

PUBLICATION PRODUCTIVITY OF GERIATRIC PHYSIOTHERAPY LITERATURE: A SCIENTOMETRIC ANALYSIS

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Abstract: - In this study, researchers have attempted to emphasize Geriatric Physiotherapy Literature published during 2001-2010, in which an early tenure i.e., 2001-2006 has published less number of articles compared to recent years i.e., 2007-10. Authors have preferred multi-authored papers to publish. Researchers have also highlighted citation analysis, authorship pattern Collaborative Index, Degree of collaboration, publication productivity, and other Scientometric indicators. Hence the citation result reveals that the year 2002 has published highly qualitative papers, where an average citation per paper is 81.90. Arch. Phys. Med. Rehabil. Journal has been preferred by the authors where 208 (5.36%) papers were published during 2001-2010. Geriatric Physiotherapy Literature also follows Bradford's Law scattering.

Keywords: - **Publication Productivity, Scientometric, Authorship pattern, Doubling time, Citation Analysis,**

1.0 Introduction:

Scientometrics is one of the most significant procedures for the evaluation of scientific publications. Scientometrics deals with qualitative and quantitative approaches to scientific output, by applying scientometric indicators such as Publication Productivity, Authorship Pattern, Growth rate, citation analysis, etc... such kinds of studies help academic and research institutes to track the qualitative output and also quantify them. Geriatric Physiotherapy has also gained the attention of researchers who are involved in the medical field after COVID-19 much attention was given to Geriatric patients (Adeniji & Oyeyemi, n.d.). this kind of research helps upcoming researchers to get a clear picture of recent advancements.

2.0 Review of Literature: -

Many researchers have been contributing in the field of Scientometric to scrutinize literature which was published on different subjects. Some of the major Scientometric experts' works have been referred for this study to enumerate extracted data which was published in Geriatric Physiotherapy, and suitable indicators of Scientometric study are applied to as suggested by the experts.

3.0 Methodology: -

The present study deals with the literature that appeared in the Scopus database, researchers have analysed data by applying available Scientometric indicators, therefore required data extracted from the Scopus database by

providing suitable keywords, and further data has been transformed into MS-Excel spreadsheets. Data has been represented in tabular form and appropriate Graphs have also been to understand the quantitative data in a better manner. Researchers have also taken the assistance of the Zotero reference management tool to account for the references systematically.

4.0 Scope and Limitation: -

The study aims to scrutinize the data published on Geriatric Physiotherapy during 2001-2010. The main focus of the study is to highlight Geriatric Physiotherapy literature by applying Scientometric indicators such as year-wise distribution, authorship pattern, testing Bradford’s law of scattering, etc...; hence the study has been restricted to the data available in the Scopus database.

5.0 Objectives: -

The Present study deals with Geriatric literature that, appeared in the Scopus database during 2001-2010. Hence researchers have set the following objectives to study under the Scientometric framework.

1. To know the authorship pattern in Geriatric Physiotherapy literature
2. To map the Year-wise Distribution of Geriatric Physiotherapy Literature during;
3. To examine an application of doubling time;
4. To find out the Channels of Communication Used to publish Geriatric Physiotherapy Literature;
5. To scrutinize the Year-wise Distribution of Citations of Geriatric Physiotherapy literature;
6. To realize Top 10 Journals with the Highest citations in Geriatric Physiotherapy Literature;
7. To examine Bradford’s Law of Scattering in Geriatric Physiotherapy literature;
8. To assess range of references used in Geriatric Physiotherapy literature;

6.0 Data Interpretation and Analysis: -

6.1 Authorship Pattern in Geriatric Physiotherapy Literature During 2001-2010

Authorship Pattern in Geriatric Physiotherapy Literature During 2001-2010											
S. No.	Year	Single *	2*	3*	4*	5*	6 & More Authors	MAP	CI	DC	Total
1	2001	70	61	45	40	19	43	208	3.02	0.38	278
2	2002	52	70	56	47	27	49	249	3.25	0.49	301
3	2003	69	96	80	81	23	76	356	3.28	0.52	425
4	2004	98	110	82	54	47	79	372	3.17	0.45	470
5	2005	93	136	92	78	67	94	467	3.31	0.50	560
6	2006	79	105	109	72	71	104	461	3.49	0.57	540
7	2007	116	137	131	113	78	134	593	3.43	0.54	709
8	2008	98	114	176	131	105	146	672	3.61	0.60	770
9	2009	118	145	169	133	110	204	761	3.66	0.63	879
10	2010	98	165	165	140	125	234	829	3.79	0.70	927
	Total	891	1139	1105	889	672	1163	4968	3.48	0.57	5859

Table no. 6.1. reveals authorship pattern found in Geriatric Physiotherapy literature during 2001-2010. It states that the highest number of papers are authored by Six or more than six authors with 1163 (19.85%). Multi-author publications (84.79%) are more than single-author publications (15.21%). highest number of single-authored papers are found in the year 2009 with 118. The highest Collaborative Index was recorded in 2010, and the degree of collaboration also recorded in the same year i. e. 2010 with 0.70. the data also represented in the figure number 1.

