

BIBLIOMETRIC MAPPING OF "INDIAN JOURNAL OF PEDIATRICS" 2007-2016**Senthilkumar, R.^{1*} and S. Abirami²**¹Department of Library and Information Science, Kongunadu Arts and Science College, Coimbatore²Department of Library and Information Science, Bharathiar University, Coimbatore

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ABSTRACT

The aim of this paper is a special reference to the research productivity of a journal called "Indian Journal of Pediatrics". The source and citation data have been downloaded from the Web of Science (WoS) database of Thomson–Reuters. Totally 2980 records were published by this journal. This study made an effort to measure the year wise distribution of publications, document wise distribution of publications, institution wise distribution of publications and the country wise distribution of publications. The result resolves the number of total global citation score for above mentioned ten year records. The mapping work has done by using the software *VOSviewer* for analysing the records of this journal. In further the Histogram analysis made by *Histcite* software.

Keywords: Pediatrics, Scientometric Analysis, Histcite, Research Productivity.

1. INTRODUCTION

Indian Journal of Pediatrics (IJP) is an official publication of Dr. K.C. Chaudhuri Foundation. The Journal is a peer-reviewed publication and it is published on a monthly basis clinical and basic research of all aspects of Pediatrics. This journal provides the scientific merit and represents an important of advance in knowledge. The Journal publishes original articles, review articles, case reports which provide new information. This study analyses and explained by the way of bibliometric mapping. Bibliometric is a method to measure or assess the output and impact of an individual's research, a research group or institution or a journal. Mapping is a general method that can be used to help any individual or group to describe their ideas about some topics in a pictorial form.

2. OBJECTIVES

The study of four different aspects given as follows:

1. To analyse the year wise distribution of publications.
2. To examine the document wise distribution of publications.
3. To evaluate the Institution wise distribution of publications.
4. To explore the country wise distribution of publications.

3. REVIEW OF LITERATURE

Bibliometric techniques using references made to other documents can be applied to establish statistical models of scholarly communication flow. (Borgman, 1999). Indeed, citation analysis is an important area of library and information science. From the studies of citation analysis, one can learn which scholars from which disciplines cite which articles? Which journals are cited more often? Which disciplines cite the journals of other disciplines? The results of citation analysis are used for many purposes, for example, to determine the impact of specific articles or journals on subsequent research and to document the interdisciplinary applicability of various journals (Desai, 2003; Harter, 1996; <http://lac3.glis.ntnu.edu.tw/vj-attachment/2011/07/attach69.pdf>). Mapping of science in the second procedure in evaluative bibliometrics, mostly aiming at displaying structural and dynamic aspects of scientific research (Bramm, 1991; Noyons *et al.*, 1999). Maps of science have been created with different techniques. The co-citation technique was initiated by Henry Small at the Institute for Scientific Information (ISI) and further developed in the early seventies (Small, 1973; <http://search.proquest.com/ope>).

Bibliometric is the application of mathematical and statistical methods to publications. Satyanarayana (2014) TOURISMOS: A Bibliometric Study. In this referred study used to assess scientific research through quantitative studies on research publications. Bibliometric assessments are based on the assumption that most

scientific discoveries and research results are eventually published in international scientific journals where they can be read and cited by other researchers (<https://www.omicsgroup.com>; Kumar *et al.*, 1998). In pediatric population, the liver abscesses are associated with immuno compromised state, protein energy malnutrition and low socio economic status. The most common organism responsible for PLA are *Staphylococcus*, *Streptococci*, *E coli* and *Klebsiella*. *Approximately 65% of liver abscess are found in right lobe and are solitary*. The most common symptoms of PLA are pain in upper abdomen, nausea, vomiting loss of appetite, high grade fever and jaundice(Mishra, 2003). There is a huge demand from researchers for the updated version of this scale because changes in inflation rate change the monetary values of the monthly income range scores. Thus, it has become imperative to provide the updated version of the scale in a domain with large circulation to fulfil the needs of currently ongoing research (Darmstadt, 2005). All the packages of care are cost effective compared with single interventions. Universal (99%) coverage of these interventions could avert an estimated 41-72% of neonatal deaths worldwide. At 90% coverage, intrapartum and postnatal packages have similar effects on neonatal mortality-two-fold to three-fold greater than that of antenatal care. (<http://www.ncbi.nlm.nih.gov/pubmed/15767001>).

