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CITATIONS OF ORTHOPEDIC P.G DISSERTATIONS: AN OBSOLESCENCE STUDY

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ABSTRACT

The obsolescence of an article, how its use declines as it ages, has long been a central element of bibliometric studies (the fields of subject, the number of citations and their distribution by types of sources and years) of 69 theses and dissertations completed at J.J.M Medical College, Davanagere between 1980 and 2012. In these dissertations 2939 citations were referred and average number of citations per dissertations was 42.55% and it covers chronological distribution, authorship pattern, obsolescence, geographical distribution, language wise distribution and subject wise breakup of citations literature.

Keywords: Medicine, Orthopaedic literature, Obsolescence studies, M.S. Orthopaedic holders.

INTRODUCTION

The concept of "citation" was developed after the renaissance and the first use of footnotes similar to citations goes well back to the 16th century (White, 1985). The main function of a citation is to establish a relationship between the citing and cited documents. Citations can be used to evaluate the relevant sources, support the validity of an author's statements, and provide a more extensive reading list for the initiated researchers (Smith, 1981, pp. 84-85; White, 1985, pp. 38-39)[1].

The present literature gets also cited in some disciplines such as the history of orthopaedic. As the literature ages, it receives fewer and fewer citations. This phenomenon is known as "aging" or "obsolescence." The measure "half-life, defined as the median age of cited or requested sources," has been used to study the obsolescence of literature. The dissertations reflect the scholarly communication process. Bibliometric and citation characteristics of dissertations have been studied in the past with a view to identify the basic features of the scholarly communication process in different fields of study. The scatter and obsolescence of cited sources that appear in the bibliographies of dissertations have been used not only to help identify core journal titles in specific subject fields.

NEED FOR THE STUDY

Bibliometrics is quantitative study of various aspects of literature of a subject and are used to identify the pattern of publication, authorship, citations and secondary journal coverage. The purpose of the study was to develop measures for determining the extent to which library materials are used and what the costs are, to improve acquisitions decisions, and to determine storage or discarding points at which alter- natives to local ownership of various items became feasible. Particularly in medical Science i.e., orthopaedists now-a-days depend on more available journal literature than any other forms. This need and requirements are typical and fundamental. In view of all these, there is a need to study in depth the nature and characteristics of orthopedist. This helps for organizations of information system and services to orthopedists.

SCOPE AND LIMITATION

The present study attempts to discover the obsolescence rate of orthopaedic literature cited in the M.S. orthopaedics doctoral theses awarded from 1980 to 2012, at J.J.M Medical College, Davanagere. The study focuses on the citations included in doctoral theses awarded in Orthopaedics.

OBJECTIVES

The following are the main objectives of the present study

1. To identify the Chronological distribution of journal citations,
2. Obsolescence and half-life orthopaedic journals and to identify the number of references per dissertation,
3. To identify the core journals in the field of orthopedics,
4. To identify the obsolescence of literature in the field of orthopedics,
5. To study the chronological scattering of obsolescence of journal literature.

METHODOLOGY

The present study covers only the literature of orthopaedics, in all M.S. orthopaedic dissertations of orthopedics submitted to the department of Orthopedics, J.J.M. Medical College, Davanagere during 1980 to1998 were minutely scanned to collect the necessary data. The entries which account 2939 references appended to 69 M.S. Orthopedics dissertations. Investigator collected the following bibliographical details, author, title, name of the periodical, volume number, issue number, year of publication and pagination.

ANALYSIS AND INTERPRETATION OF RESULTS

To achieve the objectives of the present study "the necessary data has been collected from 69 dissertations submitted to J.J.M Medical College, Davanagere. The data of M.S. Orthopaedics has been presented and analyzed.