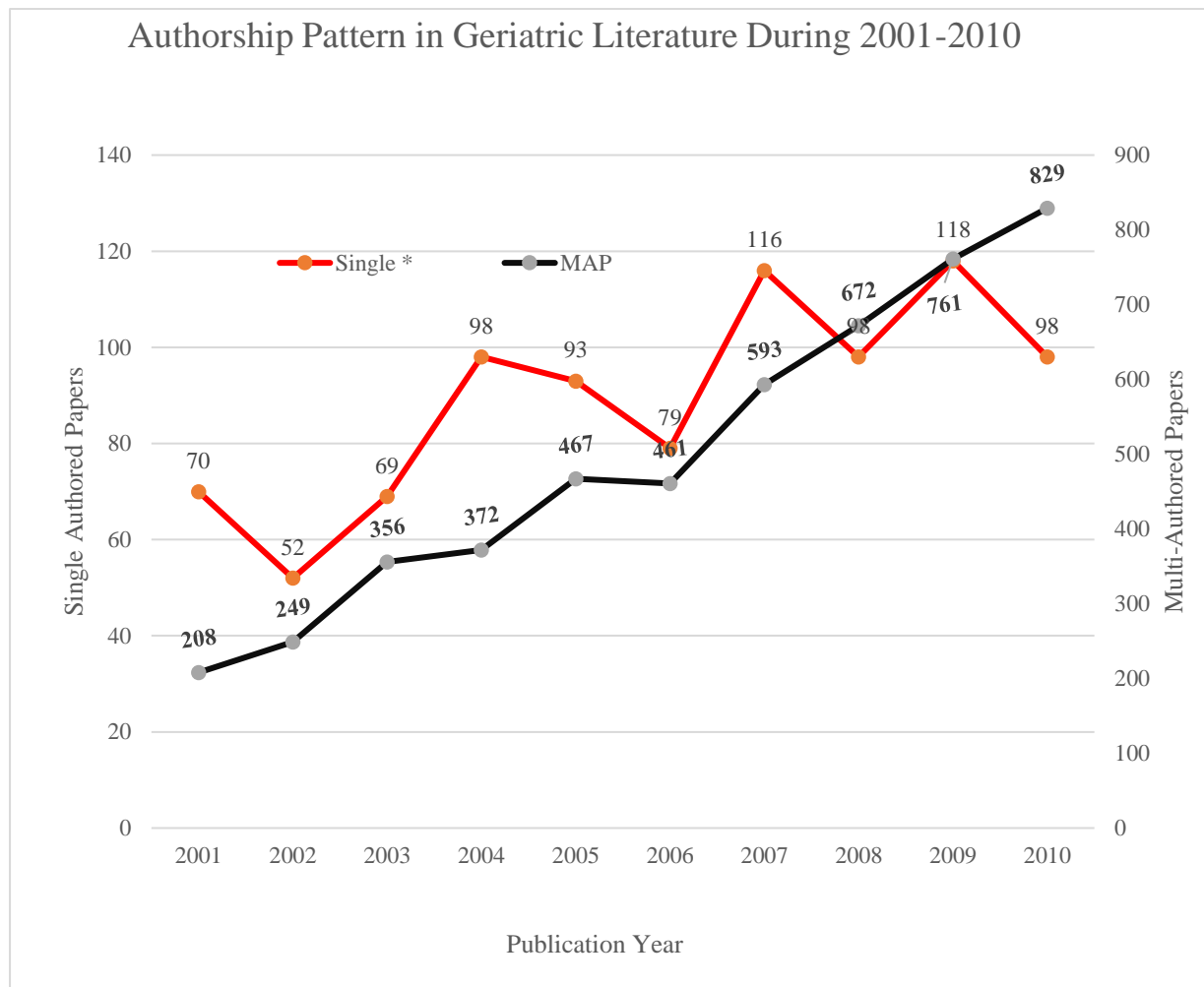


Figure 1: Authorship Pattern in Geriatric Physiotherapy Literature During 2001-2010

6.2 Year-wise Distribution of Geriatric Physiotherapy Literature during 2001-2010

Year-wise Distribution of Geriatric Physiotherapy Literature during 2001-2010				
Year	No. of Papers	%	Cumulative	Cumulative %
2001	278	4.74	278	4.74
2002	301	5.14	579	9.88
2003	425	7.25	1004	17.14
2004	470	8.02	1474	25.16
2005	560	9.56	2034	34.72
2006	540	9.22	2574	43.93
2007	709	12.10	3283	56.03
2008	770	13.14	4053	69.18
2009	879	15.00	4932	84.18
2010	927	15.82	5859	100.00
Total	5859	100.00		

Table no. 6.2. represents the year-wise distribution of Geriatric Physiotherapy literature published during 2001-2010, it has 5859 research papers in its credit. At the initial stage i.e., in the year 2001 we can see only 278 (4.74%) papers, but the highest number of papers published in the year 2010 with 927 (15.82%). In the graphical representation of data, the cumulative number of papers represents the drastic growth in the publication.

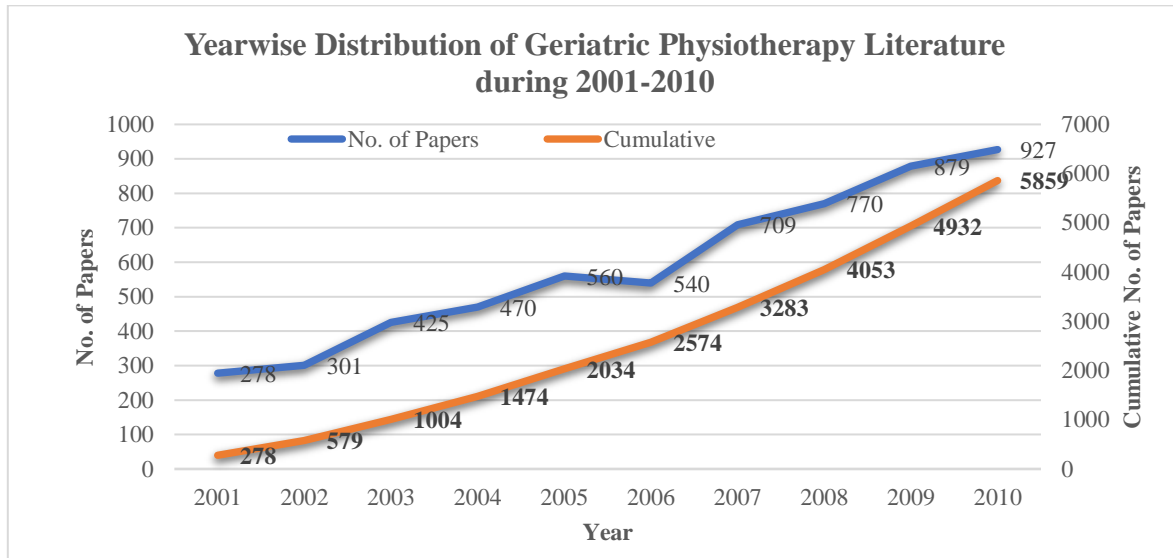


Figure 2: Year-wise Distribution of Geriatric Physiotherapy Literature during 2001-2010

