Insight into the Characteristics of Research Published in Complementary, Alternative, and Integrative Medicine Journals: A Bibliometric Analysis

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Abstract

Background: Complementary, alternative and integrative medicine (CAIM) can be described as diverse medical and healthcare interventions, practices, products, or disciplines that are not considered as part of conventional medicine. Inherent in its definition, CAIMs are comprised of a wide variety of therapies with highly variable safety and effectiveness evidence profiles. Despite this, the use of many CAIMs is highly prevalent among patients globally. The present study consists of a bibliometric analysis of CAIM journals.

Methods: A single search of all International Standard Serial Number (ISSNs) of all journals categorized as “complementary and alternative medicine” (code 2707) based on the All Science Journal Classification (ASJC) was run on Scopus on April 17, 2021. All publication types were included; no further search limits were applied. The following bibliometric data were collected: number of publications (in total and per year), authors and journals; open access status; journals publishing the highest volume of literature and their impact factors; language, countries, institutional affiliations, and funding sponsors of publications; most productive authors; and highest-cited publications. Trends associated with this subset of publications were identified and presented. Bibliometric networks were constructed and visualized using the software tool VOSviewer.

Results: A total of 172466 publications (42331 open access), were published by 219680 authors in 143 journals from 1938 to 2021. Since the 1940s, an upward trend with respect to the volume of publications can be observed, with a steep increase observed between the mid-2000s and mid-2010s. The journal that published the largest number of publications was the Journal of Natural Products (n=15144). The most productive countries included China (n=45860), the United States (n=29523), and Germany (n=10120); a number of the most common institutional affiliations and funding sponsors also originated from these three countries.

Conclusions: The number of publications collectively published in CAIM journals follows an upward trend. Given a high prevalence of CAIM use among patients, increased acceptance of CAIM among conventional healthcare providers, and growing interest in the research of CAIM, future work should continue to investigate and track changes in the publication characteristics of the emerging research on this topic.

Background

Complementary and alternative medicine is generally defined as a group of diverse medical and healthcare interventions, practices, products or disciplines that are not considered as part of conventional medicine [1]. Specifically, the National Center for Complementary and Integrative Health (NCCIH) defines “complementary” medicine as a non-mainstream practice used *together with* conventional medicine, whereas “alternative” medicine refers to a non-mainstream practice used *in place of* conventional medicine [2]. In contrast, “integrative health” is defined as the coordinated delivery of conventional and complementary approaches together [2]. These three words – complementary, alternative, and integrative – comprise the most common ways to refer to these types of therapies [3]. For the purpose of the present study, these therapies will be referred to collectively as “complementary, alternative and integrative medicine” or “CAIMs” hereafter. At present, a lack of consensus exists regarding how to categorize CAIMs; in fact, by definition every therapy that falls under the umbrella of “CAIM” exists as a result of being considered outside of the purview of conventional Western medical practices [3]. Therefore, one CAIM therapy can be highly unrelated to another due to the fact that each originates from a different region in the world, culture, system of traditional medicine, and school of thought [4,5]. Despite these challenges, attempts have been made to categorize CAIMs. For example, the NCCIH divides CAIM therapies into two main types: 1) natural products and 2) mind and body practices. Within the former category, they include therapies such as herbs, vitamins and minerals, and probiotics, while in the latter, they include therapies such as yoga, chiropractic and osteopathic manipulation, and meditation, as well as acupuncture, relaxation techniques, tai chi, qi gong, and hypnotherapy, among others [2]. Despite these efforts, the NCCIH has stated, however, that some CAIMs may not fit neatly into either of these two groups, citing many systems of CAIM including practices of traditional healers, Ayurvedic medicine, traditional Chinese medicine, homeopathy, naturopathy, and functional medicine [2].

Regardless of how CAIMs are categorized, these therapies are perceived to be of value by their proponents for their emphasis on a holistic, patient-focused approach to healthcare, which include mental, emotional, functional, spiritual, economic, and social aspects [2,6]. CAIM is widely used around the world, with 88% of World Health Organization member states acknowledging their use of CAIM, which by definition means that these 170 countries have formally developed policies, laws, regulations, programs and offices for CAIM [4]. The prevalence of CAIM use is high in many Western countries; for example, it is estimated that around 80% of Canadians have used CAIM [7]. The prevalence of CAIM use is also documented to be high among certain patient populations; in cancer patients, as many as 90% report using some type of CAIM [8,9,10]. CAIM is used by these patients for a variety of reasons, including symptom relief, improved quality of life, supplementing conventional therapy, supporting one’s philosophical orientations toward health, and achieving a sense of control over one’s care [11,12,13]. Integrative medicine (the use of complementary and conventional therapies) is becoming increasingly popular among patients and practitioners [14,15], and sub-specializations of integrative care for specific diseases/conditions have also been established, such as integrative oncology [16,17].

While some CAIMs, such as meditation and yoga [18,19], have undergone more thorough testing and have been found to be generally safe and effective, others have not been adequately researched to determine their effectiveness, and some have been found to be potentially harmful or interact negatively with conventional medicines [20,21,22]. The belief among patients that “natural means safe and better” [23] is well-documented, however, evidence from the research literature suggests otherwise. Many herbal and dietary supplements can be harmful when taken in large quantities. Certain weight loss and bodybuilding supplements have been shown to cause hepatotoxicity or even hepatic failure at therapeutic doses [24]. Furthermore, systemized pharmacovigilance of CAIMs is poorly coordinated on a national and international level, and CAIM therapies are generally not held to the same standards of regulation as that of pharmaceutical medicines in terms of quality, effectiveness, and safety [25].

The increase in popularity and prevalence of CAIM use among patients, and growing acknowledgement among conventional healthcare providers that a need exists to approach CAIM therapies, their traditions, and their practitioners with respect, are among some of the reasons for an increase in CAIM research

productivity which has resulted in a growth in the volume of the published literature over the past few decades [26,27,28]. The application of a research method known as a bibliometric analysis can facilitate a better understanding of a given field, such as that of CAIM. A bibliometric analysis involves the statistical assessment of scientific publications, to identify the characteristics and determine the impact of the literature published in a specific academic discipline [29,30,31]. This increased interest in CAIM research has led to the establishment and indexing of multiple CAIM journals, however, no study has comprehensively assessed the characteristics of the publications found within these source titles to date. Thus, the purpose of the present study is to provide current insight into the characteristics of publications published across CAIM journals through a bibliometric analysis.

Methods

Publication Search and Characteristics

The 2021 Scopus Source List [32] was downloaded, and all Scopus-indexed journals belonging to the “complementary and alternative medicine” category (code 2707) were identified based on the All Science Journal Classification (ASJC). A single search containing the International Standard Serial Numbers (ISSNs) of all of these journals was run on Scopus on April 17, 2021; the search strategy can be found in **Table 1**. Search results were exported on the same day to prevent discrepancies between daily database updates. Searches were only conducted on Scopus because it is the largest abstract and citation database of peer-reviewed literature [33]; in comparison, Web of Science contains considerably fewer CAIM-categorized journals, while OVID databases do not provide certain metrics such as publication citation counts [34]. All publication types were included, and no further search limits were applied. The following bibliometric data were collected: number of publications (in total and per year), authors and journals; open access status; journals publishing the highest volume of literature and their impact factors; language, countries, institutional affiliations, and funding sponsors of publications; most productive authors; and highest-cited publications. Trends associated with this subset of publications were identified and presented. Bibliometric networks were constructed and visualized using the software tool VOSviewer (version 1.6.16) [35,36].

Results

A total of 172466 publications (42331 open access), were published by 219680 authors in 143 journals from 1938 to 2021. Since the 1940s, an upward trend with respect to the volume of publications can be observed, with a steep increase observed between the mid-2000s and mid-2010s. This upward trend has continued with 2020 marking the year with the highest number of publications to date; **Figure 1** depicts the number of publications published per year. The Journal of Natural Products (n=15144) published the largest number of publications, followed by Zhongguo Zhongyao Zazhi (n=14577), and Planta Medica (n=10793). All journals included within this bibliometric analysis were hand-searched on InCites Journal Citation Reports [37]. As of 2020, 83 journals were still active (57.6%), of which 35 had a 2019 impact factor (range from 0.200 to 5.487). **Table 2** provides complete details of the journals included in this bibliometric analysis, including the journal name, ISSN, whether the journal is active or inactive (as of 2020), coverage period, title history indication, publisher name, number of publications published, and the 2019 impact factor (if available).

