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Literature output on Childhood Schizophrenia; A Scientometric Study during 2009-2018.

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Abstract

Childhood schizophrenia is an extraordinary however extreme mental issue in which kids translate reality anomalous. Schizophrenia involves a range of problems with Intuitions (cognitive), behavior or emotions. The data was collected from PubMed data base using keyword childhood schizophrenia in India, the collected data was arranged in excel format for Analysis. The year wise growth of Literature Output on Childhood Schizophrenia shows 1075 research literature found during 2009-2018, Authorship pattern shows collaborative author contributed more number of research publications than single author contributions, 74 research papers was contributed by single author, Collaborative author contributed 1001 research papers, authors preferred language of publication is found to be English with 1008 (93.8) publications (Rank 1), the most productive or prolific journals contribution on Childhood Schizophrenia is found to be Schizophrenia research have contributed 91(8.47%), occupy the rank 1 position, the prolific authors, Monica Aas have contributed 7 (0.65%)research papers, the top 20 countries with their contributions on Childhood Schizophrenia Research USA have contributed 279(26%) occupy 1 rank, United Kingdom contributed 136(12.7%) occupy 2 rank, Australia contributed 54(5.02%) occupy 3rd rank and India contributed 16(1.49%) occupy 18th rank. the degree of collaboration using Subramaniam formula average Degree of Collaboration found to be 0.931. the relative growth rate and doubling time of research publications, the mean RGR is 0.56 and Doubling time 2.485 was found. From the most prolific affiliated institutions contributions on schizophrenia research was Childhood Psychiatry Branch, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA have contributed 31 research publications. It is observed that the most of the research papers were contributed from developed countries, Indian author contributions rank 18 in childhood schizophrenia research, it is in need that Indian researchers should contribute more research papers on childhood schizophrenia to give awareness to the researchers and share the UpToDate insight knowledge to the other researchers on globe.

Keywords: Scientometric Study, Schizophrenia, Childhood Schizophrenia, Psychiatric Disorder, Authorship pattern, Relative Growth Rate.

I. Introduction

Scientometric is the field of study which concerns itself with measuring and analyzing scientific literature.

Schizophrenia is an illness that affects the brain and leads to difficulties with thoughts, feelings and behaviors. The People approximately 1 among 100 was affected by Schizophrenia For 75% of people diagnosed with Schizophrenia it starts in adolescence or early adulthood¹.

Facts About Schizophrenia

Schizophrenia isn't brought about by terrible child rearing, youth injury, neediness or liquor. Schizophrenia isn't infectious. Although individuals with schizophrenia some of the time hear "voices" that others can't hear, this disease doesn't imply that you have "split" or "numerous" characters. Schizophrenia is anything but an individual's shortcoming; it is a concoction mind issue brought about by a mix of natural and hereditary components, and regularly activated by ecological stressors. Schizophrenia is certainly not a formative handicap or scholarly incapacity. Those with a finding of schizophrenia who are experiencing treatment are not more savage or forceful than the individuals who don't have schizophrenia.

Biochemical Factors

Certain substances in the cerebrum may cause a concoction awkwardness. For instance, the synapses "dopamine" and "serotonin" have both been connected to schizophrenia. Prescriptions can address irregular characteristics in the science of the cerebrum. Again nonetheless, biochemical components are just a halfway clarification as there isn't sufficient proof to show that a compound irregularity is the main source of schizophrenia.

II. Objective of the Study

To find the year wise growth of literature on Childhood Schizophrenia

To find the authorship pattern

To find the Preferred Language of author for publication

To find the 10 most prolific contributed journals

To find the Prolific Productive author

To find the top 20 Geographical wide contributions

To find the degree of collaboration

To find the relative growth rate and doubling time

To find the Prolific contributed journal

III. Review of Literature

Ahmed.M, Ritu Gupta and, Gupta²(2014). Analyzed the research performance of Indian research in American Academy of Dermatology (AAD) during 1998-2013, based on publications indexed in Scopus database. The global research output shows that USA occupy the first position 36.01% of publications made by their authors, U.K contributed 9.06 % occupy the 2nd rank, Germany contributed 7.1% occupy the third position. Indian author contributed 4.63% occupy the 9th rank. India have published 1432 publications in AADs and 9046 citations were received, the average rate of citations per publication is 6.32.35.89%. this study reveals research performance of Indian research in AADs during 1998-2013.

Mohandoss AA, Thavarajah R³ (2016) analyzed the data on quality and quantity of manuscript contribution by Indian Psychiatrist, retrieved the data from Indian Journal of Psychiatry, Scopus database, PubMed, Google Scholar, Publish or Perish, Mewknow, and handpicked from the other sources during 2010-2014. Indian psychiatrists contributed 350 research articles in 2010, 506 in 2014, the articles published between 2007-2009 were received 75.14% citations within three years

and the articles published in the year 2011-13 received only 20.36%. IJP is one of the most cited journals nearly 2.5 times compared with general medicine journals.

