

RANKING OF AUTHORS BASED ON PUBLICATION AND CITATION INDEX-A SCIENTOMETRICS ANALYSIS

K.Pandiyarajan

Research Scholar,

Library and Information Science, Bharathidasan University, Trichy, Tamilnadu

Email-Id: kpandiyarajan@gmail.com

Dr. M. Surulinathi

Assistant Professor

Bharathidasan University, Trichy, Tamilnadu

Email-id: surulinathi@gmail.com

and

K. Balendran

Librarian

Govt. Art and Science College, Srirangam, Trichy

Email: baluwinsall@gmail.com

Abstract: Scientometrics is the science of measuring and analysing science. Pediatric Cardiology is the study and treatment of disorders of the heart in children; It is a medical specialty which is involved in the care of all things associated with the heart and the arteries. A study on scientometrics analysis on pediatric cardiology was conducted to find out the highly cited papers and citation based on the ranking of authors in research papers. All publications on Pediatric were downloaded from *Web of Science database*. The data were exported and processed in the HistCite to find out the contribution of Authors, Citations in the field of Pediatric Cardiology research during years 1989–2016. Based on the analysis undertaken for the present study found that “Beekman RH” has occupies the First rank with 34 articles (1.9 %) and received 318 Global Citation Scores followed by “Martin GR” with 28 articles and received 266 Citations. With regard to citation, authors “Newburger” has received highest number of citations with 1176 for 19 Papers, next author Burns with 1121 Citations for 7 papers, Takahashi with 846 for 5 Papers, Tani with 826 Citations for 3 Papers.

Keywords: Scientometrics, Pediatric Cardiology, *Web of Science*, *Authors Ranking*, *Publication*, *Citation*

1.0 Introduction

Scientometrics is the science of measuring and analysing science. In practice, scientometrics is often done using bibliometrics, which is a measurement of the impact of (scientific) publications. Scientometrics means literally "measurement of science". In reality it means the application of statistical indicators (especially bibliometric indicators) as a mean for the evaluation of scientific productivity. Methods of research include qualitative, quantitative and computational approaches. One significant finding in the field is a principle of cost escalation to the effect that achieving further findings at a given level of importance grow exponentially more costly in the expenditure of effort and resources.

Generally quantification of scientific activities is measurable by producing statistics on scientific publications indexed in indicator databases such as SCOPUS and ISI. Scientometric data can be useful to measure research collaborations among scientific environments and to monitor the evolution of special scientific subjects and fields. Also decision and policy-makers are going to be interested in scientometric indicators.

Scientometrics is “the study of the measurement of scientific and technological progress” (Garfield, 1979b). Scientometrics is a branch of library and information science. Scientometric tools can be used to measure and compare the scientific activities at various levels of aggregation including institutions, sectors, provinces and

countries. Scientometrics empirically describe the constantly changing relationship between science, technology and the research productivity.

Cardiology is the study and treatment of disorders of the heart; it is a medical specialty which is involved in the care of all things associated with the heart and the arteries. A cardiologist is not the same as a cardiac surgeon - the cardiac surgeon opens the chest and performs heart surgery, a cardiologist, on the other hand, carries out tests and procedures, such as angioplasty. Heart disease differs from cardiovascular disease, in that the latter refers to disorders and illnesses of the heart and blood vessels, while the former is only concerned with the heart. Some of literatures relevant to this work are as follows.

Tang, X., & Du, J. (2015) Recognizing the importance of innovation in science and technology (S&T) as a driver of continued economic growth, B. M. Gupta, S. M. Dhawan and Ritu Gupta (2016) had examined world publications output on social media research (46354) published during 2001–2014. V. Krishnan and S. Raja (2016) focused the journal has spacious distribution in India and Global among the genetically experts and other medical scientists from academic institutions, hospitals and other research laboratories.

R. S. Vishnumaya, P. Nishy and S. Mini (2016) had analyzed the growth and development of rare earths research in India based on the publication output as reflected in Web of Science (WoS) during 1987–2013.

