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Anemia Research in India: A bibliometric analysis of publications output during 1993–2013.

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Anemia Research in India: A bibliometric analysis of publications output during 1993–2013

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Abstract

This study is made an attempt to make the quantitative study of research output on anemia disease. Data of the present study is obtained from Scopus (http:// www.scopus.com) online multidisciplinary database for the period 1993–2013.The study reveals that 5085 papers were published during the period under study. The highest number of papers (739) is published in the year 2013 but it received 178 citations only. The minimum number (47) of papers is published in the year of 1996, but they have received 3245 citations. The study reveals that lowest number (0.56%) of citations received in the year 2013. The study also focuses on authorship pattern, degree of collaboration, most productive authors, subject pattern, major collaborative partners in India, most productive journals, active institutions and highly cited papers.

Keywords: *Bibliometrics; Anemia; Publication output; citation analysis, India*

Introduction

Anemia is a common condition among elders and it is a significant risk factor for increased morbidity and mortality, reducing not only functional capacity and mobility but also quality of life [1]. An abnormally low hemoglobin level due to pathological condition(s) is defined as anemia. Iron deficiency is one of the most common, but not the only cause of anemia. Other causes of anemia include chronic infections, particularly malaria, hereditary hemoglobinopathies, and folic acid deficiency. It is worth noting that multiple causes of anemia can coexist in an individual or in a population and contribute to the severity of the anemia [2]. However, many physicians continue to neglect the significance of anemia as a serious clinical condition in the elderly [3]. Anemia is a major cause of morbidity in cancer patients resulting in poor physical performance, prognosis and therapy outcome [4].

Anemia is measured according to the amount of hemoglobin, the protein that carries oxygen, in RBCs. The World Health Organization (WHO) defines anemia as less than 13 grams of hemoglobin per deciliter for men and less than 12 grams of hemoglobin per deciliter for women. Approximately three million Americans suffer from anemia. Women and people with chronic diseases are at highest risk of anemia [5].

Review of Literature

Gupta et al [6] studied Indian contribution in dengue fever research consisted of 910 papers, which increased from 27 papers in 2003 to 193 papers in 2012, witnessing an annual average growth rate of 28.19%. The average citation per paper scored by India was 3.27, the least among the top 15 most productive countries during 2003-12.

Gupta et al [7] analysed 37049 papers on mouth cancer, indexed in Scopus database during 2003-12, experiencing an annual average growth rate of 5.15 % and citation impact of 9.72. The 15 most productive countries account for 88.14 % share in world output, with largest share (26.79 %) from USA.

Gupta & Adarsh Bala [8] studied research output of India in Alzheimer's disease research during 2002-11. The study indicates that India ranks at 16th position (with 900 papers) among top 20 top countries with a global publication share of 1.33% (rising from 0.39% in 2002 to 2.36% during 2011) and an annual average publication growth rate of 31.92% during 2002-11.

Klaewsongkram and Reantragoon[9] analyzed the asthma research of Asia-Pacific countries during 1998-2007 using PUBMED database. The results found that Asia-Pacific countries, Australia and Japan are the leading countries in contributing the highest research output on asthma.

Kloft et al [10] compared 8874 publications (with 20.55% of their publications involving international collaboration and scoring a citation impact of 24.48 per paper) from UK and 3341 publications (with 27.63% of their publications involving international collaboration and scoring a citation impact of 17.62 per paper) in asthma research.

Gupta & Adarsh Bala[11] studied that Indian publications output on bone marrow research consisted of 2613 papers during 2003-12, which increased from 174 papers in 2003 to 397 papers in 2012, witnessing an annual average growth rate of 10.04%. The international collaborative share of India in overall bone marrow research was 11.56% during 2003-12, which increased from 10.43% during 2003-07 to 12.18% during 2008-12.

Raj Kumar Bhardwaj [12] studied a bibliometric study of literature on celiac disease. The study analysed 14356 papers published during the period. USA is found to be most productive country in celiac disease research which has 19.68% share of total

world publications. The study concluded that the significant area of celiac disease research remains the medicine which has (86.82 percent) share of total research output.

Jeyshankar and Rameshbabu [13] analysed the Leukemia research output carried out during the year 1960 – 2011. The study indicates that the overall growth rate of literature output is found to be positive with an increasing trend in leukemia research throughout the study period. Two and more authored papers constitute majority of the contribution and degree of collaboration had a maximum value of 0.96. The result shows that research development activities are on increasing trend in leukemia research in India.

