
Analysis of Research Productivity of Leprosy Disease Publications in India

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Abstract

The current framework for leprosy control is characterized by an integrated delivery of basic leprosy services provided at the peripheral level knowing the availability of its related literature. It includes the utilization and strengthening of integrated referral facilities to deal with leprosy related acute and chronic complications through well known of the research in the field. Such a strategy helps careful planning and different approaches at the national and sub national levels. This paper address the Leprosy research in India level and research production during the year 1960 to 2012.

Keywords

Literacy, information and communication technology, University Libraries.

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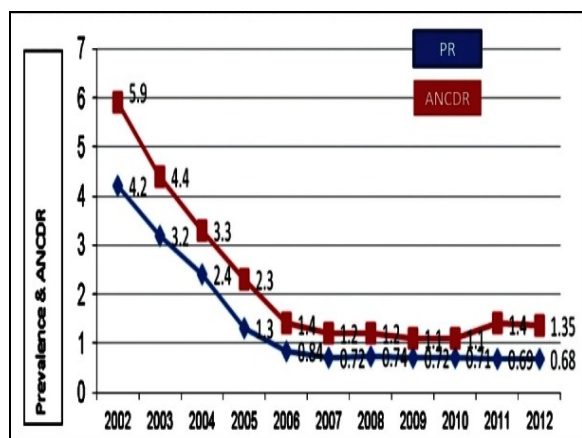
INTRODUCTION

Traditionally, India holds the unenviable position of the origin of leprosy. The disease is thought to have then spread, via trade and war, to China, Egypt, and the Middle East, and later to Europe and the Americas. From antiquity to modernity, Indian society treated leprosy singularly with respect to custom and law, a response shaped by both scientific knowledge and cultural attitudes. India's future challenges in leprosy control include multiple systems of medicine, stigma, and educational knowledge gaps. By looking through the historical window of leprosy in India, we propose that continued success in elimination and control requires a holistic approach addressing these issues. The future of leprosy control and elimination offers several challenges with both structural and cultural dimensions. Efforts to decrease health inequity due to poverty, especially in rural areas with limited access to health care, may help with leprosy control. However, if cultural beliefs are not addressed, increased availability may not translate into an appropriate increase in utilization. Cultural aspects of leprosy affecting its control include traditional medicine and stigma.

There are no reliable estimates as to how many people in India are afflicted with leprosy. No data were available regarding the prevalence of leprosy prior to 1955. With the progress of National Leprosy Eradication Programme (NLEP), leprosy prevalence became clear and by mid-seventies, extensive data were collected. By 1980, a total of 40 lakh cases were recorded, giving a prevalence rate of 58 per 10,000 population. In 1982, there was a major advance in the treatment of leprosy. Desikan (2012)¹ viewed the most striking achievement of the programme remains the reduction of prevalence to elimination level. In the fiscal year 2012, according to the government's figures, there were just over 135,000 fresh cases detected, which would mean about half of the world's total. Even these estimates look too rosy, however. They would suggest that in at least 12 Indian states children constitute only a tenth of all new cases, which is medically implausible. In a written statement, Health Minister Ghulam Nabi Azad said: "Out of 228,474 new leprosy cases detected worldwide in 2010, India contributed 126,800 cases, which is about 55.5 percent of global disease burden." In specific Uttar Pradesh reported the highest number (25,509 cases), followed by Bihar with 20,547 cases. Some other states: Maharashtra (15,498), West Bengal (10,321), Andhra Pradesh

(7,448), Chhattisgarh (7,309), Orissa (6,742), Madhya Pradesh (5,708), Jharkhand (4,448) Tamil Nadu (4,617) and Delhi (1,408).

The Enhanced Global Strategy for further reducing the disease burden requires endorsement and commitment from everyone working towards the common goal of reducing the disease burden due to leprosy and its detrimental physical, social and economic consequences to move closer to achieving the common dream of “world without leprosy”.



