 2: Distribution of publications in the World according to years.

prevalent publication language was Turkish (10.2%) (Figure 3). When sorted according to their journal quartiles, the country with the highest Q1 journal ratio was Turkmenistan (73.7%), and the country

with the lowest Q1 magazine ratio was Azerbaijan (12.2%). Azerbaijan (63.8%) and Uzbekistan (54.6%) had the highest ratio of articles published in Q4 journals (Figure 4).

TABLE 2: Publication type.					
	Article	Book/Book Chapter	Conference	Erratum/Retracted	Other (Review, Letter, Short Survey etc.)
Worldwide	5,496,443	283,783	204,742	91,516	1,950,934
Türkiye	137,694	2,434	2,902	531	25,984
Kazakhstan	2,927	53	207	-	2
Azerbaijan	1,340	8	18	5	183
Uzbekistan	848	12	227	1	81
Kyrgyzstan	568	2	13	9	128
Turkmenistan	19	1	-	-	1

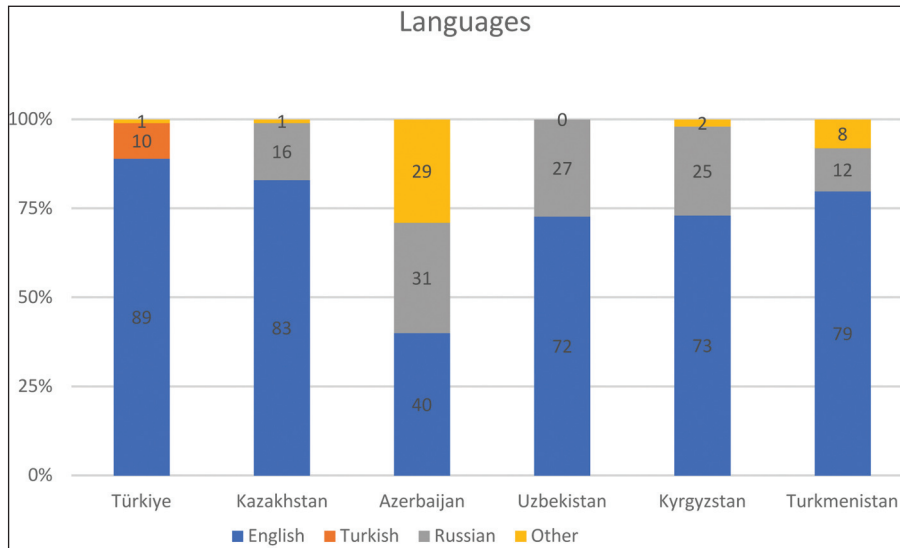


FIGURE 3: Languages of publications.

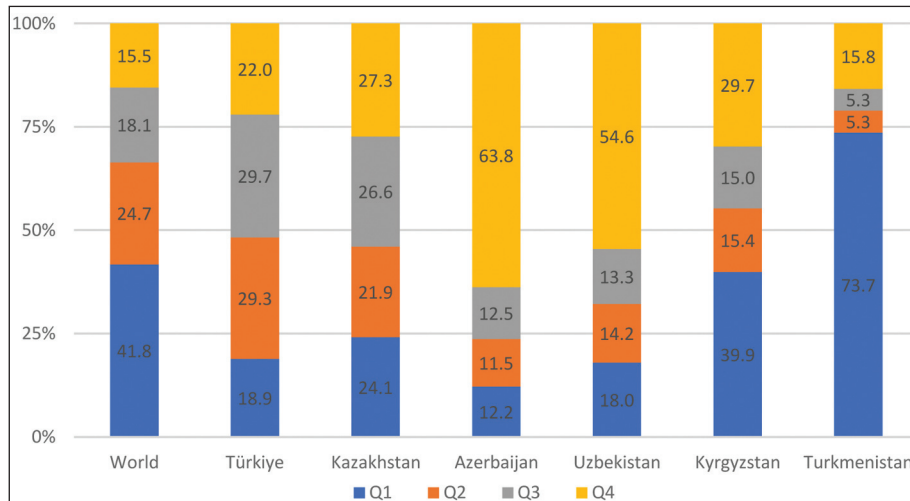


FIGURE 4: Journal categories of publications in quartiles (Q1, Q2, Q3, Q4).

