



Indian Journal of Human Genetics: A Scientometric Study

V. Krishnan^{1*} and S. Raja²

¹Alagappa University, Karaikudi, Tamilnadu, India

²AUCB Public Library, Alagappa University, Karaikudi, Tamilnadu, India
veerakrish81@gmail.com

Available online at: www.isca.in, www.isca.me

Received 8th January 2016, revised 13th February 2016, accepted 3th March 2016

Abstract

The journal has spacious distribution in India and Global among the genetical experts and other medical scientists from academic institutions, hospitals and other research laboratories. The Indian Society of Human Society is dedicated to the development and scattering of learning of human hereditary qualities and related field in India. The society conducts yearly meeting, symposia and workshop to advance attention to the present improvement in the field, Present study has been discussed about year-wise distribution of contribution, authorship pattern, and degree of collaboration, mean, median, mode, range, variance and standard deviation, relative growth rate, doubling time, source-wise and top ten contributors out of 583 authors and other scientometric parameters during 2007-2013.

Keyword: Scientometric, Human Genetics, Scientometrics, Relative Growth Rate, India.

Introduction

In 1969, Vassily V. Nalimov and Z. M. Mulchenko authored what might as well be called the expression "scientometrics" ('naukometriya') (Nalimov and Mulchenko, 1969. As the name would infer, this term is for the most part utilized for the investigation of all parts of the writing of science and innovation. The term had increased wide acknowledgment by the establishment in 1978 of the journal *Scientometrics* by Tibor Braun in Hungary. By subtitle, *Scientometrics* incorporates every quantitative part of the study of science, correspondence in science, and science approach¹. Not long after its establishment, Nalimov turned into the (main) Consulting Editor. Some other early papers by Nalimov which supported the beginning control of *Scientometrics* include: Nalimov², Nalimov and Mulchenko³, Nalimov et al.⁴. Much of scientometrics is undefined from bibliometrics, and much bibliometric exploration is distributed in the diary, *Scientometrics*. All things considered, the quick and substantial yield of science and innovation into people in general space is writing (papers, licenses, and so forth). Interestingly, the center of bibliometrics, not with standing some wide-ambit definitions, has dependably been prevalently on the writing as such of science and grant, while there is something else entirely to science and innovation for scientometricians to quantify and dissect than its writing yield; e.g., the acts of analysts, the socio-authoritative structures, innovative work administration, the part of science and innovation in the national economy, legislative strategies towards science and innovation, et cetera. *Indian Journal of Human Genetics* is one of the leading quarterly journals in the field of human genetics published by Med know Publications and Media Pvt., Limited, Mumbai. The Study explores year-wise research output, relative growth rate, authorship pattern, Degree of collaboration and rank-wise author's contributions during the period 2007-2013.

Review of Literature

Niloofer Hodhodinezhad, et al.⁵ broke down that the analysts of Islamic nations in the Middle East need to-count distributed 20384 bibliographic records in General Internal Medicine area on WOS amid the years 1990 to 2011. 43042 essayists and 7415 colleges have had come in composing theories assets. Sri Amudha S and R Sevukan⁶ portrayed neuroscience is an unlimited and fast creating zone in fundamental logical examination with more headway consistently and normally high distribution in a brief timeframe is achievable. This study is led to investigate the examination yield of India amid the period 1999-2013. M. Gupta and Adarsh Bala⁷, inspected the exploration yield of India in epilepsy research amid 2002-11 on a few parameters including the development, rank and worldwide distributions offer, reference sway, offer of global shared papers, commitment of major collective accomplice nations, commitment of different subject-fields, commitment and effect of most beneficial establishments and creators, media of correspondence and attributes of high referred to papers. Balasubramani. C, Gopalakrishnan. S and Gnanasekaran. D⁸, distinguishes the development of exploration yield on Genetic Engineering. For this study, the information was downloaded from the multi discipline reference database "Scopus" and there were 165984 records contributed worldwide over a time of 40 years from 1974-2013. Among them, 59877 (36.07%) productions were contributed by USA and it holds in front of the rest of the competition. Darin J correll, Kamen V Vlassakov and igor Kissin⁹, concentrated on to survey the advancement in their usage utilizing scientometric examination. The accompanying scientometric records were utilized: 1) fame list, speaking to the offer of articles on a particular system (or a medication) in respect to all articles in the field of intense torment; 2) list of progress, speaking to the level of development in productions on a point

contrasted with the past period; and 3) list of desires, speaking to the proportion of the quantity of articles on a theme in the main 20 diaries in respect to the quantity of articles taking all things together (.5,000) biomedical diaries secured by PubMed. Distributions on particular subjects (ten methods and 21 medications) were evaluated amid four time periods (1993-1997, 1998-2002, 2003-2007, and 2008

publication with the volume number, locations, total number of authors, number of references cited by the article etc. The data was downloaded on MS-Excel sheets. Data was analyzed to meet the objectives mentioned above. For studying some parameters mentioned under the objectives. Complete count method have been followed for the analysis of the data.

