

Bibliometric Analysis of the Joint Diseases and Related Surgery: Part-2: The period after the SCI-E

Eklem Hastalıkları ve Cerrahisi Dergisinin Bibliometrik Analizi: Bölüm-2: SCI-E sonrası dönem

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ABSTRACT

Aim: The first part of this article, the pre-SCI-E period, was previously published in Acta Medica Alanya as 'Bibliometric analysis of the Journal of Joint Diseases and Related Surgery (JDRS). In this article, in the second part of the study, the factors affecting citation and the definition of bibliometric data in the post-SCI-E period were investigated by scanning Google Scholar, Scopus and WOS.

Methods: This second study was designed as retrospective bibliometric. Articles were reviewed beginning from 2007 when the Journal covered by SCI-E, up to 2020 when it covered by PMC. Both authors scanned one by one the articles published in the JDRS Journal within the above stated time period, according to the Turkish-English or English titles and by using the information available on the journal's website for each article. At the end of year 2021 and in a 3 month period all articles were chronologically searched in Google Scholar, Scopus, and Web of Science databases. All accessed articles were analyzed according to the characteristics and institutions of the authors, also language, type, topic, and discipline of the article.

Results: Scanning for Scopus, Google Scholar, and WOS showed that the mean number of citations were 7.69 ± 11.72 for Google Scholar, 5.11 ± 6.88 for Scopus, and 4.36 ± 6.18 for WOS. In the last step of the logistic regression model analysis performed with the backward stepwise method; the article year-volume, male author, foreign author, article subtopic (6), article type (2), article type (1), and article language (1) were found to be variables effective on having a citation. In the linear regression analysis, the male sex variable was found to be significant for citations in all databases. English as the article language was a significant variable in citations, in all databases and subvariables.

Conclusion: The results of this study showed that research articles and/or review articles contribute significantly to citations, and having English as the article language is important. Also, acceptance of articles that may call the attention of more than one specialty may increase the number of citations.

Keywords: Bibliometric Analysis, Joint Diseases and Related Surgery Google Scholar, Scopus, Web of Science, Citation

ÖZ

Amaç: Bu makalenin ilk bölümü, SCI-E öncesi dönem olup daha önce Acta Medica Alanya dergisinde "Joint Diseases and Related Surgery (JDRS) Dergisi'nin Bibliyometrik Analizi" başlığıyla yayınlanmıştı. Bu makalede, çalışmanın ikinci kısmı olan SCI_E sonrası dönemde, bibliyometrik verilerin tanımlanması ve atıf almayı etkileyen faktörler Google akademik, Scopus ve WOS taranarak araştırılmıştır.

Yöntem: Bu ikinci çalışma retrospektif bibliyometrik olarak tasarlandı. Makaleler, Derginin SCI-E tarafından kapsandığı 2007'den başlayarak, PMC tarafından kapsandığı 2020'ye kadar incelendi. Her iki yazar da yukarıda belirtilen süre içerisinde JDRS Dergisi'nde yayınlanan makaleleri, Türkçe-İngilizce veya İngilizce başlıklara göre ve her makale için derginin web sayfasında yer alan bilgilerden yararlanarak taradılar. 2021 yılı sonunda ve 3 aylık bir süreçte tüm makaleler Google Akademik, Scopus ve Web of Science veri tabanlarında kronolojik olarak tarandı. Erişilen tüm makaleler yazarların özellikleri ve kurumları, ayrıca makalenin dili, türü, konusu ve disiplini açısından analiz edildi.

Bulgular: Scopus, Google Akademik ve WOS taramalarında ortalama atıf sayısının; Google Akademik için $7,69 \pm 11,72$, Scopus için $5,11 \pm 6,88$ ve WOS için $4,36 \pm 6,18$ olduğu görüldü. Geriye doğru adımsal eleme yöntemi ile gerçekleştirilen lojistik regresyon modeli analizinin son aşamasında; makale yılı-cilt, erkek yazar, yabancı yazar, makale alt başlığı (6), makale türü (2), makale tipi (1) ve makale dili (1) atıf almada etkili değişkenler olarak bulunmuştur. Lineer regresyon analizinde, erkek cinsiyet değişkeninin tüm veri tabanlarında atıflar için anlamlı olduğu bulundu. Makale dili olarak İngilizce, tüm veri tabanlarında ve alt değişkenlerde atıflarda anlamlı bir değişkendi.