6.3 Calculation of Relative Growth Rate and Doubling Time

Calculation of Relative Growth Rate and Doubling Time					
S. No.	Year	No. of Papers	Cumulative	RGR	Dt
1	2001	278	278		
2	2002	301	579	0.079	8.78
3	2003	425	1004	0.204	3.4
4	2004	470	1474	0.101	6.86
5	2005	560	2034	0.175	3.96
6	2006	540	2574	0.045	15.42
7	2007	709	3283	0.274	2.52
8	2008	770	4053	0.091	7.63
9	2009	879	4932	0.135	5.14
10	2010	927	5859	0.076	9.13
	Total	5859			

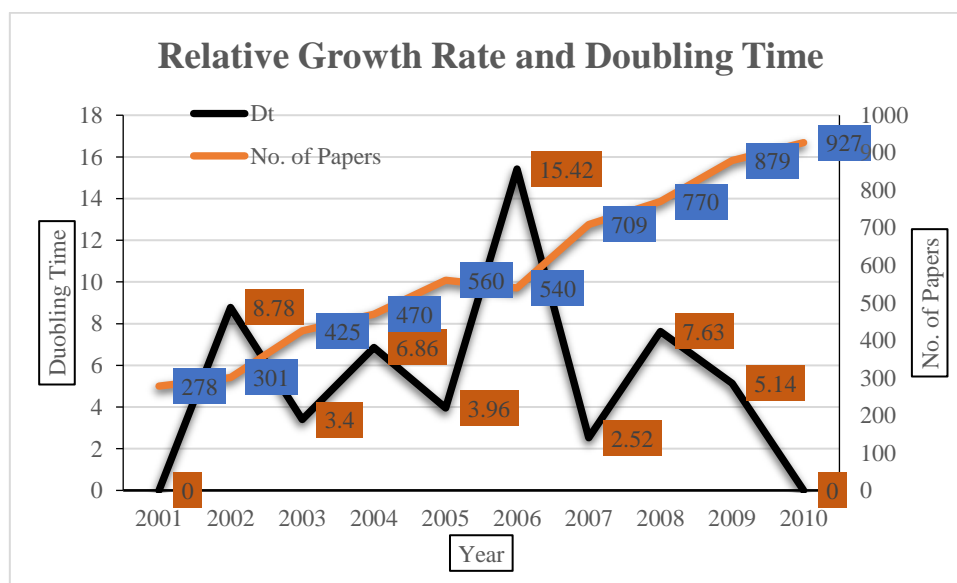


Figure 3: Calculation of Relative Growth Rate and Doubling Time

6.4 Channels of Communication Used in Geriatric Physiotherapy Literature during 2001-2010

Channels of Communication Used in Geriatric Physiotherapy Literature during 2001-2010							
S. No.	Channels of Communication	Total	%	Cumulative		Duration	
				No. of Papers	%	FPY	LPY
1	Arch. Phys. Med. Rehabil.	208	5.36	208	5.36	2001	2010
2	Clin. Rehabil.	136	3.51	344	8.87	2001	2010
3	Phys. Ther.	123	3.17	467	12.04	2001	2010
4	Disabil. Rehabil.	110	2.84	577	14.88	2001	2010
5	Age Ageing	62	1.60	639	16.48	2001	2010
6	J. Am. Geriatr. Soc.	59	1.52	698	18.00	2001	2010
7	J. Rehabil. Med.	54	1.39	752	19.39	2001	2010
8	Arch. Gerontol. Geriatr.	53	1.37	805	20.76	2002	2010
9	Am. J. Phys. Med. Rehabil.	49	1.26	854	22.02	2001	2010
10	Physiother. Theory Pract.	45	1.16	899	23.18	2001	2010
11	Gait Posture	43	1.11	942	24.29	2001	2010
12	Physiotherapy	42	1.08	984	25.37	2001	2010
13	J. Geriatr. Phys. Ther	41	1.06	1025	26.43	2006	2010
14	Neurorehabil. Neural Repair	41	1.06	1066	27.49	2001	2010
15	Aust. J. Physiother.	37	0.95	1103	28.44	2001	2009
16	Int. J. Ther. Rehabil.	37	0.95	1140	29.40	2001	2010
17	BMC Geriatr.	36	0.93	1176	30.32	2003	2010
18	Phys. Occup. Ther. Geriatr.	36	0.93	1212	31.25	2001	2010
19	Aging Clin. Exp. Res.	34	0.88	1246	32.13	2001	2010
20	BMC Musculoskelet. Disord.	31	0.80	1277	32.93	2004	2010
21	Stroke	30	0.77	1307	33.70	2001	2010
22	J. Gerontol. Ser. A Biol. Sci. Med. Sci.	29	0.75	1336	34.45	2001	2010
23	Adv. Physiother.	28	0.72	1364	35.17	2002	2010
24	J. Aging Phys. Act.	27	0.70	1391	35.87	2001	2010
25	Mov. Disord.	23	0.59	1414	36.46	2002	2010
26	J. Orthop. Sports Phys. Ther.	22	0.57	1436	37.03	2001	2010
27	J. Rehabil. Res. Dev.	22	0.57	1458	37.60	2001	2010
28	Spine	22	0.57	1480	38.16	2002	2010
29	J. Neurol. Phys. Ther.	21	0.54	1501	38.71	2004	2010
30	Arthritis Care Res.	19	0.49	1520	39.20	2002	2010
31	Gerontology	19	0.49	1539	39.69	2001	2009
32	Ann. Readapt. Med. Phys.	18	0.46	1557	40.15	2002	2008
33	Clin. Biomech.	18	0.46	1575	40.61	2001	2010
34	Hong Kong Physiother. J.	18	0.46	1593	41.08	2002	2009
35	Top. Geriatr. Rehabil.	18	0.46	1611	41.54	2001	2010

