

JOURNAL OF AMERICAN MEDICAL ASSOCIATION (JAMA)  
DURING 2005-2014: A BIBLIOMETRIC STUDY



Shivanand D. Kamble

Intern, Learning Resource Centre (LRC) , Indian School of Business (ISB),  
Gachibowli, Hyderabad.

### Short Profile

Shivanand D. Kamble is a Intern at Department of Learning Resource Centre (LRC) in Indian School of Business (ISB), Gachibowli, Hyderabad. He has completed B.SC., B.Ed., M.L.I.Sc., and P.G.D.L.A.N.

### Co-Author Details :

Pradeepa H<sup>2</sup> , Rohit R. Patil<sup>3</sup> and Shambhulinga I. Javali<sup>4</sup>

<sup>2</sup>Library Trainee, Indian Institute of Management, Bannerghatta Road, Bangalore.

<sup>3</sup>MLISc Student, DLIS Karnatak University, Dharwad.

<sup>4</sup>LIM Project Trainee, JRD Tata Memorial Library, Indian Institute of Science, Bangalore.



### ABSTRACT:

The present study analyses the research output of Journal of the American Medical Association (JAMA) during 2005-2014 using various bibliometrics techniques. The study evaluates the growth of publications, top scientists /researchers, research organizations, international collaboration, channel of communication, source type wise distribution in the Journal of the American Medical Association as per Scopus database wrapper the period 2005 – 2014 has been considered for the study.

### KEYWORDS

*Bibliometrics, JAMA, Scopus database, Research Output, Channel of Communication*

## INTRODUCTION :

No innovation, research can have an impact on human beings way in which innovation in the domain of medical science do. Researches in medicine certainly help in people's health and it will also have a huge impact society as hole. Today there are many research activity going on across the world in medicine or medical science many countries, institutions, researchers are doing pioneering work. These works are reported in many leading journals and Journal of the American Medical Association is one of them.

The Journal of the American Medical Association (JAMA) is a peer-reviewed medical journal published 48 times a year by the American Medical Association covering all aspects of the biomedical sciences. It publishes original research and reviews, as well as ancillary content. The journal was established in 1883 by American Medical Association with Nathan Smith Davis as the founding editor. The journal's current editor-in-chief is Howard Bauchner of Boston University. The journal has English, French, and Spanish language editions. In 1960 the journal obtained its current title, JAMA: The Journal of the American Medical Association. The journal is commonly referred to as JAMA. JAMA is having the impact factor of 30.387 in 2013. The present study demonstrate quantity as well as quality of the journal

When single journal is studied bibliometrically it creates a portrait of the journal providing a description that offers an insight that is beyond the superficial. It can indicate the quality, quantity, maturity and productivity of the journal. The term bibliometrics was first defined by Pritchard in 1969 as "the application of mathematical and statistical methods to books and other media". It involves the analysis of a set of publications characterized by bibliographic variables such as the author(s), the place of publication, the associated subject keywords, and the citations. In other words bibliometrics can be defined as quantitative study of all aspects of the literature of the subject and bibliographic variable of documents both the sources and there references. Bibliometrics is a type of research method used in Library and information sciences. It is emerged as the area of research in the LIS field. The quantitative analysis and statistics to describe patterns of publication within a given field of body of literature are utilized.

## NEED FOR THE STUDY

Journals are the foremost indicators of literature growth in any domain. Journals emerge as the main channel of disseminating knowledge in the age of information explosion. Medical science is one area in which literature growth very rapid, so many new developments were keep happening due to this information explosion it is very big problem for information seekers to keep track on recent developments so in order to overcome problems these kinds of studies help in great deal.

## OBJECTIVES OF THE STUDY

The objectives of the present study were:

1. To reveals the year wise distribution of publications
2. To identify the geographical distribution of publications
3. To present the source types of papers
4. To find out the channels of Communication
5. To determine the research output of top organizations/institutions
6. To assess the Most Productive Scientists/Researchers

7. To analyze the source title wise distribution of publications

## RESEARCH METHODOLOGY

The present study reveals that the scholarly communication of journal of American medical association during 2005-2014: bibliometric study have been taken into the consideration for the research keeping the objectives of the study in mind, a total number of 22189 publications published during the stated period the data were downloaded from Scopus database for retrieving the data into the database for the search term applied was "Journal of the American medical association. We expected the maximum retrieval of results. A total number of results were downloaded from the Scopus database each record contains English language abstract and bibliographic information (e.g. author, name of journal, author add). The data this collected were fed into Ms Excel worksheet to process the gathered data for subsequent analysis. The study employed required bibliometric measures to test the validity of the findings.