Objectives of the Study

The main objective of this study was to analyze the research output of India on Anemia Disease in the national and global contexts, as reflected in its publications output during 1993-2013. The study has the following objectives: (i) To study the Indian research output, its growth, and global publications share and citation impact, (ii) to study the patterns of international collaboration and identification of major collaborators, (iii) to study the contribution by sub-fields, (iv) to study the most productive Indian institutions, (v) to identify the most prolific authors and their institutions, (vi) to identify the characteristics of highly cited papers.

Methodologies and Source of Data

This study Scopus multidisciplinary Database has been used to retrieve and extract relevant data on (http:// www.scopus.com/search/) Anemia in India and other most productive countries for the 21 years (1993-2013). An advanced search strategy involving Anemia as the keyword was used to search and download data using Title, Abstract, and Keywords fields together, resulting in downloading of 5085 records on India related to Anemia disease. A total of 5085 records were 31559 citations received to these publications were transferred into Microsoft Excel 2007, and data were analysed and tabulated based on the objectives.

Data Results

Year-Wise Growth of Publications on Anemia Disease

It is found that, a total 5085 research papers are published during the period 1993-2013, which have received 31559 citations. Table 1 indicates that the highest numbers of publications (739) was in 2012, which have received 178 citations with an average of 0.56 citations per publications. The second highest numbers of publications (723) was in 2013, which have received highest (497) citations with an average of 1.57 citations per publication in the year 2012. The highest number of citations (3245) was recorded in the

year 1996, followed by (2516) 1997. It is observed that the least number of publications have received highest number of citations during the period 1993-2005.

Table 1: Growth of Research Publication during 1993-2003

Sl. No	Year	TP	TC	ACPP
1	2013	739	178	0.56
2	2012	723	497	1.57
3	2011	595	383	1.21
4	2010	448	538	1.70
5	2009	402	532	1.69
6	2008	303	699	2.21
7	2007	268	632	2.00
8	2006	257	925	2.93
9	2005	209	1173	3.72
10	2004	178	1903	6.03
11	2003	206	1490	4.72
12	2002	170	2212	7.01
13	2001	117	2490	7.89
14	2000	113	2387	7.56
15	1999	74	2515	7.97
16	1998	82	2335	7.40
17	1997	56	2516	7.97
18	1996	47	3245	10.28
19	1995	39	2071	6.56
20	1994	36	2218	7.03
21	1993	23	620	1.96
Total		**5085**	**31559**	**100**

TP-Total Publication; **TC**-Total Citation; **ACPP**-Average Citation Per Publication

Anemia Disease Research Output in Different Document Type

Table 2 shows that the majority (74.71%) of the papers are published in articles, followed by 11.15% of papers in review, 8.32% of papers published in letter, 2.77% of papers in conference paper and 1.06% of papers are published in note whereas other types perform a poor (below 1%) show with negligible numbers.

Table 2: Document-Wise Publications Productivity of anemia disease, 1993-2013

Sl. No	Document Type	NP	Percent
1	Article	3799	74.71
2	Review	567	11.15
3	Letter	423	8.32
4	Conference Paper	141	2.77
5	Note	54	1.06
6	Editorial	48	0.94
7	Short Survey	29	0.57
8	Article in Press	11	0.22
9	Book Chapter	11	0.22
10	Erratum	2	0.04
	Total	**5085**	**100**

NP-Number of Publications

Year-Wise Authorship Pattern

Table 3 shows that highest number of papers is collaborative research in the field of anemia disease for the period of 1993-2013. Majority of the papers published are four authored (1069), followed by three authored (1051), two authored papers (830), five authored papers (665), above six authored (608), and six authored papers (469). The least number of papers (393) are single authored.