DISCUSSION

Bibliometric analysis is considered a valid and reliable way of mapping the development of a scientific

field and evaluating the scientific impact of individuals, groups, and institutions.¹¹ To the best of our knowledge, this paper is the first-ever bibliometric study regarding qualitative and quantitative data on

the scientific productivity of OTS countries. The results demonstrate the disparity between OTS countries. Türkiye has, by far, the highest number of publications by far, with 96.3% of total publications from OTS countries. Türkiye is also the leading country in scientific publications per million people among the OTS countries. Türkiye is one of the leading countries in the world in publications made in emergency medicine and anesthesiology.^{5,12} Although the number of publications from Türkiye is high among OTS countries, the number of citations does not increase similarly. This fact means that the scientific stage and infrastructure are not yet wholly mature compared to a more developed nation.^{2,12}

The country with the highest number of citations per article was Kyrgyzstan with 132.7 citations per article, while Uzbekistan was the least cited with 6.5 citations per article. However, while 396 citations were made to 164 articles that were produced solely by Kyrgyzstan scientists, 84,692 citations were made to 147,147 articles that were produced only by Turkish scientists. The number of citations per article is considered one of the most important indicators of the impact of that article in the academic world.¹³ The high number of citations can indicate that the article is validated by other researchers and makes an important contribution to the field.¹⁴ Although the number of citations made to articles produced by OTS countries with international partnerships seems high, this may be misleading since multinational articles with multiple authors cannot be attributed to a particular country. As the competence to publish in high-impact journals develops, the number of citations per article will increase, and therefore the articles will be more effective.

OTS countries that gained independence after the dissolution of the Soviet Union in 1991 had markedly low numbers of publications (3.7%). These countries were oriented toward Soviet Russia in terms of education and science for decades, and researchers were controlled and influenced by instructions published by authorities from the central government of Soviet Russia.¹⁵ This may indicate that the research culture may not have developed as in Western nations because of the reasons above.

In the bibliometric analysis performed in Eastern European countries that are members of the Warsaw Pact by Kozak and colleagues, countries' scientific output rose dramatically as the influence of the Soviet regime weakened.¹⁶ In addition to the Soviet influence, other reasons for low levels of scientific productivity may be as follows: inadequate allocation of financial resources for medical research; inadequate clinic and laboratory infrastructure; lack of researchers; lack of or inadequate journals that are present in indices such as Scopus, Web of Science, and PubMed; underdeveloped editorial competence and publication; scientific isolation; relatively high publication costs for open access journals; and lack of interest in academic careers. Another critical factor may be the limited knowledge of English in these societies, which is the primary language of scientific journals and platforms. In addition, several studies suggest that low scientific productivity may stem from a lack of democracy and liberties.¹⁷ Indeed, only two scientific publications from Turkmenistan had only researchers from Turkmenistan in the same 10-year period. Additionally, international cooperation increases the number and impact of publications.

Although OTS countries are insufficient in scientific productivity, Kazakhstan, Uzbekistan, and Kyrgyzstan have increased their scientific output by 12-, 10-, and 6-fold, respectively, in the last ten years. The countries' local policies might pave the way for these promising increases. The legislation that was enacted in 2012 in Kazakhstan stipulated that to be an assistant professor or a professor, candidates must have at least 2 or 3 articles in journals that had a 2-year impact factor higher than zero.¹⁸ Likewise, the dramatic increase in scientific publications in 2020 and 2021 may be partially attributed to the change in government and the abolition of the isolationist stance.¹⁹ Better still, it is notable that OTS countries except Kyrgyzstan had lower numbers of errata and retracted publications than the world average. The errata and retracted publications ratio is 0.08% in Uzbekistan and 0.3% for Azerbaijan and Türkiye, while the world average is 1.1%. The number of errata and retracted publications has not increased in Kazakhstan and Turkmenistan in the last ten years. Kyrgyzstan has the highest ratio of errata and re-

tracted publications among OTS countries, at 1.24%, which is higher than the world ratio. The ratio of errata and retracted publications may be an indicator of the tendency to publish in unethical journals. Making publications in these types of journals may significantly impede increasing scientific productivity in OTS countries. The preference of researchers to publish in journals may damage their reputations and waste their publication potential. The requirement for publication in international peer-reviewed journals for academic progress may have resulted in an increasing trend of scientific productivity in Türkiye and other OTS countries (no data on Turkmenistan) over the years.

OTS countries, besides Azerbaijan, made most of their publications in English. OTS consists of non-anglophone countries. Authors may face some difficulty in publishing in Scopus or WoS-indexed journals predominantly in English if they are non-native speakers of English.²⁰ In OTS countries except for Türkiye, several generations of researchers had the training to write and publish in Russian.¹⁵ This may be one of the most significant factors that impart relatively lower scientific productivity of OTS. Although English education is mandatory in all member states, poor English writing abilities may have forced the researchers to publish in lower-tier journals with limited impact.¹⁵ This may be why OTS countries generally published in Q3 and Q4 grade journals. Our article is the first study to investigate the scientific landscape in OTS countries to this extent.

One of the main limitations is only screening the Scopus database at the expense of others. Another limitation is that self-citations were present during the H-index calculations. Additionally, the H-indices of countries that made publications with multiple countries and researchers may be misleading. The

number of scientists can affect the productivity of countries, but the definition of scientists in Turkic countries may differ from country to country. The inability to access data such as the H-index and FWCI on the Scopus database for 2022 is a significant limitation.