Keunen, (2015) co-authored a paper in *Pediatric Research* entitled, "Impact of nutrition on brain development and its neuro protective implications following preterm birth" (doi:10.1038/pr.2014.171), which published in the January 2015 Review Issue focusing on Nutrition and the Microbiome. Sherin U. Devaskar, (2014) annual review issue of *Pediatric Research*, focusing this year on the Basic Mechanisms of Pediatric Disease. Granier, Goulet, and Hoarau, (2013) explore the immunological effects of fermentation products in animal and humans. This Integrated Mechanism Review article covers 55 studies involved in this area of research. As the authors note, a better understanding of fermentation products' action at the gut and mucosal level may contribute to a better knowledge of mucosal immune maturation and to the necessary discussion regarding the use of infant formulae orientated to immune modulation. Carlo Agostoni and Kwang Sik Kim (2015) served as the Guest Editors *Pediatric Research* 2015 Review Issue on "Nutrition and the Microbiome". In putting together the issue, the guest editors focused on the roles of nutrition and gut flora on infants' and children's health and disease. Early growth spurts

may affect the expression of non-communicable disorders, such as type 2 diabetes, high blood pressure, dyslipidemic conditions, and hepatic statuses. Aleixandre *et al.* (2013) - Mapping scientific research on wine and health. Institutions in the main network of collaboration between centers were primarily located in France, Italy, and the United State.

4. METHODOLOGY

The data collected from the Web of Science [WoS] [Hist Cite software] which is functioning as the platform in providing data. This database is from Thomson Reuters ie. [Thomson Reuters was created by the Thomson Corporation's purchase of British-based Reuters Group on 17 April 2008, and is majority owned by The Woodbridge Company, a holding company for the Thomson family. Thomson Reuters was ranked as Canada's "leading corporate brand" in 2010 Inter brand Best Canadian Brands ranking.] This paper's study period is [2007-2016].

5. DATA ANALYSIS AND INTERPRETATION

Table 1. Year wise distribution of publications

S. No	Publication Year	Records	%	TLCS	TGCS
1	2007	234	7.9	81	1560
2	2008	282	9.5	70	1008
3	2009	272	9.1	45	907
4	2010	292	9.8	68	836
5	2011	243	8.2	91	787
6	2012	291	9.8	128	675
7	2013	317	10.6	142	563
8	2014	457	15.2	149	415
9	2015	288	9.7	79	184
10	2016	304	10.2	57	85
Total		2980			

The table 1 clearly shows that 2980 publications were published at global level during 2007 to 2016. The highest publication is 457 in 2014 with 415 Global Citation Scores followed by 317(10.6%) publications in the year of 2013 with 563 Global Citation Scores and 304 (10.2%) publications in the year 2016 with 85 Global Citations. It shows that if the publication is comparatively less even then the score of Global Citation can get the higher values.

It is found from the table 2 and the figure 1 showing that 1845 articles with 61.9% is the highest number in the records have been published when compare with the other documents. The remaining documents are the Letter 733 - 24.6%, Editorial

Material 236-7.9%, Review 130-4.4%, Correction 27-0.9%, Article Proceeding Paper 7-0.2%.

Table 2. Document wise distribution of publication

S. No	Document Type	Records	%	TLC S	TGCS
1	Article	1845	61.9	734	6252
2	Letter	733	24.6	70	435
3	Editorial	236	7.9	18	95
4	Review	130	4.4	86	191
5	Correction	27	0.9	0	0
6	Article;	7	0.2	2	38
7	Biographical-	1	0	0	0
8	Reprint	1	0	0	9
Total		2980	-	910	7020

This table-3 clearly says that the Institution wise research productivity has given the list of institution is 20 numbers from the database of web of science [WoS]. These 20 institutions' total

