Volume 16 • Number 3 • September 2025 • em00844 ISSN: 1309-6621 (Online)

JOURNAL OF CLINICAL AND EXPERIMENTAL INVESTIGATIONS

REVIEW ARTICLE

Patterns and dynamics of complementary and alternative medicine research in Türkiye: A bibliometric perspective

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ABSTRACT

Introduction: This study aimed to develop a bibliometric map of scientific research concerning complementary and alternative medicine (CAM).

Methods: Türkiye was chosen as the country of focus for this study. The data forming the basis of the analysis was retrieved from the Scopus database. VOSviewer (version 1.6.20) was utilized for bibliometric mapping, and Harzing's Publish or Perish program was employed for data tabulation.

Results: Searching for the phrases 'complementary and alternative medicine,' 'alternative medicine,' or 'complementary medicine' within the 'article title, abstract, keywords' fields yielded 61,327 documents. Upon examination in Türkiye, the study included 771 articles, 120 review articles, 13 conference papers, 19 book chapters, and one book.

Conclusion: The analysis indicates that Türkiye has progressed in CAM research, aligning with global trends.

Keywords: complementary medicine, alternative medicine, complementary therapy, bibliometric

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Received: 07.04.2025,
Accepted: 02.07.2025
https://doi.org/10.29333/jcei/16639

INTRODUCTION

Bibliometric analysis is a method employed for the statistical examination and evaluation of scientific publications, including articles, books, journals, and conference proceedings [1]. This analysis aims to enhance scientific productivity and efficiency [2]. It assists researchers by examining research outputs, authors, and their relationships through a computer-aided review methodology [3].

Paul Otlet first introduced the concept of bibliometrics in 1934, emphasizing the analysis and assessment of various aspects of publication and readership related to books and documents [4]. While Paul Otlet first introduced the foundational concepts of bibliometrics in 1934, the term 'bibliometrics' itself was coined by Alan Pritchard in 1989, which subsequently attracted considerable interest from researchers. Simultaneously, advancements in science and technology have led to significant developments and transformations in software tools. Applications such as VOSviewer, CiteSpace, and Biblioshiny, which are compatible with scientific databases like Web of Science (WoS), Scopus, and PubMed, are now widely utilized in bibliometric analysis [5]. In recent years, bibliometric analysis has been employed to map various research fields and emerging topics, thereby highlighting critical trends and key areas [6].

Complementary and alternative medicine (CAM) is recognized as a distinct health system, practice, and product distinct from traditional medicine [7]. It encompasses treatment and prevention methods [8] outside of mainstream healthcare but are utilized alongside or as alternatives to conventional medicine. Traditional health practices and products, which are deeply rooted in ancient cultures, are widely practiced in regions such as China, India, Tibet, Africa, and Asia [9]. The use of CAM has increased due to the growing prevalence of aging populations and chronic diseases [10]. CAM is primarily employed in cancer treatment and to.

mitigate disease-related complications [7]. When effectively integrated with traditional cancer therapies, CAM can enhance patients' quality of life and functional abilities while also reducing and/or preventing side effects [11]. As of 2020, cancer is considered the second leading cause of death worldwide. Due to the increasing costs and patient/disease burden of cancer, CAM is a preferred treatment approach for patients [12]. According to the World Health Organization (WHO), 80% of the global population relies on traditional medicine, which falls under the umbrella of CAM. The WHO suggests that rational drug use can help mitigate unnecessary antibiotic consumption, thereby reducing antibiotic resistance [13].

CAM is a preferred treatment approach for a variety of health issues. These include headaches, gastrointestinal problems such as diarrhea, constipation, dyspepsia, and gastroesophageal reflux, as well as respiratory conditions like asthma. CAM is also utilized for chronic illnesses, including cancer, arthritis, and psoriasis, also for dyslipidemia, hypertension, liver diseases, and kidney failure [14]. Furthermore, it is employed to address mental health disorders such as depression, obsessive-compulsive disorder, anxiety, and schizophrenia [15]. Epilepsy treatments encompass a range of modalities, including herbal medicines, exercise, yoga, meditation, hypnosis, acupuncture, biofeedback, prayer, chiropractic care, reflexology, aromatherapy, homeopathy, exorcism, psychic readings, and massage therapy [16].

