

## Authorship Pattern and Collaboration in Indian Journal of Medical Research [IJMR]

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### Abstract

In this article the author has studied the authorship pattern and collaboration trends in Indian Journal of Medical Research. The Single Vs. Multiple author contributions, Degree of collaboration is also studied.

**Keywords:** Bibliometrics; Authorship Pattern; Degree of Collaboration; IJMR.

### Introduction

The Bibliometrics study is one of the important thrust areas to do research in Library & Information Science. Historically Bibliometrics methods have been used to trace relationships amongst academic journal citations and it is a set of methods used to study or measure texts and information.

Alan Pritchard (1969) has coined the word 'bibliometrics'. It has the application of mathematical and statistical methods were applied for analyses. There are three laws are used in Bibliometrics viz., Lotka's Law is used for productivity of authors contributing in a discipline or other fields; Bradford's Law is used for scattering of articles over different journals and Zipf's Law is used to find out frequency of occurrence of words in the text (word count).

In this article, the authors have examined the authorship pattern, Single Vs. Multiple authors publication and Degree of and collaboration in Indian Journal of Medical Research [IJMR] from 1997-2011.

### About IJMR

The IJMR is a biomedical journal with International circulation. It publishes original communications of

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biomedical research that advances or illuminates medical science or that educates the journal readers. The IJMR is a monthly journal published by Indian Council of Medical Research, New Delhi, India. The online version of IJMR with full-text access is also available at <http://www.icmr.nic.in> since 2003.

The primary data for the present study was collected from the Indian Journal of Medical Research printed version available in the Rajah Muthiah Medical College Library, Annamalai University.

### Review of Literature

Lee (2000) has examined the publication rate of successful Ph.D scholars in the fields of Analytical chemistry, Experimental psychology and American literature. The results revealed that there was a decline trend in single authored papers in many fields. Pratt (2002) has utilized MEDLINE to perform a bibliometric analysis of the literature of AIDS for the period from 1981 to 1990. This study reported growth statistics for AIDS literature, number of different languages, countries of publication, and number of periodical titles. The AIDS literature grew from fewer than 700 entries from 1981 to 1983 to a cumulative total of 29,077 entries by the end of 1990. The greatest relative expansion came in 1983 with a 24-fold increase compared to the previous years.

Patra *et al.* (2006) have analyzed the growth pattern, core journals and authors' distribution in the field of bibliometric using data from Library and Information Science Abstract (LISA) and found that the growth of literature does not show any definite pattern. Verma *et al.* (2007) have revealed that majority of the articles

in the journal of Annals of Library and Information Studies are two-authored. Sevukan and Jaideep Sharma (2008) have studied the bibliometric analysis of research output on Biotechnology research in some Indian Central Universities. Thanuskodi (2010) has discussed the research output performance of social scientists on social science subjects. The analysis cover mainly the number of articles, authorship-pattern, subject-wise distribution of articles, average number of references per articles, forms of documents cited, year wise distribution of cited journals etc. Ahila *et al* (2011) have studied the bibliometric analysis of research out on pharmacological research in India. Sanjeevi and Mahendran (2011) have studied the productivity of Research output on Lagoons. The authors have studied the authorship pattern, country-wise and form wise publication on Lagoon research during the period from 2000 to 2003. Sudhier Pillai (2013) has analyzed the authorship distribution in physics literature cited in the Ph.D. theses of University of Kerala. Further authors have applied K-statistical test, Chi-square test and Lotka's Law to find author productivity in Physics literature. Baskaran (2013)

has studied the research productivity of Alagappa University from the year 1999-2011. The relative growth rate, doubling time, ranking of authors, etc. was also studied.

#### Objectives

- To study the authorship pattern in IJMR
- To examine the Single Vs. Multiple authors publication in IJMR
- To find out the Degree of collaborations

#### Results

The year-wise authorship pattern in the publication of article in Indian Journal of Medical Research is given in Table 1.

It could be noted that 119 authors have published papers in Indian Journal of Medical research in 1997 and it rose to 246 in 2011, indicating a 51.62 per cent

