A Scientometric Analysis of Rabies Research Based On CAB Direct Database

M. Sithi Jagannara
Assistant Librarian ,
Veterinary College and Research Institute,
Namakkal-637 002
sithijahanara@rediffmail.com
sithi@tanuvas.org.in

Abstract

The study analysed the research productivity of publications under rabies during the 1964 to 2015(50 Years) on CAB direct online database under different parameters including growth of publications under this research period, Year wise publication, Country wise publications and Language wise publication etc. CAB direct online database was used to retrieve the data for this study for the period from 1964 to 2015.The total number of records available under rabies for the above said period was 11,567 publications. The average number of publication of per year was 231.34. The English language occupied first place for publication of research in rabies and published papers in English in this study was 7701 out of 11,567.

Keywords

Scientometric; Rabies; Growth of publications; Country wise Publications; CAB direct online database.
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INTRODUCTION

Scientometrics is a discipline to analyse scientific publications and citations appended to the papers to gain an understanding of the structure of science, growth of science at world level, performance of a country in a particular domain, performance of institutions, departments/divisions and scientific eminence of an individual scientists. Scientometrics is concerned with the quantitative features and characteristics of science and scientific research. Emphasis is placed on investigations in which the development and mechanism of science are studied by statistical mathematical methods.

CAB DIRECT ONLINE DATABASE

CAB Direct is the most thorough and extensive source of reference in the **applied life sciences**, incorporating the leading bibliographic databases **CAB Abstracts** and **Global Health**. CAB Direct provides a convenient, single point of access to CABI database subscriptions. CAB International, formerly the Commonwealth Agricultural Bureaux, provides electronic access to its vast information resources via its new web-based platform 'CAB Direct' (online at http://www.cabdirect.org). With over ten million records dating back to 1973, covering plant, animal, economic and other subjects within agriculture, ecology and the environment. It is updated every week. Although CAB Direct does not provide complete articles, links to full text are provided, with access subject to an institution's subscription rights. At present 11,006,032 records available at CABI Direct. The latest updated is March 13, 2015.The greatest restriction to the widespread use of CAB Direct is the high licensing.

RABIES

Rabies is a viral illness spread via the saliva of an infected animal. This occurs usually through biting a human or another animal. Transmission can also occur through saliva touching an open wound or touching mucous membranes. Rabies is caused by the rabies virus. The virus infects the brain and ultimately leads to death. After being bitten by a rabid animal, the virus is deposited in the muscle and subcutaneous tissue. For most of the incubation period (which is usually one to three months), the virus stays close to the exposure site. The virus then travels via peripheral nerves to the brain and from there, again via peripheral nerves, to nearly all parts of the body. Symptoms can occur as fast as within the

first week of the infection. The early symptoms of rabies are much generalized and include weakness, fever, and headaches. Without a history of a potential exposure to a rabid animal, these symptoms would not raise the suspicion of rabies as they are very similar to the common flu or other viral syndromes.

REVIEW OF LITERATURE

Garg et al (2006) analysed the research output on Malaria during the period 1900 to 2000, using Pub Med and CABI CD-Rom which included Tropical Disease Bulletin Database. During 2005, Jeyasekar and Saravanan (2013) carried out a bibliometric study of the Journal of Forensic Sciences and found that there is an increase in publications on digital and multimedia aspects of forensic science and the literature related to application of DNA technology in forensic science is also increasing. Jones identified with the help of Web of Science (WoS) the most highly cited papers published in the Journal of Forensic Sciences between 1956 and 2005. The most highly cited paper was by Kasai, Nakamura and White concerning DNA Profiling. Jones (2003) reviewed the impact factors of forensic science and toxicology journals and opined that the impact factors of these journals are low because the visibility and size of the circulation of these journals are low. Sauvageau, Desnoyers and Godin (2009) studied the evolution of forensic science literature in two North American journals from 1980 to 2005 and found that forensic science literature in anthropology and DNA have increased significantly, while the contribution of questioned documents and ballistics have decreased. They also found out that the number of articles per year and the average numbers of authors per article have both increased almost two fold .Krishnamurthy et al (2009) studied world literature on diabetes between 1995-2004 using MEDLINE.

OBJECTIVES OF THE STUDY

The main objective of this study is to analyse the research performance of rabies research, as reflected in its publication output during 1970 – 2015. In particular, the study focuses on the following objectives:

1 To identify the growth of scientific literature on rabies research
2 To identify the year-wise distribution of rabies research
3 To identify the author -wise distribution of rabies research
4 To identify the countries wise in rabies research
5 To identify the high productive journals in this field
6 To identify the types of publications
7 To identify the language distribution of rabies research

MATERIALS AND METHODS

The study is based on the publication of data in the area rabies research retrieved from the CAB direct online data base for 50 years from1964 to 2015. The process used in keyword selection was rabies in Article and published between “1964” and “2015”. The CAB direct online database was used to retrieve the publications under the Rabies for 50 years from 1964 to 2015.The total number of records retrieved from CAB direct is **11, 567**. The collected data was tabulated under different parameters.