Table 3: Year-Wise Productivity Pattern of Authors in anemia disease, 1993-2013

Year	Single Author	Two Authors	Three Authors	Four Authors	Five Authors	Six Authors	>Six Authors	Total
2013	38	92	164	187	85	57	116	**739**
2012	36	112	143	158	95	77	102	**723**
2011	34	91	128	132	88	49	73	**595**
2010	39	75	87	90	53	47	57	**448**
2009	30	58	86	78	55	45	50	**402**
2008	22	46	78	57	48	23	29	**303**
2007	24	50	38	51	44	24	37	**268**
2006	28	43	50	41	29	32	34	**257**

2005	15	29	37	43	25	31	29	**209**
2004	21	38	38	34	21	5	21	**178**
2003	24	42	34	49	31	17	9	**206**
2002	20	37	41	34	21	8	9	**170**
2001	16	24	18	23	12	14	10	**117**
2000	16	18	27	23	15	6	8	**113**
1999	5	15	14	13	9	11	7	**74**
1998	6	20	19	17	9	6	5	**82**
1997	5	10	13	12	8	3	5	**56**
1996	4	9	11	9	4	8	2	**47**
1995	6	6	9	9	4	3	2	**39**
1994	3	10	8	6	7	2	0	**36**
1993	1	5	8	3	2	1	3	**23**
Total	**393**	**830**	**1051**	**1069**	**665**	**469**	**608**	**5085**

Degree of Collaboration

In order to determine the strength of Collaboration (DC), the following formula Suggested by **Subramanyam** (1984) [14] has been employed. The degree of collaboration in different years calculated as per the equation proposed by Subramanyam is presented in Table 4 and it shows that the degree of collaboration ranges from 086 to 0.96. The mean value is found to be 0.91.

$$DC = \frac{Nm}{Nm + Ns}$$

Table 4: Degree of Collaboration in Publications Output on Anemia disease, 1993-2013

Sl. No	Year	NS	NM	(NS+NM)	DC
1	2013	38	701	739	0.95
2	2012	36	687	723	0.95
3	2011	34	561	595	0.94
4	2010	39	409	448	0.91
5	2009	30	372	402	0.93
6	2008	22	281	303	0.93
7	2007	24	244	268	0.91
8	2006	28	229	257	0.89
9	2005	15	194	209	0.93

10	2004	21	157	178	0.88
11	2003	24	182	206	0.88
12	2002	20	150	170	0.88
13	2001	16	101	117	0.86
14	2000	16	97	113	0.86
15	1999	5	69	74	0.93
16	1998	6	76	82	0.93
17	1997	5	51	56	0.91
18	1996	4	43	47	0.91
19	1995	6	33	39	0.85
20	1994	3	33	36	0.92
21	1993	1	22	23	0.96
Total		**393**	**4692**	**5085**	**0.91 (Mean value)**

DC= Degree of Collaboration; **NM**= Number of Multi authored papers; **NS**= Number of Single authored papers; **NS+NM=** Number of Single authored papers+ Number of Multi authored papers

Most Productive Indian Authors in Anemia Disease

Fifteen authors have been identified as productive authors who have published 18 or more research papers in anemia disease (Table 5). These 15 authors together contributed 537 papers with an average of 35.8 papers per author during 1993-2013. Eight authors have published higher number of papers than the group average (35.8). They are: R. Saxena with 67 papers, followed by K. Ghosh (61 papers), R.B. Colah (47 papers), M. Mahapatra (43 papers), R.K. Marwaha (37 papers), N. Varma (35 papers), H.P. Pati and V.P.Choudhry (32 papers each).

Table – 5: Top (15) Most Productive Indian Authors in Anemia disease, 1993-2013

Sl. No	Name	Address	Total Papers
1	R. Saxena	Department of Medicine, All India Institute of Medical Sciences, New Delhi	67
2	K. Ghosh	Institute of Immunohaematology, ICMR, Mumbai	61
3	R.B Colah	Institute of Immunohaematology, Mumbai (ICMR)	47
4	M. Mahapatra	Department of Hematology, All India Inst. Of Medical Sciences, New Delhi	43

5	R.K Marwaha	Advanced Pediatric Center, PGIMER, Chandigarh	37
6	N. Varma	Postgraduate. Inst. Of Med. Educ./Res., Chandigarh	35
7	H.P Pati	Department of Haematology, All India Inst. Of Medical Sciences, New Delhi	32
8	V.P. Choudhry	Department of Haematology, All India Inst. Of Medical Sciences, New Delhi	32
9	T. Singh	Department of Pathology, Maulana Azad Medical College, New Delhi	28
10	S. Sharma	Department of Pediatric Surgery, Institute of Medical Sciences, Banaras Hindu University, Varanasi	28
11	S. Varma	Department of Internal Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh	28
12	D. Mohanty	Institute of Immunohaematology (ICMR), Mumbai	28
13	N. Marwaha	Department of Transfusion Medicine, PGIMER, Chandigarh	25
14	T. Seth	Department of Hematology, All India Institute of Medical Sciences (AIIMS), IRCH Building, New Delhi	23
15	J. Chandra,	Department of Pediatrics, Lady Hardinge Medical College, New Delhi	23
	Total		**537**