Sl.No	Year	Total No. of dissertations	Total No. of Citations	Average Citations per dissertations
1	1980	1	62	62
2	1981	2	52	26
3	1982	1	46	46
4	1983	2	179	89.5
5	1987	2	156	78
6	1988	1	24	24
7	1989	1	70	70
8	1990	2	82	41
9	1991	3	131	43.67
10	1992	5	123	24.6
11	1993	5	262	52.4
12	1994	8	375	46.88
13	1995	7	268	52.4
14	1996	12	550	45.83
15	1997	7	255	36.42
16	1998	10	304	30.4
	Total	69	2939	42.55

Table -7.1: Average number of citations per dissertations

Data from the above table reveals the average number of citation per dissertation. The maximum number of dissertation and references is in the year 1996 figuring 12 and 550 respectively. Highest number of citations per dissertation is 89.5 % in 1983. In other years much variation is found in the total number of citations. It is due to the fact that number of dissertations submitted in those particular years vary. For example, in 1989, only one dissertation is submitted and total number of citations and average number of citations is 70 where as in 1996, total number of dissertations are 12 and naturally total number of citations have gone up, i.e., 550.

There are 69 dissertations with 2939 citations with an average of 42.55% citations per dissertations. Whereas in case of social sciences, it is entirely different. Karisiddappa and Sangam S.L study reveals that the average number of references per dissertation in Political science, Sociology, Anthropology, Geography, Commerce, History and Economics are 123, 132, 141, 158, 161, 173, and 182 respectively.

Table- 7. 2: Form wise distribution cited literature

Sl.No	Forms of Literature	Total No. of Citations	Cumulative Citations	%	Cumulative %
1	Journals	2371	2371	80.67	80.67
2	Books	465	2836	15.82	96.49
3	Reports	40	2876	1.36	97.88
4	Conference Proceedings	29	2905	0.99	98.84
5	Atlas	9	2914	0.31	99.15

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6	Theses/Dissertations	8	2922	0.27	99.42
7	Official Publication	6	2928	0.20	99.62
8	Monographs	5	2933	0.17	99.79
9	Year Books	3	2936	0.10	99.90
10	Abstracts	2	2938	0.07	99.96
11	News Papers	1	2939	0.03	100
	Total	**2939**			

Table-7.2 and figure 1, shows that, Journal articles were the most important form of publication for orthopedists, which account to 2371 (i.e., 80.67%). This is followed by books and reports an 15.82% and 1.36 respectively. The conferences proceedings and workshops of orthopaedic literature were 0.99%.

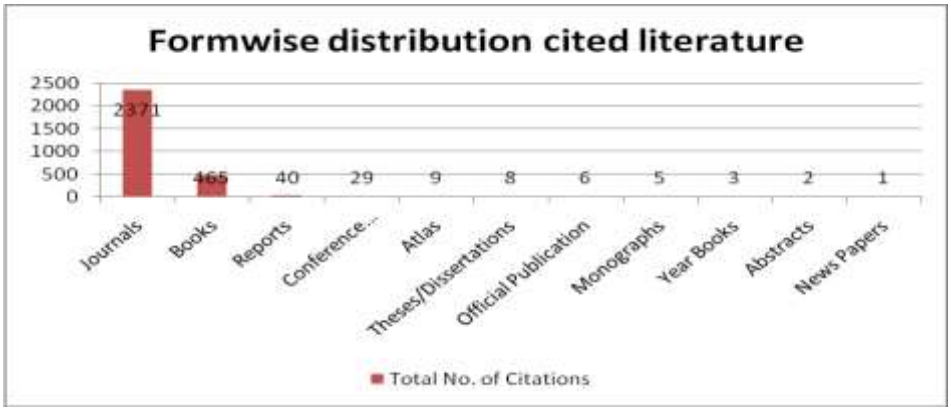

Figure-1

Table-7.3: Obsolescence of Journal literature during -1980

No. of Dissertations Submitted	Total No. of Jr. Citations	Year	Age	No. of Citations	Cum Citations	%	Total % Cum Citations
1	49	1980	0	0	0	0	0
		1979	1	1	1	2.04	2.04
		1978	2	1	2	2.04	4.08
		1977	3	1	3	2.04	6.12
		1976	4	3	6	6.122	12.24
		1972	8	2	8	4.082	16.33
		1971	9	1	9	2.04	18.37
		1970	10	2	11	4.082	22.45
		1968	12	2	13	4.082	26.53
		1967	13	3	16	6.122	32.65
		1966	14	2	18	4.082	36.73
		1965	15	5	23	10.204	46.94
		1964	16	7	30	14.285	61.22
		1963	17	4	34	8.163	69.39
		1962	18	2	36	4.082	73.47
		1961	19	5	41	10.204	83.67
		1957	23	3	44	6.122	89.8
		1956	24	3	47	6.122	95.92
		1954	26	1	48	2.04	97.96
		1953	27	1	49	2.04	100
				49		99.994	