**Table 1 :** The Authorship Pattern in Indian Journal of Medical Research

Year	Single Author	Double Author	Triple Author	Four Author	Five Author	Six Author	Total
1997	22 (18.49)	19 (15.97)	28 (23.53)	18 (15.13)	11 (9.24)	21 (17.65)	119 (100.00)
1998	3 (3.53)	12 (14.12)	13 (15.29)	18 (21.18)	13 (15.29)	26 (30.59)	85 (100.00)
1999	4 (5.26)	12 (15.79)	18 (23.68)	16 (21.05)	8 (10.53)	18 (23.68)	76 (100.00)
2000	- (0.00)	18 (23.68)	10 (13.16)	12 (15.79)	14 (18.42)	22 (28.95)	76 (100.00)
2001	- (0.00)	8 (10.96)	17 (23.29)	18 (24.66)	9 (12.33)	21 (28.77)	73 (100.00)
2002	5 (6.85)	13 (17.81)	18 (24.66)	13 (17.81)	14 (19.18)	10 (13.70)	73 (100.00)
2003	- (0.00)	2 (3.08)	23 (35.38)	14 (21.54)	12 (18.46)	14 (21.54)	65 (100.00)
2004	6 (7.41)	15 (18.52)	17 (20.99)	20 (24.69)	10 (12.35)	13 (16.05)	81 (100.00)
2005	5 (4.46)	13 (11.61)	31 (27.68)	20 (17.86)	18 (16.07)	25 (22.32)	112 (100.00)
2006	15 (10.64)	25 (17.73)	17 (12.06)	19 (13.48)	22 (15.60)	43 (30.50)	141 (100.00)
2007	58 (29.74)	34 (17.44)	27 (13.85)	19 (9.74)	25 (12.82)	32 (16.41)	195 (100.00)
2008	44 (19.21)	50 (21.83)	42 (18.34)	31 (13.54)	19 (8.30)	43 (18.78)	229 (100.00)
009	34 (13.39)	44 (17.32)	44 (17.32)	36 (14.17)	38 (14.96)	58 (22.83)	254 (100.00)
2010	45 (19.57)	49 (21.30)	31 (13.48)	26 (11.30)	21 (9.13)	58 (25.22)	230 (100.00)
2011	40 (16.26)	38 (15.45)	41 (16.67)	30 (12.20)	27 (10.98)	70 (28.46)	246 (100.00)
Total	281 (13.67)	352 (17.13)	377 (18.35)	310 (15.09)	261 (12.70)	474 (23.07)	2055 (100.00)

increase in the period of analysis. In total 2055 authors have published papers in Indian journal of medical research during the period 1997 to 2011. Out of the total authors published paper in Indian journal of medical research, 13.67 per cent of them published single authors papers, 17.13 per cent of them published double authored papers, 18.35 per cent of them published triple authored papers, 15.09 per cent of them published four authored papers, 12.70 per cent of them published five authored papers and 23.07 per cent

of them published six authored papers.

It could be seen clearly from the above table, 2055 authors have published papers in Indian journal of medical research during the period 1997-2011. Out of the total published authors, six authored papers rank the first position three authored paper the second, triple authored papers the third, four authored papers the fourth, single authored paper the fifth and five authored papers the last.

**Table 2:** Single Vs. Multi Author Papers Published in Indian Journal of Medical Research

Year	Single Authored		Multi Authored		Total
	Papers	Percentage	Papers	Percentage	
1997-2002	34	6.7	468	93.2	502
2003-2007	84	14.1	510	85.9	594
2008-2011	163	16.9	796	83	959
Total	281	13.7	1774	86.3	2055

From the above table it is clearly noticed that the single authored contributions for each phase were in increasing trend when compared to multiple authored percentage. Out of 2055 authors, multiple author contributions were higher 86.3% when compared to single authored contribution (13.7%).

**Table 3:** Degree of Collaboration

Year	Degree of Collaboration
1997-2002	0.93
2003-2007	0.85
2008-2011	0.83

The analysis of the extent of collaboration in Indian journal of medical research reveals the following facts. The first and second phase of the study period from 1997 to 2002 stood first in the order (0.93) of collaborative research. The second phase of the study period 2003-2007 recorded second in the order (0.85) of collaboration. The third phase of the study period 2008-2011 recorded third in the order (0.83) of collaboration. The study interpreted that single contributed papers maintained the low profile (13.7%) among papers published in Indian journal of medical research. Multi authored contributions are traced with the maximum per cent 86.3. In recent years, medical research intent to take collective participation in research problem solving activities, it has resulted in the inclining of single author papers and thereby decreased the multiple author papers.

## Conclusion

The findings of authorship pattern in Indian

Journal of Medical research reveal the following facts.

- It is observed from the result of the study that 2055 authors have published papers in Indian journal of medical research during the period 1997-2011. Out of the total published authors, six authored papers rank the first position triple authored paper the second, double authored papers the third, four authored papers the fourth, single authored paper the fifth and five authored papers the last.
- The findings of collaboration in Indian journal of medical research reveals the following facts in recent years, medical research intent to take collective participation in research problem solving activities, it has resulted in the inclining of single author papers and thereby decreased the multiple author papers.
- The findings of Productivity in papers published in Indian journal of medical research reveals the following facts. It is observed from the result of the study that in general when the number of published papers increases, the number of contributed authors decreases. More number of publications by a researcher in any field requires high degree of inquisitiveness, competences, efficiency, perseverance and exposure to nascent literature. That is why only a few authors have contributed more number of papers. Further author productivity is influenced by the nature of institution in which the researchers are working are of specialization and availability of infrastructure facility. In medical science research majority of the authors have made either one paper publications or two paper publications.

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