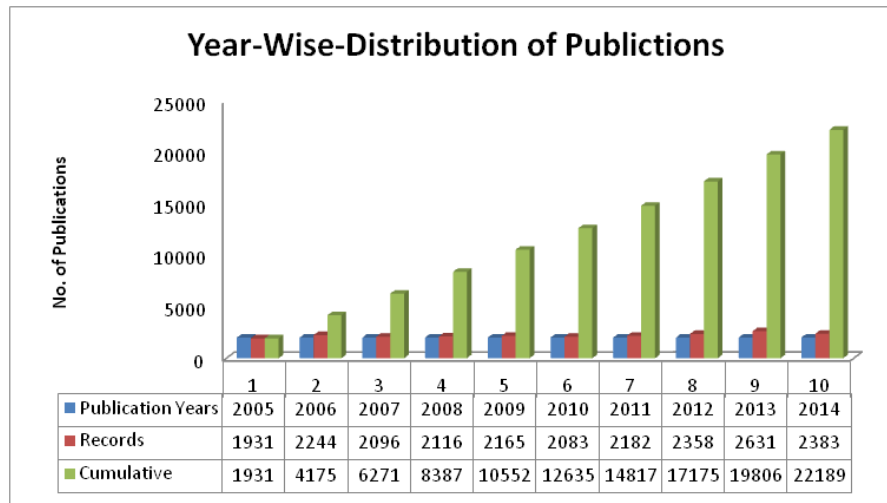
### Data Analysis and Interpretation

#### Year wise Distribution of Publications

Table 1 depicts the year wise distribution of publications in the Journal of American Medical Association (JAMA) as per the Scopus database. The numbers varied from year to year. The highest number of publications were published in the year of 2013 that is 2631 which is (11.86%) of the total publications. The second highest number of articles that is 2383 were published in the year of 2014 which constitutes (10.74%) of the total articles, the third highest number of papers that is 2358 were published in the year of 2012 which constitutes (10.63%) of the total publications followed by 2244(10.12%) papers were published in the year of 2006, 2182 (9.83%) articles were published in the year of 2011, 2165(9.75%) articles were published in the year of 2009, 2116(9.54%) papers were published in the year of 2008, 2096(9.45%) articles were published in the year of 2007, 2083(9.38%) papers were published in the year of 2010, 1931(8.7%) articles were published in the year of 2005. It is observed from the total that the quantity of articles published seem too varied from year to year (Fig. 1).

Table -1 Year Wise Distribution of Publications

Sl. No	Publication Years	Records	Percentage (%)	Cumulative
1	2005	1931	8.7	1931
2	2006	2244	10.12	4175
3	2007	2096	9.45	6271
4	2008	2116	9.54	8387
5	2009	2165	9.75	10552
6	2010	2083	9.38	12635
7	2011	2182	9.83	14817
8	2012	2358	10.63	17175
9	2013	2631	11.86	19806
10	2014	2383	10.74	22189
		<b>22189</b>	<b>100</b>	



### Geographical Distribution of Publications

Table 2 depicts that the out of the total 22189 publications published by during the period of 2005-2014, 12502 papers (56.34%) are contributed from the united sates, followed by 1168 (5.27%) papers were contributed from Canada, 813 papers from United Kingdom(UK) (3.67%), 490 papers from Australia(2.21%), 487 articles contributed from Netherlands (2.2%), 433 articles are contributed from Italy(1.96%), 383 papers are contributed from Germany (1.73%), 351 papers from France (1.58%), 246 papers from Spain (1.1%), 239 articles from Switzerland (1.06%), 161 from Sweden (0.73%), 150 from China (0.67%), 148 from Japan (0.66%), 133 from Belgium (0.60%), 4485 Publications from other countries (20.22%). It is observed that the United States (USA) rank first among all the countries for the publications contributed.