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Table-7.3, and figure 2, gives the chronological scattering of the cited articles (age wise) in the field of orthopaedics. It is evident from the table- 7.1 that there are more number of citations (46.94%) distributed in the age group of 0-15 years. The maximum number of citations of 16 years old (14.28%) used by orthopaedists. It is observed that the number of references decreases with increase in the age except in some years the citation increases with small margin. It is evident that journal articles as old years. It is indicated from the table-7.3. Those citations to recent papers are greater in number then citations to older paper.

According to kents study of Obsolescence explains that to develop measures for determining the extent to which library materials are used and what the cast are to improve acquisition decisions and to determine storage or discarding points at which alternatives to which local ownership of various items become feasible. Here attempt has been mode the obsolescence in the feed.

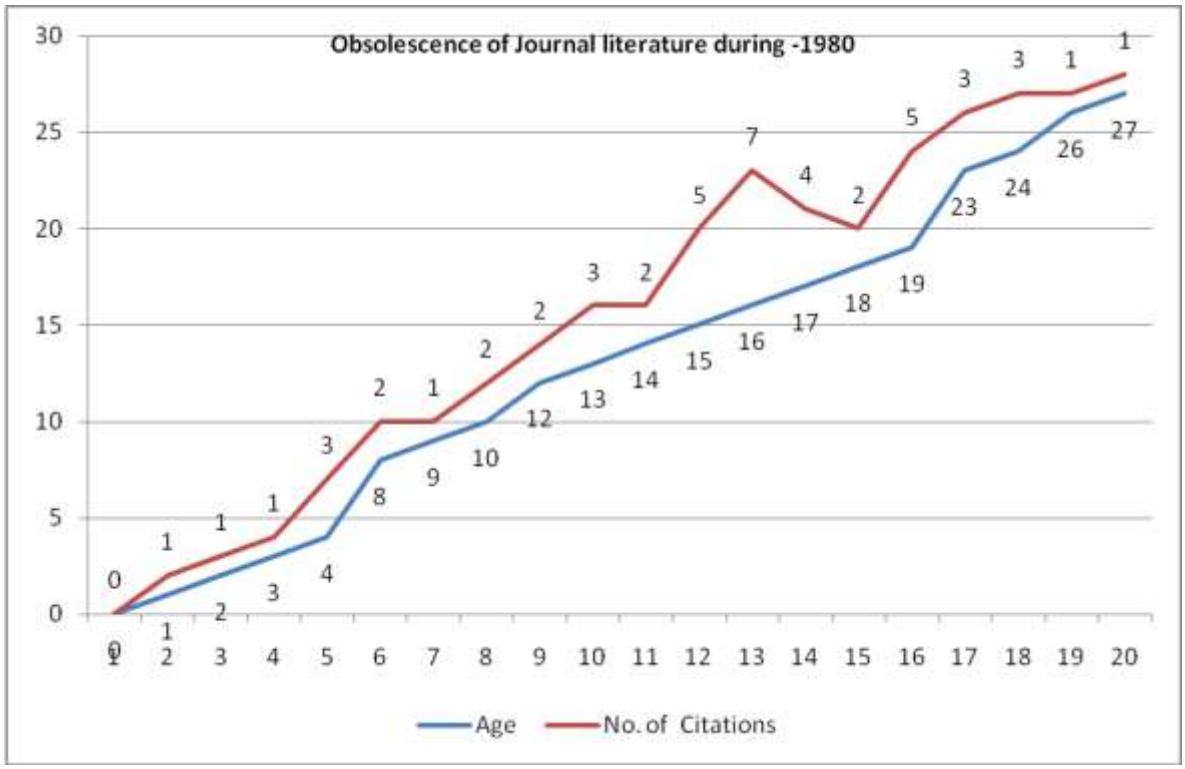

Figure-2: Obsolescence of Journal literature during -1980

Table-7.4: Obsolescence of Journal literature during -1987

No. of Dissertations Submitted	Total No. of Journals Citations	Year	Age	No. of Citations	Cum Citations	%	% Cum Citations
2	125	1987	0	0	0	0	0
		1986	1	2	2	1.6	1.6
		1984	3	1	3	0.8	2.4
		1983	4	2	5	1.6	4
		1982	5	2	7	1.6	5.6
		1981	6	1	8	0.8	6.4
		1980	7	4	12	3.2	9.6
		1979	8	2	14	1.6	11.2
		1978	9	4	18	3.2	14.4
		1977	10	4	22	3.2	17.6
		1976	11	4	26	3.2	20.8

