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ANALYSIS OF CORE JOURNALS IN THE LITERATURE ON BREAST CANCER (1965 – 2014): A STUDY

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ABSTRACT

This paper presents the analysis of core journals and subject-wise coverage of journals in the field of Breast Cancer for the period 1965 to 2014 in the MEDLINE data which are covered in the Pubmed. The purpose of this study is to identify the core journals and its subject-wise coverage of journals in the discipline of Breast Cancer. The majority of the records were journal articles. In zone-1, 10 journals associated with Oncology, 3 journals are associated with Medicine, 2 with Surgery, one each with Nursing, Nutrition and Public Health. In zone-2; 47 journals are in Oncology subject out of 105 journals covered, 32 in Medicine, 8 in Public Health, 7 in Surgery, 3 in Pathology, 2 each in Epidemiology, Nursing and Radiology and 1 each in Biochemistry and Genetics. In zone-1 & 2 combined; 57 frequently cited journals are in Oncology subject out of 123 journals covered, 35 in Medicine, 9 each in Public Health and Surgery, 3 each in Nursing and Pathology, 2 each in Epidemiology and Radiology, 1 each in Biochemistry, Genetics and Nutrition. It shows that the most cited journals are Oncology subject. 123 journals are identified as core journals in the field of Breast Cancer.

Keywords: Breast Cancer, Bradford's Law and Core journals

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1. INTRODUCTION

The study of core journals output in the field is one of the important aspects in the bibliometric analysis. This paper deals with the analysis of core journals and subject-wise coverage of journals in the field of 'Breast Cancer' using MEDLINE data for the period 1965 to 2014 which are covered in the Pubmed. It is therefore becomes necessary to concentrate on core journals and its subject-wise coverage of journals in a field and Breast Cancer research is not exclusion. This paper is expected to bring the core journals and its subject-wise coverage of journals in the discipline of Breast Cancer.

2. Breast Cancer

Breast cancer is heterogeneous disease fundamentally caused by the progressive accumulation of genetic aberrations, including point mutations, chromosomal amplifications, deletions, rearrangements, translocations and duplications. Germ-line mutations account for only about 10% of all breast cancers, whereas the vast majority of breast cancers appear to occur sporadically and are attributed to somatic genetic alterations.¹

3. LITERATURE REVIEW

A number of studies on mapping have analyzed allied health journal citations to determine lists of core journals in their fields.²⁻⁹ Ramakrishnan and Rajendran¹⁰ on Hepatitis B. Ramesh Babu and Ramakrishnan¹¹ studied on Indian Contributions to the Field of Hepatitis. Krishnamoorthy, Ramakrishnan and Devi¹² studied on diabetes. Ramesh Babu and Ramakrishnan¹³ studied on Indian Contributions to the field of HIV/AIDS and they identified core journals. Ramakrishnan and Thavamani studied on Core Journal Analysis of the Literature on Leptospirosis (2006-2013).¹⁴

The review of literature on core journals analysis revealed that so far no quantitative study on core journals and its subject-wise coverage in the discipline of Breast Cancer has been published. Hence the present study.

4. OBJECTIVES

The objectives of this paper are:

- i.** To study the growth of “Breast Cancer” literature; and
- ii.** To find out the core journals and its subject-wise coverage in the field of Breast Cancer and Bradford’s Law of scattering used to identify the same.

5. METHODOLOGY

The records available during the year 1965 to 2014 in the field of Breast Cancer in the MEDLINE data which are covered in the Pubmed (www.pubmed.com) which is a free resource that is developed and maintained by the National Center for Biotechnology Information (NCBI), at the U.S. National Library of Medicine (NLM), located at the National Institutes of Health (NIH) was searched and bibliographic details were collected. The retrieved records were converted into FoxPro and loaded in SPSS for the purpose of analysis. The keyword ‘Breast Cancer’ has been used for extracting the number of records available in the above said database.

This cited journal reference data was used to determine core journals and scatter within the field of Breast Cancer. Bradford’s Law of Scattering¹⁵ calls for ranking a large number of cited papers by journal title in order of decreasing productivity of those titles. Three zones are their marked off. Each zone comprises one-third of the total cited references. Journals in zone 1 are cited most frequently, those in zone 2 are cited less often, and those in zone 3 are cited least.