Trends of leprosy prevalence (PR) and Annual New Case Detection (ANCDR) in India in last two decades.²

Staples (2004)³ explained that the Leprosy continues to be stigmatized in a society with a deeply ingrained, though legally abolished, caste system, partly through lack of knowledge. Socially marginalized groups such as women, backward classes and the urban poor are less likely to seek care; they often view elimination efforts as problematic because they fail to account for their individual needs. As already noted by Raju and Kopparty(1995)⁴ community education and medical knowledge of the disease does not immediately dispel stigma. In one community, only 30% of individuals claiming a high knowledge of leprosy also had a positive attitude toward patients with leprosy. So studies are needed to better understand the causes of stigma and to assess the effect of interventions to decrease it. Relatives of people with leprosy are also negatively affected. Lack of knowledge about leprosy results in stigma and discrimination against both people who have or

have had leprosy as well as people they are related to or associate with it.

REVIEW OF LITERATURE

Review of related literature further avoids the duplication work that has already been done in that area. Yamazaki (1994) studied research activities in the field of life sciences in Japan. Nasir et al.,(1994) analyzed agricultural literature published in Malaysia between 1981-1990. Nagarajan (1995) examined the Research Productivity of Indian Scientists in Marine Biology.. Gomez, I et al.,(1990) studied the production in Spanish biomedical main-stream science in the years 1986-1989. Kundra (1996) investigated the collaborative research trends in Indian Medical sciences 1900-1945 and drew general and broad conclusion. Qin (1997) made a study on interdisciplinary nature of the articles published in scientific research. A.J. Vickers (1998) determined the following features of randomized trials in complementary medicine. Chapula et al., (1998) analyzed the preliminary result a bibliometric analysis of AIDS literature as produced in and or about Latin America and the Caribbean for the period 1980-1996.

DATA COLLECTION

The publications of Leprosy research in Indian from 1960-2012 were retrieved from Pub Med Database .Further the bibliographical details of the publications of Leprosy research consist of contribution to journal articles, books, conference proceedings, reviews and letter/ correspondence etc. The contribution of Leprosy research is covered by Pub Med of MEDLARS database. Papers published from addresses in India were downloaded from the above databases. For analysis, I have considered all papers published during 1960-2012

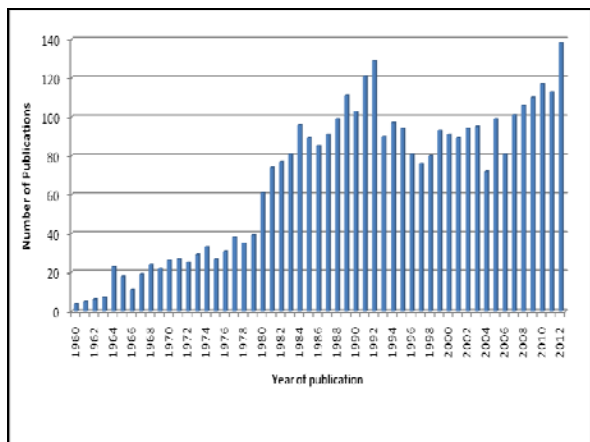
Leprosy research output at National level (India)

The following table shows the distribution of Leprosy research output at the national (India) level. The analysis of the research performance of Leprosy taken into year by year. The Leprosy research output at the national level was 4 articles in the year 1960 and it rose to 3583 in 53 years of the study period.