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		1975	12	6	32	4.8	25.6
		1974	13	2	34	1.6	27.2
		1973	14	3	37	2.4	29.6
		1972	15	2	39	1.6	31.2
		1971	16	2	41	1.6	32.8
		1970	17	1	42	0.8	33.6
		1969	18	3	45	2.4	36
		1968	19	2	47	1.6	37.6
		1967	20	5	52	4	41.6
		1966	21	2	54	1.6	43.2
		1965	22	7	61	5.6	48.8
		1964	23	12	73	9.6	58.4
		1963	24	5	78	4	62.4
		1962	25	8	86	6.4	68.8
		1961	26	6	92	4.8	73.6
		1959	28	4	96	3.2	76.8
		1958	29	2	98	1.6	78.4
		1957	30	6	104	4.8	83.2
		1956	31	2	106	1.6	84.8
		1955	32	2	108	1.6	86.4
		1954	33	5	113	4	90.4
		1953	34	1	114	0.8	91.2
		1952	35	2	116	1.6	92.8
		1951	36	1	117	0.8	93.6
		1949	38	1	118	0.8	94.4
		1947	40	1	119	0.8	95.2
		1945	42	1	120	0.8	96
		1943	44	1	121	0.8	96.8
		1939	48	1	122	0.8	97.6
		1938	49	1	123	0.8	98.4
		1935	52	2	125	1.6	100
				125		100	

Table-7.4 and figure3, gives the chronological dispersion of the cited articles (Age-wise) in the field of orthopaedics. It is evident from the table 2 that there are more number of citations (31.2%) distributed in the age ranging from 0-15 years the maximum number of citations are 23 years old (9.6) used by orthopaedists. It is observed that the number of citations decreases with increasing in the age except in some years the citation increase with small margin. It is evident that journal articles as old 52 years have been cited though citations with age 0 years have not cited. However, it is indicated from the above table-7.4 that citations to recent papers are greater in number the citations to older paper.

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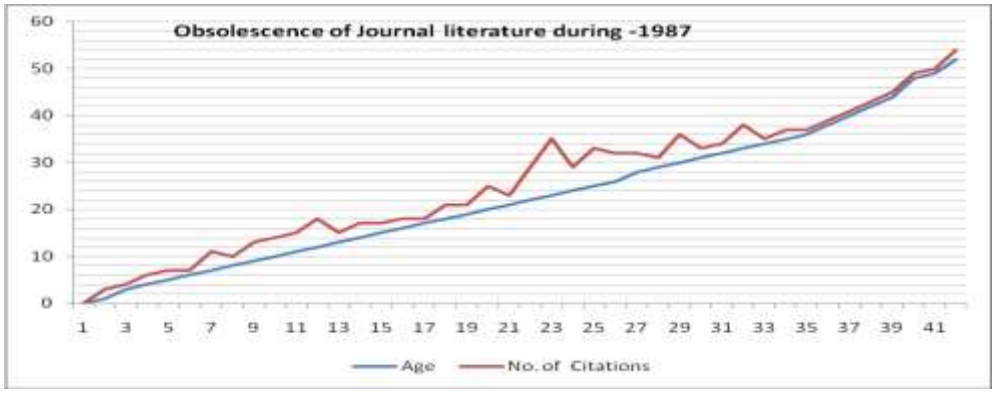