Objectives: i. To study chronological growth of Indian Journal of Human Genetics, ii. To study authorship pattern of the published literatures, iii. To enumerate making of prolific contributors and their affiliated institutions, iv. To identify degree of collaboration among the authors, v. To know the cited documents and their numbers, vi. To find the growth of literature using RGR and DT.

Results and Discussion

Table-1 shows year wise research output of Indian Journal of Human Genetics from 2007 to 2013, 378 articles were published within seven years. It is observed that the output of seven years during the period of study from 2007 to 2013, in 2013 112 article has been published and has the position, in 2012 has occupied second position (80 articles), in 2011 has taken third place and in 2008 has a least position. During the seven years study period mean value is 54, median value is 38, mode value is 30, range value is 88, variance value is 1074.66 and the standard deviation is 32.78.

Methodology

The source for the study was retrieved from the journal’s website for seven years from 2007-2013. The data consists of year of

Table-1
Year-wise giving out of articles

Year	Vol. No.	No. of Issue Published	No. of Article Published	Mean	Median	Mode	Range	Variance	Standard Deviation
2007	13	3	30 (8.0%)	54	38	30	88	1074.66	32.78
2008	14	3	24 (6.3%)						
2009	15	3	30 (8.0%)						
2010	16	3	38 (10.0%)						
2011	17	3	64 (17.0%)						
2012	18	3	80 (21.1%)						
2013	19	4	112(29.6%)						
Total	-	-	378 (100%)						

Table-2
Relative Growth Rate (RGR) and Doubling Time (DT)

Year	Total No. of Article Publish34ed	Cumulative	W1	W2	RGR	Dt
2007	30	30	0	3.401	3.401	0.203
2008	24	54	3.401	3.988	0.587	1.180
2009	30	84	3.988	4.430	0.442	1.567
2010	38	122	4.430	4.804	0.374	1.852
2011	64	186	4.804	5.225	0.421	1.646
2012	80	266	5.225	5.583	0.358	1.935
2013	112	378	5.583	5.934	0.351	1.974
Total	378	756	5.934	6.628	0.694	0.998

$$R(a) = (\ln W2 - \ln W1) / (t2 - t1)$$

Where, W2 and W1 are the cumulative number of publications in year's t2 and t1.

$$Dt = 0.693/R(a)$$

Table-2 indicates the sequential distribution relative growth rate and doubling time of Indian Journal of Human Genetics during 2007 – 2013. It is observed that the RGR value has been decreased (3.401 – 0.694), but Doubling time value is being increased (0.203 – 1.852) during 2007 – 2010, but the Dt value is decreased in 2011 (1.646). Further the Dt value has been increased in the years 2012 and 2013.

Table-3 observed that more than four authored contributions (39%) is found to be most predominant, followed by four authored publications (25%) and three authors contributions is (18%), single author communications is (10%) and double author contribution (8%) occupies least position.

Degree Collaboration (DC) – an intermediary measure for exploration coordinated effort among the supporters was brought about by utilizing Subramaniam formula, as the

proportion of the quantity of synergistic commitments to the aggregate number of examination benefactors distributed in the control amid the specific timeframe. Mathematically it can be alluded a

$$DC = Nm/Nm+Ns \text{ or, } (DC) \text{ IJoHG} = 339/339+39 = 0.896$$

Where; Nm refers to collaborative communications and Ns indicates the number of single-authored communications.

Table-4. Shows that joint effort situation of the contributors of the Indian Journal of Human Genetics amid 2007 – 2013. Out of aggregate 378 correspondences, around 89.8% worked together by multiple – authors going from two to nine co – authors and rests were non – synergistic. Table additionally demonstrates the level of cooperation of Indian Journal of Human Genetics varied conflictingly from 0.800 to 0.946 amid the study period. Normal level of joint effort is noteworthy (0.896) yet not overpowering. Steady expand (6.3% to 28.0%) of multi - composed correspondences throughout the years of Indian Journal of Human Genetics plainly demonstrates pervasiveness of group or aggregate exploration amongst the cardiologist and other restorative res.