Keeping this in view, a study on scietometrics analysis on padiatric cardiology was conducted with the objective to find out the ranking of authors based publication and citation in Pediatric Cardiology

2.0 Methodology

All publications on Pediatric Cardiology (Research Areas: “Pediatric Cardiology”) in address field were downloaded from *Web of Science database*. The data were exported and processed in the HistCite to find out the contribution of Authors, Citations in the field of Pediatric Cardiology research during years1989–2016. The year of publication, Citations, Self Citations, journals and authors were analyzed and displayed in tables using HistCite. The Global Citation Scores and Local Citation Scores are examined to identify the pattern of research contribution on Pediatric Cardiology

2.1 Web of Science Online Database: The Web of Science platform is the search and discovery choice for 7,000+ academic and research institutions, national governments, funding organizations, and publishing organizations in 100+ countries worldwide. Find cover-to-cover indexing of the world’s most important multidisciplinary research covering scholarly journals, books, proceedings, published data sets, and patents. Explore research and ideas from different disciplines around the world by leaping through more than 1 billion cited references.

2.2 Web of Science Core Collection: Within the Core Collection of the Web of Science platform, a key set of citation indices make up the most influential content. These indices, most notably Science Citation Index Expanded, Social Sciences Citation Index, and Arts & Humanities Citation Index are complemented across the broader platform by additional indices, covering specific subjects, specific regions or specific publication and data types.

3.0 Results Of The Study

3.1 Ranking of Authors based Publications

The author “Beekman RH” has occupies the First rank with 34 articles (1.9 %) and received 318 Global Citation Scores followed by “Martin GR” with 28 articles and received 266 Citations, McCrindle BW with 25 articles and received 714 Citations, Colan SD with 22 articles and received 607 Citations. 55 Authors are contributed ten and above 10 Publications. 10048 authors are contributed1805 Publications and received 20919 Citations. The range of cited references is 2-55.

Table 1: Ranking of Authors based on Publications

S.No	Author	Publications	%	TLCS	TGCS	TLCR
1	Beekman RH	34	1.9	77	318	55
2	Martin GR	28	1.6	65	266	50
3	McCrindle BW	25	1.4	72	714	15
4	Colan SD	22	1.2	48	607	34

5	Jenkins KJ	21	1.2	76	368	29
6	Danford DA	20	1.1	45	377	21
7	Geva T	20	1.1	22	170	17
8	Gauvreau K	19	1.1	19	153	14
9	Jacobs JP	19	1.1	36	172	35
10	Mahle WT	19	1.1	18	253	15
11	Newburger JW	19	1.1	19	1176	12
12	Kugler JD	18	1.0	67	532	35
13	Canter CE	16	0.9	27	340	10
14	Kutty S	16	0.9	7	110	11
15	Feinstein JA	15	0.8	9	53	11
16	Klitzner TS	15	0.8	57	216	16
17	Lipshultz SE	15	0.8	32	649	11
18	Hsu DT	14	0.8	18	240	10
19	Lannon C	14	0.8	54	151	27
20	Mital S	14	0.8	7	83	10
21	Rosenthal GL	14	0.8	43	149	16
22	Ross RD	14	0.8	9	9	7
23	Sleeper LA	14	0.8	23	359	11
24	Benson LN	13	0.7	34	408	7
25	Moore JW	13	0.7	14	108	20
26	Neish SR	13	0.7	42	127	15
27	Pearson GD	13	0.7	2	101	13
28	Towbin JA	13	0.7	33	537	10
29	Vincent JA	13	0.7	6	16	8
31	Abdulla R	12	0.7	6	37	3
32	Anderson JB	12	0.7	35	102	27
33	Benson L	12	0.7	11	115	13
34	Cohen MS	12	0.7	11	144	12
35	Lang P	12	0.7	8	11	12
36	Marino BS	12	0.7	24	347	15
37	Moons P	12	0.7	21	163	28
38	Abdulla RI	11	0.6	2	5	7
39	Brown DW	11	0.6	13	79	26
40	Dreyer WJ	11	0.6	4	138	2
41	Gaynor JW	11	0.6	24	305	13
42	Ivy DD	11	0.6	15	161	13
43	Li JS	11	0.6	20	93	9
44	Manlhiot C	11	0.6	3	48	10
45	Mertens L	11	0.6	2	39	10
46	Vano E	11	0.6	24	163	25
47	Walsh EP	11	0.6	6	91	9
48	Webber SA	11	0.6	10	200	7
49	Fulton DR	10	0.6	27	83	24
50	Law YM	10	0.6	13	71	12
51	Lee KJ	10	0.6	5	72	15
52	Nakanishi T	10	0.6	0	38	1
53	Pahl E	10	0.6	8	66	15
54	Vetter VL	10	0.6	7	123	10
55	Vincent RN	10	0.6	8	85	16
56	Atz AM	9	0.5	1	33	2
57	Bergersen L	9	0.5	11	79	21