Indian Anemia Disease Research Output in Terms of Different Subjects

India's publication output in Anemia Disease during 1993-2013 has been distributed twenty seven subjects. Table 6 shows that the highest publications output came from Medicine with 4109 papers and 62.78% share, followed by Biochemistry, Genetics and Molecular Biology (768 papers and 11.73% publications share), Pharmacology, Toxicology and Pharmaceutics (464 papers and 7.09% publications share), Immunology and Microbiology (260 papers and 3.97% publications share), Agricultural and Biological Sciences (234 papers and 3.58% publications share), Veterinary (153 papers and 2.34% publications share). Other subjects have share of less than two percent.

Table - 6: Subject-Wise Research Output in Anemia disease during 1993-2013

Sl. No	Subject	Total Papers	Per cent
1	Medicine	4109	62.78
2	Biochemistry, Genetics and Molecular Biology	768	11.73
3	Pharmacology, Toxicology and Pharmaceutics	464	7.09
4	Immunology and Microbiology	260	3.97
5	Agricultural and Biological Sciences	234	3.58
6	Veterinary	153	2.34
7	Nursing	89	1.36
8	Environmental Science	86	1.31
9	Neuroscience	76	1.16
10	Social Sciences	67	1.02
11	Chemistry	34	0.52
12	Chemical Engineering	32	0.49
13	Health Professions	30	0.46
14	Engineering	27	0.41
15	Dentistry	24	0.37
16	Multidisciplinary	19	0.29
17	Computer Science	13	0.20
18	Mathematics	11	0.17
19	Earth and Planetary Sciences	8	0.12
20	Economics, Econometrics and Finance	7	0.11
21	Physics and Astronomy	7	0.11
22	Decision Sciences	7	0.11
23	Materials Science	6	0.09
24	Business, Management and Accounting	5	0.08
25	Psychology	5	0.08
26	Arts and Humanities	3	0.05
27	Energy	1	0.02
	Total*	6545	100.00

*Anemia Research in India the total output is more than real output because quite a lot of journals are classified in more than one discipline.

Most productive journals in Anemia Disease

Twenty high productive journals published 1450 research papers in anemia disease, which accounts for 28.5% of the total output of India during 1993-2013.

Table 7 shows the contribution of the most productive journals during the period 1993-2013. Indian Journal of Pediatrics is the highly productive journal with 209 (4.11%) publications, followed by Indian Pediatrics with 177 (3.48%), Journal of Association of Physicians of India with 121 (2.38%), Indian Journal of Hematology and Blood Transfusion with 17 (2.30%) and Indian Journal of Pathology and Microbiology with 111 (2.18%). Rest of the journals contributed less than two percent.

Table 7: **List of Most productive Indian journals publishing papers in Anemia disease, 1993-2003**

Sl. No	Name	Total Papers	Rank	Percentage
1	Indian Journal of Pediatrics	209	1	4.11
2	Indian Pediatrics	177	2	3.48
3	Journal of Association of Physicians of India	121	3	2.38
4	Indian Journal of Hematology and Blood Transfusion	117	4	2.30
5	Indian Journal of Pathology and Microbiology	111	5	2.18
6	Indian Journal of Medical Research	93	6	1.83
7	Journal of the Indian Medical Association	87	7	1.71
8	Journal of Clinical and Diagnostic Research	77	8	1.51
9	BMJ Case Reports	59	9	1.16
10	National Medical Journal of India	52	10	1.02
11	Journal International Medical Sciences Academy	49	11	0.96
12	Indian Journal of Medical Sciences	47	12	0.92
13	Indian Journal of Animal Sciences	46	13	0.90
14	Indian Journal of Gastroenterology	45	14	0.88
15	Indian Journal of Dermatology Venereology and Leprology	42	15	0.83
16	Medical Journal Armed Forces India	41	16	0.81
17	Hematology	39	17	0.77
18	Journal of Postgraduate Medicine			
19	Indian Journal of Pharmacology	38	18	0.75
20	Indian Veterinary Journal			
	Total	**1450**		

