MAPPING OF LEPROSY LITERATURE: A BIBLIOMETRIC STUDY

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ABSTRACT: - *The paper has done a bibliometric analysis of leprosy research. The data for the study has been downloaded from national centre for Biotechnology (NCBI) Pub Med. The study analyses literature growth trends. It also examines research activities in different countries worldwide. To identify the core journal, this published Leprosy research literature. The study also identifies the active institutions, which published the Leprosy literature the most.*

1.   INTRODUCTION

There has been significant growth in the research literature on leprosy. Searching the literature in this area from the International database gives an insight into the pattern of growth of this literature. The paper intends to make a bibliometric study of leprosy-based literature. Bibliometric study is a simple statistical method of bibliography counting to evaluate and quantify the growth of a subject.

1. The data for the study was downloaded from the National Center for Biotechnology Information (NCBI) *Pub Med*.

2. *Pub Med* (Published Medical Literature) is an online version of *MEDLINE*, available free to anyone with internet access. *MEDLINE* is the National Library of Medicine's

bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, health care system and the preclinical sciences. The MEDLINE contains approximately 12 million records dating back to the mid-1960's.

2. OBJECTIVE

Objective of the study is to find:

- ➢ Growth trend of Leprosy Literature in India
- ➢ Research activities of other countries
- ➢ Authorship pattern
- ➢ Identify the core journals which publish the articles
- ➢ Indian institutes which publish predominantly in Leprosy research.

3. SCOPE AND LIMITATION

Present study is limited to PubMed data provide link to medical literature. It is a free search engine for accessing the Medline database of citation, abstracts and some full text articles on life science and bio-medical topics.

The study covers information available on leprosy in PubMed for the 10 years i.e. 2003-2012 will be used as a source for data collection which comes approximately 6981 sources.

4. METHODOLOGY

Data was collected from Pubmed. Data Analysis was done using various Bibliometrics Laws like Bradford's Law, Zipfs Law, Lotkas Law etc.

Bibliometric is recent development in Library and Information Science. It is an application of mathematics and statistical methods to books and other media of communication. Interpretation of data was made through tables, charts and graphs.

5. DATA ANALYSIS

5.1 Rank list of authors (First author)

Attempt was also made to give weightage to authors appearing on first position. Accordingly rank list based on first authors of overall proceedings was prepared and list of top five ranked authors is presented in table no. 1.

Table No. 1: Rank list of authors (First author)

Sr. No.	Authors	Rank	No of Authors	%	Cumulative Papers
1	Ghosh, Sudip Kumar	1	41	0.59	41
2	Matsuoka, Masanori	2	33	0.47	74
3	Lockwood, Diana Nj	3	29	0.42	103
4	Ishii, Norihisa	4	28	0.40	131
5	Ghorpade, Ashok Krishnarao	5	27	0.39	158
6	Parkash, Om	5	27	0.39	185
7	Geluk, Annemieke	6	25	0.36	210

8	Suzuki, Koichi	7	24	0.34	234
9	Makino, Masanao	8	23	0.33	257
10	Inamadar, Arun C	9	22	0.32	279
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In overall journals there were 6981 papers written by 31411 authors appearing at first position. The average numbers of papers per author were 22.22%. Ghosh, Sudip kumar was found most prolific first author with 41 papers contributed to the study. Matsuoka, Masanori was found second prolific author with contribution of 33 papers, followed by Lockwood, Diana NJ. with 29 papers respectively.

5.2   Rank list of authors (General)

In the general rank list of author's equal weightage was given to every author irrespective of their position, whether he/she is on first, second or on sixth position. Accordingly the rank list of authors of overall data was prepared and list of ten top ranked authors is presented in table no. 2