Gupta B.M. and Adarsh Bala⁴(2013) analyzed the data obtained from Scopus database using keyword ‘Schizophrenia’ during the year 2002-2011. Indian scientist contributed 882 research papers during this study period, India occupy the 15th position among top 20 countries, India contributed 1.58% in global publication share. Annual average growth rate was 21.80 with 3.60 as average citations per paper during study period. Indian International Collaboration on Schizophrenia research accounts for 26.98%, India and USA collaborative contribution share was 52.10%, UK 32.77%, USA received the highest citation of 12.56 per paper. Subject wise contribution shows medicine with 680(77.10%) papers, Neuroscience 24.38%, pharmacology, toxicology & pharmaceuticals 19.39%, psychiatry and psychology (12.81%), among 15 highly productive authors contributed 429 (48.64%) papers with average impact of 4.13 citations with the average h-index of 7.07 per author during 2002-2011. India have published 12 highly cited papers during the study period. It is in need that to increase the quantity and quality of research on Schizophrenia research to contribute more collaborative research to strengthening and modernize research infrastructure. Govt. of India should take initiation to prevent and treatment of schizophrenia through its National Policy for older persons, National Mental Health Program and so on.

Zafrunnisha¹.N and Pullareddy.V⁵ (2009) studied the authorship pattern and collaborative research in the field of Psychology. The data was collected from 141 Ph. D theses submitted to three universities during the period 1963 – 2003 are used as source material for this study. The collected data has 22,565 citations, from which 14374 journal citations are considered for the study, the study reveals the single author contributions are lower than multiauthor papers. The degree of collaboration found to be in Psychology is 0.53. most of the citation are received from USA producing 42.28% of cited journals. Majority of the cited journals of Psychology (94.54%) are in English language shows the preferred language of author is English.

Naveed S, Waqas A, Majeed S *et al* (2017) analyzed the selected 9,719 research papers published in seven psychiatric journals from 1980 to 2016 using Web of Science database, child psychiatry comparatively new subject in the field of medicine, in comparison to other specialties of medicine. It has evolved significantly over the last few years. Most of the literature in this field was contributed by United States of America and the European countries, with small contributions from the developing countries

IV. Material methods

The data was collected from PubMed data base using keyword ‘Childhood Schizophrenia’ during 2009-2018. The collected data was arranged in excel format using 2xml software.

V. Analysis

V.1 Year wise growth of research publication on Childhood Schizophrenia

Table 1

S. No	Year	No. of Articles	Cumulative	Percentage
1	2009	7	7	0.651
2	2010	72	79	6.698
3	2011	75	154	6.977
4	2012	100	254	9.302
5	2013	152	406	14.139
6	2014	111	517	10.326
7	2015	118	635	10.977
8	2016	146	781	13.581
9	2017	135	916	12.558
10	2018	159	1075	14.791
		1075		100

Table .1 shows the year wise growth of literature output on childhood schizophrenia research output from 2009-2018, there are only 7 publications are found in the year 2009. The growth of literature is going on in increased manner there are 159 publications are found in the year 2018.

V.2 Authorship pattern

Table 2

Author type	No. of Contributions	No. of Authors	Percentage
Single	74	74	6.884
Double	106	212	9.860
Triple	118	354	10.977
Four	128	512	11.907
Five	121	605	11.256
Six	114	684	10.605
Seven	90	630	8.372
Eight	79	632	7.349
Nine	57	513	5.302
Ten	46	460	4.28
Eleven	31	341	2.883
Twelve	24	288	2.233
Thirteen	28	364	2.605
Fourteen	13	182	1.209
Fifteen	1	15	0.093
Sixteen	17	272	1.581
Seventeen	7	119	0.651
Eighteen	1	18	0.093
Nineteen	6	114	0.558
Twenty	1	20	0.093
Twenty-one	1	21	0.093
Twenty-Two	1	22	0.093

Twenty-Three	2	46	0.186
Twenty-Four	1	24	0.093
Twenty-Five	2	50	0.186
Twenty-Six	1	26	0.093
Twenty-Seven	1	27	0.093
Twenty-Eight	1	28	0.093
Twenty-Nine	1	29	0.093
Thirty-Five	1	35	0.093
Two hundred and Fifty	1	250	0.093
Total	1075	6967	100

Table .2 shows the authorship pattern shows the number of contributions made by each pattern of authors. It reveals that 1075 research articles were published by 6967 authors. Single author contributed 74 research articles; other authors contributed 1001 research articles.