The subject area containing the largest number of publications was medicine (n=172456), followed by pharmacology, toxicology and pharmaceutics (n=86902), then biochemistry, genetics and molecular biology (n=40262). Publications were primarily published in English (n=135718), followed by Chinese (n=24614), then German (n=8611). The most common document types were article (n=139540) and review (n=13418). The most productive countries included China (n=45860), the United States (n=29523), and Germany (n=10120). The most common affiliations were the China Academy of Chinese Medical Sciences (n=3560), the Beijing University of Chinese Medicine (n=2896), and the Chinese Academy of Sciences (n=2896); the most common funding sponsors were the National Natural Science Foundation of China (n=5711), the National Institutes of Health (n=4055), and the US Department of Health and Human Services (n=4032). The general characteristics of eligible publications are summarized in **Table 3**. In addition, the 100 most highly published authors are provided in **Table 4**, and the 100 highest-cited publications are provided in **Table 5**.

Figures 2-5 represent bibliometric networks constructed and visualized using the software tool VOSviewer, and include all 172466 captured by the present study's search. This added layer of analysis of the most influential subset of publications captured provides a greater understanding of the relationship that exists between certain items (i.e. countries, keywords, authors, journals, etc). In each bibliometric network (figure), each item is represented in a network visualisation by a label and a circle; the weight of an item determines the size of the label and the circle of an item. **Figure 2** depicts a co-authorship analysis of the 50 most productive countries. In a co-authorship analysis, the relatedness of items is determined based on the number of co-authored publications. From this figure, it can be seen that while China is the most productive country, Chinese authors tend to collaborate less with researchers in other countries as shown by the distance between lines. In contrast, American authors tend to collaborate with many countries internationally, while German authors tend to collaborate more with researchers in other European countries. **Figure 3** depicts a co-occurrence analysis of the 500 most frequent author keywords used across all publications. In a co-occurrence analysis, the relatedness of items is determined based on the number of publications in which they occur together. From this figure, a number of clusters can be observed representing different CAIM topics. The yellow, red and dark blue clusters represent a large network of keywords related to laboratory-based studies, while the green cluster represents keywords related to clinical research and review-type studies. The smaller light blue cluster also highlights research conducted on traditional and indigenous medicines. This figure also provides insights into some of the most highly studied diseases/conditions published in CAIM journals, which include breast and lung cancer, diabetes, anxiety, and low back pain. **Figures 4 and 5** depict a citation analysis of the 500 highest-cited authors, and the 100 sources publishing the largest number of CAIM publications, respectively. In a citation analysis, the relatedness of items is determined based on the number of times they cite each other.

Discussion

The objective of the present bibliometric analysis is to capture the characteristics of the research literature published in CAIM journals. The search conducted on Scopus yielded over 170 000 publications, representing the largest bibliometric analysis of CAIM literature to date to the author's knowledge. Since the

1940s, an upward trend with respect to the volume of publications can be observed, with a steep increase observed between the mid-2000s and mid-2010s. This upward trend has continued with 2020 marking the most productive year globally to date. This growth in the volume of research published over the most recent decades can largely be explained by an increase in funding support by government and nongovernment sectors for CAIM research [38,39,40,41]. In the present study, it was found that China was the most productive country with respect to CAIM research at 45860 publications, followed by the United States at 29523 and Germany at 10120. A vast amount of research continues to be conducted on traditional Chinese medicine in China [42,43,44], while the United States and Germany have both historically been the leading countries with respect to the research of various CAIM therapies [45,46,47,48]. While the vast majority of publications were written in English, which is largely regarded as the international language of academic publication, it is also unsurprising that the second most common language was Chinese, and the third was German, as this corresponds with the national languages of the most productive countries. Of the top 20 institutional affiliations responsible for publishing this CAIM research, 17 originated from China, with the remaining two from South Korea and one from Taiwan; a number of affiliations based in the United States and Germany existed as well, but below the top 20. Additionally, with respect to the top 20 funding sponsors, the countries with the largest number were China and the United States, with six organizations each.

Comparative Literature

The findings from a small number of published bibliometric analyses specific to the CAIM research literature can be compared to that of the present study. One of the first bibliometric analyses of the CAIM research literature was published by Barnes et al. in 1999. Using a number of CAIM-related keywords, they conducted searches on Medline and analysed the literature published from 1966 to 1996. At the time, they reported that the volume of CAIM publications per year rose between 1972 and 1986, and then remained stable and approximated 1500 per year up until 1996. Although in the present study a growth in the volume of literature is still observed from 1986 to 1996, the mean number of publications per year over this decade was approximately 1400, which aligns closely with the findings of the authors [45]. Fu et al. (2011) analysed 17002 publications found in 19 complementary and alternative medicine journals over approximately three decades. They found that the most productive countries included the United States, China, India, England and Germany, all of which fell within the top seven most productive countries in the present study. A number of institutions were also identified by both Fu et al. (2011) as well as the present study to be among the most productive internationally, including China Medical University and Kyung Hee University [46]. Danell et al. analysed four decades' worth of complementary and alternative medicine publication activity from 1966-2007 [47], then later repeated their study again to include five decades from 1966-2016 [48]. In their more recent study, they analyzed 105 216 publications, which prior to the present study was the largest bibliometric analysis on this topic. Unlike the present study which sought to characterize publications in CAIM journals, Danell et al.'s (2020) inclusion criteria included publications that had "Complementary Therapies" as their Medical Subject Heading major topic, in the Medline database. Lastly, Youn et al. (2021) conducted a bibliometric analysis of the integrative medicine research literature based on a search query using two keywords joined by the Boolean operator "OR": "complementary and integrative medicine" OR "integrative medicine", retrieving and analysing a total of 4660 publications. Although their study's focus was more so on integrative medicine, a number of their findings are shared with the present study; for example, they also identified United States, China, and Germany to be the most productive countries (albeit in this order), and they also found that cancer was one of the most commonly studied diseases/conditions [49].

In line with the findings made by Barnes et al. (1999) [45], Danell et al. (2009) [47], Fu et al. (2011) [46], Danell et al. (2020) [48], and Youn et al. (2021) [49], the present study also found an upward trend with respect to the volume of CAIM research being published each year over the past decades. With respect to the number of publications captured, although Danell et al.'s (2020) study was published in 2020, their coverage of the CAIM literature only extended up until 2016 [48]. In the present study, over 37000 publications were found to be published between 2017 and April 2021, comprising over 20% of the entire body of literature analysed.

Future Directions

Beyond the aforementioned comparative literature, it is worth noting that it has been far more common for bibliometric analyses to be conducted on a specific CAIM-related topic. These have included acupuncture [50,51,52], aromatherapy [53], apitherapy [54], complementary and integrative oncology [55], ethnopharmacology [56], homeopathy [57], medicinal plants [58], qi gong [59], and yoga [60,61], as just some examples among others. Others have conducted bibliometric analyses specific to methodologies, such as clinical trials [60,62,63] or guidelines [51] in CAIM. Bibliometric analyses of the CAIM literature with specific sub-topics are more straightforward to conduct, as the keywords and searches applied are likewise also easier to standardize. One of the main challenges in conducting comprehensive bibliometric analyses of the CAIM literature in its entirety is the fact that it is very difficult to operationalize a dynamic and unrelated group of therapies that have been defined on the basis that they lie outside of the purview of conventional Western medical care [64,65]. As a result, all of the bibliometric analyses of the CAIM literature to date have been based on searches of CAIM-specific journals or CAIM-specific indexed headings, both of which unquestionably provide an incomplete picture of all the CAIM literature. Thus, future directions of value include 1) the creation of an operational definition of CAIM informed by a systematic search strategy, and 2) the development of standardized search strategies for major academic databases based on this operational definition.

Strengths and Limitations

This present bibliometric study captured and analysed the characteristics of over 170000 publications, making it the largest conducted to date with respect to the CAIM literature, and the most comprehensive with regards to CAIM journal inclusion. Searches were conducted on Scopus as this academic database has a larger coverage in comparison to other databases such as Web of Science. Despite this, it must be acknowledged that all academic databases contain gaps in their indexing, and this was realized at the point of analysis in the present study. Furthermore, it is always possible that some literature may not have been captured by not searching other databases, however, this would have introduced considerable complexities with respect to the ability to analyse search results efficiently (i.e. deduplication of such a large volume of publications, bibliometric network visualizations). The use of the software tool VOSviewer to create and

visualize bibliometric networks serves as an additional strength to the present study, providing a deeper layer of analysis with respect to the strength and nature of relationships between different items (countries, keywords, authors, journals). One final limitation includes the fact that independent search results were not screened as this would have been impractical, and possibly unfeasible without the application of an operational definition of CAIM. Without doing this, however, it is possible that this analysis also included non-CAIM literature published in journals categorized as “complementary and alternative medicine” by Scopus.