Table 3. Institution wise distribution of publication

S.No	Institution	Recs	Percent	TLCS	TGCS
1	All India Institute of Medical Science	357	12	119	968
2	Postgraduate Institute Medical Education and Research	142	4.8	45	434
3	Christian Medical College and Hospital	103	3.5	99	214
4	Lady Hardinge Medical College and Hospital	82	2.8	37	211
5	Maulana Azad Medical College	81	2.7	25	191
6	Thiruvananthapuram Medical College	51	1.7	59	72
7	Govt Medical College	50	1.7	34	182
8	JIPMER	46	1.5	16	125
9	Banaras Hindu University	44	1.5	6	112
10	Post Graduate Institute of Medical Education and Research	43	1.4	23	87
11	Associated Kalawati Saran Childrens Hospital	39	1.3	9	59
12	Sir Ganga Ram Hospital	36	1.2	6	67
13	Kalawati Saran Childrens Hospital	34	1.1	21	129
14	University College of Medical Science	30	1	9	155
15	Kanchi Kamakoti CHILDS Trust Hospital	29	1	10	50
16	King Edward Memorial Hospital	28	0.9	19	108
17	Seth GS Medical College	27	0.9	16	107
18	PGIMER	26	0.9	4	50
19	Sanjay Gandhi Post graduate Institute Medical Science	26	0.9	8	55
20	Govt Medical College and Hospital	25	0.8	11	52
Total		1299		576	3428

contribution of records is 1299. From this report the highest number of research publication 357 is given by All India Inst Med Sci. with local citation score-119 and the global citation score is-968 followed by Postgrad Inst Med Educ and Res-142 research publications with local citation score-45 and global citation score is-434.

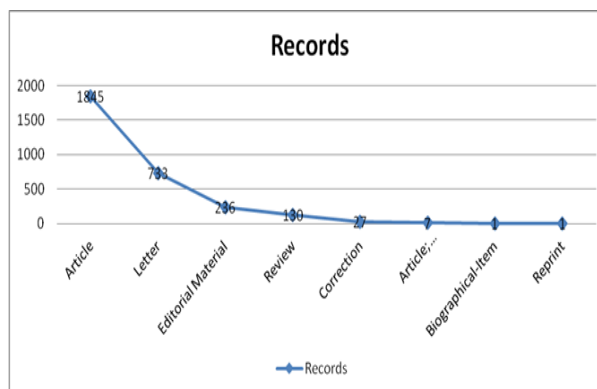


Fig. 1. Document wise distribution of publication

Table 4. The Country wise distribution of publication

S. No	Country	Recs	%	TLCS	TGCS
1	India	2249	75.5	763	5270
2	USA	161	5.4	57	565
3	Turkey	148	5	27	298
4	UK	83	2.8	18	180
5	Peoples R	74	2.5	10	132
6	Iran	70	2.3	16	267
7	Canada	45	1.5	20	91
8	Unknown	29	1	0	41
9	Egypt	25	0.8	3	84
10	Australia	22	0.7	10	73
11	Italy	22	0.7	6	29
12	Thailand	19	0.6	2	5
13	Japan	18	0.6	4	32
14	South	14	0.5	6	23
15	Saudi	12	0.4	1	32
16	Nepal	11	0.4	7	50
17	Nigeria	11	0.4	0	38
18	Pakistan	11	0.4	1	41
19	Spain	11	0.4	3	16
20	Brazil	10	0.3	0	15
Total		3045		954	7282