36	Australas. J. Ageing	16	0.41	1627	41.95	2003	2010
37	Geriatr. Aging	16	0.41	1643	42.37	2003	2009
38	Int. J. Rehabil. Res.	16	0.41	1659	42.78	2002	2010
39	Osteoporosis Int.	16	0.41	1675	43.19	2001	2010
40	Rigakuryoho Kagaku	16	0.41	1691	43.60	2002	2010
41	Br. J. Occup. Ther.	15	0.39	1706	43.99	2002	2010
42	Int. Urogynecol. J. Pelvic Floor Dysfunct.	15	0.39	1721	44.38	2002	2010
43	J. Adv. Nurs.	14	0.36	1735	44.74	2001	2010
44	Phys. Ther. Rev.	14	0.36	1749	45.10	2001	2008
45	Top. Stroke Rehabil.	14	0.36	1763	45.46	2001	2010
46	Brain Inj.	13	0.34	1776	45.80	2002	2010
47	Eur. J. Appl. Physiol.	13	0.34	1789	46.13	2001	2010
48	Man. Ther.	13	0.34	1802	46.47	2003	2010
49	PM R	13	0.34	1815	46.80	2009	2010
50	Int. J. Geriatr. Psychiatry	12	0.31	1827	47.11	2001	2010
51	J. Allied Health	12	0.31	1839	47.42	2001	2010
52	Phys. Med. Rehabil. Kurortmed.	12	0.31	1851	47.73	2002	2010
53	Z. Gerontol. Geriatr.	12	0.31	1863	48.04	2002	2010
54	BMC Health Serv. Res.	11	0.28	1874	48.32	2001	2010
55	BMC Neurol.	11	0.28	1885	48.61	2007	2010
56	J. Back Musculoskelet. Rehabil.	11	0.28	1896	48.89	2002	2010
57	J. Phys. Ther. Sci.	11	0.28	1907	49.17	2009	2010
58	Eur. J. Phys. Rehabil. Med.	10	0.26	1917	49.43	2008	2010
59	Eur. Spine J.	10	0.26	1927	49.69	2001	2010
60	Fizjoter. Pol.	10	0.26	1937	49.95	2003	2010
61	NeuroRehabilitation	10	0.26	1947	50.21	2001	2010
62	Physiother. Can.	10	0.26	1957	50.46	2009	2010
63	Physiother. Singap.	10	0.26	1967	50.72	2002	2010
64	Rev. Neurocienc.	10	0.26	1977	50.98	2008	2010
65	Rheumatology (UK)	10	0.26	1987	51.24	2002	2009
66	Scand. J. Caring Sci.	10	0.26	1997	51.50	2001	2010
67	9 Articles Published in 10 Different Journals	90	2.32	2087	53.82	2001	2010
68	8 Articles Published in 11 different Journals	88	2.27	2175	56.09	2001	2010
69	7 Articles Published in 16 different Journals	112	2.89	2287	58.97	2001	2010
70	6 Articles Published in 23 different Journals	138	3.56	2425	62.53	2001	2010
71	5 Articles Published in 30 different Journals	150	3.87	2575	66.40	2001	2010
72	4 Articles Published in 54 different Journals	216	5.57	2791	71.97	2001	2010
73	3 Articles Published in 75 different Journals	225	5.80	3016	77.77	2001	2010
74	2 Articles Published in 152 different Journals	304	7.84	3320	85.61	2001	2010
75	Each Article Published in 558 different journals	558	14.39	3878	100.00	2001	2010
	Total	3878	100.00				

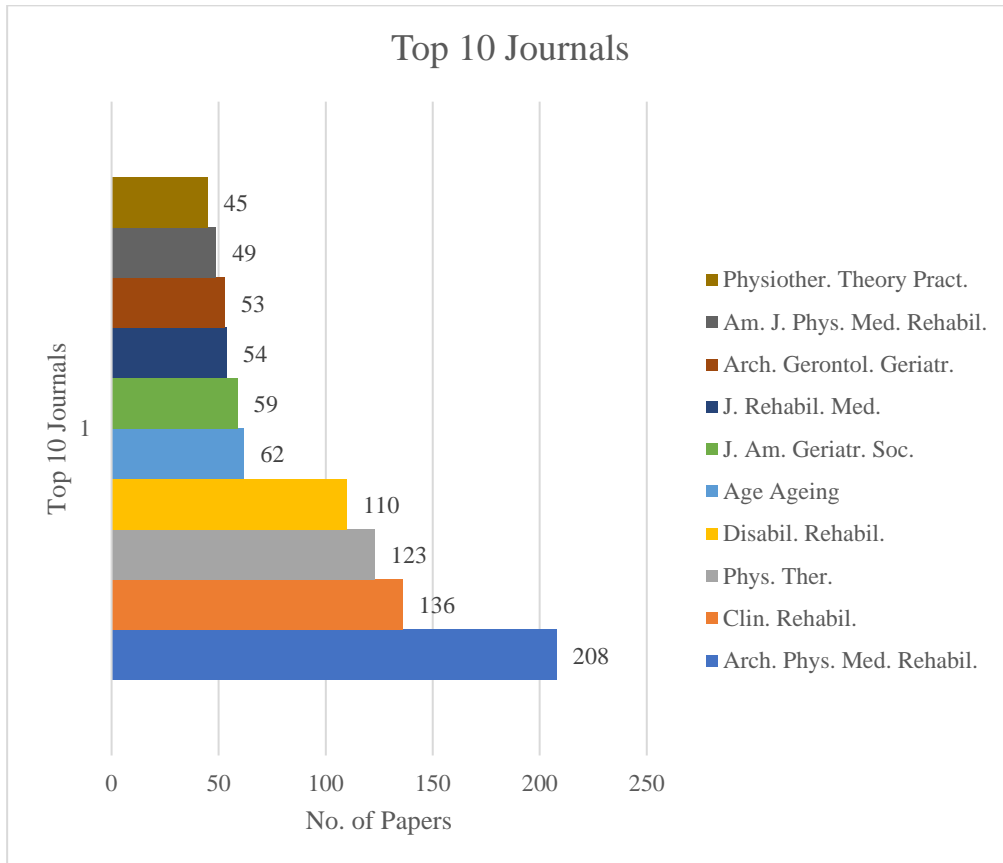


Figure 4: Channels of Communication Used in Geriatric Physiotherapy Literature during 2001-2010
 Table no. 6.4. represents the channels of communication used to publish Geriatric physiotherapy literature during 2001-2010. Geriatric physiotherapy literature was scattered in more than a hundred different journals, and the highest number of papers were published in Arch. Phys. Med. Rehabil. With 208 (5.36%), which was followed by Clin. Rehabil. With 136 (3.51%). Along with that, 558 different journals were selected by the author to publish 1 article. Top ten journals are represented in the figure no. 4 with their number of papers.