Conclusions

The present study provides current insight into the characteristics of publications published across CAIM journals, and represents the largest bibliometric analysis conducted to date with respect to the CAIM literature. The most productive countries included China, the United States, and Germany; unsurprisingly, a large proportion of common institutional affiliations and funding sponsors associated with this subset of publications also originated from these countries. The volume of publications has increased steadily since the 1940s, and a steep increase was observed between the mid-2000s and mid-2010s, which is largely attributable to increased available funding for CAIM research globally. This upward trend has continued with 2020 marking the year with the most publications to date. Beyond identifying the large diversity of CAIMs studied, this study also highlights therapies which may be understudied and warrant further investigation. Given a high prevalence of CAIM use among patients, increased acceptance of CAIM among conventional healthcare providers, and growing interest in the research of CAIM, future work should continue to investigate and track changes in the publication characteristics of the emerging research on this topic. The creation of an operational definition of CAIM informed by a systematic search strategy, followed by the development of standardized search strategies for major academic databases based on this operational definition, may serve to achieve these goals more comprehensively.

Declarations

Ethics Approval and Consent to Participate

This study involved a bibliometric analysis of the literature only; it did not require ethics approval or consent to participate.

Consent for Publication

The author consents to this manuscript’s publication.

Availability of Data and Materials

All data generated or analysed during this study are included in this published article.

Competing Interests

The author declares that they have no competing interests.

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Authors' Contributions

JYN: conceptualized and designed the study, collected the data, interpreted and analysed the data, drafted the manuscript, and gave final approval of the version to be submitted.

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None.

Abbreviations

ASJC: All Science Journal Classification

CAIM: complementary, alternative, and integrative medicine

NCCIH: National Center for Complementary and Integrative Health

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Tables

Table 1: Scopus Search Strategy Executed on April 17, 2021

ISSN (23755776) OR ISSN (03601293) OR ISSN (09645284) OR ISSN (22129588) OR ISSN (26624052) OR ISSN (01896016) OR ISSN (16146891) OR ISSN (10762809) OR ISSN (10814000) OR ISSN (1096942X) OR ISSN (10895159) OR ISSN (10786791) OR ISSN (15223396) OR ISSN (00913960) OR ISSN (0192415X) OR ISSN (00029157) OR ISSN (17535174) OR ISSN (16148339) OR ISSN (1573420X) OR ISSN (18339735) OR ISSN (2209119X) OR ISSN (10338330) OR ISSN (10338330) OR ISSN (14726882) OR ISSN (07177917) OR ISSN (00070785) OR ISSN (16720415) OR ISSN (20956975) OR ISSN (17498546) OR ISSN (02532670) OR ISSN (09302786) OR ISSN (2045709X) OR ISSN (17461340) OR ISSN (10360913) OR ISSN (08896976) OR ISSN (14611449) OR ISSN (15332101) OR ISSN (02684055) OR ISSN (25042092) OR ISSN (17443881) OR ISSN (09652299) OR ISSN (13536117) OR ISSN (22150838) OR ISSN (04156412) OR ISSN (18763820) OR ISSN (13516647) OR ISSN (1741427X) OR ISSN (11762330) OR ISSN (15508307) OR ISSN (14653753) OR ISSN (16614119) OR ISSN (00180599) OR ISSN (08879311) OR ISSN (14754916) OR ISSN (09747168) OR ISSN (09725938) OR ISSN (15347354) OR ISSN (1546993X) OR ISSN (23252812) OR ISSN (11773936) OR ISSN (22134220) OR ISSN (19406223) OR ISSN (09624562) OR ISSN (10471979) OR ISSN (19826206) OR ISSN (17460689) OR ISSN (19723539) OR ISSN (09750185) OR ISSN (20052901) OR ISSN (16723597) OR ISSN (10755535) OR ISSN (10286020) OR ISSN (09759476) OR ISSN (22311866) OR ISSN (13608592) OR ISSN (15446301) OR ISSN (01438042) OR ISSN (15563499) OR ISSN (15533840) OR ISSN (14468263) OR ISSN (17464269) OR ISSN (21565872) OR ISSN (13094572) OR ISSN (12268453) OR ISSN (22108033) OR ISSN (10496475) OR ISSN (19960875) OR ISSN (16840240) OR ISSN (18610293) OR ISSN (01633864) OR ISSN (08344825) OR ISSN (20936966) OR ISSN (10841288) OR ISSN (13263390) OR ISSN (1715894X) OR ISSN (22254110) OR ISSN (18801447) OR ISSN (18638678) OR ISSN (00252514) OR ISSN (19336586) OR ISSN (11239395) OR ISSN (15763080) OR ISSN (07346875) OR ISSN (1934578X) OR ISSN (22103155) OR ISSN (19408153) OR ISSN (08098131) OR ISSN (08039828) OR ISSN (09747877) OR ISSN (15982386) OR ISSN (16159071) OR ISSN (13880209) OR ISSN (09737847) OR ISSN (09580344) OR ISSN (09723293) OR ISSN (09447113) OR ISSN (16248597) OR ISSN (16286847) OR ISSN (00320943) OR ISSN (18193455) OR ISSN (15160572) OR ISSN (15760952) OR ISSN (18878369) OR ISSN (18888526) OR ISSN (18789730) OR ISSN (10150684) OR ISSN (10950656) OR ISSN (15564061) OR ISSN (13021192) OR ISSN (23264500) OR ISSN (09735070) OR ISSN (00986151) OR ISSN (1560604X) OR ISSN (26160684) OR ISSN (23118571) OR ISSN (0722348X) OR ISSN (22129596) OR ISSN (26624060) OR ISSN (15734218) OR ISSN (22091203) OR ISSN (26627671) OR ISSN (23788763) OR ISSN (19930402) OR ISSN (18755364) OR ISSN (25042106) OR ISSN (22150846) OR ISSN (14394359) OR ISSN (17414288) OR ISSN (16614127) OR ISSN (15505138) OR ISSN (14764245) OR ISSN (23207094) OR ISSN (9751068) OR ISSN (22134239) OR ISSN (15322106) OR ISSN (19930399) OR ISSN (14772213) OR ISSN (9762809) OR ISSN (22311874) OR ISSN (2515690X) OR ISSN (21463298) OR ISSN (20934947) OR ISSN (22108041) OR ISSN (15403580) OR ISSN (21468397) OR ISSN (15206025) OR ISSN (22346856) OR ISSN (20957548) OR ISSN (18813747) OR ISSN (14330466) OR ISSN (15559475) OR ISSN (22103163) OR ISSN (22111069) OR ISSN (17445116) OR ISSN (9762787) OR ISSN (10991565) OR ISSN (17652847) OR ISSN (14390221) OR ISSN (19885806) OR ISSN (23264519) OR ISSN (26160692) OR ISSN (10035257) OR ISSN (25892894) OR ISSN (16721977) OR ISSN (10015302)

Note: The journal titles associated with each ISSN provided in this search strategy is provided in Table 2.

Table 2: Characteristics of CAIM Journals Indexed in Scopus (n=143)

Position	Journal Name	ISSN	Active or Inactive (as of 2020)	Coverage Period	Title History Indication	Publisher Name	Number of Publications Published	2019 Impact Factor
1.	Journal of Natural Products	1633864 (Print); 15206025 (Electronic)	Active	1978-ongoing, 1973, 1971, 1949	Formerly known as Lloydia	American Chemical Society	15144	3.78
2.	Zhongguo Zhongyao Zazhi	10015302 (Print)	Active	1989-ongoing	Formerly known as Zhong Yao Tong Bao (Beijing, China: 1981)	Zhongguo Zhongyi Yanjiuyuan	14577	N/A
3.	Planta Medica	00320943 (Print); 14390221 (Electronic)	Active	1965-ongoing, 1961	N/A	Georg Thieme Verlag	10793	2.68
4.	The Journal of the American Osteopathic Association	986151 (Print)	Active	1945-ongoing	N/A	American Osteopathic Association	9533	N/A
5.	Evidence-Based Complementary and Alternative Medicine	1741427X (Print); 17414288 (Electronic)	Active	2005-ongoing	N/A	Hindawi Publishing Corporation	9261	1.81
6.	Chinese Traditional and Herbal Drugs	02532670 (Print)	Active	2006-ongoing	N/A	Chung Tsao Yao Tsa Chih Pien Chi Pu	8704	N/A
7.	Natural Product Communications	1934578X (Print); 15559475 (Electronic)	Active	2008-ongoing	N/A	SAGE Publications Inc.	5800	0.46
8.	Pharmaceutical Biology	13880209 (Print); 17445116 (Electronic)	Active	1975-ongoing, 1961-1972	Formerly known as International Journal of Pharmacognosy	Taylor & Francis	4901	2.97
9.	Phytomedicine	09447113 (Print)	Active	1994-ongoing	N/A	Elsevier BV	4212	4.26
10.	BMC Complementary and Alternative Medicine	14726882 (Print)	Inactive	2001-2019	Continued as BMC Complementary Medicine and Therapies	BioMed Central	3902	N/A (Inactive)
11.	Journal of Alternative and Complementary Medicine	10755535 (Print)	Active	1995-ongoing	N/A	Mary Ann Liebert Inc.	3709	2.25
	Journal of Asian	10286020	Active	1998-	N/A	Taylor & Francis	2822	1.34