Numerous global studies indicate that CAM is widely utilized as a complementary therapy method. Several studies have been conducted in this field over the past few years.

According to a study, 30% of Europeans and 40-62% of Germans approve of and use CAM [17]. Asia is recognized as the continent with the highest prevalence of CAM usage, due to the advanced healthcare systems in countries such as China and South Korea [18]. Furthermore, this study indicates that in several Asian nations, CAM constitutes approximately 40% of healthcare services [19]. A study conducted in Lebanon during the COVID-19 pandemic revealed that community pharmacists advocate for the safe and effective use of CAM and hold a positive attitude regarding their role in addressing COVID-19 [20]. In the United Arab Emirates, 80.1% of participants demonstrated a favorable attitude towards CAM [9].

The use of CAM is on the rise, with a noticeable increase in Japan. In 2017, approximately 54% of cancer patients in Japan utilized CAM, which is a slight increase from the 51% reported between 2009 and 2018. Furthermore, more than half of cancer patients globally are reported to use CAM. Cancer patients often choose CAM to prevent disease progression, alleviate symptoms, and mitigate treatment side effects [21]. A study conducted in Türkiye found that one in two gynecological cancer patients uses CAM [22]. Additionally, it was reported that 93.4% of cancer patients in China used CAM between 2009 and 2010 [18]. Despite the high utilization rates observed in these studies, a study in the United States (USA) revealed that only 18% of gynecological cancer patients reported using CAM [23]. Another study in Türkiye indicated that mothers of children with cancer often use CAM and herbal products to complement their children's treatment and alleviate side effects, frequently without consulting healthcare professionals [24].

Pregnant women in Saudi Arabia are more inclined than breastfeeding mothers to use CAM for fetal health issues, often opting for self-treatment and mineral/vitamin supplements [25]. Additionally, a study in Iran indicated that CAM is widely practiced among infertile women, with Iranian Traditional Medicine and herbal remedies being the most frequently employed methods [19].

CAM is employed across various medical disciplines, particularly in the fields of mental health, neurology, and psychiatry. A study found that approximately 43% of patients with anxiety disorders use CAM, which includes herbal medicine, acupuncture, and mind-body practices [26]. Research conducted among university staff in Iraq indicated that 74% of adults use herbal medicines, which are classified as CAM methods [8]. Another study in Türkiye revealed that parents frequently resort to CAM for their children diagnosed with autism [27]. A survey involving 1,112 physicians from 25 different countries indicated that they believe CAM can be beneficial in the treatment of epilepsy [16]. Furthermore, a study involving patients with psoriasis demonstrated that Unani herbal formulations can be used safely and effectively [28].

A five-step technique proposed by the study in [29] was employed to collect and analyze comprehensive data within a research field. The process begins with selecting the database to be accessed and formulating the search strategy. The initial search results are subsequently screened and organized, followed by the development of data analysis in the fourth and fifth steps. Finally, the dataset is analyzed using a bibliometric approach [29]. Our study followed these steps for analysis.

METHODS

Bibliometric analysis involves data collection from online platforms such as WoS, Scopus, and Google Scholar. For this study, the Scopus database was selected. Primary data from Scopus were systematically organized for collection, and all relevant studies were included without applying any date restrictions. VOSviewer, a software commonly used in bibliometric research, enables thematic, cartographic, and clustering analyses, thereby assisting in the identification and examination of bibliometric networks involving authors, publications, countries, institutions, and journals [30].