Cited journals in zone 1 and zone 2 were identified as core journals in the field of Breast Cancer. Finally, the journals were identified in the two zones classified according to zone-wise and the results have been used to identify the core journals and its subject-wise coverage of journals in the field of Breast Cancer.

6. LIMITATIONS

This study is restricted to a period from 1965 to 2014 using MEDLINE data which is covered in Pubmed only.

7. ANALYSIS AND DISCUSSION

7.1 QUANTUM OF LITERATURE PUBLISHED IN BREAST CANCER:

The research productivity on 'Breast Cancer' covered in the database is shown in Table 1. It is found that total of 6427 records on 'Breast Cancer' in the MEDLINE data which covered in Pubmed for a period from 1965 to 2014.

The year-wise distribution of literature on 'Breast Cancer' according to source database MEDLINE is shown in Table 1. It is found that the maximum number of records (613) was published during 2012, followed by 552 in 2013 and 531 in 2011. On the whole, it is observed that from 1965 onwards there is a gradual increase of Breast Cancer research productivity every year except in a few years. (Fig.1)

Table-1: Quantum of Literature published in Breast Cancer by year wise

S.No.	Year	Frequency	%	Cumulative %
1	1965	2	0.03	0.03
2	1966	6	0.09	0.12
3	1967	3	0.05	0.17
4	1968	9	0.14	0.31
5	1969	10	0.16	0.47
6	1970	22	0.34	0.81
7	1971	25	0.39	1.2
8	1972	15	0.23	1.43
9	1973	12	0.19	1.62
10	1974	24	0.37	1.99
11	1975	37	0.58	2.57
12	1976	21	0.33	2.9
13	1977	30	0.47	3.37
14	1978	29	0.45	3.82
15	1979	33	0.51	4.33
16	1980	21	0.33	4.66
17	1981	32	0.50	5.16
18	1982	31	0.48	5.64
19	1983	34	0.53	6.17

20	1984	45	0.70	6.87
21	1985	55	0.86	7.73
22	1986	33	0.51	8.24
23	1987	30	0.47	8.71
24	1988	45	0.70	9.41
25	1989	36	0.56	9.97
26	1990	70	1.09	11.06
27	1991	62	0.96	12.02
28	1992	61	0.95	12.97
29	1993	57	0.89	13.86
30	1994	58	0.90	14.76
31	1995	71	1.10	15.86
32	1996	66	1.03	16.89
33	1997	87	1.35	18.24
34	1998	92	1.43	19.67
35	1999	108	1.68	21.35
36	2000	137	2.13	23.48
37	2001	138	2.15	25.63
38	2002	208	3.24	28.87
39	2003	189	2.94	31.81
40	2004	228	3.55	35.36
41	2005	250	3.89	39.25
42	2006	271	4.22	43.47
43	2007	326	5.07	48.54
44	2008	319	4.96	53.5
45	2009	404	6.29	59.79
46	2010	462	7.19	66.98
47	2011	531	8.26	75.24
48	2012	613	9.54	84.78
49	2013	552	8.59	93.37
50	2014	427	6.64	100.00
Total		6427	100.00	