V.3 Language of Research Publications

Table 3

Language	No. of Contribution	Percentage	Rank
English	1008	93.8	1
French	18	1.67	2
Japan	11	1.0	3
Russian	8	0.7	4
Germany	6	0.56	5
Dutch	5	0.47	6
Greek	5	0.47	7
Spanish	5	0.47	8
Chinese	2	0.19	9
Finland	2	0.19	10
Hungary	2	0.19	11
Turkish	2	0.19	12
Italy	1	0.1	13
	1075	100	

Table 3 shows the preferred language of authors for their research work. There are 1008 (93.8) of publications are published in English language (Rank 1), French (1.67%), Japan 11(1.0%), Russian 8(0.7%), Germany 6(0), Dutch, Greek, Spanish, Chinese, Finland, Hungary, Turkish each contributed 2 articles, Italy have contributed 1 article,

V.4 Ranking the Journals

Table 4

S. No	Name of the Journal	Number of Contributions	Percentage
1	Schizophrenia research	91	8.47
2	Psychiatry research	56	5.21
3	Schizophrenia bulletin	53	4.93
4	Psychological medicine Journal of psychiatric research	47	4.37
5	Comprehensive psychiatry	20	1.86
6	Journal of the American Academy of Child and Adolescent Psychiatry	18	1.67
7	PLoS one	17	1.58
8	European psychiatry: the journal of the Association of European Psychiatrists	17	1.58
9	Journal of child and adolescent psychopharmacology	16	1.49
10	The American journal of psychiatry	16	1.49

Table 4 shows the top 10 prolific journals contributed on Childhood Schizophrenia, Schizophrenia research have contributed 91(8.47%), Psychiatry research 56(5.21%), Schizophrenia bulletin 53(4.93%), Psychological medicine Journal of psychiatric research 47(4.37%), Comprehensive psychiatry 20(1.86%),Journal of the American Academy of Child and Adolescent Psychiatry 18(1.67%),PLOS One(17(1.58%), European psychiatry: the journal of the Association of European Psychiatrists 17(1.58%),Journal of child and adolescent psychopharmacology 16(1.49%) and The American journal of psychiatry contributed 16(1.49%)

V.5 Top 10 Prolific Contributed authors

Table 5

Name of the author	No. of Contribution	Percentage
Monica Aas	7	0.65
Golam M Khandaker	6	0.59
Michael J Owen	6	0.59
Błażej Misiak	5	0.47

Xian-Bin Li	5	0.47
Aaron F Alexander-Bloch	3	0.28
Ahmet Koyuncu	3	0.28
Anand Mattai	3	0.28
Anna E Ordóñez	3	0.28
Anne Ranning	3	0.28

Table 5 shows the top 10 most prolific contributed authors, Monica Aas contributed 7 (0.65%) research papers, Golam M Khandaker, Michael J Owen each contributed 6(0.59%), Błażej Misiak, Xian-Bin Li each author contributed 5(0.47%) , Aaron F Alexander-Bloch, Ahmet Koyuncu, Anand Mattai, Anna E Ordóñez, Anne Ranning each author contributed 3(0.28%).

V.6 Top 20 Countries contributions on Childhood Schizophrenia Research

Table 6

Country	Number of contributions	Activity Index AI=country share/World Share X100	Rank
USA	279	26	1
UK	136	12.7	2
Australia	54	5.02	3
Canada	43	4	4
Netherland	37	3.44	5
France	36	3.35	6
Germany	36	3.35	7
Denmark	33	3.07	8
Turkey	32	2.98	9
Italy	30	2.8	10
Spain	29	2.7	11
China	26	2.42	12
Norway	19	1.77	13
Sweden	19	1.77	14
Brazil	18	1.67	15
Finland	17	1.58	16
Japan	17	1.58	17
India	16	1.49	18
Switzerland	12	1.12	19
Korea	10	0.93	20

Table 6 shows the top 20 countries with their contributions on Childhood Schizophrenia Research USA contributed 279(26%) occupy 1 rank, United Kingdom contributed 136(12.7%) occupy 2 rank, Australia contributed 54(5.02%) occupy 3rd rank and India contributed 16(1.49%) occupy 18th rank.

V.7 Degree of Collaboration

Table 7

Degree of collaboration was calculated by using Subramaniam formula

$$C = Nm / (Nm + Ns)$$

C= degree of collaboration, Nm =Number of Multiauthor, Ns= Number of Single authors

Year	No. of Articles (Nm+N _s)	Number of Single author (N _s)	Multi author (Nm)	Degree of Collaboration C=Nm/(Nm+N _s)
2009	7	0	7	1
2010	72	7	65	0.902
2011	75	11	64	0.853
2012	100	11	89	0.89
2013	152	16	136	0.895
2014	111	7	104	0.937
2015	118	7	111	0.940
2016	146	6	140	0.958
2017	135	6	129	0.955
2018	159	3	156	0.981
	1075	74	1001	Avg=0.931

Average Degree of Collaboration 0.931.