Figer-3: Obsolescence of Journal literature during -1987

Table-7. 5: Obsolescence of Journal literature during -1993

No. of Dissertations Submitted	Total No. of J Citations	Year	Age	No. Of Citations	Cum Citations	%	% Cum Citations
5	224	1993	0	0	0	0	0
		1991	2	4	4	1.79	1.79
		1990	3	3	7	1.34	3.13
		1989	4	3	10	1.34	4.46
		1988	5	2	12	0.89	5.36
		1987	6	2	14	0.89	6.25
		1986	7	5	19	2.23	8.48
		1985	8	5	24	2.23	10.71
		1984	9	4	28	1.79	12.5
		1983	10	3	31	1.34	13.84
		1982	11	8	39	3.57	17.41
		1981	12	5	44	2.23	19.64
		1980	13	5	49	2.23	21.88
		1979	14	11	60	4.91	26.79
		1978	15	10	70	4.46	31.25
		1977	16	7	77	3.12	34.38
		1976	17	6	83	2.68	37.05
		1975	18	8	91	3.57	40.63
		1974	19	6	97	2.68	43.3
		1973	20	4	101	1.79	45.09
		1972	21	9	110	4.01	49.11
		1971	22	3	113	1.34	50.45
		1970	23	9	122	4.01	54.46
		1969	24	1	123	0.45	54.91
		1968	25	5	128	2.23	57.14
		1967	26	8	136	3.57	60.71
		1966	27	5	141	2.23	62.95
		1965	28	7	148	3.12	66.07
		1964	29	12	160	5.37	71.43

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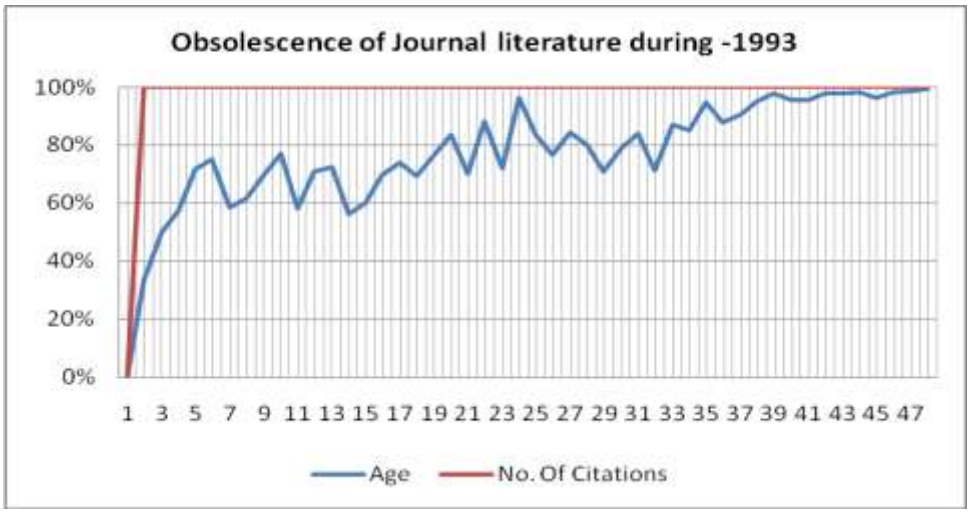
		1963	30	8	168	3.57	75
		1962	31	6	174	2.68	77.68
		1961	32	13	187	5.8	83.48
		1960	33	5	192	2.23	85.71
		1959	34	6	198	2.68	88.39
		1958	35	2	200	0.89	89.29
		1957	36	5	205	2023	91.51
		1956	37	4	209	1.79	93.3
		1955	38	2	211	0.89	94.2
		1954	39	1	212	0.45	94.64
		1953	40	2	214	0.89	95.54
		1952	41	2	216	0.89	96.43
		1951	42	1	217	0.45	96.88
		1950	43	1	218	0.45	97.32
		1944	49	1	219	0.45	97.77
		1941	52	2	221	0.89	98.66
		1940	53	1	222	1.45	99.11
		1934	59	1	223	0.45	99.55
		1868	125	1	224	0.45	100
				224		100	