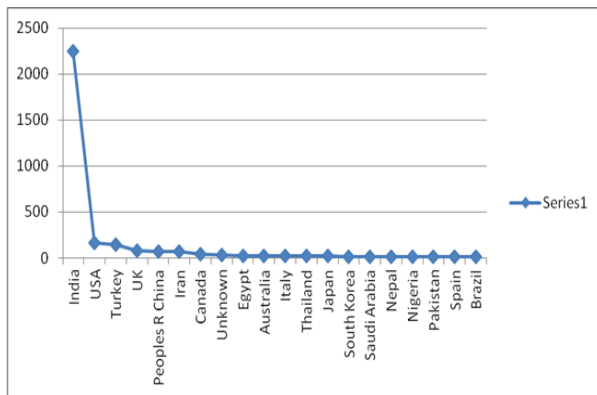


Fig. 2. The Country wise distribution of publication

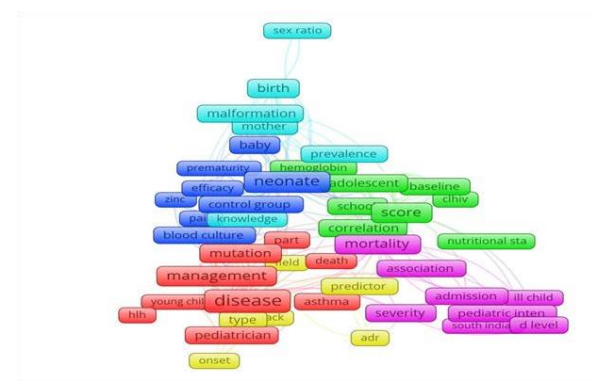
Here the table 4 and the figure 2 explores the country wise distribution totally 69 countries were covered. The maximum publications contributed by India with 2249 records -75.5% followed by USA 161 records with 5.4%, Turkey 148-5%, UK 83-2.8% etc., according to the IJP the top in Global Citation Score is India with 2249 publications local citation score 763 and global citation score is 5270.

5.1 Word frequency

Table 5. The most used keywords in this article.

S.No	Word	Recs	TLCS	TGCS
1	NEONATE	479	188	1282
2	MUTATION	257	53	436
3	MORTALITY	213	133	602
4	PEDIATRICIAN	174	61	389
5	DISEASE	171	48	340
6	ASTHMA	162	52	430
7	PREVALENCE	144	76	506
8	BIRTH	137	33	183
9	SCORE	130	52	398
10	MANAGEMENT	125	48	292

Fig. 3 showing the top 10 most used words by IJP, and it expresses the mapping link between those words by the VOSviewer. This is clearly states that the list of keywords with their records of TLGS and TGCS. This study has given the result as the word neonate used in 479 records and the word mutation used in 257 then mortality is in 213 records, paediatrician word has been used in 174 records, disease in 171 records, asthma in 162 records, prevalence in 144 records, birth 137 records, score in 130 records management in 125 records. The TLGS and TGCS are 188 and 1282, 53 and 436, 133 and 602, 61 and 389, 48 and 340, 52 and 430, 76 and 506, 33 and 183, 52 and 398, 48 and 292 respectively.



5.2 Histogram of IJP

Using the software HistCite, the histogram has been developed for the period of 2007 - 2016. This histogram showing the links of records published with the respective years. The below table shows the top 30 authors of IJP during 2007-2016 based on their local citation score and global citation score. In this Histogram the LCS gives 122 scores and GCS gives 422 scores

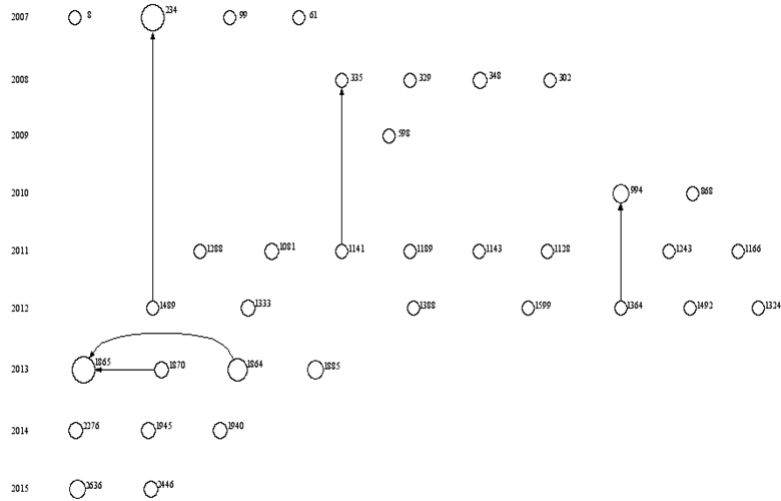


Fig. 4. Histogram of IJP

Nodes: 30, Links: 3

LCS, top 30; Min: 3, Max: 10 (LCS scaled)