Table- 1:-Distribution of Leprosy research output at National level (India)

Sl.no	Year of publication	Number of article	Percentage	Cumulative number of article	Percentage
1	1960	4	0.11	4	0.11
2	1961	5	0.14	9	0.25
3	1962	6	0.17	15	0.42
4	1963	7	0.20	22	0.61
5	1964	23	0.64	45	1.26
6	1965	18	0.50	63	1.76
7	1966	11	0.31	74	2.07
8	1967	19	0.53	93	2.60
9	1968	24	0.67	117	3.27
10	1969	22	0.61	139	3.88
11	1970	26	0.73	165	4.61
12	1971	27	0.75	192	5.36
13	1972	25	0.70	217	6.06
14	1973	29	0.81	246	6.87
15	1974	33	0.92	279	7.79
16	1975	27	0.75	306	8.54
17	1976	31	0.87	337	9.41
18	1977	38	1.06	375	10.47
19	1978	35	0.98	410	11.44
20	1979	39	1.09	449	12.53
21	1980	61	1.70	510	14.23
22	1981	74	2.07	584	16.30
23	1982	77	2.15	661	18.45
24	1983	81	2.26	742	20.71
25	1984	96	2.68	838	23.39
26	1985	89	2.48	927	25.87
27	1986	85	2.37	1012	28.24
28	1987	91	2.54	1103	30.78
29	1988	99	2.76	1202	33.55
30	1989	111	3.10	1313	36.65
31	1990	103	2.87	1416	39.52
32	1991	121	3.38	1537	42.90
33	1992	129	3.60	1666	46.50
34	1993	90	2.51	1756	49.01
35	1994	97	2.71	1853	51.72
36	1995	94	2.62	1947	54.34
37	1996	81	2.26	2028	56.60
38	1997	76	2.12	2104	58.72
39	1998	80	2.23	2184	60.95
40	1999	93	2.60	2277	63.55
41	2000	91	2.54	2368	66.09
42	2001	89	2.48	2457	68.57
43	2002	94	2.62	2551	71.20
44	2003	95	2.65	2646	73.85
45	2004	72	2.01	2718	75.86
46	2005	99	2.76	2817	78.62
47	2006	81	2.26	2898	80.88
48	2007	101	2.82	2999	83.70
49	2008	106	2.96	3105	86.66

50	2009	110	3.07	3215	89.73
51	2010	117	3.27	3332	92.99
52	2011	113	3.15	3445	96.15
53	2012	138	3.85	3583	100.00
total		3583	100.00		



It is evident from a scrutiny of the table that Leprosy research output at the national level is high with 3.85% (138) publications in the year 2012, whereas in the year 1960 the output is low with 0.11%(4). Further up to the years 1976 and 1978 the output is nearly one percent. . Also in the years 1977, 1979, 1980 and 1993 to 1998 the output is two to three percent. In the year 1981 to 1988 and 1990 the output is near 2 percent. Further the years 1989, 1991, 1992, 2009 to 2012 the output is three to four per cent. So it may be concluded that the current rate of production is gradually and steadily grows.

Fig.-1:- Leprosy research output at National level (India)

Table 2: Relative Growth Rate and Doubling Time of Leprosy research output at the International (India) level

Sl.No	Year of publication	number of article	Cumulative number of article	W1	W2	DT	RG
1	1960	4	4		1.386		
2	1961	5	9	1.386	2.197	0.811	1.154
3	1962	6	15	2.197	2.708	0.511	1.832
4	1963	7	22	2.708	3.091	0.383	2.444
5	1964	23	45	3.091	3.807	0.716	1.308
6	1965	18	63	3.807	4.143	0.336	2.782
7	1966	11	74	4.143	4.304	0.161	5.816
8	1967	19	93	4.304	4.533	0.229	4.096
9	1968	24	117	4.533	4.762	0.230	4.077
10	1969	22	139	4.762	4.934	0.172	5.432
11	1970	26	165	4.934	5.106	0.171	5.459
12	1971	27	192	5.106	5.257	0.152	6.176
13	1972	25	217	5.257	5.380	0.122	7.647
14	1973	29	246	5.380	5.505	0.125	7.462
15	1974	33	279	5.505	5.631	0.126	7.436
16	1975	27	306	5.631	5.724	0.092	10.133
17	1976	31	337	5.724	5.820	0.096	9.700
18	1977	38	375	5.820	5.927	0.107	8.761
19	1978	35	410	5.927	6.016	0.089	10.490
20	1979	39	449	6.016	6.107	0.091	10.301
21	1980	61	510	6.107	6.234	0.127	7.348
22	1981	74	584	6.234	6.370	0.135	6.908