Table-5 and figure 4, gives the chronological dispersion of the cited articles (Age-wise) in the field of orthopaedics. It is evident from the table-3 that there are more number of citations (31.25%) distributed in the age ranging from 0-15 years the maximum number of citations are of 32 years old (5.8) used by orthopaedists. It is observed that the number of citations decreases with increase in the age except in some years the citation increase with small margin. It is evident that journal articles as old 125 years have been cited though citations with age 0 years have not cited. However, it is indicated from the about table-7.5 that citations to recent papers are greater in number then citations to older paper.



Figer-4: Obsolescence of Journal literature during -1993

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Table-7.6: Obsolescence of Journal literature during 1998

No. of Dissertations Submitted	Total No. of journals Citations	Year	Age	No. of Citations	Cum Citations	%	% Cum Citations
10	247	1998	0	0	0	0	0
		1997	1	2	2	0.81	0.81
		1966	2	9	11	3.64	4.45
		1995	3	5	16	2.02	6.48
		1994	4	18	34	7.29	13.77
		1993	5	17	51	6.88	20.65
		1992	6	6	57	2.43	23.08
		1991	7	6	63	2.43	25.51
		1990	8	8	71	3.24	28.74
		1989	9	2	73	0.81	29.55
		1988	10	8	81	3.24	32.79
		1987	11	5	86	2.02	34.82
		1986	12	10	96	4.05	38.87
		1985	13	7	103	2.83	41.7
		1984	14	13	116	5.26	46.96
		1983	15	4	120	1.62	48.58
		1982	16	9	129	3.64	52.23
		1981	17	3	132	1.21	53.44
		1980	18	4	136	1.62	55.06
		1979	19	6	142	2.43	57.49
		1978	20	6	148	2.43	59.91
		1977	21	3	151	1.21	61.13
		1976	22	6	157	2.43	63.56
		1975	23	8	165	3.24	66.8
		1974	24	5	170	2.02	68.83
		1973	25	3	173	1.21	70.04
		1972	26	4	177	1.62	71.66
		1971	27	3	180	1.21	72.87
		1970	28	1	185	2.02	74.9
		1969	29	1	186	0.4	75.3
		1968	30	4	190	1.62	76.92
		1967	31	3	193	1.21	78.14
		1966	32	3	196	1.21	79.35
		1965	33	3	199	1.21	80.57
		1964	34	7	206	2.83	83.4
		1963	35	5	211	2.02	85.43
		1962	36	3	214	1.21	86.64
		1961	37	4	218	1.62	88.26
		1960	38	1	219	0.4	88.66
		1959	39	3	222	1.21	89.88
		1958	40	2	224	0.81	90.69
		1957	41	3	227	1.21	91.9
		1956	42	3	230	1.21	93.11
		1955	43	1	231	0.4	93.52
		1953	45	3	234	1.21	94.73
		1951	47	2	236	0.81	95.45
		1949	49	3	239	1.21	96.77
		1947	51	1	240	0.4	97.16