Sonuç: Bu çalışmanın sonuçları, araştırma makalelerinin ve/veya derleme makalelerinin atıflara önemli katkı sağladığını ve makale dilinin İngilizce olmasının önemli olduğunu göstermektedir. Ayrıca birden fazla uzmanlık alanının ilgisini çekebilecek makalelerin kabul edilmesi atıf sayısını artırabilir.

Anahtar Sözcükler: Bibliyometrik Analiz, Eklem Hastalıkları ve Cerrahisi Dergisi, Google Akademik, Scopus, Web of Science, Atıf

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Introduction

Bibliometric research uses mathematical and statistical methods to analyze and measure the quantity of publications [1]. Bibliometric analyses are important in the acceptance and archiving of scientific publications, and in receiving guidance from past studies for prospective ones. From the publishers' point of view, the bibliometric analysis data can be utilized to determine the editorial policies for increasing the impact factor of the journal [2,3]. Bibliometric methods may be used for mapping the scientific productivity of journals, authors, institutions, countries, authorship models, research collaborations, and general scientific productivity in any discipline [4]. It also helps to determine the most commonly cited journals, sort productive authors, find out the authors' productivity model, find the impact factor of the journal and other significant details of any publication that has been analyzed [5]. Assessment of scientific production through bibliometric analysis is useful to provide evidence for the spread of registry based knowledge within the orthopedic community [6]. On the other hand, citation metrics that will be obtained from bibliometric analyses may contribute to the strategies directed toward increasing the impact factor of the journal. The most commonly used databases are Google Academic, Scopus, and Clarivate Analytics Web of Science (WOS) [7]. However, each uses different algorithms, each has its own strengths and weaknesses [8]. For these reasons, it is noted that if one wants to find all possible citations of an article and thus of a journal, this can only be achieved by combining all three databases [9]. On the other hand, several factors affect the number of citations. These can generally be categorized as factors related to the article, the authors, and the journal [10].

In the field of medical sciences, a large number of scientific journals originating from Türkiye are published, and some of these journals are covered in national indexes such as TR-Dizin and some are covered in important international indexes such as Scopus, Web of Science (SCI-Expanded, SSCI, ESCI) and PubMed Medline [11-13]. The Journal of "Joint Diseases and Related Surgery" (JDRS), which has long been included in important journal indexes in the field of Orthopedics and

Traumatology and is within the covered in SCI-Expanded, is the scientific publication of the Joint Diseases Treatment Foundation of Türkiye. JDRS is an open access scientific journal that publishes, after double blind peer review and editorial evaluation processes, original experimental and clinical research articles or other scientific articles including reviews and case reports in all areas of orthopedics and traumatology. The historical periods of JDRS are listed in Table 1. JDRS is already an international journal because of it is covered by Clarivate Analytiscs Web of Science SCI-Expanded Database and therefore bibliometric analyses of this journal, such as citation analyses between 2007 and 2019, are of interest to researchers not only at the national level but also at the international level. These bibliometric analyses also provide valuable information for the evaluation and measurement of scientific production i.e. scientometrics.

The first section of the study was previously published, as "Bibliometric analysis of the Journal of Joint Diseases and Related Surgery; Part 1: The period before the SCI-E" (JDRS Part-1) [14]. The purpose of this study is to reveal the bibliometric data of JDRS between the years of 2007-2019 and to investigate the factors affecting citations in this period. Also differently, in order to access all citations and bibliometric data, more than one database was scanned in this study.

Material and Methods

The study was designed as retrospective bibliometric analysis of the JDRS. Because of the periods before and after SCI-E had significant differences especially in the number of citations received by the articles, presenting the study data in two sections was decided to have homogenous data and objective results. In this article, in the second part of the study, the factors affecting citation and the definition of bibliometric data in the post-SCI-E period were investigated by scanning Google scholar, Scopus and WOS. Articles were reviewed beginning from 2007 when the Journal covered by SCI-E, up to 2020 when it covered by the Pubmed Central (PMC). The study was conducted in accordance with ethical rules.

Data collection: In this study, a bibliometric analysis of all articles during the JDRS in SCI-E

Table 1: The historical periods of Journal of Joint Diseases and Related Surgery.