Table - 2 Geographical Distribution of Publications

Sl. No	Countries	Records	Percentage (%)	Cumulative
1	United States	12502	56.34	12502
2	Canada	1168	5.27	13670
3	United Kingdom	813	3.67	14483
4	Australia	490	2.21	14973
5	Netherlands	487	2.2	15460
6	Italy	433	1.96	15893
7	Germany	383	1.73	16276
8	France	351	1.58	16627
9	Spain	246	1.1	16873
10	Switzerland	239	1.06	17112
11	Sweden	161	0.73	17273
12	China	150	0.67	17423
13	Japan	148	0.66	17571
14	Belgium	133	0.6	17704
15	Other Countries	4485	20.22	22189
		<b>22189</b>	<b>100</b>	

### Distribution of Publications According to Source Type:

Table 3 depicts the distribution of publications according to source types in the Journal. In the total 22189 publications during 2005-2014. 22123(99.71%) Publications were in the form of Journals, while 43(0.19%) were in the form of books, followed by 23 (0.1%) were in the form of undefined. It is observed that the highest share of publications are in the form of journals, where as only 43(0.19%) and 23 (0.1%) were published in the form of books and undefined materials.

Table 3 – Source Types

Sl. No	Source Types	Publications	Percentage (%)
1	Journals	22123	99.71
2	Books	43	0.19
3	Undefined	23	0.1
		<b>22189</b>	<b>100</b>

### Channels of Communication

Table 4 indicates the distribution of the total 22189 articles among different Channels of Communication. It is found that the journal rank first with 9708 Articles (43.75%) as the major channels of communication, second is Letter with 4852 (21.86%), Short Survey with third place that is 2309 (10.41%) followed by others.

Table 4 - Channels of Communications

Sl. No	Document Types	Records	Percentage (%)	Cumulative
1	Article	9708	43.75	9708
2	Letter	4852	21.86	14560
3	Short Survey	2309	10.41	16869
4	Note	2207	9.95	19076
5	Editorial	1298	5.85	20374
6	Review	1080	4.87	21454
7	Erratum	519	2.33	21973
8	Conference Paper	115	0.53	22088
9	Article in Press	101	0.45	22189
		<b>22189</b>	<b>100</b>	

### Most Productive Scientists/Researchers

Table 5 reveals the most prolific scientists/researchers of the journal, based on the numbers of publications during 2005 to 2014. These scientists/researchers have contributed 22189 articles over the period of ten year (2005-2014). It observed that Glass, R.M. has contributed maximum number of papers, i.e.515 papers (2.33%), followed by Kuehn, B.M. with 509 papers (2.30%), Torpy, J.M. with 434 papers (1.97%), Lynm, C. with 426 papers (1.91%), Mitka, M. with 400 papers (1.81%), Hampton, T. with 278 papers (1.25%), Burke, A.E. with 209 papers (0.96%), Golub, R.M. with 201 papers (0.90%), Southgate, M.T. with 159 papers (0.71%), Voelker, R. with 150 papers (0.68%), Cima, G. with 129 papers (0.58%), Cole, T.B. with 119 papers (0.53%), Burns, K. with 117 papers (0.52%), Nolen, R.S. with 104

papers (0.46%), other authors with 18439 papers(83.09).

Table 5 - Most Productive Authors

Sl No	Authors	Records	Percentage (%)	Cumulative
1	Glass, R.M.	515	2.33	515
2	Kuehn, B.M.	509	2.3	1024
3	Torpy, J.M.	434	1.97	1458
4	Lynm, C.	426	1.91	1884
5	Mitka, M.	400	1.81	2284
6	Hampton, T.	278	1.25	2562
7	Burke, A.E.	209	0.96	2771
8	Golub, R.M.	201	0.9	2972
9	Southgate, M.T.	159	0.71	3131
10	Voelker, R.	150	0.68	3281
11	Cima, G.	129	0.58	3410
12	Cole, T.B.	119	0.53	3529
13	Burns, K.	117	0.52	3646
14	Nolen, R.S.	104	0.46	3750
15	Others Authors	18439	83.09	22189
		<b>22189</b>	<b>100</b>	

Research Output of Top Organizations/Institutions

Table 6 depicts that the top organizations wise distribution of publications in the journal of American Medical Association during 2005-2014. These top organizations have contributed more publications 733 papers are contributed from VA Medical Centre, followed by 549 articles contributed Brigham and Women's Hospital, 485 papers contributed from Harvard Medical School, 370 articles contributed from US Davis, 364 from University of California, San Francisco, 279 from University of Washington Seattle, 271 from University of Pennsylvania, 261 from University of Toronto, 241 from Harvard School of Public Health, 242 from Massachusetts General Hospital, 240 from Duke University School of Medicine, 239 from Mayo Clinic, 230 from University of Florida, 224 from Ohio State University, 17453 from various Other Organizations.