Table No. 2: Ranking of authors of overall proceedings

(Author may be on any position)

| Sr. No	Author Name	Rank	No of Authors	%	Cumulative Papers
1	Sarno, Euzenir Nunes	1	135	0.43	135
2	Ishii, Norihisa	2	132	0.42	267
3	Katoch, Vishwa Mohan	3	124	0.39	391
4	Brennan, Patrick J	4	97	0.31	488
5	Makino, Masahiko	5	96	0.31	584
6	Matsuoka, Masanori	6	83	0.26	667
7	Suzuki, Koichi	7	81	0.26	748
8	Lockwood, Diana N J	8	75	0.24	823
9	Richardus, Jan Hendrik	9	69	0.22	892
10	Chauhan, Devendra Singh	10	67	0.21	959
Truncated…					

It can be noted from table no. 2 that, in overall data Sarno, Euzenir Nunes was found most prolific author with 135 papers contributed to proceedings under study. Ishii, Norihisa was found second prolific author with contribution of 132 papers, followed by Katoch, Vishwa Mohan with 124 papers respectively.

5.3   Language wise distribution

Attempts have been made to analyze the citations based on the language of Publications and presented in table no. 3.

Table No.3: Language wise distribution

Sr. No.	Language	No. of Time	%
1	English	6406	85.36
2	Japanese	348	4.64
3	French	205	2.73
4	Portuguese	169	2.25
5	Spanish	119	1.59
6	German	83	1.11
7	Chinese	32	0.43
8	Russian	26	0.35
9	Italian	21	0.28
10	Polish	14	0.19
11	Nepali	13	0.17
12	Thai	12	0.16
13	Dutch	10	0.13
14	Croatian	8	0.11
15	Czech	6	0.08
16	Korean	5	0.07
17	Norwegian	5	0.07
18	Turkish	5	0.07
19	Arabic	3	0.04
20	Slovak	3	0.04
21	Swedish	3	0.04
22	Afrikaans	2	0.03
23	Hungarian	2	0.03
24	Danish	1	0.01
25	Hebrew	1	0.01
26	Persian	1	0.01
27	Taipei	1	0.01
28	Taiwan	1	0.01
	Total	**7505**	**100**
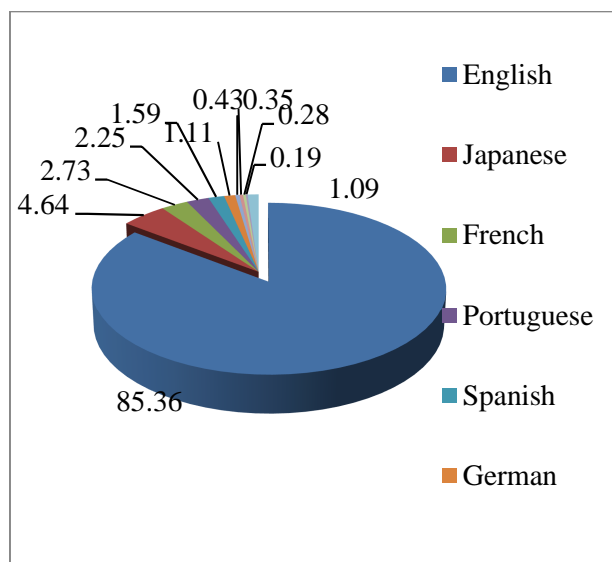
Figure No.1: Language wise distribution

Table No. 3 is about ranking of Language wise distribution. It shown that the journal published in English language at the top stage i.e. 6406 (85.36%), while at the second stage is Japanese with 348 (i.e.4.64%), There are article is published in French 205 (i.e.2.73%), after that Portuguese is 169 (2.25%) and Spanish languages with i.e.1.59% and 119 articles published.

5.4   Ranking of Publication Title

Core periodicals may be defined as the minimum number of periodicals, which are very useful to effect optimum bibliographical control of important scientific research contributions in a particular subject, out of the total number of primary periodicals available on that particular subject. As the term core periodicals is a relative term in a general way core periodicals which provide useful information for the broad research community and also easily accessible in libraries (Naidu, 1984).