Data collection for the research was conducted on December 19, 2024. VOSviewer version 1.6.20 was employed

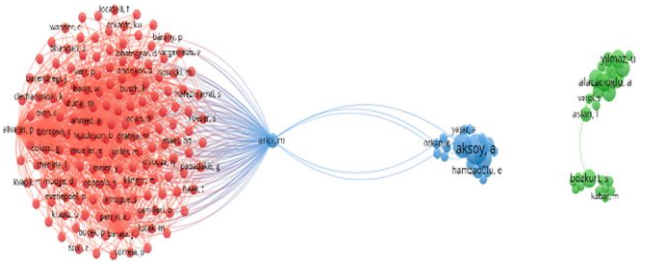

Figure 1. Co-authorship mapping of authors (Source: Author's own elaboration)

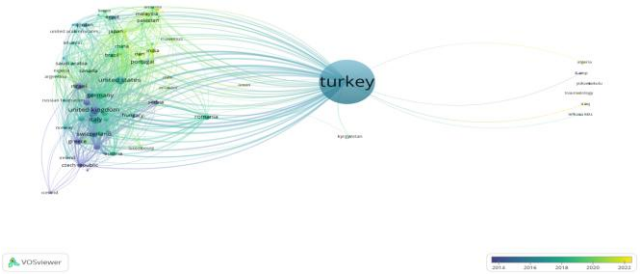

Figure 2. Co-authorship analysis map of countries (Source: Author's own elaboration)

for network analysis and visual presentation, while Harzing's Publish or Perish program was used for data tabulation. Considering the potentially high number of authors in medical studies, no maximum author limit per document was established in any of the analyses.

Data Collection

A preliminary screening was conducted, focusing on the interconnected concepts of CAM. When these concepts were searched together, the keyword 'alternative medicine' resulted in significantly more hits. Consequently, the terms 'complementary and alternative medicine,' 'alternative medicine,' or 'complementary medicine' were used in the 'article title, abstract, keywords' fields for the search, resulting in a total of 61,327 documents. Additionally, searches using the keywords 'bibliometric' and 'bibliometrics' retrieved 213 documents. When Türkiye was selected as the country of focus, it was observed that four bibliometric studies had been conducted. However, none were related to our research topic and content. By limiting the document types to articles, reviews, conference papers, book chapters, and books, a total of 925 documents were incorporated into the study. The oldest study dates to 1994. In 2021, 97 studies were published, marking it as the year with the highest number of publications, likely due to the impact of the COVID-19 pandemic. The primary dataset consists of 771 articles, 120 review articles, 13 conference proceedings, 19 book chapters, and one book.

RESULTS

Co-Authorship Analysis of Authors

For the co-authorship criterion, each author was required to have published a minimum of one document and one citation. Adjustments were made for authors with identical names to ensure accuracy in the co-authorship analysis. Consequently, 3,098 out of 3,443 authors met the established threshold. The analysis identified three clusters, 203 items, and 13,035 connections. Among the researchers, Arici M is notable with two documents and a total connection strength of 167. The analysis reveals one distinct cluster, with a second cluster showing signs of formation (see **Figure 1**).

Co-Authorship Analysis of Countries

As the criteria for the co-authorship analysis of countries, a minimum of one document and one citation per country were considered. Consequently, 79 out of 82 countries met the threshold level. In total, eight clusters, 79 items, and 2,848 links were identified. There are significant collaborations with countries such as the USA, Germany, and the United Kingdom (UK). Additionally, regional players such as Iraq, Nicosia, and the Turkish Republic of Northern Cyprus are notable connections (see **Figure 2**).

The UK has a total connection strength of 281, making it highly influential in terms of documents and citations. Germany, with a connection strength of 255, is also a key player, particularly within Europe. Although the number of documents from Spain, Switzerland, Sweden, and Italy is lower, their connection strength scores are notably significant. This suggests that these countries contribute to the network with fewer, yet highly impactful studies. If Türkiye enhances its connections with central hubs, such as European countries and the USA, by fostering international collaborations, it can bolster its influence within the network. Collaborations with countries like Poland and the Czech Republic could further increase academic diversity. By optimizing its existing connection strength, Türkiye has the potential to elevate its impact on the international stage (see **Table 1**).