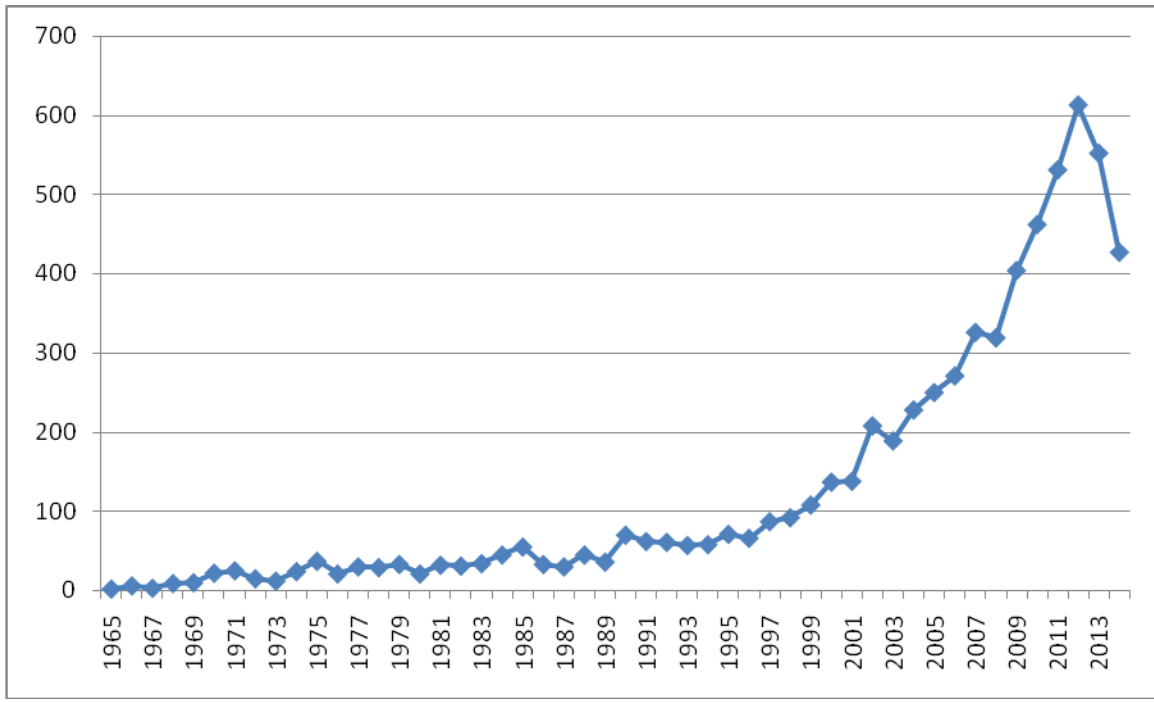


Figure-1: Literature published in Breast Cancer by year wise

7.2 PUBLICATION TYPES DISTRIBUTION OF BREAST CANCER RESEARCH

Table-2 reveals the distribution of the 'Breast Cancer' research output according to various publication types of MEDLINE. It was found that 44.03% are journal articles, followed by Research Support, Non-U.S. Gov't, (36.67%), Review (5.60%), Research Support, U.S. Gov't, P.H.S.(4.22%), Letter (1.87%), Research Support, N.I.H., Extramural (1.70%), Research Support, U.S. Gov't, Non-P.H.S. (1.45%), Multicenter Study (1.17%), Validation Studies (1.14%), Randomized Controlled Trial (0.81%), Editorial (0.48%), News (0.33%), Research Support, N.I.H., Intramural (0.23%). The literatures published in other bibliographic forms are 0.30%. (Fig.2)

Table 2
Publication Type

Publication Type	Total	%	Cumulative %
Journal Article	2830	44.03	44.03
Research Support, Non-U.S. Gov't	2357	36.67	80.7
Review	361	5.60	86.3
Research Support, U.S. Gov't, P.H.S.	271	4.22	90.52
Letter	120	1.87	92.39
Research Support, N.I.H., Extramural	109	1.70	94.09
Research Support, U.S. Gov't, Non-P.H.S.	93	1.45	95.54
Multicenter Study	75	1.17	96.71
Validation Studies	73	1.14	97.85
Randomized Controlled Trial	52	0.81	98.66
Editorial	31	0.48	99.14
News	21	0.33	99.47
Research Support, N.I.H., Intramural	15	0.23	99.7
Others	19	0.30	100
Total	6427	100.00	