Table No. 4: Ranking of Publication Title

Sr. No.	Journal Title	Rank	No of Journal	%
1	Leprosy review	1	653	9.35
2	Indian journal of leprosy	2	349	5.00
3	Nihon Hansenbyo Gakkai zasshi = Japanese journal of leprosy : official organ of the Japanese Leprosy Association	3	207	2.97
4	Indian journal of dermatology, venereology and leprology	4	194	2.78
5	International journal of leprosy and other mycobacterial diseases : official organ of the International Leprosy Association	5	150	2.15
6	International journal of dermatology	6	116	1.66
7	Journal of clinical microbiology	7	100	1.43
8	Revista da Sociedade Brasileira de Medicina Tropical	8	89	1.28
9	Memorias do Instituto Oswaldo Cruz	9	77	1.10
10	PLoS neglected tropical diseases	10	71	1.02
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Table No. 4 demonstrate a rank list of top ten journals, the study reveals that "Leprosy

Review" score the first rank which account to 653 (9.35%) of the total papers. The "Indian Journal of leprosy" scored second rank with 349 (i.e.5%) papers and "Japanese Journal of leprosy" 207 (i.e.2.97%) scored third rank in the rank list.

5.4.1 Place of publication

A rank list of places of publication against the number of citations was prepared and a list of top ten ranked places presented in table no. 5.

Table No. 5: Place wise Publication

Sr. No.	Place	Total	Rank	%
1	London	1174	1	16.82
2	Oxford	561	2	8.04
3	New Delhi	458	3	6.56
4	Washington	428	4	6.13
5	New York	378	5	5.41
6	Mumbai	377	6	5.40
7	Tokya	359	7	5.14
8	Rio De Janeiro	255	8	3.65
9	Amsterdam	194	9	2.78
10	Paris	170	10	2.44
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The table no. 5 notifies that, the London topped first with 1174 (16.82%) citations of the journals published from the city followed by Oxford 561 (8.04%) and New Delhi with 458 (6.56%) cited Journals.

Nine out of ten cities are from other countries and only two cities from India can obtain place in the top ten rank list. This indicates that researchers refer national and international publication for writing paper in Journals.

Journal published from Indian metro cities like New Delhi and Mumbai were cited under study. Journals from international places like New York, London, Amsterdam, Washington, Tokyo, Rio de Janeiro and Paris etc. were also cited under study.

5.4.2   State wise Publication

The top ten state wise distribution of publication was analyzed and presented in the table no. 6.

Table No. 6: State wise Publication

Sr. No.	State	cont	Rank	%
1	England	1826	1	26.16
2	Delhi	488	2	6.99
3	New York	480	3	6.88
4	Washington	429	4	6.15
5	Maharashtra	396	5	5.67
6	Tokyo	360	6	5.16
7	Rio De Janeiro	255	7	3.65
8	Maryland	221	8	3.17
9	California	215	9	3.08
10	North Holland	197	10	2.82

The table no. 6 shows that, the England topped first with 1826 (26.16%) citations of the journals published from the state followed by Delhi 488 (6.99%) and New York with 458 (6.88%) cited Journals.

5.4.3   Country of publication

Top ten countries while analyzing list of journals cited it becomes essential to determine geographical scattering of periodicals and thereby that of citations. The countries of origin of all publications could not ascertain from the citations themselves. These were obtained from the Ulrich's International Periodicals directory. Rank list of countries with the number of journals and citations shown in table no. 7.

Table No.7: Country of publication

Sr.No.	Country	Con	Rank	%
1	United States	1191	1	17.06
2	United Kingdom	1128	2	16.16
3	India	930	3	13.32
4	Japan	384	4	5.50
5	Brazil	366	5	5.24
6	Netherlands	219	6	3.14
7	France	203	7	2.91
8	Germany	194	8	2.78
9	Switzerland	138	9	1.98
10	China	87	10	1.25
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Top ten countries Table no. 7 observed that, United States with 1191 (17.06) on first rank, followed by United Kingdom 1128 (16.16%) is second rank and India 930 (13.32%)is third rank.

6.   CONCLUSION

The study is concerned about bibliometric analysis of leprosy research as reported in NCBI *Pub Med*. The study shows that leprosy research. Worldwide trend of papers show that the leprosy research work is being done on worldwide basis. Still, United States is the largest producer of leprosy related papers.

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