Keywords Analysis

Figure 3 illustrates the co-occurrence density of keywords in scientific studies, with a minimum occurrence of one for each keyword. A total of 1,860 keywords met this threshold. The analysis identified 71 clusters, 1,474 items, and 6,587 links. **Figure 3** highlights the interactions among various disciplines, covering a broad spectrum of topics within the healthcare field. Current health issues, such as chronic diseases, cancer, and COVID-19, are central to the focus of research. Cancer studies are particularly well-connected, especially regarding the effects of antioxidants. Scientific research serves as a foundation for the development of new treatment methods and biological products. Furthermore, psychological and social factors are considered integral components of health (see **Figure 3**).

Table 1. Co-authorship analysis of the top 20 countries

Country	Documents	Citations	Total link strength
Türkiye	798	18,421	482
UK	27	6,212	281
Germany	23	4,820	255
Italy	26	6,201	252
Spain	18	2,900	232
Switzerland	17	5,693	231
Sweden	14	5,405	188
France	12	4,196	181
Netherlands	11	2,127	170
Israel	18	3,180	170
Denmark	13	5,472	168
Greece	14	3,952	167
Belgium	12	3,511	166
USA	26	3,680	160
Romania	14	2,132	120
Austria	9	2,952	118
Poland	8	2,140	115
Czechia	8	2,867	105
Australia	8	916	96
Singapore	6	734	93

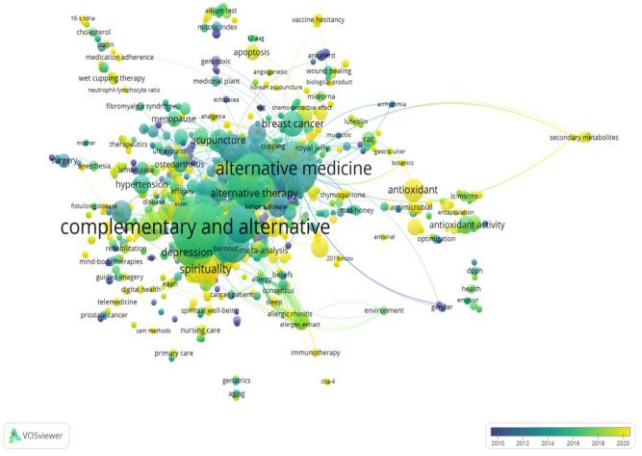

Figure 3. Mapping by keyword (Source: Author's own elaboration)

When examining **Table 1**, it becomes evident that certain concepts, such as atopic dermatitis and environment, appear less frequently but exhibit high connection strengths. For instance, atopic dermatitis is mentioned only three times, yet it is distinctive with a connection strength of 66. This highlights the particular significance of such niche topics, indicating their potential for significant impact. Focusing on concepts with limited citations but high connection strengths could help bridge knowledge gaps in these areas. Increasing research efforts on mental health topics, such as anxiety and depression, could provide significant for public health. Supporting studies that address health issues and needs specific to Türkiye could promote more effective localized solutions. It is also recommended to conduct an in-depth examination of the literature in the field of atopic dermatitis to expand the knowledge base in this domain (see **Table 2**).

Table 2. Top 20 keyword analysis

Keyword	O	TLS
Complementary and alternative medicine	96	292
Alternative medicine	70	270
Complementary medicine	70	255
Nursing	46	166
Cancer	42	140
Quality of life	25	134
Türkiye	34	128
Complementary therapies	33	115
Asthma	16	99
Pain	21	86
Anxiety	20	77
Children	21	74
Depression	16	74
Child	21	69
Atopic dermatitis	3	66
Epidemiology	3	64
Attitude	18	63
Systematic review	3	63
Alternative therapy	17	62
Environment	2	62

