Mapping the Research Output of Attention Deficit Hyperactivity Disorders Using Web of Science Database

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ABSTRACT: *This study analyze about the World Wide research output of "Attention Deficit Hyperactivity Disorders " during the last 05 years on several parameters including contribution & citation impact and highly cited papers etc. It attempts to measure authorship pattern, Year wise distribution of articles, journal wise distribution of publications, Ranking of authors based on publications and citations. Pictorial Representation was being done using VOS Viewer Software. Ranking of authors, Year wise distribution of publications, Ranking of Authors etc, are being done using the tools of Bibliometrics.*

Keywords: Hyperactivity, Disorder, Web of Science, ADHD, Special Education

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1. Introduction

Any of a range of behavioural disorders occurring primarily in children, including such symptoms has poor concentration, hyperactivity, and learning difficulties. ADHD used to be known as attention deficit disorder, or ADD. In 1994, it was renamed as ADHD. It is estimated that between 3 and 5 percent of children have attention deficit hyperactivity disorder (ADHD), or approximately 2 million children in the United States. It includes two types one is an inattentive type, with signs that include Difficulty staying focused on tasks or play activities, apparent listening problems, difficulty following instructions etc.., the second one is a hyperactive-impulsive type, with signs that include always seeming to be "on the go", excessive talking, difficulty waiting for a turn or in line, problems with interrupting or intruding and so on. They have difficulty controlling their behaviour without medicine or behavioural therapy.

Who Gets It?

ADHD affects 3 percent to 5 percent of all American children (approximately 2 million children). While typically diagnosed in children, adults can also have the condition. Adults with ADHD may be unaware they have the disorder, yet know they have difficulty getting organized and stay-ing focused. Everyday tasks such as waking up, getting dressed, organizing for the day's work, getting to work on time or being productive on the job can be major challenges for the ADHD adult.

Symptoms
ADHD symptoms appear over many months, often with impulsiveness and hyperactivity preceding those of inattention. Different symptoms may appear in different settings, depending on the demands the situation poses for the child's self-control.

2. Objectives

- To identify the year wise Distribution of publications;
- To determine Authorship pattern with Global Citation Scores;
- To analyze the Country collaboration;
- To study the source and journal wise distribution of publications;
- To visualize the keyword wise distribution of publications;
- To identify the highly cited papers in the Pollution Control concept.

3. Methodology

The data have download from the Web of Science Database and extracted and tabulated form using Histcite and visualizing the concept using VOS Viewer mapping Software. An advanced search strategy involving "Attention Deficit Hyperact Disorder" as the search string is used to search and download data of 9777 records related to Attention Deficit Hyperact Disorder and analyzed according to the scientometrics indicators.

3.1. Data Analysis and Interpretations

Year wise distribution of Publications
The author Faraone SV has contributed 153 publications with 1058 TLCS and 1724 TGCS cited references and ranked first. Buitelaar JK has contributed 98 publications with 511 TLCS and 1154 TGCS cited references and ranked second followed by Asherson P has published 87 publications with 584 TLCS and 1136 TGCS cited references. The next author Banaschewski T has published 87 publications with 562 TLCS and 1188 TGCS cited references.

Sl. No	Author	Recs	TLCS	TGCS
1	Faraone SV	153	1058	1724
2	Buitelaar JK	98	511	1154
3	Asherson P	87	584	1136
4	Banaschewski T	87	562	1188
5	Biederman J	76	666	1080
6	Franke B	74	506	1130
7	Ramos-Quiroga JA	72	279	701
8	Hodgkins P	66	259	442
9	Rohde LA	64	259	442
10	Lichtenstein P	62	366	750

Table 1. Shows that ranking of authors based on publications

Journal wise Distribution of Publications
Journal wise Distribution of publications reveals that JOURNAL OF ATTENTION DISORDERS published highest number of Articles 308 with 1080 TLCs & 1418 TGCS Cited References. This holds the topmost level next is that JOURNAL OF PLOS ONE

is 208 articles with 1098 TGCS. The remaining journals falls 169 and below in the concept of publication output in of attention deficit hyperact disorder.