Table 1: Growth of publications under Rabies research

Si.no	year	No. of Publica-tions	Si.No	year	No.of Publica tions
1	2015	66	**26**	1990	250
2	2014	429	**27**	1989	263
3	2013	434	**28**	1988	348
4	2012	486	**29**	1987	197
5	2011	411	**30**	1986	197
6	2010	371	**31**	1985	323
7	2009	382	**32**	1984	199
8	2008	314	**33**	1983	190
9	2007	296	**34**	1982	307
10	2006	250	**35**	1981	267
11	2005	275	**36**	1980	225
12	2004	262	**37**	1979	212
13	2003	215	**38**	1978	241
14	2002	223	**39**	1977	217
15	2001	211	**40**	1976	264
16	2000	190	**41**	1975	249
17	1999	191	**42**	1974	183
18	1998	235	**43**	1973	208
19	1997	222	**44**	1972	182
20	1996	208	**45**	1971	179
21	1995	211	**46**	1970	11
22	1994	165	**47**	1969	10
23	1993	232	**48**	1968	1
24	1992	321	**49**	1967	1
25	1991	242	**50**	1964	1
Total : 11,567					

The study revealed that a total number of 11,567 publications were published under rabies during the period from1964 -2015. The highest number of publications is 486 in 2012,439 publications in 2013 and 429 publications in2014. The lowest publications is 1 in the year 1968,1967 and 1964.The average number of records published per Year is 234.The data was retrieved from CAB direct online database on 25.04.2015. The publication under rabies was suddenly increased from the year 2008 onwards.

Table 2: Year wise Publications (Under two segment)

Si.No	Year	No. of Publications
1.	1964 - 1991	4725
2.	1990 - 2015	6842
Total : 11,567		

It is evident from the above table -2 , The research publication under rabies was high during the year 1990-2015 compared with 1964 - 1991. The first half was low compared with second half of this research period.

Table – 3 Author wise productivity (TOP 10 only)

Sl.No.	Authors	Publications
1	Rupprecht, C. E.	241
2	Fooks, A. R.	193
3	Blancou, J.	170
4	Müller, T.	136
5	Pastoret, P. P.	135
6	Schneider, L. G.	116
7	Wandeler, A. I.	103
8	Aubert, M.	95
9	Koprowski, H.	90
10	Dietzschold, B.	86

This study revealed that Rupprecht, C. E. is the most prolific author in Rabies research who published 241 papers (2.08%) followed by Fooks, A. R. published 193 papers Blancou, J. (1.66%) published 170 papers (1.46).Table -3 and fig 2 shows that Top 10 prolific authors under Rabies research during the period 1964-2015(50 YEARS)

Table4: Country wise Publication (Top 10)

SL. NO	Country wize	No.of publications
1	USA (782)	782
2	Europe (492)	492
3	Brazil (442)	442
4	Germany (414)	414
5	China (391)	391
6	France (345)	345
7	India (296)	296
8	Canada (277)	277
9	UK (248)	248
10	German Federal Republic (225)	225

It is evident from the table -4 and fig-3 ,USA is the top most place in rabies research under CAB direct online database for the research period 1964 to 2015.The second place occupied by Europe in publication of Rabies research was 492 records and Brazil stands in Third place with 442 records. The top 10 countries under rabies research was noted. India stands in 7th place.

Table -5 Types of documents

Sl. No.	Types of documents	No.of Publications	Cumulative Total
1	Journal article	9441	9441
2	Miscellaneous	494	9935
3	Conference paper	407	10342
4	Correspondence	154	10496
5	Annual report	148	10644
6	Journal article; Conference paper	140	10784
7	Book	125	10909
8	others	658	11567
	Total	11567	

It is evident from the table -5 and fig.4, most of the records under rabies research was published as journal article. The highest type of documents published in rabies under CAB direct online data base during the study period from 1964-2015 is 9441 as Journal article.

Table 5: Source wise records (TOP TEN ONLY)

Sl.No.	Source Title	Records
1	Rabies Bulletin Europe	281
2	Vaccine	235
3	Journal of Wildlife Diseases	212
4	Veterinary Record	187
5	Journal of the American	181

	Veterinary Medical Association	
6	Journal of Virology	164
7	Bulletin de l'Office International des Epizooties	150
8	Journal of General Virology	129
9	Medycyna Weterynaryjna	114
10	Virus Research	97

From the above table shows that research publication were published in Rabies Bulletin Europe 281 records. The Rabies Bulletin Europe stands the first place of rabies publication. Vaccine occupies seconds place with 235 records and Journal of Wildlife Diseases occupies third place with 212 records.

Table 6: Language wise Publications (TOP 10)

Sl.No.	Language	No.of publications
1	English	7701
2	French	938
3	German	599
4	Chinese	484
5	Spanish	380
6	Portuguese	379
7	Russian	229
8	Polish	219
9	Italian	126
10	Dutch	100

It is evident from the table -6and fig -5 shows that the highest publication in Rabies research published is 7701 papers out of 11,567 during the research period 1964 to 2015 in English language. In this study, top 10 languages only selected. The lowest publication of rabies research papers published is Dutch language from the top 10 languages. The publication in French language and German language followed by English is 938 and 599 respectively.

CONCLUSION

The scientometric study on Rabies research based on CAB Direct online reveals that USA is the first place in RABIES research with 782 publications which is around 6.7% in global research output under Rabies. The authors are prefers to publish the research papers as Journal article in Rabies Bulletin Europe. The authors are selected the language to publish their papers in English with 7701 publications which is around 67% of global research output. The Indian veterinary scientists try to concentrate under Rabies research in future because India was not able to keep the place in first Top 10 countries in RABIES research globally. This type of studies are helping tool to analyse the research areas to bridge the gap in future also.

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