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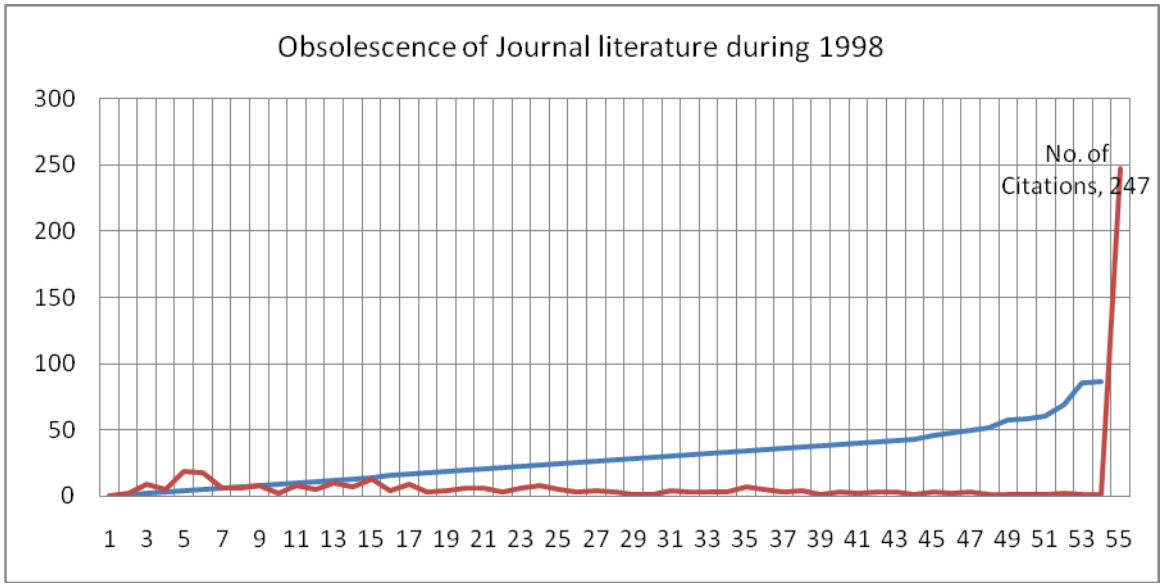
		1941	57	1	241	0.4	97.57
		1940	58	1	242	0.4	97.98
		1938	60	1	243	0.4	98.38
		1929	69	2	245	0.81	99.19
		1913	85	1	246	0.4	99.6
		1912	86	1	247	0.4	100
				247		100	

Table-7.6, and figure 5, gives the chronological dispersion of the cited articles (age-wise) in the field of orthopaedics. It is evident from the table -7.4, that there are more number of citations (48.58%) distributed in the age ranging from 0-15 years. The maximum number of citations are of 4 years old (7.29) used by orthopaedists.

It is observed that the number of citations decreases with increase in the age except in some years the citation increases with small margin. It is evident that the journal articles as old as 86 years have been cited though citation with age '0' years have not cited thus it is indicated from the table -4, that citations to recent papers are greater in number then citations to older paper.
It is observed from table 7.1 & 7. 4 that more than 50% of citations are just 0-16 years old table 2 &3 shows 50% is not crossed even the age range is considered 0-21 years.



Figer-5: Obsolescence of Journal literature during -1998

FINDINGS

The following are the some of the findings that have been drawn from this study

1. The average number of citations per dissertation is 42.55%
2. The journal articles as old as 125 years have been cited there are 31.25% of citations distributed in the age ranging from 0-15 years, 75% of the citations are within the age of 25 years.
3. Though the citations are 125 years old. It is to be noted that older papers are less cited the most cited journals more are less are within 20 years of age i.e.,1978-1998.
4. Citation with 'O' age have not been cited.
5. Total number of cited journals are 195. To know top five ranked periodicals account as much as 59.05% of citation and 83.97 of citations are from 30 periodicals and remaining 165 periodicals constitute only 16.03%

An obsolescence study play a vital role for library officers, information scientists, researchers, and information managers as a decision support tool for the retention of the most frequently-used literature, and is also useful for weeding out unused or less-used literature.

CONCLUSION

The above analysed results and Findings of Journal articles get cited more percentage of citations. There appears to exists a core list of journals in orthopaedic literature that consistently get cited most often not only in M.S Orthopaedic theses and dissertations but also in the professional literature as well. The overlap among the cited journal titles in different studies was quite high. Libraries can subscribe to or license such journal titles and provide access to their current issues. Findings seem to suggest that there exists a correlation between the number of citations a journal receives and its availability through the JJM Medical college library at the time the dissertation was completed.

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