Years	Title	Short Title	ISSN (and Format)	Language	Indexes	Other
1989-2001	Artroplasti Artroskopik Cerrahi / Journal of Arthroplasty & Arthroscopic Surgery	-	1300-0594 (Printed)	Turkish, English	-	Full text available online from issue 1999-2
2002-2004	Artroplasti Artroskopik Cerrahi / Journal Of Arthroplasty & Arthroscopic Surgery	-	1300-0594 (Printed)	Turkish, English	TR Index	Manuscript submission by e-mail
2005-2007	Eklem Hastalıkları ve Cerrahisi/ Joint Diseases and Related Surgery	Joint Dis Rel Surg	1305-8282 (Printed) (e-ISSN:1309-0313) (Online)	Turkish, English	SCI-E (2007) SCOPUS (2008) Pubmed (2008)	Science Citation Index Expanded. Starting from issue of 2007-1
2007-2015	Eklem Hastalıkları ve Cerrahisi/ Joint Diseases and Related Surgery	Eklem Hastalik Cerrahisi	1305-8282 (Print) 1309-0313 (Online)	Turkish,English	SCI-E, SCOPUS, Pubmed, TR Index	Online article submission and evaluation system (2010- Currently)
2015-2018	Eklem Hastalıkları ve Cerrahisi/ Joint Diseases and Related Surgery	Eklem Hastalik Cerrahisi	1305-8282 (Print) 1309-0313 (Online)	Turkish, English (mostly english)	SCI-E, SCOPUS, Pubmed, TR Index	Crossref (Starting from issue of 2013-1). Doi prefix: 10.5606/ehc
2020-Current	Joint Diseases and Related Surgery	Jt Dis Relat Surg (Starting from issue of 2020-1)	2687-4792 (Online) 2687-4784 (Print) 2687-4792 (Linking)	English	SCI-E, SCOPUS, Pubmed, TR Index, PMC	Pubmed Central Starting from issue of 2020-1

period beginning from Volume 18 Issue 1 in 2007 when the journal covered by SCI-E and up to Volume 30 Issue 3 (included) in 2019 when the Journal was renamed and covered by PMC was performed. Both authors scanned one by one the articles published in the JDRS Journal within the above stated time period, according to the Turkish-English or English titles and by using the article information on the journal's website (<https://www.jointdrs.org/>). At the end of year 2021 and in a 3 month period all articles were in chronological order searched in Google Scholar, Scopus, and Web of Science databases. Therefore, care was taken to ensure that minimum 2 years had elapsed from the publication of each article. JDRS articles already have open access. Subscription articles in some of the databases were accessed from the libraries of the authors' universities.

Categoric classifications of the article: Article type: Original research article, case report, review, letter to the editor, and technical note. Article subtopic: Arthroplasty, arthroscopy, arthroscopy-sports medicine, spine, shoulder-elbow, hand-wrist, oncology, trauma, pediatric orthopedics, general orthopedics, and others. An article with an overlap of topics was assessed in only one topic (Table1). Article topics were classified as reported in JDRS Part-1 [14]. Authors' characteristics: Gender, number of foreign authors, and total number of authors. Institutions: University, state, or private hospital according to the affiliation of the first and/or corresponding author Article language: Turkish and English Discipline of the study: Orthopedics, non-orthopedics, and multidisciplinary .

Evaluation Methods: All accessed articles were

analyzed according to the characteristics and institutions of the authors, also language, type, topic, and discipline of the article. Subsequently, articles that could be evaluated under the context of citation were scanned separately (articles in English scanned only in English, articles in Turkish scanned both in Turkish and English) using search engines of the Google Scholar, Scopus, and Web of Science databases. The number and type (self-citation, citation in other journals) of citations were determined.

Statistical Analysis: First, the data on all articles were recorded on Excel software and converted into numeric values for analysis. Descriptive statistics was performed, and the data were presented as $\%(n)$ or mean \pm standart deviation. Significance tests were made with the SPSS (version 19, IBM, USA) package software. Categorical values were analyzed with the chi-square test, numeric values with the ANOVA test, and post hoc comparison with the t test. Regression analysis was made for factors affecting citation. The effect of dependent variables on a citation were evaluated using the linear regression method. The effect of independent categorical variables on citations was assessed in the logistic regression model constructed with the backward elimination method. $P < 0.05$ was accepted as statistically significant.