S.No	Recs.	Author	LCS	GCS
1	8	Lahariya C, 2007, INDIAN J PEDIATR, V74, P61	3	9
2	61	Medhi GK, 2007, INDIAN J PEDIATR, V74, P343	3	8
3	99	Nagapoornima P, 2007, INDIAN J PEDIATR, V74, P545	3	20
4	234	Kumar N, 2007, INDIAN J PEDIATR, V74, P1131	10	135
5	302	Kohli U, 2008, INDIAN J PEDIATR, V75, P82	3	3
6	329	Chandra J, 2008, INDIAN J PEDIATR, V75, P229	3	12
7	335	Sankar MJ, 2008, INDIAN J PEDIATR, V75, P261	3	31
8	348	Yeolekar LR, 2008, INDIAN J PEDIATR, V75, P341	4	21
9	598	Balan R, 2009, INDIAN J PEDIATR, V76, P469	3	12
10	868	Agnihotri K, 2010, INDIAN J PEDIATR, V77, P381	3	11
11	994	Kaur G, 2010, INDIAN J PEDIATR, V77, P969	5	21
12	1081	Bansal A, 2011, INDIAN J PEDIATR, V78, P33	4	16
13	1128	Mukherjee A, 2011, INDIAN J PEDIATR, V78, P328	3	9
14	1130	Amdekar YK, 2011, INDIAN J PEDIATR, V78, P340	3	4
15	1141	Zakariya BP, 2011, INDIAN J PEDIATR, V78, P413	3	15
16	1143	Bhattacharya S, 2011, INDIAN J PEDIATR, V78, P423	3	6
17	1166	Sivanandan S, 2011, INDIAN J PEDIATR, V78, P576	3	6
18	1189	Krishnan L, 2011, INDIAN J PEDIATR, V78, P743	3	7
19	1243	Rana N, 2011, INDIAN J PEDIATR, V78, P1073	3	8
20	1333	Nair MKC, 2012, INDIAN J PEDIATR, V79, PS60	4	6
21	1336	Nair MKC, 2012, INDIAN J PEDIATR, V79, PS74	4	8
22	1864	Russell PSS, 2013, INDIAN J PEDIATR, V80, PS132	7	7
23	1865	Russell PSS, 2013, INDIAN J PEDIATR, V80, PS139	9	9
24	1870	Russell PSS, 2013, INDIAN J PEDIATR, V80, PS165	4	5
25	1885	Nair MKC, 2013, INDIAN J PEDIATR, V80, PS248	5	5
26	1940	Bansal D, 2014, INDIAN J PEDIATR, V81, P42	4	4
27	1945	Menon PSN, 2014, INDIAN J PEDIATR, V81, P76	4	7
28	2276	Balasubramanian P, 2014, INDIAN J PEDIATR, V81, P1182	4	4
29	2446	Bal D, 2015, INDIAN J PEDIATR, V82, P253	4	5
30	2636	Prasad S, 2015, INDIAN J PEDIATR, V82, P991	5	8

6. CONCLUSION

From this study it is evident that the number of papers published in IJP during 2007 to 2016 is progressively increasing. Most prolific institution is All India Institute of Med Sci. with 357 research articles the local citation score is 119 and the global citation score is 968, followed by Postgrad Inst. Med Educ and Rec. with 142 articles, having local citation score of 45 and global citation score is 434. The list of top 10 country-wise contribution has given in the form of "Rankings" as follows: India, USA, Turkey, UK, China, Iran, Canada, Egypt and Australia. In which India gives the most contribution with 2249 papers.

Based on the analysis totally 1845 research articles are published with the percentage of 61.9. When compare with other documents this is the highest score of research records which is published in this journal. The remaining documents are the Letter 733 records with 24.6%, Editorial Material 236 records with 7.9%, Review 130 records with 4.4%, Correction 27 records with 0.9% and Article Proceeding Paper 7 records with 0.2%.

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