Note. O: Occurences & TLS: Total link strength

Document Citation Analysis

Figure 4 presents an analysis of documents with at least one citation, where the year of publication serves as the scoring criterion. Out of 800 documents, 685 met the threshold for inclusion. The analysis identified 235 items, 23 clusters, and 597 links. Ceylan (2002) ranks first with 80 citations and a connection strength of 45, followed by Molassiotis (2005a) with 891 citations and a connection strength of 37, and Tan (2004) in third place with 72 citations and a connection strength of 36. Despite having a high citation count of 1,567, Gomollon (2017) has a connection strength of zero. The publication by Molassiotis (2005a) is positioned at the center of the map, indicating that it has the largest node and, consequently, a significant influence on other works within the field. The map also illustrates the progression of research over time in this domain. More recent publications (e.g., from 2020 and 2022) are located towards the edges of the map, while older publications (e.g., from 2000) are situated closer to the center. This arrangement reflects how foundational works often remain

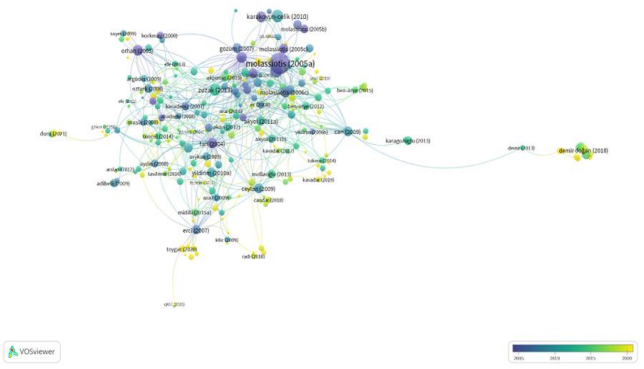

Figure 4. Citation map of a document (Source: Author's own elaboration)

Table 3. Citation analysis and links of top 20 documents

Document	Citations	Links
Ceylan (2002)	80	45
Molassiotis (2005a)	891	37
Tan (2004)	72	36
Kav (2008)	48	30
Tas (2005)	61	29
Erci (2007)	47	24
Can (2009)	57	21
Ozturk (2008)	43	20
Orhan (2003)	82	19
Yavuz (2007)	25	18
Karadeniz (2007)	41	18
Isikhan (2005)	23	16
Yildirim (2006a)	41	16
Ceylan (2009)	59	15
Kurt (2013)	15	15
Muslu (2008)	26	14
Yildirim (2010b)	30	14
Yildiz (2013)	26	14
Kutlu (2009)	16	12
Aydin avci (2012)	19	12
Araz (2009)	25	12

central as newer studies build upon them, branching out into emerging topics and trends (see **Figure 4**).

Some studies have a significant impact due to their high citation and strong connectivity, while others exhibit relatively lower visibility and influence. Works such as Ceylan (2002), Molassiotis (2005a), and Orhan (2003) are recognized for their significant contributions to the literature. Conversely, studies with lower citation and connection rates, such as Kurt (2013), may remain valuable for specific niche areas of research. This underscores the

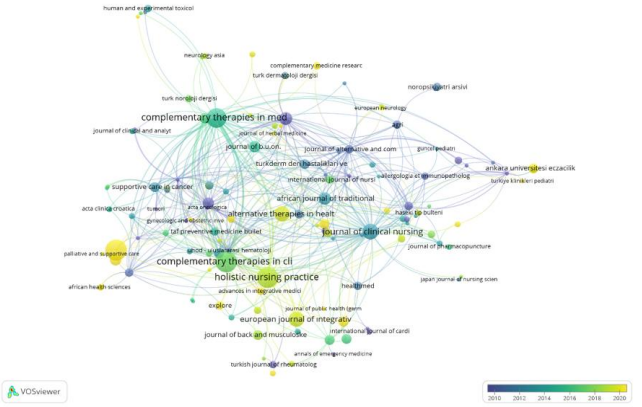

Figure 5. Source citation mapping (Source: Author's own elaboration)

importance of considering both prominent and specialized works to achieve a comprehensive understanding of the field (see **Table 3**).