12.	Natural Products Research	(Print); 14772213 (Electronic)		ongoing				
13.	American Journal of Chinese Medicine	0192415X (Print)	Active	1979-ongoing, 1974-1977	Formerly known as Comparative Medicine East and West	World Scientific Publishing Co	2719	3.68%
14.	British Homeopathic Journal	00070785 (Print)	Inactive	1998-2001, 1945-1995	Continued as Homeopathy: The Journal of the Faculty of Homeopathy	Elsevier BV	2652	N/A (Inactive)
15.	American Journal of Clinical Hypnosis	00029157 (Print)	Active	1958-ongoing	N/A	Taylor and Francis Inc.	2573	0.76%
16.	Complementary Therapies in Medicine	09652299 (Print)	Active	1993-ongoing	Formerly known as Complementary Medical Research	Churchill Livingstone	2436	2.06%
17.	Chinese Journal of Integrative Medicine	16720415 (Print); 19930402 (Electronic)	Active	2005-ongoing	Formerly known as Chinese Journal of Integrated Traditional and Western Medicine	Springer Nature Switzerland AG	2170	1.54%
18.	Manuelle Medizin	00252514 (Print); 14330466 (Electronic)	Active	1973-ongoing	N/A	Springer Verlag	2003	N/A
19.	Journal of Bodywork and Movement Therapies	13608592 (Print)	Active	1996-ongoing	N/A	Churchill Livingstone	1987	N/A
20.	Phytochemical Analysis	09580344 (Print); 10991565 (Electronic)	Active	1990-ongoing	N/A	John Wiley & Sons Inc.	1954	2.77%
21.	Alternative Therapies in Health and Medicine	10786791 (Print)	Active	1995-ongoing	N/A	InnoVision Communications	1892	0.93%
22.	Zhong Xi Yi Jie He Xue Bao = Journal of Chinese integrative medicine	16721977 (Print)	Inactive	2003-2012	Continued as Journal of Integrative Medicine	Shanghai Association of Integrative Medicine	1861	N/A (Inactive)
23.	Holistic Nursing Practice	08879311 (Print); 15505138 (Electronic)	Active	1986-ongoing	Formerly known as Topics in Clinical Nursing	Lippincott Williams & Wilkins Ltd.	1722	0.96%
24.	Zeitschrift für Phytotherapie:	0722348X (Print)	Active	1985-ongoing,	N/A	Hippokrates Verlag	1648	N/A

	Offizielles Organ der Ges. f. Phytotherapie e.V			1982				
25.	Alternative and Complementary Therapies	10762809 (Print)	Active	1999- ongoing	N/A	Mary Ann Liebert Inc.	1631	N/A
26.	Journal of Medicinal Plant Research	19960875 (Print)	Inactive	2009-2011	N/A	Academic Journals	1495	N/A (Inac
27.	EXPLORE: The Journal of Science and Healing	15508307 (Print)	Active	2005- ongoing	N/A	Elsevier BV	1462	1.48!
28.	Journal of Natural Medicines	18610293 (Print)	Active	2006- ongoing	Formerly known as Natural Medicines	Springer Verlag	1461	2.05!
29.	Indian Journal of Traditional Knowledge	09725938 (Print); 09751068 (Electronic)	Active	2008- ongoing	N/A	National Institute of Science Communication and Information Resources	1446	0.73!
30.	Acupuncture in Medicine	09645284 (Print)	Active	1996- ongoing	N/A	BMJ Publishing Group	1391	2.12!
31.	Deutsche Zeitschrift für Akupunktur	04156412 (Print); 14394359 (Electronic)	Inactive	1984-2016 (cancelled)	N/A	Springer Medizin	1344	N/A (Inac
32.	Integrative Cancer Therapies	15347354 (Print)	Active	2002- ongoing	N/A	Sage Science Press	1258	2.37!
33.	Complementary Therapies in Clinical Practice	17443881 (Print)	Active	2005- ongoing	Formerly known as Complementary Therapies in Nursing and Midwifery	Elsevier BV	1231	1.77!
34.	Focus on Alternative and Complementary Therapies	14653753 (Print)	Inactive	2004-2016	N/A	Wiley-Blackwell	1165	N/A (Inac
35.	Journal of Acupuncture and Tuina Science	16723597 (Print); 19930399 (Electronic)	Active	2007- ongoing	N/A	Springer Nature Switzerland AG	1156	N/A
36.	Chinese Journal of Natural Medicines	20956975 (Print); 18755364 (Electronic)	Active	2004- ongoing	N/A	China Pharmaceutical University	1147	2.01!

37.	European Journal of Integrative Medicine	18763820 (Print)	Active	2008-ongoing	N/A	Elsevier BV	1120	0.974
38.	Revista Brasileira de Plantas Medicinai	15160572 (Print)	Inactive	1999-2016	N/A	Fundacao do Instituto de Biociencias	1115	N/A (Inac
39.	Journal of Medicinal Plants	16840240 (Print)	Active	2004-ongoing	N/A	Pizhuhishkadh-i giyahan-i darayiva faravardah ha-vi tabbii	1090	N/A
40.	Phytotherapie	16248597 (Print); 17652847 (Electronic)	Active	2005-ongoing	N/A	Springer Verlag	1071	N/A
41.	African Journal of Traditional, Complementary and Alternative Medicines	01896016 (Print)	Inactive	2006-2016 (cancelled), 2002, 1995, 1991, 1981- 1982, 1973- 1978, 1970	N/A	African Networks on Ethnomedicines	995	N/A (Inac
42.	Forschende Komplementarmedizin	16614119 (Print); 16614127 (Electronic)	Inactive	2006-2016, 2002	Formerly known as Forschende Komplementarmedizin und Klassische Naturheilkunde	S. Karger AG	990	N/A (Inac
43.	Schweizerische Zeitschrift für GanzheitsMedizin	10150684 (Print)	Inactive	2002-2017	N/A	Dr. Becker & Partner AG-Verlag fuer Ganzheits Medizin	934	N/A (Inac
44.	Homeopathy: The Journal of the Faculty of Homeopathy	14754916 (Print); 14764245 (Electronic)	Active	1998-ongoing	Formerly known as British Homeopathic Journal	Churchill Livingstone	934	N/A
45.	Journal of Ethnobiology and Ethnomedicine	17464269 (Print)	Active	2005-ongoing	N/A	BioMed Central	928	2.264
46.	Journal of Herbs, Spices and Medicinal Plants	10496475 (Print); 15403580 (Electronic)	Active	1992-ongoing	N/A	The Haworth Herbal Press	922	N/A
47.	American Journal of Acupuncture	00913960 (Print)	Inactive	1975-1999	N/A	American Journal of Acupuncture	843	N/A (Inac
48.	Acupuncture and Electro-Therapeutics	03601293 (Print)	Active	1976-ongoing	N/A	Cognizant Communication	838	0.200