Table-3
Authorship Pattern of IJHG during 2007 – 2013

Year	No. of Communications.	Authorship Pattern				
		Solo	Two	Three	Four	>Four
2007	30	6	4	5	7	8
2008	24	4	6	4	6	4
2009	30	5	4	6	5	10
2010	38	6	3	8	9	12
2011	64	8	6	12	16	22
2012	80	4	5	14	20	37
2013	112	6	4	18	32	52
Total	378	39	32	67	95	145
Percentage		10%	8%	18%	25%	39%

Table-4
Degree of Collaboration IJHG

Year	Non-collaboration (Ns)	Percentage (%)	Collaboration (Nm)	Percentage (%)	Degree of Collaboration (DC)
2007	6	1.6	24	6.3	0.800
2008	4	1.0	20	5.3	0.833
2009	5	1.3	25	6.6	0.833
2010	6	1.6	32	8.5	0.842
2011	8	2.1	56	15.0	0.875
2012	4	1.0	76	20.1	0.950
2013	6	1.6	106	28.0	0.946
Total	39	10.2	339	89.8	0.896

Table-5
Types of document referenced in Indian Journal of Human Genetics 2007 –2013

Source	Year							Total	Percentage (%)
	2007	2008	2009	2010	2011	2012	2013		
Journal Articles	56	48	60	72	61	83	74	454	51
Books	42	36	32	45	26	34	17	232	26
Proceedings	24	14	23	14	10	6	12	103	12
Editorial Letters	10	8	14	6	12	4	9	63	7
Others	6	3	5	7	4	8	6	39	4
Total	138	109	134	144	113	135	118	891	100

Year-wise references were analyzed to understand how the number of references has changed during the period of 2007 – 2013. Table-4. It is observed that journal articles references (51%) is found to be most predominant, the books has taken second place (26%), proceedings has taken third place (12%) and the editorial letters has appeared in fourth place (7%) and the other sources has the last position (4%).

Conclusion

The analysis has found that maximum number of articles has been published in 2013 (29.6%), the relative growth rate is being decreased (3.401-0.94) to find out growth of literature of doubling time is increased (0.203 – 0.998). The article mean value is 54, the median value is 38, the mode is 30, the range is 88, the variance is 1074.66 and the standard deviation is 32.78, multi-authored contribution is more predominant (89.8%), journal articles are highly referenced by the contributors (51%). We hope that the study will be a useful source to the genetical experts and other medical scientists.

References

1. Wilson C.S. (2001). Informetrics. In: M.E. Williams, (Ed.). Annual Review of Information Science and Technology, Vol.34, Medford, NJ: Information Today, Inc. for the American Society for Information Science, 3–143.
2. Nalimov V.V. (1970). Influence of mathematic statistics and cybernetics on the methodology of scientific investigations, *Zavodskaya Laboratoriya*, 36(10), 1218–1226.
3. Nalimov and Mulchenko. (1969a). Eshcheraz k voprosu o kontseptsii eksponentsial' nogo rosta. [A word to add on

- the exponential growth concept.] *Nauchno-Tekhnicheskaya Informatsiya. Seriya*, 2(8), 12–14.
4. Nalimov V.V. et al. (1971), *Geograficheskoe Raspredelenie Nauchnoi Informatsii*. [Geographic Distribution of Scientific Information.] *Informatsionnye Materialy*. Moscow: an SSSR Nauchnyi Sovetpo Kompleksnoi Probleme Kibernetiki. [Informational Papers. Moscow: Soviet Academy of Science, Scientific Council on Cybernetics.] 2, 3–37.
5. Niloofar Hodhodinezhad et al. (2013). A Scientometric Study of General Internal Medicine Domain among Muslim Countries of Middle East (1991 – 2011). *Acta Inform Med.*, 21(1).
6. Sri Amudha S and R Sevukan (2014). Indian Neuroscience Research, 1999-2013: A Scientometric Analysis. *Collnet Journal of Scientometrics and Information Management*, 8(2)
7. Brij M. Gupta and Adarsh Bala (2013). Epilepsy research in India: A scientometric Analysis of Publications output during 2002-11. *Annals of Neuroscience*, 20(2).
8. Balasubramani C., Gopalakrishnan S. and Gnanasekaran D. (2013). Growth of Research Output in Genetic Engineering: A Scientometric Study. *Journal of Advances in Library and Information Science*, 3(3), 2014. 179-185.
9. Darin J correll, Kamen V Vlassakov and igor Kissin (2014). No evidence of real progress in treatment of acute pain, 1993–2012: scientometric analysis. *Journal of Pain Research* 2014, 7
10. Indian journal of human genetics (2016) A Scientometric Study <http://www.ijhg.com/>