Source Citation Analysis

In **Figure 5**, the minimum number of documents from a source is set to one, and the minimum number of citations is also set to one, to ensure comprehensive inclusion. Consequently, 389 out of 441 sources meet the established criteria. The analysis identifies 132 items, 22 clusters, and 456 links. The results highlight three prominent sources based on the number of documents: *Complementary Therapies in Medicine* ranks first with 20 documents, 516 citations, and a total link strength of 99. The *Journal of Clinical Nursing* ranks second with 13 documents, 369 citations, and a total link strength of 84. The *Journal of Alternative and Complementary Medicine* ranks third with four documents, 148 citations, and a total link strength of 54. Citations have been concentrated since 2010. In the fields of healthcare and complementary medicine, significant knowledge hubs (larger nodes) are evident. Journals with strong co-citation links indicate that certain research themes are more actively researched. While there are connections between clusters, it is apparent that some areas operate relatively independently. This observation highlights both the interconnected nature of the research landscape and the presence of specialized, self-contained domains within it. Strengthening interactions between these clusters could lead to richer, more integrated insights in the field (see **Figure 5**).

Journals such as *Complementary Therapies in Clinical Practice* and *Complementary Therapies in Medicine* are prominent in terms of published documents, citations, and total link strength. Among local publications, the *Turkiye Klinikleri Journal of Medical Sciences* and the *Turkish Journal of Oncology* are particularly noteworthy. The *Annals of Oncology* distinguishes itself as an international journal, attracting attention due to its high citation count (see **Table 4**).

Table 4. Top 20 source citation analysis and total link strength status

Source	D	C	TLS
Complementary Therapies in Medicine	20	516	99
Journal of Clinical Nursing	13	369	84
Journal of Alternative and Complementary Medicine	4	148	54
Complementary Therapies in Clinical Practice	24	522	51
Holistic Nursing Practice	23	264	51
Türkiye Klinikleri Journal of Medical Sciences	9	56	43
Annals of Oncology	1	891	39
UHOD - Uluslararası Hematoloji-Onkoloji Dergisi	2	52	35
Cancer Nursing	7	295	32
Asian Pacific Journal of Cancer Prevention	5	147	31
Acta Oncologica	1	61	29
European Journal of Oncology Nursing	4	186	25
Türk Onkoloji Dergisi	6	43	25
African Journal of Traditional, Complementary and Alternative Medicines	8	72	21
Çocuk Sağlığı ve Hastalıkları Dergisi	4	47	21
Annals of Allergy, Asthma and Immunology	1	82	20
Supportive Care in Cancer	5	227	19
Pediatric Blood and Cancer	1	41	18
European Journal of Gynaecological Oncology	2	41	16
Journal of B.U.On.	7	217	15

Note. D: Documents; C: Citations; & TLS: Total link strength

Author Citation Analysis

Figure 6 shows the citation network of authors, considering those with at least one citation. Out of 3,443 authors, 3,098 meet this criterion. The analysis identifies 132 items, 22 clusters, and 456 links. The most cited authors include are Molassiotis A, Ozden G, Panteli V, Patiraki E, Platin N, and Pud D, who collectively have 6 documents, 1,263 citations, and a total link strength of 342 (see **Figure 6**).

Table 4 details the number of documents, citations and total link strength of each author, showing their relative impact in the field of research. Molassiotis A, Ozden G, Panteli V, Patiraki E, Platin N, and Pud D, who are at the top of the analysis, stand out as the most influential and well-known names in their respective research fields, having both the highest number of publications (six documents) and the highest number of citations (1,263 citations); their work has had a wide repercussion in the literature and has become an important reference point in the scientific community. In addition to this leading group, authors such as Gudmundsdottir G, Kearney N, and Scott JA also have a significant impact with their high citation and link strength, while some authors such as Yildirim Y and Ozturk C stand out with their low citation counts despite their high

Figure 6. Mapping by author's citation status (Source: Author's own elaboration)