	Research					Corporation		
49.	Medical Acupuncture	19336586 (Print)	Active	2008-ongoing	N/A	Mary Ann Liebert Inc.	825	N/A
50.	Journal of Ginseng Research	12268453 (Print); 20934947 (Electronic)	Active	2010-ongoing	N/A	Elsevier BV	770	5.48'
51.	Boletin Latinoamericano y del Caribe de Plantas Medicinales y Aromaticas	07177917 (Print)	Active	2008-ongoing	N/A	Universidad de Santiago de Chile	701	0.819
52.	Journal of Complementary and Integrative Medicine	15533840 (Print)	Active	2006-ongoing	N/A	Walter de Gruyter GmbH	699	N/A
53.	Journal of Ayurveda and Integrative Medicine	09759476 (Print); 09762809 (Electronic)	Active	2010-ongoing	N/A	Elsevier BV	690	N/A
54.	Chinese Medicine	17498546 (Print)	Active	2006-ongoing	N/A	BioMed Central	619	2.960
55.	Integrative Medicine	1546993X (Print)	Active	2013-ongoing, 2005-2010	Formerly known as International Journal of Integrative Medicine	InnoVision Communications	611	N/A
56.	Alternative Medicine Review	10895159 (Print)	Inactive	1996-2012	N/A	Thorne Research Inc.	587	N/A (Inac)
57.	Journal of Traditional and Complementary Medicine	22254110 (Print)	Active	2011-ongoing	N/A	Elsevier BV	562	N/A
58.	JAMS Journal of Acupuncture and Meridian Studies	20052901 (Print)	Active	2008-ongoing	N/A	Elsevier BV	531	N/A
59.	Chiropractic and Manual Therapies	2045709X (Print)	Active	2011-ongoing	Formerly known as Chiropractic and Osteopathy	BioMed Central	475	1.512
60.	Osteopathische Medizin	16159071 (Print)	Inactive	2004-2017 (cancelled)	N/A	Elsevier BV	470	N/A (Inac)
61.	Medicina Naturista	15763080 (Print)	Active	2012-ongoing	N/A	Zaragoza : Universidad de Zaragoza,	462	N/A

						Facultad de Medicina		
62.	Journal of Chinese Medicine	01438042 (Print)	Active	2016-ongoing, 2001-2013	N/A	Eastland Press	459	N/A
63.	BMC Complementary Medicine and Therapies	26627671 (Electronic)	Active	2020-ongoing	Formerly known as BMC Complementary and Alternative Medicine	BioMed Central Ltd.	456	2.83%
64.	International Journal of Osteopathic Medicine	17460689 (Print)	Active	2005-ongoing	N/A	Elsevier Ltd	454	1.20%
65.	Revista Internacional de Acupuntura	18878369 (Print)	Active	2007-ongoing	N/A	Elsevier BV	452	N/A
66.	Tropical Journal of Natural Product Research	26160684 (Print); 26160692 (Electronic)	Active	2017-ongoing	N/A	Faculty of Pharmacy, University of Benin	452	N/A
67.	Nordic Journal of Music Therapy	08098131 (Print)	Active	2001-ongoing	Formerly known as Nordisk Tidsskrift for Musikkterapi	Taylor & Francis	442	0.91%
68.	Chinesische Medizin	09302786 (Print)	Inactive	1999-2017 (cancelled)	N/A	Springer International Publishing AG	437	N/A (Inactive)
69.	International Journal of Phytomedicine	09750185 (Print)	Inactive	2010-2016 (cancelled)	N/A	Advanced Research Journals	427	N/A (Inactive)
70.	Revue d'Homeopathie	18789730 (Print)	Active	2010-ongoing	N/A	Elsevier Masson	416	N/A
71.	Studies on Ethno-Medicine	09735070 (Print)	Active	2009-ongoing	N/A	Kamla-Raj Enterprises	406	N/A
72.	Journal of Herbal Medicine	22108033 (Print); 22108041 (Electronic)	Active	2011-ongoing	N/A	Urban und Fischer Verlag Jena	405	2.22%
73.	Journal of Biologically Active Products from Nature	22311866 (Print); 22311874 (Electronic)	Active	2011-ongoing	N/A	Taylor and Francis Ltd.	402	N/A
74.	Natural Products Journal	22103155 (Print);	Active	2011-ongoing	N/A	Bentham Science Publishers B.V.	395	N/A

		22103163 (Electronic)						
75.	Music Therapy Perspectives	07346875 (Print)	Active	2011-ongoing	N/A	Oxford University Press	391	N/A
76.	Complementary Therapies in Nursing and Midwifery	13536117 (Print)	Inactive	1995-2004	Continued as Complementary Therapies in Clinical Practice	Elsevier BV	385	N/A (Inac
77.	Complementary Health Practice Review	15332101 (Print)	Inactive	2007-2010, 1996-1999	Continued as Journal of Evidence-Based Complementary and Alternative Medicine	SAGE Publications Inc.	375	N/A (Inac
78.	Integrative Medicine Alert	23252812 (Print)	Active	2013-ongoing	Formerly known as Alternative Medicine Alert	American Health Consultants, Inc.	374	N/A
79.	Journal of Evidence-Based Complementary and Alternative Medicine	21565872 (Print)	Inactive	2014-2018, 1995	Continued as Journal of Evidence-Based Integrative Medicine	SAGE Publications	369	N/A (Inac
80.	Oriental Pharmacy and Experimental Medicine	15982386 (Print); 22111069 (Electronic)	Inactive	2012-2019	Continued as Advances in Traditional Medicine	Springer Science + Business Media	357	N/A (Inac
81.	KIM - Komplementäre und Integrative Medizin, Arztzeitschrift für Naturheilverfahren	18638678 (Print)	Inactive	2007-2009	Formerly known as Arztezeitschrift für Naturheilverfahren und Regulationsmedizin	Urban & Fischer Verlag	336	N/A (Inac
82.	Complementary Medicine Research	25042092 (Print); 25042106 (Electronic)	Active	2017-ongoing, 2015	N/A	S. Karger AG	314	1.08%
83.	Research Journal of Medicinal Plant	18193455 (Print)	Inactive	2009-2016 (cancelled)	N/A	Academic Journals Inc.	311	N/A (Inac
84.	International Journal of Aromatherapy	09624562 (Print); 15322106 (Electronic)	Inactive	1995-2006	N/A	Essential Oil Resource Consultants	307	N/A (Inac
85.	International Journal of High Dilution Research	19826206 (Print)	Active	2011-ongoing	N/A	Universidade Estadual Paulista - UNESP	300	N/A
86.	Herba Polonica	00180599 (Print)	Active	2018-ongoing,	N/A	Instytut Roslin i Przetworow	284	N/A

				1973-1979		Zielarskich		
87.	Sleep and Hypnosis	13021192 (Print)	Active	2000-ongoing	N/A	Kure Iletisim Grubu A S	282	N/A
88.	Thermology International	1560604X (Print)	Active	2002-ongoing	N/A	European Association of Thermology	278	N/A
89.	Journal of the Australian Traditional-Medicine Society	13263390 (Print)	Inactive	2008-2016	N/A	Australian Traditional- Medicine Society	276	N/A (Inac
90.	Journal of Traditional Medicines	18801447 (Print); 18813747 (Electronic)	Inactive	2004-2013	N/A	Medical and Pharmaceutical Society for WAKAN-YAKU	268	N/A (Inac
91.	Arzteitschrift für Naturheilverfahren und Regulationsmedizin	16148339 (Print)	Inactive	2004-2006	Continued as KIM - Komplementare und Integrative Medizin, Artzteitschrift für Naturheilverfahren	Medizinisch Literarische Verlagsgesellschaft mbH	266	N/A (Inac
92.	Revista Medica de Homeopatia	18888526 (Print)	Inactive	2008-2017	N/A	Elsevier Doyma	261	N/A (Inac
93.	Pharmacognosy Reviews	09737847 (Print); 09762787 (Electronic)	Inactive	2009-2018 (cancelled)	N/A	Medknow Publications	255	N/A (Inac
94.	Advances in Integrative Medicine	22129588 (Print); 22129596 (Electronic)	Active	2013-ongoing	N/A	Elsevier BV	254	N/A
95.	Journal of Chiropractic Humanities	15563499 (Print)	Active	2010-ongoing	N/A	Elsevier BV	247	N/A
96.	Asian Medicine	1573420X (Print); 15734218 (Electronic)	Active	2007-ongoing	N/A	Brill	241	N/A
97.	Natural Solutions	19408153 (Print)	Inactive	2009-2011, 1996-1997	N/A	Alternative Medicine.com	226	N/A (Inac
98.	Spirituality in Clinical Practice	23264500 (Print); 23264519 (Electronic)	Active	2014-ongoing	N/A	American Psychological Association Inc.	222	N/A