6.5 Year-wise Distribution of Citations of Geriatric Physiotherapy literature during 2001-2010

No. of Citations	Year-wise Distribution of Citations of Geriatric Physiotherapy literature during 2001-2010										Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
000-50	2838	2742	4266	3945	5120	5504	6955	8086	9872	11170	60498
51-100	2439	2868	5391	5247	6316	5281	8106	9143	9344	8245	62380
101-150	2134	3160	3296	4875	4677	5192	4618	5309	6168	4932	44361
151-200	2105	2759	3359	2702	3519	4396	3051	4139	4245	3970	34245
201-300	3045	3090	3517	4162	3209	3098	4009	2986	3919	4908	35943
301-500	2586	4076	4351	6382	5690	3647	3949	5157	5622	3995	45455
501-1000	1671	2648	1347	5974	537	2884	1377	4458	6137	6672	33705
1001-2000	0	3310	4063	0	0	1544	2637	3025	4584	1047	20210
2001-3746	2010	0	3134	0	0	0	0	6682	2212	0	14038
3747									3747		3747
Total	18828	24653	32724	33287	29068	31546	34702	48985	55850	44939	354582

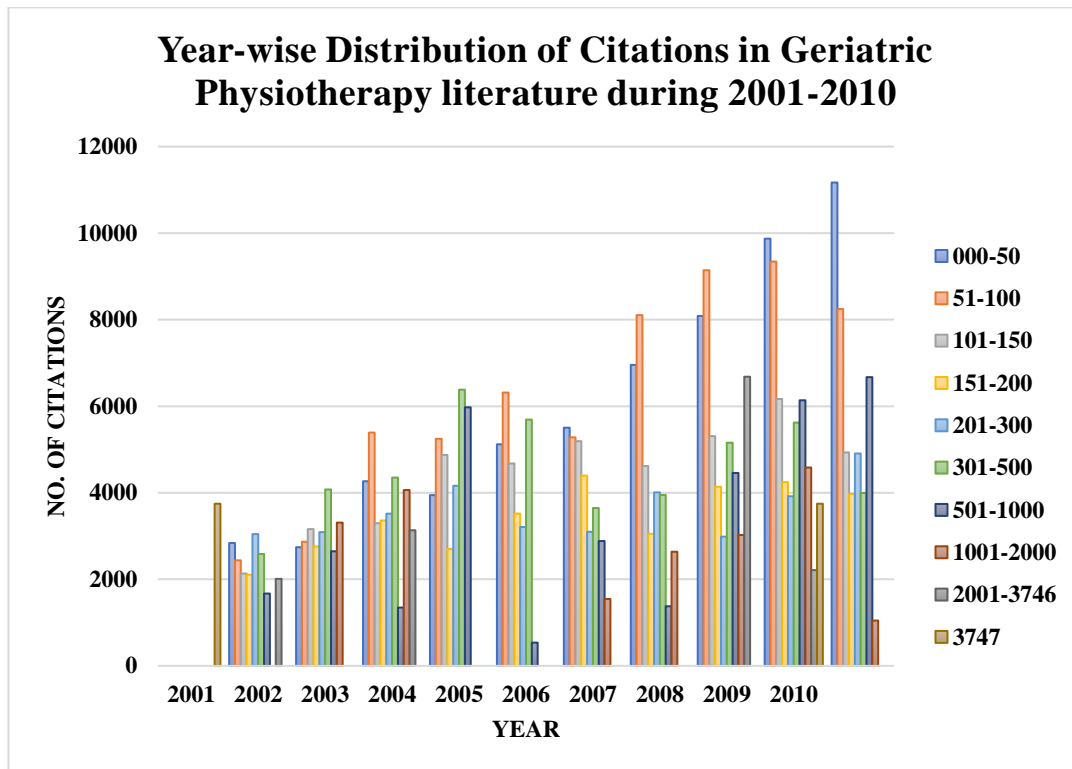


Figure 5: Year-wise Distribution of Citations in Geriatric Physiotherapy literature during 2001-2010
 Table number 6.5.& 6.6.Replicates year-wiseDistribution of Citations of Geriatric Physiotherapy literature during 2001-2010. Many citations confirm the quality of the work hence, the Geriatric Physiotherapy literature has received 354582 citations,for 5859 papers from 2001 to 2010. During set tenure, one book entitled “Measuring Health: A Guide to Rating Scales and Questionnaires” authored by McDowell I. has received the highest number of citations with 3747 which was followed by 3134 citations credited by the article entitled “Reliability of the PEDro scale for rating quality of randomized controlled trials published by Physical therapy journal in the year 2003.