Internationals Collaboration in India's Publication Output

The total number of Indian papers involving international collaboration during 1993-2013 is 1154, accounting for 22.69% share in the cumulative publications output of India in anemia disease research. Table 8 shows the major international collaborators (106 countries) from which 25 countries have published 12 or more collaborative papers with India during 1993-2013. United States was the major collaborating partner of India during 1993-2013 accounting 4.98% of collaborative publications, followed by United Kingdom (1.57% share), Australia and Germany (0.85% share) and France (0.81% share). Switzerland, Canada, Italy, Japan, Spain, Thailand and Netherlands accounted for publication share varying from 0.47% to 0.73%. Singapore, China, Belgium, Taiwan, Saudi Arabia, South Korea, Brazil, Pakistan, Poland, Malaysia, Sweden, Russian Federation and Indonesia accounted for publication share varying from 0.24% to 0.39% each during 1993-2013.

Table - 8: **Contribution of major collaborative partners of India in Anemia disease, during 1993-2003**

Sl. No	Country	Total Papers	Percentage	Rank
1	United States	253	4.98	1
2	United Kingdom	80	1.57	2
3	Australia	43	0.85	3
4	Germany	43	0.85	4
5	France	41	0.81	5
6	Switzerland	37	0.73	6
7	Canada	35	0.69	7
8	Italy	34	0.67	8
9	Japan	29	0.57	9
10	Spain	27	0.53	10
11	Thailand	25	0.49	11
12	Netherlands	24	0.47	12
13	Singapore	20	0.39	13
14	China			
15	Belgium	19	0.37	14
16	Taiwan	18	0.35	15
17	Saudi Arabia			
18	South Korea	17	0.33	16
19	Brazil	16	0.31	17
20	Pakistan	15	0.29	18

21	Poland			
22	Malaysia			
23	Sweden	13	0.26	19
24	Russian Federation	12	0.24	20
25	Indonesia			

Research Profile of Most Productive Indian Institutions in Anemia Disease

The top 15 most productive Indian institutions involved in anemia research have published 57 and more papers each during 1993-2013. Amongst the most productive15 institutions involved in anemia research together have contributed 32% share (with 1631 papers) in the cumulative publications output of India in anemia research, with an average of 68% papers per institution. In Anemia research four Indian institutions have registered higher publications (hundred or above) than the group average. These are All India Institute of Medical Sciences, New Delhi with 373 papers followed by Postgraduate Institute of Medical Education and Research Chandigarh (268 papers), Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow (121papers), Christian Medical College, Vellore (100 papers). Rest of the institutions has less than hundred papers.

Table 9: Productivity of top 15 Indian Institutions in Anemia disease research, 1993-2013

Sl. No	Name	Total Papers	Percentage
1	All India Institute of Medical Sciences, New Delhi	373	7.34
2	Postgraduate Institute of Medical Education and Research, Chandigarh	268	5.27
3	Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow	121	2.38
4	Christian Medical College, Vellore	100	1.97
5	King Edward Memorial Hospital, Pune	88	1.73
6	Lady Hardinge Medical College, New Delhi	85	1.67
7	Maulana Azad Medical College, New Delhi	78	1.53
8	Kasturba Medical College, Manipal	71	1.40
9	University College of Medical Sciences, New Delhi	70	1.38
10	Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry	68	1.34
11	Tata Memorial Hospital, Mumbai	65	1.28

12	Institute of Medical Sciences, Varanasi	64	1.26
13	Institute of Immunohaematology, Mumbai	62	1.22
14	Chhatrapati Shahuji Maharaj Medical University, Lucknow	61	1.20
15	Bhagwat Dayal Sharma Post-Graduate Institute of Medical Sciences, Rohtak	57	1.12
	Total	1631	
	Total Papers in India	5085	
	Share of Top 15 Institutions in India's Output	32.07	

Highly cited research papers in anemia disease

Table 10 analyzes the top 10 most highly cited papers of India in anemia research during 1993-2013. 10 papers published by India have received more than 200 citations per paper. Of these 10 highly cited papers, 6 appeared as articles and as 4 review papers. Of these 10 papers, 5 were international collaborative papers, and remaining 5 have no collaboration. These 10 papers appeared in 8 journals including 3 papers in *The Lancet* and other 7 journals have 1 paper each. The more times cited one is *"Dasatinib versus imatinib in newly diagnosed chronic-phase chronic myeloid leukemia",* which has been cited 543 times. The second highest citations (542) "*Maintenance pemetrexed plus best supportive care versus placebo plus best supportive care for non-small-cell lung cancer: a randomised, double-blind, phase 3 study"* and third highest citations is (480) "*What works? Interventions for maternal and child under nutrition and survival"*. The first three highly cited papers in anemia disease two papers appeared from *"The Lancet"*.