Results

During the stated period (from issue 1 in 2007 to issue 3 in 2019), 13 volumes, 39 issues, and 484 articles were published. The number of articles per volume was between 28 and 55. In recent years, the number of articles per volume increased. Universities submitted the majority of articles (69.6%), there were more research articles (64.7%), and English was more common (75.8%). The ratio of non-orthopedic articles was 4.8%, and multidisciplinary studies involving orthopedic surgeons were 33.2%. Characteristics of the studies published during the stated period are summarized in Table 2.

The mean number of male authors per article was 3.38 ± 1.74 , whereas this was 0.4 ± 0.8 for females. There were few foreign authors (0.45 ± 1.41). Mean time between article submission and acceptance was 99.43 ± 83.12 days (Table 3). Scanning for Scopus, Google, and WOS showed

that the mean number of citations were 7.69 ± 11.72 for Google scholar, 5.11 ± 6.88 for Scopus, and 4.36 ± 6.18 for WOS.

Table 2: Factors affecting citation

Parameter	Subparameter / explanation	n	%
Volume-Years	2007	28	5,8
	2008	31	6,4
	2009	33	6,8
	2010	33	6,8
	2011	40	8,3
	2012	41	8,5
	2013	39	8,1
	2014	39	8,1
	2015	36	7,4
	2016	35	7,2
	2017	40	8,3
	2018	34	7,0
Corresponding Author Affiliation	1. Universities (including the Foundation)	336	69,6
	2. State (including education and research)	121	25,1
	3. Overseas (including Private)	26	5,4
Non-orthopedics	1.Non	460	95,2
	2.Yes	23	4,8
Multidisciplinary	1.Non	322	66,8
	2.Yes	160	33,2
Article subtopic	1. Shoulder-Elbow	28	5,8
	2. Hand-Wrist	32	6,6
	3.Hip disease and surgery	26	5,4
	4.Knee disease and surgery	38	7,9
	5.Foot-Ankle	19	3,9
	6.Orthopedic Trauma	54	11,2
	7. Orthopedic Oncology	44	9,1
	8.Vertebra disease and surgery	9	1,9
	9.Pediatric Orthopedics	33	6,8
	10.General orthopedics	72	14,9
	11.Arthroplasty	52	10,8
	12. Arthroscopy-sports medicine	16	3,3
	13.Experimental study	60	12,4
Article type	1. Original Research	313	64,7
	2.Review	51	10,5
	3.Case report	110	22,7
	4.Technical note	4	0,8
	5.Letter to Editor	6	1,2
Article language	1.English	367	75,8
	2.Turkish	117	24,2
	Total	484	

Table 3: Comparison of databases in terms of factors affecting citation

	n	Mean \pm S.D.	Med (IQR)	min -max
Author_Male	484	3.83 \pm 1.74	4 (3 - 5)	0 - 9
Author_Female	484	0.4 \pm 0.8	0 (0 - 1)	0 - 5
Author_Overseas	483	0.45 \pm 1.41	0 (0 - 0)	0 - 8
Submission-Accept time	483	99.43 \pm 83.12	80 (38 - 143)	0 - 560
Cited.total_gscholar	484	7.69 \pm 11.72	5 (2 - 9)	0 - 177
Cited.outer_gscholar	482	6.27 \pm 10.72	3 (1 - 8)	0 - 173
Cited.self_gscholar	482	1.49 \pm 4.34	1 (0 - 2)	0 - 74
Cited.1.and 2. years_gscholar	473	1.76 \pm 2.71	1 (0 - 2)	0 - 35
Cited.3. and 5. years_gscholar	481	3.07 \pm 4.93	2 (1 - 4)	0 - 75
Cited. after 5.year_gscholar	469	3.06 \pm 6.45	1 (0 - 3)	0 - 90
Cited.total_scopus	456	5.11 \pm 6.88	4 (1 - 6)	0 - 84
Cited.outer_scopus	456	3.37 \pm 5.4	2 (1 - 4)	0 - 78
Cited.self_scopus	456	1.76 \pm 4.08	1 (0 - 2)	0 - 62
Cited.1.and 2. years_scopus	456	1.11 \pm 2.44	1 (0 - 1)	0 - 36
Cited.3. and 5. years_scopus	456	2.38 \pm 3.13	2 (1 - 3)	0 - 32
Cited. after 5.year_scopus	456	1.64 \pm 3.52	0 (0 - 2)	0 - 47
Cited.total_wos	484	4.36 \pm 6.18	3 (1 - 6)	0 - 70
Cited.outer_wos	484	2.66 \pm 4.52	1 (0 - 3)	0 - 65
Cited.self_wos	484	1.71 \pm 3.96	1 (0 - 2)	0 - 61
Cited.1.and 2. years_wos	484	0.92 \pm 2.25	0 (0 - 1)	0 - 35
Cited.3. and 5. years_wos	484	2.09 \pm 2.95	1 (0 - 3)	0 - 26
Cited. after 5.year_wos	480	1.4 \pm 3.08	0 (0 - 2)	0 - 41