6.6 Year-wise Distribution of Citations in Geriatric Physiotherapy literature during 2001-2010

Year-wise Distribution of Citations in Geriatric Physiotherapy literature during 2001-2010								
Year	No. of Papers	Percentage	Cumulative	Cumulative Percentage	Total Citations	Citation Percentage	Cumulative Citations	Citation/ Paper
2001	278	4.74	278	4.74	18828	5.31	18828	67.73
2002	301	5.14	579	9.88	24653	6.95	43481	81.90
2003	425	7.25	1004	17.14	32724	9.23	76205	77.00
2004	470	8.02	1474	25.16	33287	9.39	109492	70.82
2005	560	9.56	2034	34.72	29068	8.20	138560	51.91
2006	540	9.22	2574	43.93	31546	8.90	170106	58.42
2007	709	12.10	3283	56.03	34702	9.79	204808	48.94
2008	770	13.14	4053	69.18	48985	13.81	253793	63.62
2009	879	15.00	4932	84.18	55850	15.75	309643	63.54
2010	927	15.82	5859	100.00	44939	12.67	354582	48.48
Total	5859	100.00			354582	100.00		60.52

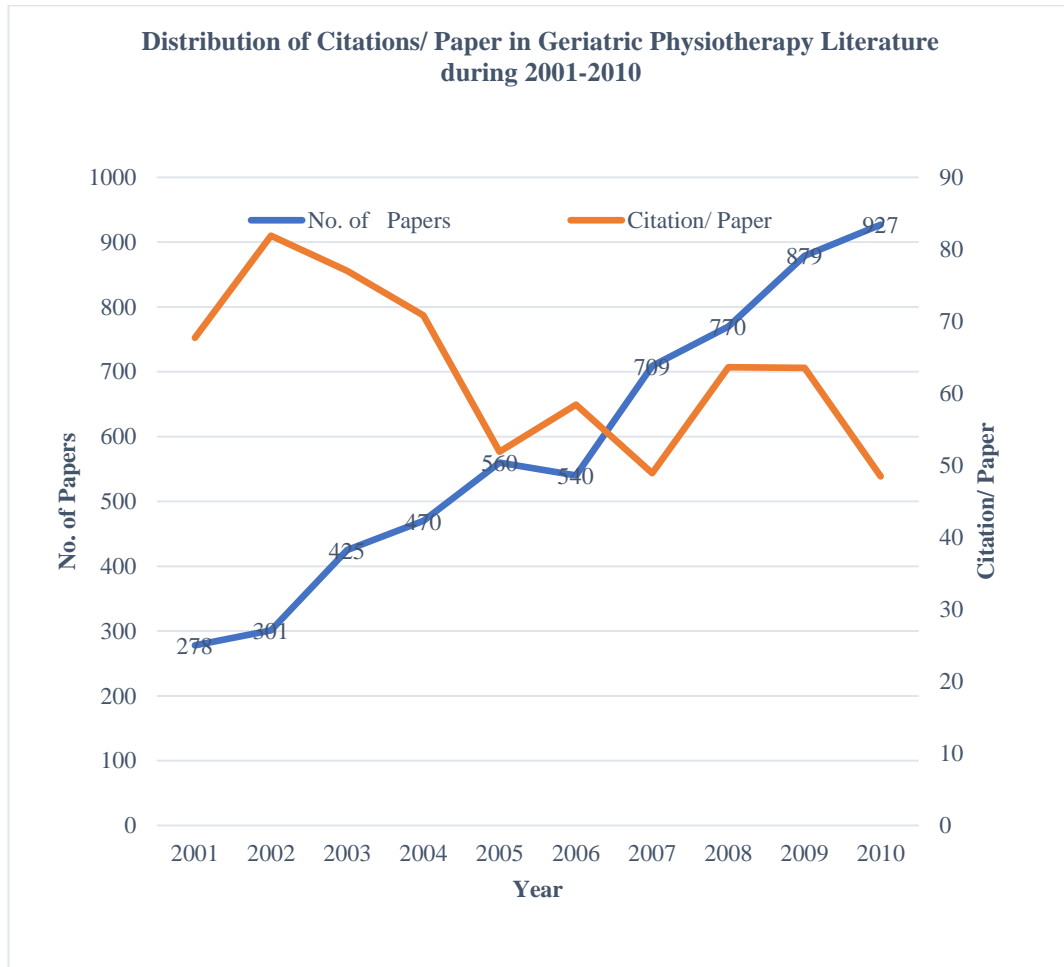


Figure 6: Year-wise Distribution of Citations in Geriatric Physiotherapy literature during 2001-2010

6.7 Distribution of Geriatric Physiotherapy Literature in different types of Data during 2001-2010

Distribution of Geriatric Physiotherapy Literature in different types of Data during 2001-2010													
S. No.	Type of Sources	Year of Publication										Total	%
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
1	Article	217	218	264	290	343	358	429	482	600	678	3879	66.21
2	Book			7	6	11	14	15	8	21	9	91	1.55
3	Book chapter	2	2	16	36	35	18	71	60	43	41	324	5.53
4	Conference paper	5	10	13	10	15	17	15	9	11	8	113	1.93
5	Editorial	6	2	4	7	6	6	7	8	6	10	62	1.06
6	Erratum					1			1			2	0.03
7	Letter	1	1	1	5	4	2	11	7	6	3	41	0.70
8	Note		5	6	3	6	7	5	6	7	15	60	1.02
9	Review	45	61	111	113	134	116	148	170	182	155	1235	21.08
10	Short survey	2	2	3		5	2	8	19	3	8	52	0.89
	Total	278	301	425	470	560	540	709	770	879	927	5859	100.00