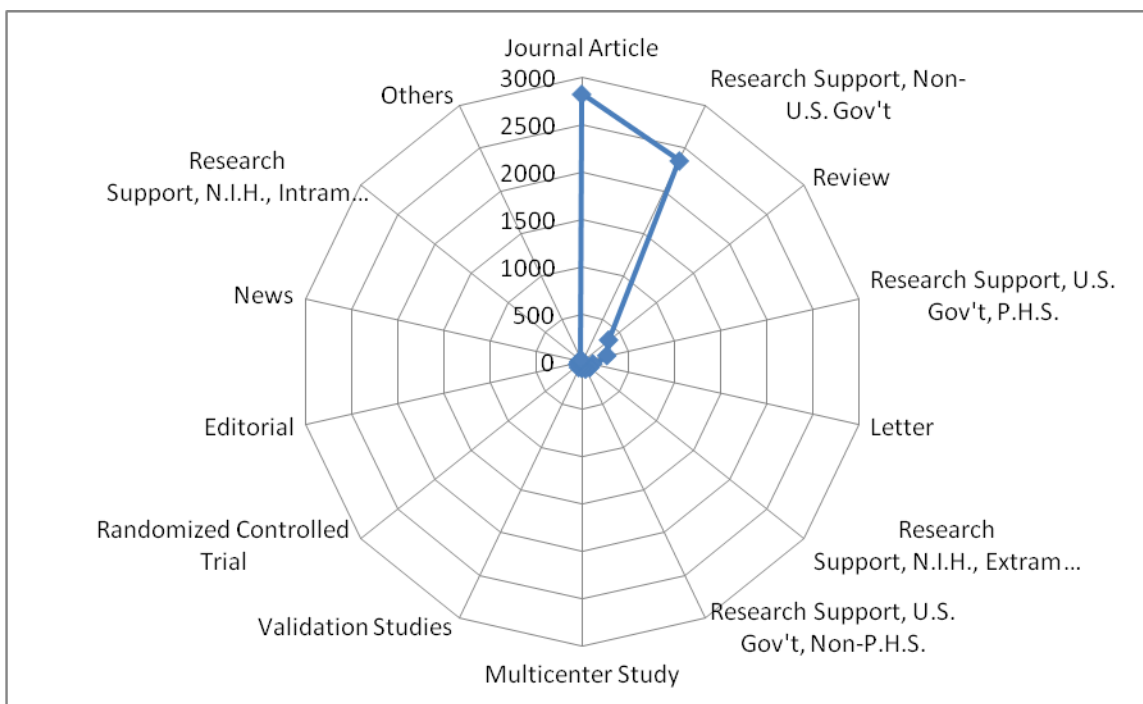


Figure-2 Publication Type

7.3 DISTRIBUTION BY ZONE OF CITED JOURNALS & RECORDS IN BREAST CANCER

A total of 669 journals were cited in the record analysed. When these cited journals were divided in three zones, only 18 journals fell into zone-I, accounting for 33.71% of the total number of citations, zone 2 consisted of 105 journals, 81.61% of the journals cited fell in zone 3, as shown in Table 3. (Fig.3)

TABLE - 3.
Distribution by Zone of Cited Journals & Records in Breast Cancer

Zone	No. of Journals		No. of Papers	
	No.	(%)	No.	(%)
Zone 1	18	2.69	954	33.71
Zone 2	105	15.70	994	35.12
Zone 3	546	81.61	882	31.17
Total	669	100.00	2830	100.00