In the last step of the logistic regression model analysis performed with the backward stepwise method; the article year-volume, male author, foreign author, article subtopic (6), article type 1 (original research), article type 2 (review) and article language (1) were found to be variables effective on having a citation.

In the linear regression analysis, the male sex variable was found to be significant for citations in all databases. English as the article language was a significant variable in citations, in all databases and subvariables. Articles whose authors were not orthopaedic surgeons affected total citations, and especially contributed to citations after 5 years in Google scholar. Multidisciplinary studies had a significant effect on external citations. In articles

with a short manuscript submission-acceptance time, self citation was significant.

Discussion

The major outcome of our study, as covered in this article, was that the most important factors in receiving a citation were article language, author characteristics, multidisciplinary studies, article characteristics, and research topic. The secondary outcomes showed that most publications had been submitted by orthopedic surgeons and universities. Among all searched databases, Google Scholar reached more citations.

JDRS Part-1 study by Aslan showed that the most important factors in receiving a citation were full text availability over the internet, English as the article language, and foreign author contribution [14]. On the other hand, Kocak et al. [15] reported that being covered in PubMed Central, which allows free access to full texts, was significant. Ercan et al. [3] made a bibliometric study on a Turkish journal which publishes articles on general medicine, and they suggested that in order to increase the number of citations and impact factor, English should be used more frequently as the publication language and high quality multidisciplinary studies should be accepted for publication [3]. Another bibliometric study investigating the authorship characteristics in an orthopedics journal reported that although the number of female authors increased slightly in recent years, most of the first or corresponding authors were males [16]. In a comprehensive systematic review; It has been stated that the publication language of the article is English, the presence of authors from different disciplines and international collaboration are important factors in obtaining citations. In addition, it has been reported that male authors and faculty members affiliated with the University receive more citations [10]. In this Part-2 study we found that male author, English as the article language, and multidisciplinary study were significant in citations. Also, the articles were mostly from universities. Hence, our results were similar to other studies. On the other hand, during the study period being indexed in important databases and online access to the full text of the article did not create a difference. Although foreign authors significantly

contributed to the number of citations, their ratio was low.

In JDRS Part-1 study, Aslan reported that the mean number of citations per article was 0.7 [14]. A 10 year bibliometric study, performed by scanning the Google Scholar database, of a general medicine journal from our country found that the mean number of citations per article was 1 [3]. Gurbuz et al. [17] studied the first 40 orthopedic journals in the journal impact factor list, and reported that the mean number of citations per article in Turkiye based articles was 7.47. In our current study, mean number of citations was 7.69 per article.

Two different bibliometric studies on a Pakistan based scientific general medicine journal which used data from the journal's website and Scopus, found that the most common type of publication was research article, most submissions were national and from the universities, and that the impact factor of the journal clearly increased over the years [4, 5]. In a bibliometric study that used the WoS database and investigated the scientific productivities of countries, Turkiye based publications were mostly from the universities, and the total number of citations increased every year [17]. Dokur et al. [18]. studied the articles with the highest number of citations in the field of traumatology, and found that clinical research papers were placed at the top. Aslan reported that more than half of the published articles, 72.2%, were original research articles [14]. Also, the journal received more citations over the years. Our study showed that research articles contributed to citations significantly. Also the articles were mostly national and from the universities.