58	Brook M	9	0.5	5	5	9
59	Dick M	9	0.5	7	198	22
60	Hijazi ZM	9	0.5	12	396	4
61	Koenig P	9	0.5	5	5	4
62	Lai WW	9	0.5	7	36	13
63	Rosenthal DN	9	0.5	12	123	13
64	Sahn DJ	9	0.5	12	57	8
65	Saul JP	9	0.5	13	241	21
66	Spicer RL	9	0.5	5	6	7
67	Ubeda C	9	0.5	15	54	22
68	Bartz PJ	8	0.4	6	8	6
69	Bonnet D	8	0.4	19	405	9
70	Campbell RM	8	0.4	16	60	26
71	Feltes TF	8	0.4	4	66	1
72	Friedberg MK	8	0.4	0	30	2
73	Goossens E	8	0.4	11	50	16
74	Hirsch R	8	0.4	9	69	8
75	Jefferies JL	8	0.4	7	121	5
76	King E	8	0.4	14	45	16
77	Li L	8	0.4	3	62	6
78	Lock JE	8	0.4	26	162	8
79	Lu MM	8	0.4	6	98	4
80	Moodie D	8	0.4	0	2	1
81	Oster ME	8	0.4	2	13	12
82	Wilkinson JD	8	0.4	21	341	7
83	Ackerman MJ	7	0.4	2	53	1
84	Berger S	7	0.4	3	143	2
85	Burns JC	7	0.4	6	1121	1
86	Dipchand AI	7	0.4	4	71	11
87	Dubin AM	7	0.4	4	40	4
88	Ehrlich A	7	0.4	2	12	5
89	Fogel MA	7	0.4	8	57	6
90	Freedom RM	7	0.4	24	337	1
91	Geggel RL	7	0.4	22	104	18
92	Glatz AC	7	0.4	5	73	11
93	Holzer R	7	0.4	17	121	10
94	Khairy P	7	0.4	17	126	25
95	Kim JJ	7	0.4	2	78	4
96	Kirklin JK	7	0.4	9	219	6
97	Kobayashi T	7	0.4	1	8	0
98	Landzberg MJ	7	0.4	11	41	13
99	Marshall AC	7	0.4	9	76	9
100	Morrow WR	7	0.4	3	92	2

3.2 Ranking of Authors based on Citations

Table 2 indicates ranking of authors by number of Citations. Authors “Newburger” has received highest number of citations with 1176 for 19 Papers, next author Burns with 1121 Citations for 7 papers, Takahashi with 846 for 5 Papers, Tani with 826 Citations for 3 Papers. From Authors Baddour to Wilson received 819 Citation respectively for double papers. 17 authors received 1000-3000 Citations. 1707 authors have received 100 and above citations. 6965 authors doesn’t have the citations. Author Denton to Souza R received 505 Citations for single papers. There are co-author that’s why they received same citations. 335 authors are received more than 100 citations.

Table: 2 Ranking of Authors based citations

S.No	Author	Publications	TLCS	TGCS
1	Newburger JW	19	19	1176
2	Burns JC	7	6	1121
3	Takahashi M	5	14	849
4	Tani LY	3	3	826
5	Baddour LM	2	3	819
6	Baltimore RS	2	3	819
7	Bayer AS	2	3	819
8	Bolger AF	2	3	819
9	Falace DA	2	3	819
10	Ferrieri P	2	3	819
11	Fowler VG	2	3	819
12	Gerber MA	2	3	819
13	Gewitz MH	2	3	819
14	Levison ME	2	3	819
15	Pallasch TJ	2	3	819
16	Shulman ST	2	3	819
17	Steckelberg JM	2	3	819
18	Taubert KA	2	3	819
19	Tong DC	2	3	819
20	Wilson WR	2	3	819
21	McCrimble BW	25	72	714
22	Lipshultz SE	15	32	649
23	Colan SD	22	48	607
24	Landzberg M	5	10	590
25	Celermajer D	3	7	575
26	Towbin JA	13	33	537
27	Gatzoulis MA	4	6	535
28	Kugler JD	18	67	532
29	Olschewski H	2	2	524
30	Adatia I	3	3	515
31	Uzark K	7	24	511
32	Denton C	1	2	505
33	Ghofrani A	1	2	505
34	Kumar RK	1	2	505
35	Machado RF	1	2	505
36	Robbins IM	1	2	505
37	Sanchez MAG	1	2	505
38	Simonneau G	1	2	505
39	Souza R	1	2	505
40	Perry JC	3	24	461
41	Akagi T	6	7	443
42	Silka MJ	5	24	425
43	Webb GD	3	34	425
44	Silverman NH	5	8	415
45	Benson LN	13	34	408
46	Bonnet D	8	19	405
47	VanHare GF	3	20	398
48	Kamiya T	2	5	397
49	Hijazi ZM	9	12	396