23	1982	77	661	6.370	6.494	0.124	7.557
24	1983	81	742	6.494	6.609	0.116	8.097
25	1984	96	838	6.609	6.731	0.122	7.693
26	1985	89	927	6.731	6.832	0.101	9.273
27	1986	85	1012	6.832	6.920	0.088	10.669
28	1987	91	1103	6.920	7.006	0.086	10.870
29	1988	99	1202	7.006	7.092	0.086	10.890
30	1989	111	1313	7.092	7.180	0.088	10.597
31	1990	103	1416	7.180	7.256	0.076	12.394
32	1991	121	1537	7.256	7.338	0.082	11.415
33	1992	129	1666	7.338	7.418	0.081	11.614
34	1993	90	1756	7.418	7.471	0.053	17.790
35	1994	97	1853	7.471	7.525	0.054	17.408
36	1995	94	1947	7.525	7.574	0.049	18.915
37	1996	81	2028	7.574	7.615	0.041	22.963
38	1997	76	2104	7.615	7.652	0.037	25.442
39	1998	80	2184	7.652	7.689	0.037	25.082
40	1999	93	2277	7.689	7.731	0.042	22.446
41	2000	91	2368	7.731	7.770	0.039	23.886
42	2001	89	2457	7.770	7.807	0.037	25.369
43	2002	94	2551	7.807	7.844	0.038	24.931
44	2003	95	2646	7.844	7.881	0.037	25.599
45	2004	72	2718	7.881	7.908	0.027	34.864
46	2005	99	2817	7.908	7.943	0.036	26.163
47	2006	81	2898	7.943	7.972	0.028	33.018
48	2007	101	2999	7.972	8.006	0.034	27.322
49	2008	106	3105	8.006	8.041	0.035	26.947
50	2009	110	3215	8.041	8.076	0.035	26.886
51	2010	117	3332	8.076	8.111	0.036	26.185
52	2011	113	3445	8.111	8.145	0.033	28.065
53	2012	138	3583	8.145	8.184	0.039	23.831
total		3583				0.131	14.249

The table 2 shows details about the Relative growth rate and doubling time of Articles on Leprosy research at the national level. In 1960, Leprosy research output at the national level just 4 articles and it rose to 3583 in 53 years of the study period. The relative growth rate falls. It could be observed that its relative growth rate falls from 0.81 in 1960 to 0.04 in 2012. The study period records the mean relative growth rate of 0.13. The doubling time for publications on Leprosy research at the national level increased from 1.15 in 1960 to 23.83 in 2012.

The doubling time for publications at the aggregate level has been computed as 14.25 years. There is a steady increase in the number of Leprosy research output at the national level. However its, relative growth rate shows a *down* trend; it means the rate of increase is low in terms of volume: this is highlighted by the doubling time of Leprosy research output at the national level which is higher than its relative

growth rate.

CONCLUSION

As a result of the hard work and meticulously planned and executed activities, the country achieved the goal of elimination of leprosy as a public health problem, defined as less than 1 case per 10,000 population, at the National Level in the month of December, 2005. As on 31st December 2005, Prevalence Rate recorded in the country was 0.95/10,000 population. Leprosy research programmes have been slow to develop areas such as integration, multi-disciplinary research, involvement of people affected with and by leprosy, community-based rehabilitation and community participation. Hopefully, the progress made to date will be maintained rather advanced through the application

of the sustained political will of governments, ongoing research into basic understanding of the disease and improved treatments or vaccines. The most important step in eradication of any communicable disease is to knock out the last case. This can be achieved essentially by community participation for which vigorous information, education, communication activities are required. It is only the enlightened public that can provide the solution to any social or public health problem.

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