Table 10: Highly cited papers in anemia disease research during 1993-2013

Year of Publication	Title	Journal Title	Citation
2010	Dasatinib versus imatinib in newly diagnosed chronic-phase chronic myeloid leukemia	New England Journal of Medicine	543
2009	Maintenance pemetrexed plus best supportive care versus placebo plus best supportive care for non-small-cell lung cancer: a randomised, double-blind, phase 3 study	The Lancet	542
2008	What works? Interventions for maternal and child under nutrition and survival	The Lancet	480

2010	Biodegradable polymeric nano particles based drug delivery systems	Colloids and Surfaces B: Bio interfaces	437
2004	A review of imperative technologies for wastewater treatment II: Hybrid methods	Advances in Environmental Research	428
2012	Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010	The Lancet	346
2010	A phase III study of belatacept-based immune suppression regimens versus cyclosporine in renal transplant recipients (BENEFIT Study)	American Journal of Transplantation	267
2001	Chronic arsenic toxicity in Bangladesh and West Bengal, India - A review and commentary	Journal of Toxicology - Clinical Toxicology	233
2005	Free heme toxicity and its detoxification systems in human	Toxicology Letters	221
2005	Plasmodium vivax malaria	Emerging Infectious Diseases	208

Discussion and Conclusion

Indian scientists together have contributed 5085 research papers in Anemia disease research during 1993-2013. International collaboration of India in anemia research accounts for 15.75% during 1993-2013. USA is India's major collaborative partner during 1993-2013 with share of 4.98%, followed by United Kingdom (with 1.57% share), Australia and Germany (with 0.85% share) etc.

This study found that maximum number (92.27%) of publications is multi authored. The distribution of Indian anemia research under different subjects shows that the maximum research output (4109 papers) came from Medicine, followed by Biochemistry, Genetics and Molecular Biology (768 papers), Pharmacology, Toxicology and Pharmaceutics (464 papers), etc.

The research performance of 15 most prolific Indian authors in anemia research together contributed 537 papers and 9.47% of publications were during 1993-2013. Most productive three authors namely, R. Saxena (with 67 papers) from Department of Medicine, All India Institute of Medical Sciences, New Delhi, K. Ghosh (with 61 papers) and R.B Colah (47 papers) from Institute of Immunohematology, ICMR, Mumbai.

The 20 most productive journals publishing Indian research papers in Anemia research together accounts for 28.52% (1450 papers) share of the total research output of

India during 1993-2013. The maximum research papers (4109 papers) published Indian Journal of Pediatrics.

The research output of top15 Indian Institutions in Anemia research, first place occupied for All India Institute of Medical Sciences, New Delhi (373 papers), followed by Postgraduate Institute of Medical Education and Research, Chandigarh (268 papers), Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow (121), etc.

The top 10 most highly cited papers in anemia research during 1993-2013, Dasatinib versus imatinib in newly diagnosed chronic-phase chronic myeloid leukemia (with cited 543 times) from the journal of New England Journal of Medicine, followed by Maintenance pemetrexed plus best supportive care versus placebo plus best supportive care for non-small-cell lung cancer: a randomised, double-blind, phase 3 study (with 542 times cited) from the journal of The Lancet.

India is among the countries with high prevalence of anaemia. It is widely prevalent in all age groups, being particularly high among the most vulnerable; nearly 58 per cent in pregnant women, 50 per cent among non-pregnant non-lactating women, 56 per cent among adolescent girls, 30 per cent in adolescent boys and around 80 per cent in children under two years of age (Source: Ministry of Health and Family Welfare –Government of India). India is lagging behind on anemia disease research, and it is the responsibility of the leading organizations to promote the research in this field. Funding agencies and research institutions should come forward to invite researchers, and scientists to foster research and development on anemia disease for the benefits of mankind.

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