CONCLUSION

Although OTS countries have progressed remarkably with time in medical publications, the countries that split from the Union of Soviet Socialist Republics have a lot of room for scientific productivity. Countries themselves or OTS entirely should take steps toward the formation and improvement of the scientific landscape.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Ümit Can Dölek; **Design:** Ümit Can Dölek; **Control/Supervision:** Ümit Can Dölek, Gulvira Azimkhanova; **Data Collection and/or Processing:** Ümit Can Dölek, Mehmet kemal Gökçe; **Analysis and/or Interpretation:** Ümit Can Dölek, Mehmet kemal Gökçe; **Literature Review:** Ümit Can Dölek, Gulvira Azimkhanova, Mehmet Kemal Gökçe; **Writing the Article:** Ümit Can Dölek, Mehmet kemal Gökçe; **Critical Review:** Mehmet Kemal Gökçe, Ümit Can Dölek; **References and Fundings:** Ümit Can Dölek, Gulvira Azimkhanova; **Materials:** Ümit Can Dölek.

REFERENCES

1. Adambekov S, Kaiyrykyzy A, Igissinov N, Linkov F. Health challenges in Kazakhstan and Central Asia. *J Epidemiol Community Health*. 2016;70(1):104-8. [[Crossref](#)] [[PubMed](#)]
2. Cetin M, Long B, Gottlieb M. A 10-year bibliometric analysis of publications in emergency medicine. *Am J Emerg Med*. 2022;58:215-22. [[Crossref](#)] [[PubMed](#)]
3. Macilwain C. Science economics: what science is really worth. *Nature*. 2010;465(7299):682-4. [[Crossref](#)] [[PubMed](#)]
4. Salmerón-Manzano E, Manzano-Agugliaro F. Bibliometric studies and worldwide research trends on global health. *Int J Environ Res Public Health*. 2020;17(16):5748. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
5. Kokulu K, Mutlu H, Sert ET. Scientific publication productivity of emergency physicians: a bibliometric analysis of the last decade. *J Emerg Med*. 2019;57(1):13-20. [[Crossref](#)] [[PubMed](#)]
6. Zyoud SH. Dengue research: a bibliometric analysis of worldwide and Arab publications during 1872-2015. *Virology*. 2016;13:78. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
7. Choudhri AF, Siddiqui A, Khan NR, Cohen HL. Understanding bibliometric parameters and analysis. *Radiographics*. 2015;35(3):736-46. [[Crossref](#)] [[PubMed](#)]
8. Falagas ME, Pitsouni EI, Malietzis GA, Pappas G. Comparison of PubMed, Scopus, Web of Science, and Google Scholar: strengths and weaknesses. *FASEB J*. 2008;22(2):338-42. [[Crossref](#)] [[PubMed](#)]
9. Scimago Journal & Country Rank [Internet]. Erişim tarihi: 29 December 2022. Available from: [[Link](#)]
10. The World Bank [Internet]. World Bank Open Data. Erişim tarihi: 29 December 2022. Available from: [[Link](#)]
11. Ellegaard O, Wallin JA. The bibliometric analysis of scholarly production: how great is the impact? *Scientometrics*. 2015;105(3):1809-31. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
12. Bould MD, Boet S, Riem N, Kasanda C, Sossou A, Bruppacher HR. National representation in the anaesthesia literature: a bibliometric analysis of highly cited anaesthesia journals. *Anaesthesia*. 2010;65(8):799-804. [[Crossref](#)] [[PubMed](#)]
13. Nip I, Feng H. Examining correlation of altmetric score and citation number in dermatology journal articles. *J Dermatolog Treat*. 2022;33(1):297-9. [[Crossref](#)] [[PubMed](#)]
14. Jialal I, Schreiber WE, Giustini DM. H-index and academic medicine. *Am J Clin Pathol*. 2019;151(6):648-9. [[Crossref](#)] [[PubMed](#)]
15. Yessirkepov M, Nurmashev B, Anartayeva M. A scopus-based analysis of publication activity in Kazakhstan from 2010 to 2015: positive trends, concerns, and possible solutions. *J Korean Med Sci*. 2015;30(12):1915-9. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
16. Kozak M, Bornmann L, Leydesdorff L. How have the Eastern European countries of the former Warsaw Pact developed since 1990? A bibliometric study. *Scientometrics*. 2015;102(2):1101-17. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
17. Benamer HT, Bakoush O. Arab nations lagging behind other Middle Eastern countries in biomedical research: a comparative study. *BMC Med Res Methodol*. 2009;9:26. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
18. Republic of Kazakhstan Ministry of Justice [Internet]. Erişim tarihi: 29 December 2022 [[Link](#)]
19. Yalçınkaya A. Mirziyoyev dönemi ile hızlanan Özbekistan -Türk dünyası yakınlaşması [Uzbekistan-Turkish world rapprochement accelerated by Mirziyoyev era]. *New Turkey*. 2022;1(125):125-30. [[Link](#)]
20. Yakhontova T. English writing of non-anglophone researchers. *J Korean Med Sci*. 2020;35(26):e216. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]