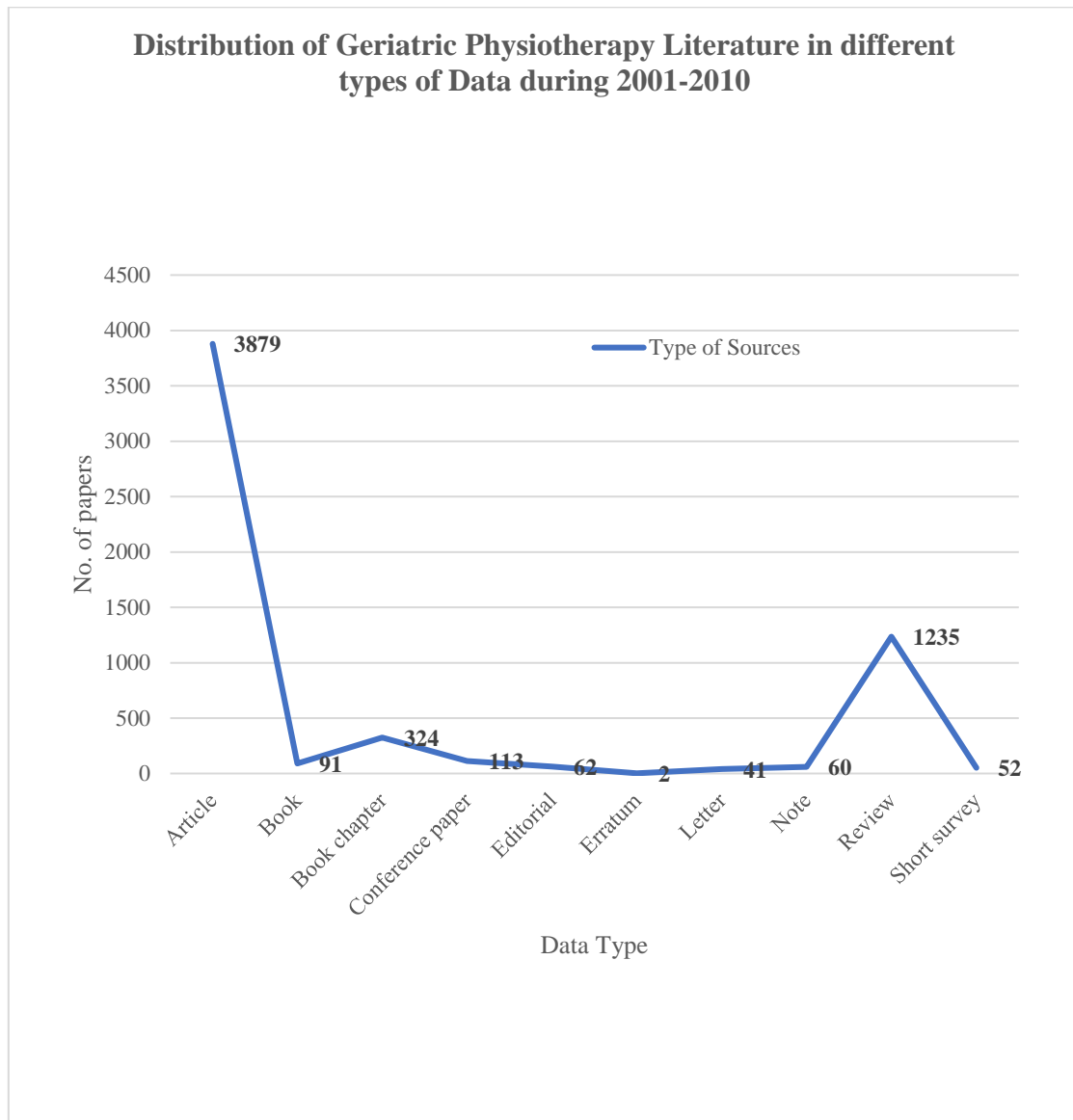


Figure 7: Distribution of Geriatric Physiotherapy Literature in different types of Data during 2001-2010

Table Number 6.7 replicates the types of data published during 2001-2010 in Geriatric literature. It clearly shows that Authors have been interested in publishing their research output as an article. Thus 66.21 % (3879) researches have been published in the form of article, which followed by Reviews 21.08% (1235). Authors have also published their research output in the form Book Chapter (5.53%), Books (1.55%), Conference Papers (1.93%), Letter, Notes Short Survey and alike...

6.8 Top 10 Journals with Highest citations in Geriatric Physiotherapy Literature during 2001-2010

Top 10 Journals with Highest citations in Geriatric Physiotherapy Literature during 2001-2010												
Year	Channels of Communication	Physical Therapy	Archives of Physical Medicine and Rehabilitation	Clinical Rehabilitation	Cochrane Database of Systematic Reviews	Journal of the American Geriatrics Society	Age and Ageing	Movement Disorders	Disability and Rehabilitation	Stroke	Journal of Rehabilitation Medicine	Total
2001	Citations	1277	692	851	0	2310	753	0	30	42	66	18828
	Papers	7	6	12	0	4	9	0	2	1	1	278
	CPP	182.43	115.33	70.92	0.00	577.50	83.67	0.00	15.00	42.00	66.00	67.73
2002	Citations	3391	3423	558	0	257	804	502	486	736	251	24653
	Papers	14	15	10	0	2	5	4	6	3	2	301
	CPP	242.21	228.20	55.80	0.00	128.50	160.80	125.50	81.00	245.33	125.50	81.90
2003	Citations	4254	1656	575	442	1086	1766	267	740	554	485	32724
	Papers	10	15	14	3	8	8	1	13	4	6	425
	CPP	425.40	110.40	41.07	147.33	135.75	220.75	267.00	56.92	138.50	80.83	77.00
2004	Citations	721	4429	1866	0	1914	1738	937	645	1957	123	33287
	Papers	7	27	21	0	12	13	1	13	6	2	470
	CPP	103.00	164.04	88.86	0.00	159.50	133.69	937.00	49.62	326.17	61.50	70.82
2005	Citations	2357	3468	1100	58	705	632	545	916	1391	49	29068
	Papers	16	32	13	1	6	7	4	13	6	2	560
	CPP	147.31	108.38	84.62	58.00	117.50	90.29	136.25	70.46	231.83	24.50	51.91
2006	Citations	2435	1791	1511	279	794	769	105	1884	376	519	31546
	Papers	17	15	21	2	8	6	2	17	5	6	540

