



BIBLIOMETRIC ANALYSIS WITH SPECIAL REFERENCE TO AUTHORSHIP PATTERN AND COLLABORATIVE RESEARCH OUTPUT OF INDIAN JOURNAL OF COMMUNITY MEDICINE

Dr. D. Sankaranarayanan

Assistant Professor, Department of Library and Information Science,
Madurai Kamaraj University, Madurai, Tamil Nadu, India

ABSTRACT

The Indian Journal Of Community Medicine is a highly regarded academic journal specializing in medical journal. The journal celebrated its silver jubilee year in 2010. We use scientometrics to analyze the journal's impact, prominent topics, most frequent authors, and their affiliated institutions and countries. Through this Scientometric analysis of 173 articles published in the Indian Journal Of Community Medicine during the year 2014-2020 are taken up to observe the distribution of contributions, authorship pattern, geographical distribution of contributions and the number of pages used in each volume. Results indicate that highest numbers of papers have been written by co-authors. The contributions in this journal from India are slightly more than those from the other countries. The growth and popularity of this journal is found to show an upward trend.

Key words: Financial Performance, Economic Value Added, Shareholder's Wealth Creation, Financial Ratio Analysis and Shareholder's Wealth Creation.

Cite this Article: D. Sankaranarayanan, Bibliometric Analysis with Special Reference to Authorship Pattern and Collaborative Research Output of Indian Journal of Community Medicine, *International Journal of Management*, 11(9), 2020, pp 1914-1920.

<https://iaeme.com/Home/issue/IJM?Volume=11&Issue=9>

1. INTRODUCTION

The Indian Journal Of Community Medicine is a peer-reviewed journal. It was launched in 1985 and published quarterly (January, April, July and October) by the Medknow Publications on behalf of the Indian Association of Preventive & Social Medicine. It is a scholarly journal in English devoted to the various fields of various disciplines like internal medicine, pulmonary medicine, neurology, psychiatry, pediatrics and Ear, Nose, and Throat (ENT). The basic aim of the society has been to generate and disseminate the updated knowledge about various sleep

disorders both amongst medical professionals and public at large. It helps in providing the medical fraternity interested in the field of sleep medicine, a common platform to discuss and put forward their views.

2. OBJECTIVES

The objectives of the present study are as follows:

- To study research article contributions by year and issue
- To study authorship patterns by year and volume
- To study author productivity
- To study authorship by country
- To identify most prolific contributors, and
- To identify degree of author collaboration

3. METHODOLOGY

The data was collected from the website (www.indianjournals.com) of the INDIAN JOURNAL OF COMMUNITY MEDICINE. Twenty-one (21) issues from seven (7) volumes from 2014 to 2020 have been selected (Review Articles, Original Articles, Case Report, Commentary, Editorial Review Article, Journal Review, and Mini Review) for the study. Research article contributions by issue and year, number of authors, authorship patterns by volume, authorship patterns by country, author's productivity, most prolific contributors, and degrees of author collaboration were recorded. These data were organized, calculated, tabulated, analyzed, and presented by using simple arithmetic and statistical methods.

4. ANALYSIS AND INTERPRETATION OF DATA

A total of 173 contributions and 474 authors were analyzed the journal. The flowing seven tables and brief analyses represent the substance of this research.

Table 1 Contribution of Research Articles by Year and Issue

Years	Total No. Issues	Records	Percentage %	Cumulative %
2014	4	28	16.184	16.184
2015	4	27	15.606	31.079
2016	4	23	13.294	45.084
2017	4	23	13.294	58.378
2018	4	24	13.872	72.025
2019	4	23	13.294	85.544
2020	4	25	14.450	100.000
Total	21	173	100.000	

Table 1 show the growth of research articles published in the indian journal of community medicine from 2014 to 2020. Altogether, there are 173 research articles. The highest number of research articles (28, 16.184%) was published in 2014, while the lowest number (23, 13.294%) of research articles were published in the years of 2016, 2017 and 2019.

The authorship patterns of the Indian Journal of Community Medicine from 2014 to 2020. It is clear that the number of research articles has been decreased over the years. It indicates also that of the 121 contributions of multi authors. Of the 52 research articles contributed by single authors, volumes 5 and 6 have the highest number (9, 17.307%) while volume 8 has the lowest number (5, 9.615%). The second highest contributions were by two authors (48, 27.745%). Of the 22 research articles contributed by three and four authors, volume 2, 6 and 4 has the highest number (22, 22.727%) while volume 4 has the lowest number (1, 4.545%). Of

the 13 research contributions by five authors, volume 8 has the highest number (3, 23.076%) while volume 4 and 6 has the lowest number (1, 7.692%). Of the 9 research articles contributed by six authors, volumes 3 has the highest number (3, 33.333%) while volume 2, 6,7 and 8 has the lowest number (1, 11.111%). Of the 4 research articles contributed by eight authors, volumes 8 has the highest number (2, 50%) while volume 2 and 6 have the lowest number (1, 25%).