50	Ichida F	<u>5</u>	4	391
51	Hamada H	<u>1</u>	4	390
52	Hamamichi Y	<u>1</u>	4	390
53	Hirose O	<u>1</u>	4	390
54	Isobe T	<u>1</u>	4	390
55	Kurotobi S	<u>1</u>	4	390
56	Mito H	<u>1</u>	4	390
57	Miyake T	<u>1</u>	4	390
58	Miyawaki T	<u>1</u>	4	390
59	Murakami Y	<u>1</u>	4	390
60	Nishi T	<u>1</u>	4	390
61	Ono Y	<u>5</u>	4	390
62	Seguchi M	<u>1</u>	4	390
63	Shinohara M	<u>1</u>	4	390
64	Tashiro S	<u>1</u>	4	390
65	Tomimatsu H	<u>1</u>	4	390
66	Yamada K	<u>1</u>	4	390
67	Gillette PC	<u>3</u>	25	389
68	Danford DA	<u>20</u>	45	377
69	Orav EJ	<u>4</u>	17	376
70	Varni JW	<u>5</u>	14	374
71	Jenkins KJ	<u>21</u>	76	368
72	Butera G	<u>3</u>	14	362
73	Sleeper LA	<u>14</u>	23	359
74	Marino BS	<u>12</u>	24	347
75	Wilkinson JD	<u>8</u>	21	341
76	Canter CE	<u>16</u>	27	340
77	Freedom RM	<u>7</u>	24	337
78	Sidi D	<u>5</u>	12	336
79	Kachaner J	<u>4</u>	12	331
80	Siu SC	<u>3</u>	25	331
81	Du ZD	<u>1</u>	0	324
82	Kleinman CS	<u>2</u>	0	324
83	Larnitz K	<u>1</u>	0	324
84	Beekman RH	<u>34</u>	77	318
85	Coltri A	<u>1</u>	12	315
86	Fermont L	<u>1</u>	12	315
87	Le Bidois J	<u>1</u>	12	315
88	Gaynor JW	<u>11</u>	24	305
89	Wren C	<u>4</u>	9	270
90	Martin GR	<u>28</u>	65	266
91	Nykanen D	<u>6</u>	28	258
92	Mahle WT	<u>19</u>	18	253
93	Knight TS	<u>1</u>	4	251
94	Seid M	<u>1</u>	4	251
95	Szer IS	<u>1</u>	4	251
96	Cox GF	<u>2</u>	17	242
97	Oechslin EN	<u>5</u>	13	242
98	Canter C	<u>2</u>	17	241
99	Clunie S	<u>1</u>	17	241
100	Hsu D	<u>2</u>	17	241

***TLCS** – Total Local Citation Score ;**TGCS** - Total Global Citation Score

4.0 Findings And Conclusion

- Based on the analysis undertaken for the present study, the following findings are drawn
- The author “Beekman RH” has occupies the First rank with 34 articles (1.9 %) and received 318 Global Citation Scores followed by “Martin GR” with 28 articles and received 266 Citations,
- 10048 authors are contributed 1805 Publications and received 20919 Citations. The range of cited references is 2-55.
- Authors “Newburger” has received highest number of citations with 1176 for 19 Papers,335 authors are received more than 100 citations. 6965 authors doesn't have the citations.
- It found that the citation range is 1-742 and highly contributed authors are 71.

5.0 References

- i. **Alhaider, I., Ahmed, K. M., & Gupta, B. (2015).** Pharmaceutical research in the Kingdom of Saudi Arabia: A scientometric analysis during 2001–2010. *Saudi Pharmaceutical Journal*,23(3), 215-222. doi:10.1016/j.jsps.2013.07.008
- ii. **Balasubramani, R, &Parameswaran, R. (2014).** Mapping The Research Productivity Of Banaras Hindu University: A Scientometric Study. *Journal of Theoretical and Applied Information Technology*,59(2), 367-371. Retrieved April 29, 2016.
- iii. **Gupta, B., Dhawan, S., & Gupta, R. (2016).** Social media research: A scientometric assessment of world publications output during 2001–2014. *J Sci Res Journal of ScientometricResearch*,4(3), 161. doi:10.4103/2320-0057.174865