Table 5. Author citation analysis

Author	D	C	TLS
Molassiotis A	6	1,263	342
Ozden G	6	1,263	342
Panteli V	6	1,263	342
Patiraki E	6	1,263	342
Platin N	6	1,263	342
Pud D	6	1,263	342
Gudmundsdottir G	5	1,186	307
Kearney N	5	1,186	307
Scott JA	5	1,,186	307
Fernandez-Ortega P	5	1106	305
Margulies A	4	1,162	291
Selvekerova S	4	1,142	290
Yildirim Y	5	192	287
Ceylan S	3	139	282
Browall M	4	1,049	271
Madsen E	4	1,049	271
Bruyns I	3	1,085	256
Magri M	3	1,085	256
Milovics L	3	1,092	256
Ozturk C	4	174	241

Note. D: Documents; C: Citations; & TLS: Total link strength

document counts, suggesting that their publications are potentially newer or have not yet shown their full impact. While **Table 4** highlights that the number of citations is the strongest indicator of an author's impact in the scientific literature, it also sheds light on the central role of authors in research networks through additional metrics such as total link strength. In conclusion, this detailed analysis provides a valuable framework for understanding the scientific productivity and impact levels of authors in each research area, providing important implications for future research and collaborations (see **Table 5**).

According to the findings presented in **Table 5**, the top three studies are detailed.

Table 6. Publisher, citation, and author information of top 10 publications

Cites	Title	Year	Source	Publisher	Type	CPY	AC	Age
1,567	3rd European evidence-based consensus on the diagnosis and management of Crohn's disease 2016: Part 1: Diagnosis and medical management	2017	Journal of Crohn's and Colitis	Oxford University Press	Article	223.86	43	7
1,120	Statin-associated muscle symptoms: Impact on statin therapy–European atherosclerosis society consensus panel statement on assessment, aetiology and management	2015	European Heart Journal	Oxford University Press	Review	124.44	26	9
956	EULAR revised recommendations for the management of fibromyalgia	2017	Annals of the Rheumatic Diseases	BMJ Publishing Group	Article	136.57	19	7
952	European guidelines for obesity management in adults	2015	Obesity Facts	S. Karger AG	Article	105.78	7	9
891	Use of complementary and alternative medicine in cancer patients: A European survey	2005	Annals of Oncology	Oxford University Press	Article	46.89	19	19
652	Luteolin, a flavonoid, as an anticancer agent: A review	2019	Biomedicine and Pharmacotherapy	Elsevier Masson SAS	Review	130.4	12	5
447	International consensus statement on allergy and rhinology: Allergic rhinitis	2018	International Forum of Allergy and Rhinology	John Wiley and Sons Inc	Article	74.50	72	6
313	In vitro enzyme inhibitory properties, antioxidant activities, and phytochemical profile of Potentilla thuringiaca	2017	Phytochemistry Letters	Elsevier Ltd	Article	44.71	8	7
313	Importance of ethnopharmacological studies in drug discovery: Role of medicinal plants	2020	Phytochemistry Reviews	Springer Science and Business Media B.V.	Review	78.25	1	4
157	Complementary and alternative medicine is used in breast cancer patients in Europe	2006	Supportive Care in Cancer	Springer Verlag	Article	8.00	15	19