99.	Alternative Medicine Alert	1096942X (Print)	Inactive	2009-2012	Continued as Integrative Medicine Alert	American Health Consultants, Inc.	220	N/A (Inac
100.	Journal of Complementary Medicine	14468263 (Print)	Inactive	2008-2009	N/A	Australian Pharmaceutical Publishing Co., Ltd.	205	N/A (Inac
101.	World Journal of Traditional Chinese Medicine	23118571 (Print); 25892894 (Electronic)	Active	2017-ongoing	N/A	Wolters Kluwer Medknow Publications	200	N/A
102.	Australian Journal of Medical Herbalism	10338330 (Print)	Inactive	2006-2017	Continued as Australian Journal of Herbal and Naturopathic Medicine	National Herbalists Association of Australia	177	N/A (Inac
103.	International Journal of Applied Research in Natural Products	19406223 (Print)	Inactive	2008-2016 (cancelled)	N/A	Healthy Synergies Publications	176	N/A (Inac
104.	Nordisk Tidsskrift for Musikterapi	08039828 (Print)	Inactive	1992-2000	Continued as Nordic Journal of Music Therapy	Taylor and Francis Ltd.	175	N/A (Inac
105.	Journal of Pharmacopuncture	20936966 (Print); 22346856 (Electronic)	Active	2016-ongoing	N/A	Korean Pharmacopuncture Institute	173	N/A
106.	European Journal of Oriental Medicine	13516647 (Print)	Inactive	2017, 2006-2014	N/A	British Acupuncture Council	159	N/A (Inac
107.	Phytomedica	09723293 (Print)	Inactive	1999-2006	Formerly known as Indian Journal of Indigenous Medicines	Scientific Publishers	158	N/A (Inac
108.	Advances in Traditional Medicine	26624052 (Print); 26624060 (Electronic)	Active	2020-ongoing	Formerly known as Oriental Pharmacy and Experimental Medicine	Springer Singapore	157	N/A
109.	Chiropractic Journal of Australia	10360913 (Print)	Active	2016-ongoing, 2010-2013	N/A	Chiropractors' Association of Australia	151	N/A
110.	Journal of Sports Chiropractic and Rehabilitation	10841288 (Print)	Inactive	1996-2001	Formerly known as Chiropractic Sports Medicine	Atwood Publishing	147	N/A (Inac
111.	Cannabis and Cannabinoid Research	23788763 (Electronic)	Active	2016-ongoing	N/A	Mary Ann Liebert Inc.	147	N/A

112.	Revista de Fitoterapia	15760952 (Print); 19885806 (Electronic)	Active	2009-ongoing	N/A	Cita Publicaciones y Documentacion SL	144	N/A
113.	Chiropractic and Osteopathy	17461340 (Print)	Inactive	2005-2010	Continued as Chiropractic and Manual Therapies	BioMed Central	135	N/A (Inac
114.	Scientific Review of Alternative Medicine	10950656 (Print)	Inactive	2000-2007	N/A	Prometheus Books Inc.	134	N/A (Inac
115.	Chiropractic Sports Medicine	08896976 (Print)	Inactive	1987-1995	Continued as Journal of Sports Chiropractic and Rehabilitation	Atwood Publishing	133	N/A (Inac
116.	Clinical Acupuncture and Oriental Medicine	14611449 (Print)	Inactive	1999-2003	N/A	Churchill Livingstone	133	N/A (Inac
117.	International Journal of Ozone Therapy	19723539 (Print)	Inactive	2007-2013	N/A	Centauro SRL	129	N/A (Inac
118.	Journal of the Society for Integrative Oncology	1715894X (Print)	Inactive	2006-2010	Formerly known as Journal of Cancer Integrative Medicine	B.C. Decker Inc.	128	N/A (Inac
119.	Journal of Intercultural Ethnopharmacology	21468397 (Electronic)	Inactive	2016-2017 (cancelled)	N/A	Ejmanager LLC	122	N/A (Inac
120.	Medicina Clinica e Termale	11239395 (Print)	Inactive	2008, 2005-2006, 2001-2003, 1997-1998	N/A	Tipografia la Commerciale s.n.c.	122	N/A (Inac
121.	Phytotherapie Europeenne	16286847 (Print)	Inactive	2007-2010	N/A	Meditations Carline	121	N/A (Inac
122.	Alternative Medicine	10814000 (Print)	Inactive	2007-2008	N/A	Future Medicine Pub.	119	N/A (Inac
123.	Complementary Medical Research	02684055 (Print)	Inactive	1988-1992	Continued as Complementary Therapies in Medicine	Routledge & Kegan Paul	119	N/A (Inac
124.	Journal of Traditional Chinese Medical Sciences	20957548 (Electronic)	Active	2019-ongoing	N/A	Beijing University of Chinese Medicine	115	N/A
125.	Journal of Evidence-Based Integrative Medicine	2515690X (Electronic)	Active	2018-ongoing	Formerly known as Journal of Evidence-Based	SAGE Publications Ltd	113	N/A

					Complementary and Alternative Medicine			
126.	Alternative Therapies in Womens Health	15223396 (Print)	Inactive	2006-2009	N/A	American Health Consultant	97	N/A (Inac
127.	Integrative Medicine Research	22134220 (Print); 22134239 (Electronic)	Active	2020- ongoing	N/A	Elsevier BV	96	2.17
128.	Australian Journal of Acupuncture and Chinese Medicine	18339735 (Print)	Inactive	2016-2016, 2011-2014	N/A	Australian Acupuncture and Chinese Medicine Association Ltd	83	N/A (Inac
129.	AAO Journal	23755776 (Print)	Active	2006- ongoing	N/A	American Academy Of Osteopathy	83	N/A
130.	Australian Journal of Herbal and Naturopathic Medicine	2209119X (Print); 22091203 (Electronic)	Active	2018- ongoing	Formerly known as Australian Journal of Medical Herbalism	Naturopaths and Herbalists Association of Australia	63	N/A
131.	Indian Journal of Research in Homoeopathy	09747168 (Print); 23207094 (Electronic)	Active	2019- ongoing	N/A	Wolters Kluwer Medknow Publications	61	N/A
132.	Akupunktur und Traditionelle Chinesische Medizin	16146891 (Print)	Inactive	2004-2006	Formerly known as Akupunktur	Medizinisch Literarische Verlagsgesellschaft mbH	59	N/A (Inac
133.	Seminars in Preventive and Alternative Medicine	15564061 (Print)	Inactive	2005-2007	N/A	Elsevier	43	N/A (Inac
134.	Open Access Journal of Medicinal and Aromatic Plants	09747877 (Print)	Active	2010- ongoing	N/A	Medicinal and Aromatic Plants Association of India	41	N/A
135.	Archives of Drug Information	17535174 (Print)	Inactive	2008-2011	N/A	John Wiley & Sons Inc.	35	N/A (Inac
136.	Integrative Medicine Insights	11773936 (Print)	Inactive	2008-2018	Continued as Journal of Evidence-Based Integrative Medicine	Libertas Academica	33	N/A (Inac
137.	Evidence-Based Integrative Medicine	11762330 (Print)	Inactive	2005	N/A	Adis Press	31	N/A (Inac
	Current Traditional	22150838	Inactive	2015-2016	N/A	Bentham Science	16	N/A

138.	Medicine	(Print); 22150846 (Electronic)				Publishers B.V.		(Inac
139.	Journal of Experimental and Integrative Medicine	13094572 (Print); 21463298 (Electronic)	Inactive	2014-2016	N/A	Gesdav	16	N/A (Inac
140.	Journal of Cancer Integrative Medicine	15446301 (Print)	Inactive	2005	Continued as Journal of the Society for Integrative Oncology	Prime National Publishing Corp.	15	N/A (Inac
141.	International Journal of Clinical Acupuncture	10471979 (Print)	Inactive	2014-2016	N/A	Allerton Press Inc.	4	N/A (Inac
142.	World Journal of Acupuncture - Moxibustion	10035257 (Electronic)	Inactive	2013	N/A	Elsevier BV	4	N/A (Inac
143.	Journal of Orthomolecular Medicine	08344825 (Print)	Inactive	2017, 1988- 2015	Formerly known as Journal of Orthomolecular Psychiatry	Canadian Schizophrenia Foundation	0	N/A (Inac