Table 2 Authorship Patterns

Sl. No.	Author	Total	Percentage (%)
1	Single Author	52	30.057
2	Two Authors	48	27.745
3	Three Authors	22	12.716
4	Four Authors	22	12.716
5	Five Authors	13	7.514
6	Six Authors	9	5.202
7	Seven Authors	3	1.734
8	Eight Authors	4	2.312
Total		173	100.000

Table 2 show that the majority of the research articles were written by a single authors (52, 30.057%), followed by two authors (48, 27.745%), three and four authors (22, 12.716%), and five authors (13, 7.514%). The lowest numbers of contributions were made by seven authors (3, 1.734%).

Table 3 Author's Productivity

Sl. No.	Year	Total No. of Papers	Total No. of Authors	AAPP*	Productivity per Author
1	2014	28	75	2.678	0.373
2	2015	27	78	2.888	0.346
3	2016	23	63	2.739	0.365
4	2017	23	54	2.347	0.425
5	2018	24	57	2.375	0.421
6	2019	23	63	2.739	0.365
7	2020	25	84	3.36	0.297
Total		173	474	2.739	0.364

Notes: *Average Authors per Paper (AAPP) = Number of authors/Number of papers.

Productivity per author = Number of papers/Number of authors.

Table 3 show the data related to author's productivity. The total average number of authors per paper is 2.739 and the average productivity per author is 0.364. The highest number of author's productivity (84, 0.297%) was in 2020. The minimum number of author's productivity (54, 0.425%) was in 2017.

Table 4 Most Prolific Authors

Sl. No.	Name	No. of Contributions	Country	Percentage (%)	Rank
1	Suri J C	23	India	4.852	1
2	Sen M K	20	India	4.219	2
3	Joshi J M	12	India	2.531	3
4	Shrivastava Deepak	7	USA	1.476	4
5	Jayan B	7	India	1.476	4
6	Adhikari Tulsi	6	India	1.265	5
7	Tripathi Manjari	5	India	1.054	6
8	Ramakrishnan N	5	India	1.054	6
9	Prasad B.N.B.M	4	India	0.843	7
10	Kanwar M. S	4	India	0.843	7
11	Devnani Preeti	4	India	0.843	7
12	Dey Rana	4	India	0.843	7
13	Singh Ruchi	3	India	0.632	8
14	Shwetha S	3	India	0.632	8
15	Sharma Renuka	3	India	0.632	8
16	Paul Rantu	3	India	0.632	8
17	Krishna Pushpa	3	India	0.632	8
18	Nag Saikat	3	India	0.632	8
19	Kant Surya	3	India	0.632	8
20	Iyer S. Ramnathan	3	India	0.632	8
21	Iyer Revati R	3	India	0.632	8
22	Gupta Prachi	3	India	0.632	8
23	Das Shobha	3	India	0.632	8
24	Bhatia Manvir	3	India	0.632	8
25	Bhattacharya D	3	India	0.632	8
26	Agarwal Anoop Kumar	2	India	0.421	9
27	Aggarwal Puneet	2	India	0.421	9
28	Amra Babak	2	Iran	0.421	9
29	Anand S	2	India	0.421	9
30	Bardhan Sujan	2	India	0.421	9
31	Bhattacharyya Parthasarathi	2	India	0.421	9
32	Chatterjee Poulomi	2	India	0.421	9
33	Chowhdury S.K. Roy	2	India	0.421	9
34	Deshpande Abhijit G	2	India	0.421	9
35	Deshpande Prajakta A	2	India	0.421	9
36	Dosi R	2	India	0.421	9
37	Golshan Mohammad	2	Iran	0.421	9
38	Gothi D	2	India	0.421	9
39	Gothi Dipti	2	India	0.421	9
40	Gupta R	2	India	0.421	9
41	Jain A. K	2	India	0.421	9
42	Kamat U.R	2	India	0.421	9
43	Kameshwaran Mohan	2	India	0.421	9
44	Karnik Prasad C	2	India	0.421	9
45	Kejariwal P	2	India	0.421	9

46	Kharbanda O P	2	India	0.421	9
47	Krishna Jyoti	2	USA/Singapore	0.421	9
48	Mathangi K	2	India	0.421	9
49	Nagappa M	2	India	0.421	9
50	Navekar Vishal V	2	India	0.421	9
51	Nayak C	2	India	0.421	9
52	Ojha UC	2	India	0.421	9
53	Pakhan A.J	2	India	0.421	9
54	Philip M	2	India	0.421	9
55	Priyadarshini Arpita	2	Burla	0.421	9
56	Raghunandhan S	2	India	0.421	9
57	Ravishankar K	2	India	0.421	9
58	Sharma Anuja	2	USA	0.421	9
59	Sharma Monika	2	India	0.421	9
60	Shukla Garima	2	India	0.421	9
61	Singhal Sameer	2	India	0.421	9
62	Sinha S	2	India	0.421	9
63	Suryakant	2	India	0.421	9
64	Taly AB	2	India	0.421	9
65	Thombare Ram	2	India	0.421	9
66	Venkateswaran S	2	Singapore	0.421	9
67	Verma S. K	2	India	0.421	9
68	Verma Sanjay Kumar	2	India	0.421	9
69	Vibha Deepti	2	India	0.421	9
70	Single Author Contributions	246		51.898	10
Total		474		100.000	