Note. CPY: Cites per year & AC: Author count

Among the publications, the article titled "3rd European evidence-based consensus on the diagnosis and management of Crohn's disease 2016: Part 1: Diagnosis and medical management" ranks first. Published in 2017 and authored by 43 contributors, it has accumulated 1,567 citations. The content of the article includes definitions of CAM, is collaboratively written by authors from various countries, and serves as a consensus paper. The journal is ranked in the Q1 quartile of the WoS science citation index expanded (SCIE) edition, with a focus on gastroenterology and hepatology. The second-ranked study is a review article titled, "Statin-associated muscle symptoms: Impact on statin therapy–European atherosclerosis society consensus panel statement on assessment, aetiology and management." This article is a clinical update authored by 26 researchers from various countries. Published in 2015, it has garnered 1,120 citations. The journal is categorized within the Q1 quartile in the WoS SCIE edition, with its subject area being "Cardiac & Cardiovascular Systems." It serves as a significant resource for complementary therapies among clinical practitioners. The third-ranked study is an article titled, "EULAR revised recommendations for the management of fibromyalgia." This publication, which includes researchers from numerous countries, is presented as an extended report comprising recommendations. The journal is situated in the Q1 quartile of the WoS SCIE edition, and its subject area is "Rheumatology." Collectively, the top three ranked studies consist of consensus statements, review articles, and reports. Regarding the publishing groups, Oxford University Press holds the first two positions (**Table 6**).

Many of the top 10 publications are highly collaborative, involving numerous authors. For instance, the article "International consensus statement on allergy and rhinology: Allergic rhinitis" features 72 authors. Notably, some of the earliest articles continue to receive a significant number of citations, suggesting that they have had a lasting impact over time. Reputable publishers, including Oxford University Press, Elsevier, and Springer, are represented in **Table 6**. Articles addressing the management of diseases such as Crohn's disease, obesity, and fibromyalgia have collectively received 3,475 citations. Additionally, two articles on CAM for cancer patients have received a total of 1,048 citations. Two papers focusing on phytochemistry and antioxidants have accumulated 626 citations, highlighting these as emerging and intriguing areas of research. More recent studies (e.g., from 2019) are attracting an increasing number of citations per year, reflecting a heightened interest in contemporary topics. A study in ethnopharmacology, published in 2020, has demonstrated exceptional

performance, accumulating 313 citations over four years (an average of 78.25 citations per year). The three most cited studies include those examining medical guidelines from European associations, which are frequently referenced in clinical practice. The management of diseases such as Crohn's disease, fibromyalgia, obesity, and allergic rhinitis is prominently featured (see **Table 6**). Clinical guidelines and reviews are essential references for researchers and clinicians. Multidisciplinary collaborations can significantly enhance success, particularly in consensus studies.

CONCLUSION

Based on a study conducted in Türkiye, bibliometric analyses highlight the significance of collaborative efforts among authors from various countries. While global scientific research on CAM is gaining momentum, notable advancements are also being made in Türkiye. The co-authorship analysis indicates the emergence of a general cluster, with second and third clusters emerging; however, these clusters remain unconnected. Keyword analysis shows that CAM is expanding and spreading more evenly. In the document citation analysis, a single general cluster has formed, and a second cluster is gradually emerging. In terms of source citation, several journals are prominent, with new sources gradually gaining prominence. The author citation analysis, however, reveals no distinct clustering. This suggests that as new studies are conducted, clearer and more defined mappings could emerge, potentially strengthening the connections among authors.

Highly cited publications frequently are often clinical guidelines or comprehensive reviews, especially in fields such as chronic diseases and pharmacology. Reputable publishers, including Oxford University Press, play a crucial role in disseminating these influential works. Both collaborative efforts, with large author teams, and individual researchers significantly contribute to the body of literature. While recent studies with high annual citation counts reflect current research interests, older, highly cited publications demonstrate a lasting impact. These findings underscore the importance of current and reliable information in academic research and clinical practice.

Suggestions

Türkiye should focus on international publications and cooperation to enhance its international influence. Joint projects can be developed with countries that currently lack strong collaborative ties.

Limitations

The study's data is limited to the Scopus database, specifically to searches using the phrases 'complementary and alternative medicine,' 'alternative medicine,' or 'complementary medicine' within the 'article title, abstract, keywords' fields, and further restricted to documents related to Türkiye.

Funding: No funding source is reported for this study.

Ethics declaration: The authors stated that, since this study used secondary, publicly available data, no ethics committee approval was required. Data security and confidentiality principles were adhered to throughout the research process.

Declaration of interest: No conflict of interest is declared by the author.

Data sharing statement: Data supporting the findings and conclusions are available upon request from the author.

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