Sl. No	Journal	Recs	TLCS	TGCS
1	Journal Of Attention Disorders	308	1080	1418
2	Plos One	208	0	1098
3	Journal Of Child And Adolescent Psychopharmacology	169	535	792
4	Journal Of Child Psychology And Psychiatry	166	1000	2301
5	Journal Of The American Academy Of Child And Adolescent Psychiatry	160	1285	2240
6	European Child & Adolescent Psychiatry	134	435	757
7	Journal Of Abnormal Child Psychology	132	806	1232
8	Research In Developmental Disabilities	127	327	817
9	Biological Psychiatry	118	960	2063
10	Psychiatry Research	108	229	515

Table 2. Shows that journal wise distribution of publications

Keyword wise Distribution of Publications

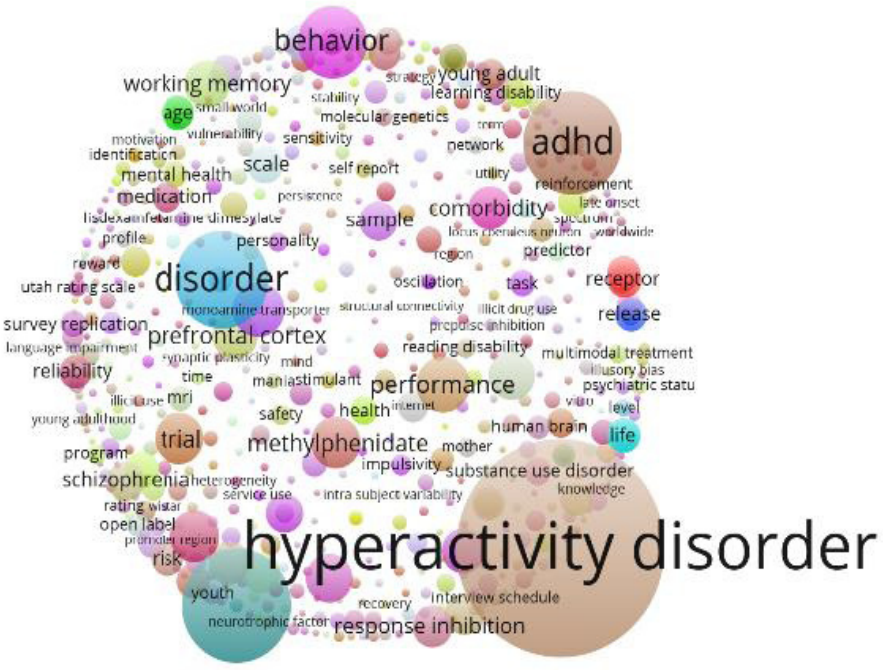
Frequently a Word Occurs in an Article then the results proves to be satisfying Zip's Law. The necessary words which appear Frequently/Simultaneously are one of the best indicators to the Article. Disorder is the Keyword which occurs 3824 times that is the one which also leads the top position. Next to that Attention Scored 3571 times and occupies second Stage and followed by other terms.

Sl. No	Keyword	Recs	TLCS	TGCS
1	DISORDER	3824	12151	21087
2	ATTENTION	3571	11830	18860
3	HYPERACTIVITY	3509	11758	18505
4	DEFICIT	3462	11641	18237
5	ADHD	2584	8931	14588
6	CHILDREN	2275	6092	13391
7	TREATMENT	782	2322	4771
8	DISORDERS	733	1698	7239
9	ADOLESCENTS	668	1916	4413
10	ADULTS	624	2401	4089

Table 3. Shows that frequency of words in the publications

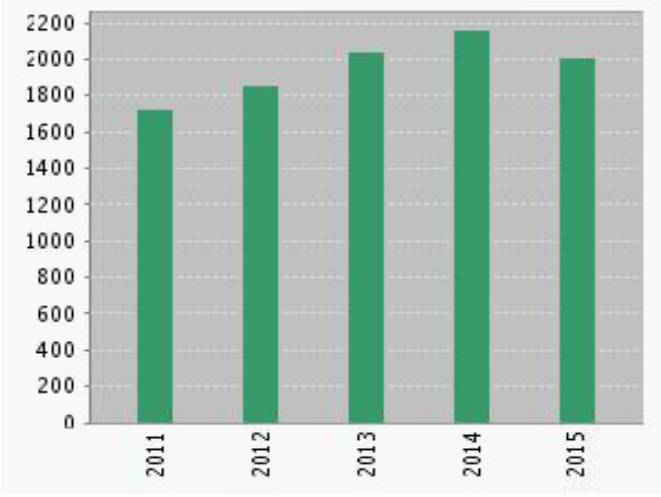
Year Wise Distribution of Publications

The below mentioned table clearly explains about the year wise distribution of publications for 05 years. During the year 2011, 1723 publications are published and index in Web of Science database. The top ranking publication is 2152 in the year 2014 and received 2505 TLCS and 6673 TGCS, 2015 with 2049 publications and received 356 TLCS and 1100 TGCS and followed by other years.