V.8 Relative Growth Rate and Doubling Time

Table 8

The Relative Growth Rate (RGR) is the increase in number of articles/ pages per unit of time. The mean relative growth rate over the specific period of time can be calculated from using the formula

$$1-2^R = \log W_2 - \log W_1 / T_2 - T_1$$

$1-2^R$ = mean relative growth rate over the specific period of interval

$\log W_1$ = log of initial number of articles/pages

$\log W_2$ = log of final number of articles /pages

$T_2 - T_1$ = the unit difference between the initial time and the final time.

Year	No. of Articles	Cumulative	W1	W2	RGR	DT=0.693/RGR
2009	7	7	0	1.946	-	
2010	72	79	1.946	4.369	2.423	0.286
2011	75	154	4.369	5.036	0.667	1.038
2012	100	254	5.036	5.537	0.501	1.383

2013	152	406	5.537	6.006	0.469	1.478
2014	111	517	6.006	6.248	0.248	2.794
2015	118	635	6.248	6.453	0.205	3.380
2016	146	781	6.453	6.660	0.207	3.348
2017	135	916	6.660	6.820	0.16	4.331
2018	159	1075	6.820	6.980	0.16	4.331
	1075				mean=0.56	mean=2.485

Table 8 show the relative growth rate and doubling time of research publications, the mean RGR is 0.56 and Doubling time 2.485.

V.9 Top 10 Prolific Affiliated Contributed Institutions

Table 9

S.no	Name of the Affiliated Institute	Number of Contributions	Rank
1	Childhood Psychiatry Branch, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA.	31	1
2	King's College London, Institute of Psychiatry, Psychology and Neuroscience, London, United Kingdom;	8	2
3	MRC Social, Genetic, and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK;	6	3
4	Schizophrenia Research Institute, Sydney, Australia.	6	3
5	School of Psychiatry, University of New South Wales, Sydney, Australia.	6	3
6	Department of Forensic and Neurodevelopmental Sciences, King's College London, UK.	5	4
7	Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, United States.	5	4
8	Department of Psychiatry, University of Cambridge, UK; Cambridge shire and Peterborough NHS Foundation Trust, Cambridge, UK	5	4
9	Foundation Fundamental, Creteil, France; INSERM U955, Translational Psychiatry team, Creteil, France	5	4
10	NORMENT; K. G. Jepsen Centre for Psychosis Research, Division of Mental Health and Addiction, Institute of Clinical Medicine, University of Oslo, and Oslo University Hospital, Oslo, Norway.	5	4

Table 9 shows the most prolific affiliated institutions contributions on schizophrenia research, Rank1. 31 articles are contributed from Childhood Psychiatry Branch, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA, Rank 2. King's College London, Institute of Psychiatry, Psychology and Neuroscience, London, United Kingdom; contributed 8 articles, Rank 3 MRC Social, Genetic, and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK, Schizophrenia Research Institute, Sydney, Australia. And School of Psychiatry, University of New South Wales, Sydney, Australia have contributed each 3 articles.

Conclusion.

Schizophrenia is an illness that affects the brain and leads to difficulties with thoughts, feelings and behaviors. The data was collected from PubMed data base using keyword childhood schizophrenia in India, the collected data was arranged in excel format for Analysis.

The year wise growth of Literature Output on Childhood Schizophrenia table 1 shows 1075 research literature found during 2009-2018, Authorship pattern table 2 shows collaborative author contributed more number of research publications than single author contributed 74 research papers ,Collaborative author contributed 1001 research papers, preferred language of authors for their research work shows in table 3 that 1008 (93.8) publications are published in English language (Rank 1), table 4 . shows prolific journals contributed on Childhood Schizophrenia, Schizophrenia research have contributed 91(8.47%), occupy the rank 1 position, table 5 show the prolific contributed authors, Monica Aas contributed 7 (0.65%)research papers, table 6 shows the top 20 countries with their contributions on Childhood Schizophrenia Research USA contributed 279(26%) occupy 1 rank, United Kingdom contributed 136(12.7%) occupy 2 rank, Australia contributed 54(5.02%) occupy 3rd rank and India contributed 16(1.49%) occupy 18th rank. Table 7, shows the degree of collaboration using Subramaniam formula average Degree of Collaboration found to be 0.931. the relative growth rate and doubling time of research publications, the mean RGR is 0.56 and Doubling time 2.485 shown in table 8. Table 9 shows the most prolific affiliated institutions contributions on schizophrenia research, Rank1. 31 articles are contributed from Childhood Psychiatry Branch, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA. It is observed that the most of the research papers were contributed from developed countries, Indian author contributions rank 18 in childhood schizophrenia research, it is in need that Indian researchers should contributed more research papers on childhood schizophrenia to give awareness to the researchers and share the UpToDate insight knowledge to the other researchers.

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