Table 3: General Characteristics of Publications in CAIM Journals

Publication Volume	
Number of Total Publications (n=172466)	
Number of Open Access Publications (n=42331)	
Document Type (# of publications)	Article (n=139540)
	Review (n=13418)
	Note (n=5873)
	Editorial (n=4643)
	Letter (n=3096)
	Conference Paper (n=2706)
	Short Survey (n=1774)
	Erratum (n=1293)
	Retracted (n=23)
	Conference Review (n=5)
	Undefined (n=95)
Number of Unique Authors (n=219680)	
Source Titles (Journals) Across All Publications (n=144)	
Subject Area of Publication (10 Highest)	
(# of publications)	Medicine (n=172456)
	Pharmacology, Toxicology and Pharmaceutics (n=86902)
	Biochemistry, Genetics and Molecular Biology (n=40262)
	Chemistry (n=31845)
	Agricultural and Biological Sciences (n=12124)
	Health Professions (n=11487)
	Nursing (n=7428)
	Social Sciences (n=1949)
	Mathematics (n=1461)
	Arts and Humanities (n=1249)
Language of Publication (10 Highest)	
(# of publications)	English (n=135718)
	Chinese (n=24614)
	German (n=8611)
	Spanish (n=1741)
	French (n=1645)
	Portuguese (n=1065)
	Persian (n=691)
	Polish (n=200)
	Italian (n=162)
	Arabic (n=120)
Country of Publication (20 Highest)	
(# of publications)	China (n=45860)
	United States (n=29523)
	Germany (n=10120)
	India (n=9116)
	Japan (n=6774)

	South Korea (n=6120)
	United Kingdom (n=6057)
	Brazil (n=4915)
	Australia (n=3844)
	Taiwan (n=3660)
	Iran (n=3558)
	Italy (n=3341)
	France (n=3325)
	Canada (n=2607)
	Spain (n=2449)
	Switzerland (n=2238)
	Austria (n=1835)
	Nigeria (n=1814)
	Malaysia (n=1798)
	Turkey (n=1754)
Institutional Affiliation (20 Highest)	
# of publications	China Academy of Chinese Medical Sciences (n=3560)
	Beijing University of Chinese Medicine (n=2896)
	Chinese Academy of Sciences (n=2896)
	Chinese Academy of Medical Sciences & Peking Union Medical College (n=2613)
	Ministry of Education China (n=2595)
	Shanghai University of Traditional Chinese Medicine (n=1949)
	Nanjing University of Traditional Chinese Medicine (n=1868)
	China Pharmaceutical University (n=1403)
	Kyung Hee University (n=1302)
	Tianjin University of Traditional Chinese Medicine (n=1171)
	China Medical University Taichung (n=1165)
	Chengdu University of Traditional Chinese Medicine (n=1153)
	Shenyang Pharmaceutical University (n=1147)
	Guangzhou University of Chinese Medicine (n=1078)
	Institute of Materia Medica, Chinese Academy of Medical Sciences & Peking Union Medical College (n=1069)
	Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences & Peking Union Medical College (n=1035)
	Peking University (n=963)
	Kunming Institute of Botany Chinese Academy of Sciences (n=941)
	Jiangxi University of Traditional Chinese Medicine (n=853)
	Korea Institute of Oriental Medicine (n=785)
Funding Sponsor (20 Highest)	
# of publications	National Natural Science Foundation of China (n=5711)
	National Institutes of Health (n=4055)
	US Department of Health and Human Services (n=4032)
	National Cancer Institute (n=1477)
	Ministry of Education, Culture, Sports, Science and Technology (n=1057)

	Ministry of Science and Technology of the People's Republic of China (n=979)
	National Research Foundation of Korea (n=944)
	National Center for Complementary and Integrative Health (n=932)
	Japan Society for the Promotion of Science (n=903)
	Ministry of Education of the People's Republic of China (n=749)
	Conselho Nacional de Desenvolvimento Científico e Tecnológico (n=694)
	Ministério da Ciência, Tecnologia e Inovações (n=574)
	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (n=527)
	National Institute of General Medical Sciences (n=442)
	National Center for Research Resources (n=427)
	National Key Research and Development Program of China (n=397)
	Ministry of Science, ICT and Future Planning (n=353)
	Fundamental Research Funds for the Central Universities (n=323)
	European Commission (n=309)
	Chinese Academy of Sciences (n=293)

Table 4: 100 Most Productive Authors Across Publications in CAIM Journals

Position	Author Name	Number of Publications
1.	Huang, L.Q.	330
2.	Goetz, P.	314
3.	Ernst, E.	311
4.	Xie, Y.M.	264
5.	Lee, M.S.	232
6.	Tu, P.F.	231
7.	Pezzuto, J.M.	223
8.	Jia, X.B.	213
9.	Kinghorn, A.D.	207
10.	Cordell, G.A.	205
11.	Guo, L.P.	186
12.	Yang, M.	186
13.	Dossey, L.	179
14.	Wang, Z.Z.	176
	Kingston, D.G.I.	170

15.		
16.	Yao, X.S.	169
17.	Khan, I.A.	168
18.	Farnsworth, N.R.	167
19.	White, A.	167
20.	Hostettmann, K.	166
21.	Schulz, V.	162
22.	Hamburger, M.	161
23.	Qin, X.M.	161
24.	Allen, T.W.	160
25.	Donnelly, G.F.	160
26.	Sun, H.D.	156
27.	Duan, J.A.	153
28.	Proksch, P.	152
29.	Wu, Y.C.	152

30.	Guo, Q.S.	151
31.	Setzer, W.N.	146
32.	Adams, J.	145
33.	Efferth, T.	145
34.	Ammer, K.	140
35.	Ye, W.C.	140
36.	Zhang, T.J.	140
37.	Bauer, R.	137
38.	Yang, S.L.	136
39.	Hart, J.	134
40.	Lee, K.H.	134
41.	Sticher, O.	134
42.	Yarnell, E.	134
43.	Pettit, G.R.	133
44.	Uehleke, B.	133

45.	Yang, X.W.	131
46.	Chen, S.L.	130
47.	Wang, Z.M.	128
48.	Xiao, X.H.	127
49.	Lin, J.G.	126
50.	Beyer, L.	124
51.	Kiefer, D.	124
52.	Choudhary, M.I.	122
53.	Pieters, L.	122
54.	Chen, R.Y.	120
55.	Robinson, N.	120
56.	Verpoorte, R.	119
57.	Liao, X.	118
58.	Zhang, W.D.	116
59.	Hao, X.J.	115

60.	Block, K.I.	114
61.	Kraft, K.	114
62.	Liebenson, C.	114
63.	Kadota, S.	112
64.	Lao, L.	112
65.	Litscher, G.	112
66.	Wagner, H.	112
67.	Niemtzow, R.C.	111
68.	Yu, D.Q.	111
69.	Fisher, P.	110
70.	Kong, L.Y.	110
71.	Omura, Y.	110
72.	McLaughlin, J.L.	108
73.	Tezuka, Y.	108
	Chang, F.R.	107

74.		
75.	Fong, H.H.S.	106
76.	Gibson, D.M.	106
77.	Cramer, H.	105
78.	Yuan, Y.	105
79.	Horowitz, S.	104
80.	Walach, H.	104
81.	Gerwick, W.H.	103
82.	Wright, A.D.	103
83.	Naghdi Badi, H.	102
84.	Qian, D.W.	102
85.	Kuo, Y.H.	101
86.	Schwartz, S.A.	101
87.	Dai, H.F.	100
88.	Guo, D.A.	100

89.	Hsieh, C.L.	100
90.	Xiao, P.G.	100
91.	Li, P.	99
92.	Morita, H.	99
93.	De Tommasi, N.	98
94.	Ots, T.	98
95.	Tokuda, H.	97
96.	Weeks, J.	97
97.	Witt, C.M.	97
98.	Saller, R.	96
99.	Steel, A.	96
100.	König, G.M.	95 (tied for 100 th place)
101.	Xiao, W.	95 (tied for 100 th place)

Table 5: 100 Highest-Cited Publications in CAIM Journals

Position	Title	Authors	Year	Source Title	Citation Count
1.	Natural products as sources of new drugs over the last 25 years	Newman D.J., Cragg G.M.	2007	Journal of Natural Products	3258
2.	Flavonoids as antioxidants	Pietta P.-G.	2000	Journal of Natural Products	3162
3.	Natural products as sources of new drugs over the 30 years from 1981 to 2010	Newman D.J., Cragg G.M.	2012	Journal of Natural Products	3122
4.	Brine shrimp: A convenient general bioassay for active plant constituents	Meyer B.N., Ferrigni N.R., Putnam J.E., Jacobsen L.B., Nichols D.E., McLaughlin J.L.	1982	Planta Medica	2939
5.	Natural Products as Sources of New Drugs from 1981 to 2014	Newman D.J., Cragg G.M.	2016	Journal of Natural Products	2750
6.	Natural products as sources of new drugs over the period 1981-2002	Newman D.J., Cragg G.M., Snader K.M.	2003	Journal of Natural Products	2285
7.	Free radicals, antioxidants and functional foods: Impact on human health	Lobo V., Patil A., Phatak A., Chandra N.	2010	Pharmacognosy Reviews	1939
8.	Pharmacology of Curcuma longa	Ammon H.P.T., Wahl M.A.	1991	Planta Medica	1415
9.	A sensitive and quick microplate method to determine the minimal inhibitory concentration of plant extracts for bacteria	Eloff J.N.	1998	Planta Medica	1320
10.	Screening of plant extracts for antioxidant activity: A comparative study on three testing methods	Koleva I.I., Van Beek T.A., Linssen J.P.H., De Groot A., Evstatieva L.N.	2002	Phytochemical Analysis	1186
11.	Influence of piperine on the pharmacokinetics of curcumin in animals and human volunteers	Shoba G., Joy D., Joseph T., Majeed M., Rajendran R., Srinivas P.S.S.R.	1998	Planta Medica	1178