Table 6 - Research Output of Top Organizations

Sl No	Institutes/Organizations	Records	Percentage (%)	Cumulative
1	VA Medical Center	733	3.3	733
2	Brigham and Women's Hospital	549	2.48	1282
3	Harvard Medical School	485	2.18	1767
4	UC Davis	370	1.68	2137
5	University of California, San Francisco	364	1.64	2501
6	University of Washington Seattle	279	1.26	2780
7	University of Pennsylvania	271	1.22	3051
8	University of Toronto	261	1.18	3312
9	Harvard School of Public Health	249	1.12	3561
10	Massachusetts General Hospital	242	1.09	3803
11	Duke University School of Medicine	240	1.08	4043
12	Mayo Clinic	239	1.07	4282
13	University of Florida	230	1.03	4512
14	Ohio State University	224	1.01	4736
15	Other Organizations	17453	78.66	22189
		<b>22189</b>	<b>100</b>	

Source title wise Distribution of Publications

Table 7 indicates that out of total 22189 articles published from the year 2005 – 2014. JAMA Journal of the American Medical Association ranks first with 8027 (36.18%) publications, Journal of the American Veterinary Medical Association ranks second with 4838 (21.80%) articles and Journal of the American Medical Association stands third in terms of publications with 3071 (13.84%) articles followed by other sources as shown in the following.

Table – 7 Source title wise Distribution of Publications

Sl. No	Source Titles	Records	Percentage (%)	Cumulative
1	JAMA Journal of the American Medical Association	8027	36.18	8027
2	Journal of the American Veterinary Medical Association	4838	21.8	12865
3	Journal of the American Medical Association	3071	13.84	15936
4	Journal of the American Medical Directors Association	1615	7.28	17551
5	JAMA the Journal of the American Medical Association	1573	7.09	19124
6	Journal of the American Medical Informatics Association	1494	6.74	20618
7	Journal of the American Podiatric Medical Association	945	4.26	21563
8	Academic Medicine Journal of the Association of American Medical Colleges	401	1.81	21964
9	Journal of the American Association for Medical Transcription	154	0.69	22118
10	Journal of the American Medical Informatics Association JAMIA	52	0.23	22170
11	American Journal of Forensic Medicine and Pathology Official Publication of the National Association of Medical Examiners	11	0.05	22181
12	Journal of the American Medical Women S Association 1972	8	0.03	22189
		<b>22189</b>	<b>100</b>	

CONCLUSION

The present study reveals that the highest number of articles have appeared in the Journal of the American Medical Association. The study concerns about the bibliometric analysis of world Journal of the American Medical Association research as reported in the Scopus database. The study shows that JAMA research in the global. The highest number of papers were published in the year 2013 that is 2631 which is (11.86%) of the total publication. The more distribution of publications was contributed from the United States that is 12502(56.34%). Though authors from the USA have contributed highest number of papers. The study will also useful to understand the growth and development of Journal of the American Medical Association research in the world.

Evaluation is one of the key components of any research or development activity. Assessment of journal by bibliometrics very effective because it gives quantitative and qualitative description of journal using various techniques. Periodicals are the primary sources of information and they are the communicators between researchers and information seekers.

REFERENCES:

- 1.Kamble, S. D. & Pradeepa, H (2015). Bibliometric Analysis of Hematology during 2004 -2013. Journal of Advances in Library and Information Science 4 (1), 21-25.
2. Kevin wan utap anyi., Zainab, A. N. & Anuar, N. B. (2009). Bibliometrics studies on single journals: a review. Malaysian journal of library and information science, 14(1), 17-55.
- 3.Kumar, A., Prakasan, E. R., Kalyane, V. L. & Kumar, V. (2008). Pramana-journal of physics: A Scientometric analysis. Annals of Library and information studies, 55, 201-211.
- 4.Mahapatra, G. (2009). Bibliometric Studies: In the Internet Era. New Dehli: INDIANA Publishing House.
- 5.Patil, R. R., Javali, S. I., Bagalkoti, V. T. & Kamble, S. D. (2015). Astrophysical Journal during 2001-2013: A Scientometric Study. Journal of Advances in Library and Information Science 4 (1), 34-39.
- 6.Ravichandra Rao, I. K. (2010). Growth of Literature and Measures of Science Productivity: Scientometrics Models. Bangalore: ESS ESS Publication.
- 7.Thanuskodi, S. (2010). Journal of Social Science: Bibliometric Study. Journal of Social Science, 24(2), 77-80.
- 8.Thanuskodi, S. (2011). Library Herald Journal: Bibliometric Study. Journal of Arts, Science and Commerce, 2(4), 68-76.