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	CPP	143.24	119.40	71.95	139.50	99.25	128.17	52.50	110.82	75.20	86.50	58.42
2007	Citations	2160	1440	867	1831	389	437	377	1157	344	619	34702
	Papers	22	18	14	9	6	5	2	19	1	7	709
	CPP	98.18	80.00	61.93	203.44	64.83	87.40	188.50	60.89	344.00	88.43	48.94
2008	Citations	2788	1374	1374	2015	1457	1650	4364	621	822	889	48985
	Papers	17	26	20	13	8	12	11	12	6	17	770
	CPP	164.00	52.85	68.70	155.00	182.13	137.50	396.73	51.75	137.00	52.29	63.62
2009	Citations	2064	1720	2233	5206	795	795	593	890	647	1286	55850
	Papers	19	28	16	15	14	11	7	17	6	13	879
	CPP	108.63	61.43	139.56	347.07	56.79	72.27	84.71	52.35	107.83	98.92	63.54
2010	Citations	2941	2278	838	862	908	758	390	700	717	579	44939
	Papers	26	36	13	3	8	7	4	18	3	10	927
	CPP	113.12	63.28	64.46	287.33	113.50	108.29	97.50	38.89	239.00	57.90	48.48
Total	Citations	24388	22271	11773	10693	10615	10102	8080	8069	7586	4866	354582
	Papers	155	218	154	46	76	83	36	130	41	66	5859
	CPP	157.34	102.16	76.45	232.46	139.67	121.71	224.44	62.07	185.02	73.73	60.52

Table Number 6.8. shows an exact figure of top 10 journals which are having published Physiotherapy literature during 2001-2010, out of which Physical therapy journal has received the highest number of citations with 24388, where it has 155 papers in its credit so citation per paper is 157.34. the authors who have published their research in Movement Disorders journal have received highest citations where the rate of Citation paper is 224.44, which is followed by the Cochrane Database of Systematic Reviews with 232.46 CPP. Archives of Physical Medicine and Rehabilitation journal has also received 22271 citations during set tenure. One paper which was published in stroke in the year 2007 alone has received 344 citations.

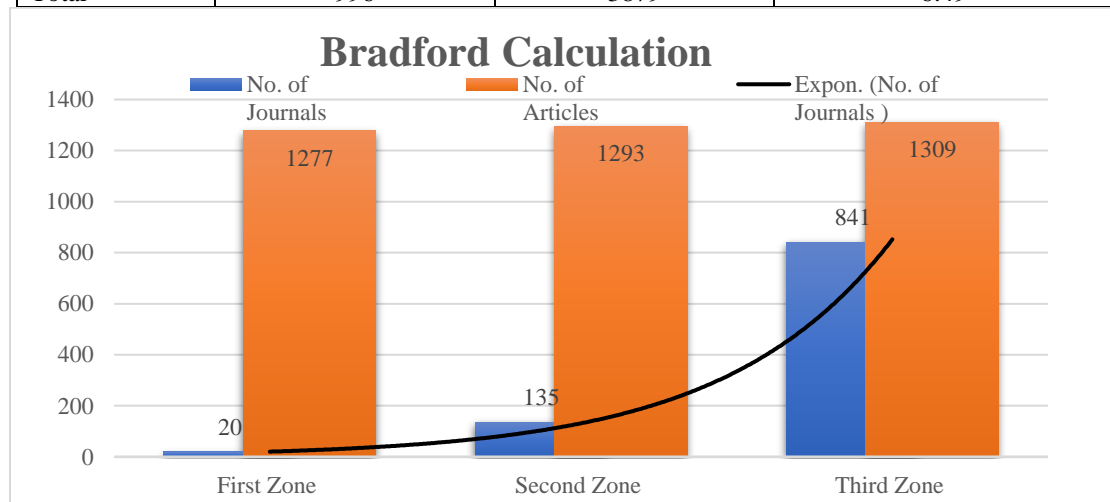
6.9 No. of References used in Geriatric Physiotherapy Literature during 2001-2010

Range of References	No. of References used in Geriatric Physiotherapy Literature during 2001-2010										Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
001-050	201	212	292	326	367	381	474	505	569	636	3963
051-100	54	62	86	92	120	97	137	159	207	195	1209
101-150	13	16	21	29	40	22	43	45	50	58	337
151-200	7	9	16	16	21	22	33	47	37	28	236
201-250	3	2	7	6	8	13	22	9	9	9	88
251-300	0	0	2	1	3	2	0	3	6	1	18
301-350	0	0	1	0	1	1	0	2	1	0	6
351-400	0	0	0	0	0	2	0	0	0	0	2
Total	278	301	425	470	560	540	709	770	879	927	5859

Referencing is an important part of research work. It sets the research process in context, validates the scope and complexity of research, and concedes other people's work that has been referred. Table number 6.9. indicates the number of references used to publish Geriatric Physiotherapy Literature during 2001-2010, For better understanding, authors have divided the whole references into ranges 1-50 is the common range where maximum papers have used the same range of references. Two papers which are published in the year 2006 have used 351-400 references. Highest number of references were found during 2007-2010, in which the year 2010 has highest references in its credit with 927.

6.10 Calculation of Bradford's Multiplier

Zone	No. of Journals	No. of Articles	Bradford's Multiplier
First Zone	20	1277	
Second Zone	135	1293	6.75
Third Zone	841	1309	6.23
Total	996	3879	6.49



Categorizing the journals in a field of research is a significant aspect of scientometric studies especially Bradford's law of scattering, which has its application in the acquisition policy of journals in libraries and information centers. (Savanur, 2019) Thus, in this study, researchers have put an effort into identifying the core journals in the field of Geriatric Physiotherapy. 5859 research papers have been published During 2001-2010 in Geriatric Physiotherapy, in which 3879 papers are published in the journals. Total papers have been divided into 3 zones as stated by Bradford's Law of scattering, further, Bradford's Multiplier was identified by calculating which is 6.49. hence according to Bradford's law of scattering ($1:n:n^2$) 20 journals have been identified in a nuclear zone thus 20×6.49 : 20×6.49^2 .

Hence the data is further simplified as 20: 129.8: 842.40, and the percentage of error is negative so that, Geriatric Physiotherapy Literature published during 2001-2010 follows Bradford's Law of Scattering.

7.0 Conclusion: -

The Scientometric study gained a lot of attention in the present scenario, and researchers also keen interest in measuring the scientific output of particular academic institutes. Thus, the study helps to know the growth in the Geriatric Physiotherapy literature which also provides a basement for the researchers who have been involved in the field of Geriatric Physiotherapy field. This study highlighted qualitative and quantitative aspects hence the study helps the young researchers to enumerate overall development in the said field.

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