12.	Natural products in drug discovery and development	Cragg G.M., Newman D.J., Snader K.M.	1997	Journal of Natural Products	1126
13.	Natural polyphenols (vegetable tannins) as drugs: Possible modes of action	Haslam E.	1996	Journal of Natural Products	960
14.	Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement (Chinese edition)	Moher D., Liberati A., Tetzlaff J., Altman D.G., Altman D., Antes G., Atkins D., Barbour V., Barrowman N., Berlin J.A., Clark J., Clarke M., Cook D., D'Amico R., Deeks J.J., Devereaux P.J., Dickersin K., Egger M., Ernst E., Gøtzsche P.C., Grimshaw J., Guyatt G., Higgins J., Ioannidis J.P.A., Kleijnen J., Lang T., Magrini N., McNamee D., Moja L., Mulrow C., Napoli M., Oxman A., Pham B., Rennie D., Sampson M., Schulz K.F., Shekelle P.G., Tovey D., Tugwell P.	2009	Journal of Chinese Integrative Medicine	933
15.	The role of natural product chemistry in drug discovery	Butler M.S.	2004	Journal of Natural Products	918
16.	Natural Products from Endophytic Microorganisms	Strobel G., Daisy B., Castillo U., Harper J.	2004	Journal of Natural Products	916
17.	Anti-inflammatory properties of curcumin, a major constituent of <i>Curcuma longa</i> : A review of preclinical and clinical research	Jurenka J.S.	2009	Alternative Medicine Review	837
18.	Dose escalation of a curcuminoid formulation	Lao C.D., Ruffin IV M.T., Normolle D., Heath D.D., Murray S.I., Bailey J.M., Boggs M.E., Crowell J., Rock C.L., Brenner D.E.	2006	BMC Complementary and Alternative Medicine	833
19.	Structure-activity relationship and classification of flavonoids as inhibitors of xanthine oxidase and superoxide scavengers	Cos P., Ying L., Calomme M., Hu J.P., Cimanga K., Van Poel B., Pieters L., Vlietinck A.J., Vanden Berghe D.	1998	Journal of Natural Products	823
20.	Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis	Chiesa A., Serretti A.	2009	Journal of Alternative and Complementary Medicine	789
21.	Th1/Th2 balance: The hypothesis, its limitations, and	Kidd P.	2003	Alternative Medicine Review	781

	implications for health and disease				
22.	Annonaceous acetogenins: Recent progress	Alali F.Q., Liu X.-X., McLaughlin J.L.	1999	Journal of Natural Products	745
23.	Antidiabetic plants and their active constituents	Marles R.J., Farnsworth N.R.	1995	Phytomedicine	744
24.	Trends in use of complementary and alternative medicine by us adults: 1997-2002	Tindle H.A., Davis R.B., Phillips R.S., Eisenberg D.M.	2005	Alternative Therapies in Health and Medicine	724
25.	Antioxidant principles from Bauhinia tarapotensis	Braca A., De Tommasi N., Di Bari L., Pizza C., Politi M., Morelli I.	2001	Journal of Natural Products	712
26.	Synergy research: Approaching a new generation of phytopharmaceuticals	Wagner H., Ulrich-Merzenich G.	2009	Phytomedicine	695
27.	Safety and anti-inflammatory activity of curcumin: A component of tumeric (Curcuma longa)	Chainani-Wu N.	2003	Journal of Alternative and Complementary Medicine	683
28.	Natural products from plant-associated microorganisms: Distribution, structural diversity, bioactivity, and implications of their occurrence	Gunatilaka A.A.L.	2006	Journal of Natural Products	664
29.	The pharmacological potential of mushrooms	Lindequist U., Niedermeyer T.H.J., Jülich W.-D.	2005	Evidence-based Complementary and Alternative Medicine	648
30.	Fixed oil of Nigella sativa and derived thymoquinone inhibit eicosanoid generation in leukocytes and membrane lipid peroxidation	Houghton P.J., Zarka R., De Las Heras B., Hoult J.R.S.	1995	Planta Medica	641
31.	Marine natural products and related compounds	Newman D.J., Cragg G.M.	2004	Journal of Natural Products	626

	in clinical and advanced preclinical trials				
32.	Synergy and other interactions in phytomedicines	Williamson E.M.	2001	Phytomedicine	621
33.	Nrf2 as a master redox switch in turning on the cellular signaling involved in the induction of cytoprotective genes by some chemopreventive phytochemicals	Surh Y.-J., Kundu J.K., Na H.-K.	2008	Planta Medica	593
34.	Use and expenditure on complementary medicine in England: A population based survey	Thomas K.J., Nicholl J.P., Coleman P.	2001	Complementary Therapies in Medicine	577
35.	In vitro antibacterial activity of some plant essential oils	Prabuseenivasan S., Jayakumar M., Ignacimuthu S.	2006	BMC Complementary and Alternative Medicine	572
36.	Antioxidant and antiinflammatory activities of anthocyanins and their aglycon, cyanidin, from tart cherries	Wang H., Nair M.G., Strasburg G.M., Chang Y.-C., Booren A.M., Gray J.I., DeWitt D.L.	1999	Journal of Natural Products	572
37.	Alkaloids from amphibian skin: A tabulation of over eight-hundred compounds	Daly J.W., Spande T.F., Garraffo H.M.	2005	Journal of Natural Products	558
38.	Scientific basis for the therapeutic use of <i>Withania somnifera</i> (ashwagandha): A review	Mishra L.-C., Singh B.B., Dagenais S.	2000	Alternative Medicine Review	538
39.	Acetylcholinesterase inhibitors from plants	Mukherjee P.K., Kumar V., Mal M., Houghton P.J.	2007	Phytomedicine	522
40.	Extraction, isolation and characterization of bioactive compounds from plants' extracts	Sasidharan S., Chen Y., Saravanan D., Sundram K.M., Yoga Latha L.	2011	African Journal of Traditional, Complementary and Alternative Medicines	514
41.	Annonaceous acetogenins: A review	Rupprecht J.K., Hui Y.-H., McLaughlin J.L.	1990	Journal of Natural Products	498

42.	Synergism between natural products and antibiotics against infectious diseases	Hemaiswarya S., Kruthiventi A.K., Doble M.	2008	Phytomedicine	489
43.	Lead toxicity, a review of the literature. Part I: Exposure, evaluation, and treatment	Patrick L.	2006	Alternative Medicine Review	481
44.	Complementary and alternative medicine use in Australia: A national population-based survey	Xue C.C.L., Zhang A.L., Lin V., Da Costa C., Story D.F.	2007	Journal of Alternative and Complementary Medicine	460
45.	Traditional Chinese medicine network pharmacology: Theory, methodology and application	Li S., Zhang B.	2013	Chinese Journal of Natural Medicines	455
46.	Beneficial effects of green tea: A literature review	Chacko S.M., Thambi P.T., Kuttan R., Nishigaki I.	2010	Chinese Medicine	454
47.	Therapeutic applications of pomegranate (<i>Punica granatum</i> L.): A review	Jurenka J.	2008	Alternative Medicine Review	451
48.	Recent extraction techniques for natural products: Microwave-assisted extraction and pressurised solvent extraction	Kaufmann B., Christen P.	2002	Phytochemical Analysis	447
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Figures

Figure 1

Number of Publications in Scopus-Indexed CAIM Journals per Year from 1938-2021

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Figure 2

Co-Authorship Analysis of the 50 Most Productive Countries

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Figure 3

Co-Occurrence Analysis of the 500 Most Frequent Author Keywords

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Figure 4

Citation Analysis of the 500 Highest-Cited Authors

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Figure 5

Citation Analysis of the 100 CAIM Journals Publishing the Largest Number of Publications