Table 4 shows that a total of 474 authors have contributed 173 research articles over a period of seven years (2014-2020). The most prolific author Suri J C (India) has contributed 23 research articles. Followed by Sen M K (India) has contributed 20 research articles. Joshi J M (India) has contributed 12 research articles. Shrivastava Deepak (USA) and Jayan B (India) Each of them have contributed 7 research articles. Besides, there are thirteen authors who have contributed 3 research articles each. 44 authors have contributed two research articles. And the remaining 246 research articles have been contributed by single authors.

Table 5 Authorship by Country

Sl. No.	Country	No. of Contributions	Percentage (%)
1	Australia	9	1.898
2	Canada	2	0.421
3	China	5	1.054
4	India	384	81.012
5	Iran	13	2.742
6	Japan	9	1.898
7	Singapore	7	1.476
8	Turkey	4	0.843
9	UK	1	0.210
10	USA	30	6.329
11	Country not mentioned	10	2.109
Total		474	100.00

Table 5 show the distribution of authors by country. The 173 research articles were contributed by 474 authors from 10 countries. The highest number of authors (384, 81.012%) was from the India, followed by USA (30, 6.329%), Iran (13, 2.742%), Australia and Japan (9, 1.898%), Singapore (7, 1.476%), etc. The lowest number of contributions (1, 0.210%) was from United Kingdom.

Table 6 Degree of Author Collaboration

Sl. No.	Year	Single Authored Paper (Ns)	Multi Authored Papers (Nm)	Total (Nm+Ns)	Degree of Collaboration
1	2014	8	20	28	0.714
2	2015	8	19	27	0.703
3	2016	7	16	23	0.695
4	2017	9	14	23	0.608
5	2018	9	15	24	0.620
6	2019	6	17	23	0.739
7	2020	5	20	25	0.8
Total		52	121	173	0.699

5. DEGREE OF COLLABORATION

The extent of Degree of Collaboration in INDIAN JOURNAL OF COMMUNITY MEDICINE research has been measured with the help of the formula devised by K. Subramaniam, (1993) “The formula is

$$C = \frac{Nm}{Nm + Ns}$$

Where

- C = Degree of Collaboration in a discipline
 Nm = Number of multiple authored papers
 Ns = Number of single authored papers”

Accordingly, the Degree of Collaboration has been calculated for the year 2005 is as follows:

$$C = \frac{121}{52 + 121} = \frac{121}{173} = 0.699$$

As a result, the average degree of author collaboration in the *INDIAN JOURNAL OF COMMUNITY MEDICINE* is 0.699, which clearly indicates its dominance upon multi-author authored contributions.

6. CONCLUSION

The *INDIAN JOURNAL OF COMMUNITY MEDICINE* has been growing over 11 years publishing research and other articles from 2006. The authorship patterns have changed too, from the predominant multi authors in early years to increased multi-author collaborations in recent years. *INDIAN JOURNAL OF COMMUNITY MEDICINE* published articles mostly from Indian authors. Since 2006, it started accepting more articles from many countries. As of today, there are 10 countries contributing research articles to the journal, 384 (81.012%) were from India, followed by United States of America 30 (6.329%), Iran 13 (2.742%), Australia 9 (1.898%), Singapore 7 (1.476) and 1 (0.210) are from United Kingdom.

REFERENCES

- [1] <http://digitalcommons.unl.edu/libphilprac/1177>
- [2] Ramesh Babu, B and Ramakrishnan, J (2010). Authorship pattern and Collaborative research in the field of Hepatitis. In: Confetti of Thoughts on Library and Information Studies (Essays in Honour of Prof. C.V. Rajan Pillai) Delhi: Authorspress. Pp.317-338.
- [3] Subramanyam, K. (1993). Bibliometric Studies of Research Collaboration: A review. *Journal of Information Science*, 6, 33-38.
- [4] Thavamani, Kotti (2014). Authorship Patterns and Collaborative Research in Malaysian Journal of Library and Information Science, 1996 - 2012. *Library Philosophy and Practice (e-journal)*. Paper 1177.
- [5] Thavamani, Kotti. (2014). Authorship and Collaborative Patterns in the *Chinese Librarianship: an International Electronic Journal*, 1996-2013, Chinese Librarianship: an International Electronic Journal, 37, 1-14.URL: www.iclc.us/cliej/cl37thavamani.pdf
- [6] Thavamani, Kotti. (2014). Authorship Patterns and Collaborative Research in Malaysian Journal of Library and Information Science, 1996 - 2012. *Library Philosophy and Practice (e-journal)*. Paper 1177. <http://digitalcommons.unl.edu/libphilprac/1177>