A bibliometric analysis of 100 articles that received the highest number of citations in an important international orthopedics and traumatology journal found that most common topics associated with citations were bone reconstruction, trauma, and bone fracture [19]. Baysan et al. [20]. used the data of National Thesis Center of the Higher Education Council and performed a bibliometric analysis of theses in orthopedics and traumatology. They reported that the most commonly studied topic was orthopedic trauma (28.1%), followed by adult reconstruction (15.8%) and arthroplasty. Aslan stated that the highest number of submissions

were in general orthopedic and trauma topics [14]. In our study, orthopedic trauma was found to be a significant factor in citations.

In this study we found that Google Scholar reached a higher mean number of citations than Scopus and WoS. Also, there were more citations in Scopus than WOS. This may have few reasons: Similar to ours, studies comparing the three databases found that Google Academic had the highest number of citations [10]. While Scopus and WoS use mostly the English publications, Google Academic uses non-English publications as well [10, 21, 22]. Besides, approximately half of the additional citations detected by Google Academic may come from sources other than journals, including preprint servers, conference articles, books, theses, and unpublished materials [10, 21, 22]. Also, it was shown that WoS and Scopus did not count duplicates of articles, whereas Google Academic sometimes counted an article more than once [10, 23]. Google Academic scans citations in all types of publications, whereas Scopus and WoS scans articles on journals listed only in their own databases. Scopus has a larger database than WoS, and therefore may have a greater access to citations [22]. Scopus includes more than 28,300 journals (<https://www.scopus.com/>), WOS (SCI-Exp.+SSCI+AH&CI+ESCI) includes approximately 22,588 (<https://mjl.clarivate.com/home>). All these reasons explain why Google Academic has a higher number of citations.

Scientific journals are important in distribution of research reports to the whole world. Acceptance of scientific journals to important indexes increase the quality of a journal, contributes to the high quality article flow, and has a positive effect on increasing citation rates [11, 12]. Of course, it should be noted that international publishers such as Elsevier, Springer, Sage, Wiley, etc. are known worldwide and they make meticulous selections of the journals they publish. The scientific journals published by such publishers are more likely to be accepted into important databases such as Web of Science, Scopus, PubMed, etc. Moreover, some journal publishers may receive higher citations than others. For example, articles published by Springer are found to be more cited than articles published by Taylor and Francis [24].

The use of bibliometric studies have recently increased to present publication outputs, assess the development of the journal, and increase its impact factor [4]. Türkiye ranks 14th in the number of publications, and 26th in number of publications per million [20]. The article quality in the journals from Türkiye is reported to be low [25]. Therefore the number and quality of articles published in Türkiye based journals must be increased. Results from bibliometric studies may contribute to the internal audit and development of a journal and planning of the scientific studies of a country [11-14]. We believe that the results of this study may guide the journals in Türkiye which aim important indexes. JDRS has been accepted into many important indexes over the years (Table 1), and its articles are freely accessible through open access. Furthermore, the journal's title was changed to English at the beginning of 2020, and its inclusion in the PMC database further increased JDRS's accessibility. All of these factors have made the journal more visible, accessible, and reachable, thus contributing to an increase in its impact factor. Indeed, in the literature, accessibility and the visibility of articles are often cited to citation counts in numerous studies [10,14].

Limitations: This bibliometric research study has some limitations. First, care was taken to ensure that at least two years had elapsed at the time of database scanning. However during the period when the study was performed, the times that elapsed after the publications of the first and last articles were different, and this may have affected the citations beyond the second year. Besides, scanning of the all databases were performed in a three month period. This also may have affected the results, because it is reported that Google Academic is updated monthly, WoS is updated weekly, and Scopus is updated Daily [9]. Due to the update frequency of these databases, there may be inconsistencies in the number of citations provided. Finally, care was taken to make sure that the same citation to a single article was evaluated only once, however some articles may have been missed, especially in Google Academic search. Because Google Academic scans the duplicates of the same article, it is stated to count an article more than once [23].

Conclusion: The results of this study indicated

that research and/or review articles contribute significantly to citations and that the language of the article, English, also contributes to take of more citation. Acceptance of articles that may call the attention of more than one specialty may increase the number of citations. By taking these issues into consideration in editorial policies, the international visibility of the journal can be increased and international, multidisciplinary studies with a high probability of being cited can be ensured. It is crucial to increase the number and quality of publications from Türkiye. Outcomes of bibliometric analyses may contribute to both developing the impact factor of a journal and increasing the number and quality of scientific publications from our country. It is likely that the results of this study will serve as a guide to journals from Türkiye which purpose to be listed in important indexes.

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