Sl. No	Publication Year	Recs	TLCS	TGCS
1	2011	1723	9651	26033
2	2012	1858	7977	20592
3	2013	1995	4861	13620
4	2014	2152	2505	6673
5	2015	2049	356	1100

Table 4. Shows that year wise distribution of publications



Document wise Distribution

The below mentioned Table depicts that Document Wise distribution of publications. In this study the Articles ranks to the highest publications with 7633 (20376TLCS and 49838 TGCS) Review with 1104 contributions, Meeting Abstract with 563 contributions, Editorial material with 246 Contributions and Letter with 127, Correction, Article, Book Chapter leads to less distribution of outputs.

Sl. No	Author	Recs	TLCS	TGCS
1	Article	7633	20376	49838
2	Review	1104	4576	16626
3	Meeting Abstract	563	15	17
4	Editorial Material	246	191	645
5	Letter	127	70	125
6	Correction	36	0	0
7	Review; Book Chapter	28	51	395
8	Article: Book Chapter	15	46	251
9	Article; Proceedings paper	9	21	103
10	News Item	8	2	14
11	Book Review	6	0	0
12	Reprint	2	2	4

Table 5. Shows that document wise distribution

Language-wise Distribution

The below mentioned table shows that English Language ranks to 9366 records with 25090 TLCS and 67440 TGCS, followed by the other languages such as Germany, Spanish, French etc.,

Sl. No	Language	Recs	TLCS	TGCS
1	English	9366	25090	67440
2	German	148	157	323
3	Spanish	134	48	157
4	French	43	9	34
5	Trukish	30	23	28
6	Portuguese	15	9	11
7	Italian	7	3	5
8	Russian	7	1	3
9	Czech	6	3	3
10	Polish	6	2	7

Table 6. Shows that language-wise distribution

Country Collaboration wise Distribution

In this table country collaborative wise distribution of analysis states that USA ranks in the top stage with 4365 publications with 14459 Total Local Citation Scores and 37804 Total Global Citation Scores and followed by UK, Germany, Canada and so on.

Sl. No	Author	Recs	TLCS	TGCS
1	USA	4365	14459	37804
2	UK	1050	4394	11965
3	Germany	865	2681	7191
4	Canada	691	2306	6743
5	Netherlands	607	1953	6170
6	Spain	463	1173	2764
7	Australia	398	1073	3528
8	Italy	311	1148	3567
9	People R China	256	591	1694
10	Switzerland	249	901	2967
24	India	73	121	376
30	Hungary	51	75	188

Table 7. Shows that country collaboration wise distribution of publications

Institutional Wise Distribution

Institution wise distribution found that Harvard University results 334 with (1483 TLCS, 3983 TGCS). Kings College London ranked second with 270 (1897 TLCS & 4141 TGCS) and followed by University of Toronto results 205 (843 TLCS & 2185 TGCS). The remaining Institutions have published less than 190 publications.

Sl. No	Institution	Recs	TLCS	TGCS
1	Harvard University	334	1483	3983
2	Kings College London	270	1897	4141
3	University Toronto	205	843	2185
4	Radboud University Nijmegen	182	825	2169
5	NYU	181	900	1932
6	University Calif Los Angeles	172	854	2270
7	Massachusetts Gen Hosp	164	1095	2261
8	SUNY Upstate Med University	164	1106	1819
9	Karolinska Institute	162	607	1512
10	Yale University	144	602	2144

Table 8. Shows that institutional wise distribution

4. Conclusion

• The highest rate of publications was found in the year 2014 with 2152 records. The remaining years shows moderate level of records.

• To Analyse the Document type wise distribution of publication Articles ranked to the top stage for high impact and reputation.

• Among the institutions the technical institutions are dominating (Harward University, Kings College London, Toronto university etc,)

• In collaboration with the country wise distribution of publications USA ranks to the top level.

The paradigm shift over the period is a gradual increase in the study period but good response is observed in the year 2014 & 2015. This study has highlighted quantitatively the contributions during the year 2011 to 2015 as reflected in Web of Science database.

During 05 years period contribution in terms of number of publications is significant for World Wide. Hence author contributions have to be encouraged and this will certainly help for more publications.

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