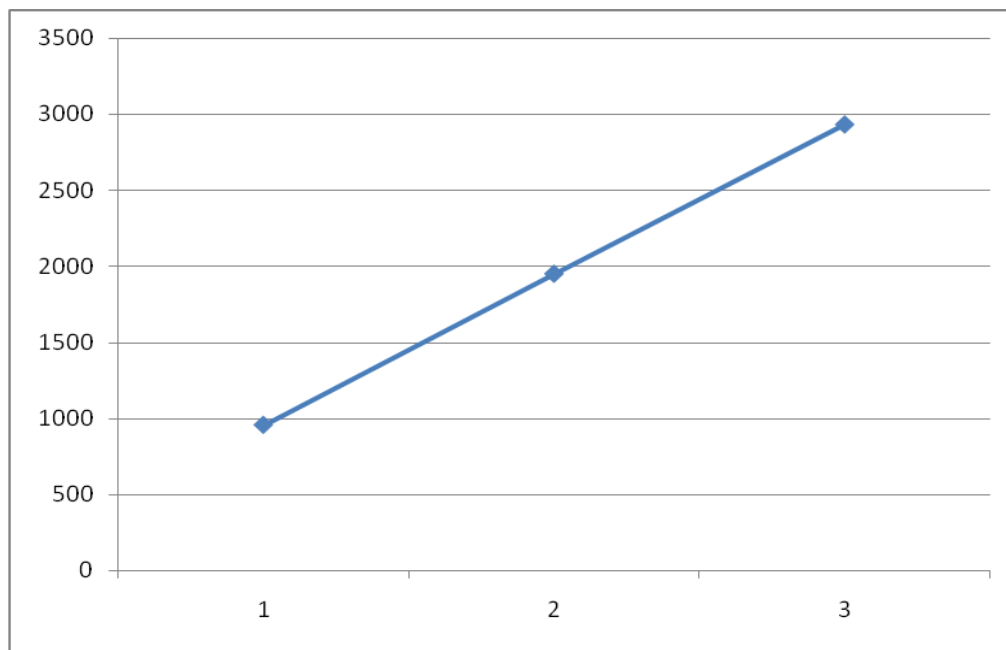


Figure-3 Distributions of Journals by Zones

Table-4 shows that the most cited journals covered the Oncology subject with 55.55%. Of the 18 journals in zone-1, 3 journals are associated with Medicine, 2 with Surgery, one each with Nursing, Nutrition and Public Health. (Fig.-4)

Table-4: Subject wise coverage of Zone-1 Journals in Breast Cancer

S. No.	Subject	Frequency	%	Cumulative %
1	Oncology	10	55.55	55.55
2	Medicine	3	16.66	72.21
3	Surgery	2	11.11	83.32
4	Nursing	1	5.56	88.88
5	Nutrition	1	5.56	94.44
6	Public Health	1	5.56	100
Total		18	100.00	

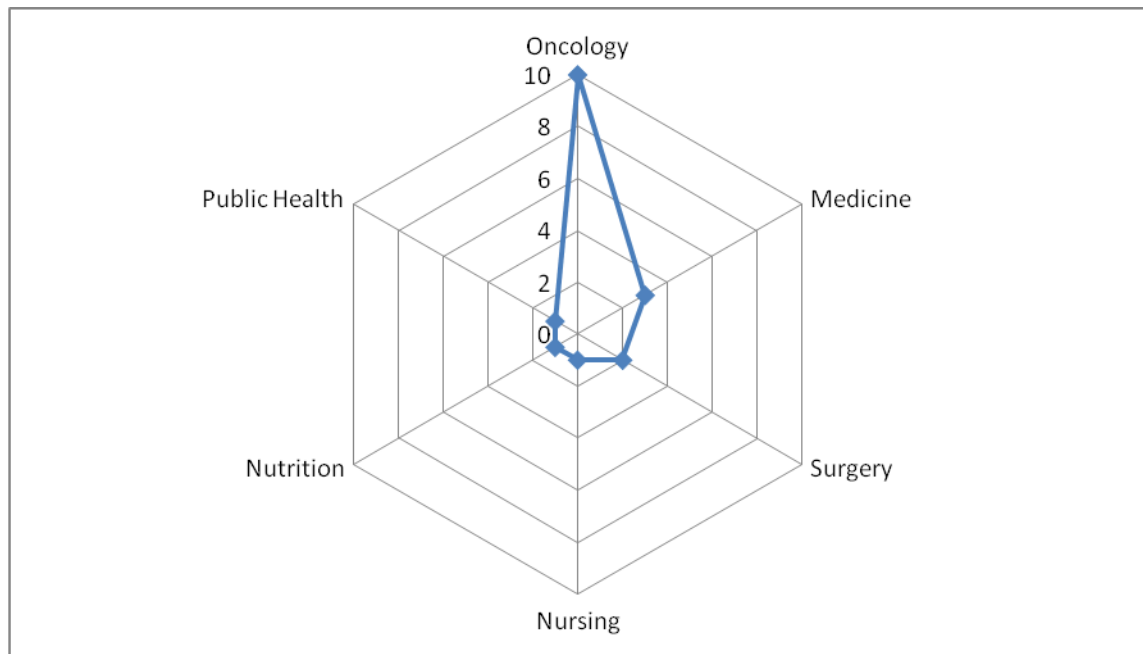


Figure 4 Subject wise coverage of Zone-1 journals in Breast Cancer

Table-5 shows that in zone-2; 47 journals are Oncology subject out of 105 journals covered, 32 in Medicine, 8 in Public Health, 7 in Surgery, 3 in Pathology, 2 each in Epidemiology, Nursing and Radiology and 1 each in Biochemistry and Genetics. (Fig.-5)

Table-5: Subject wise coverage of Zone-2 records in Breast Cancer

S. No.	Subject	Frequency	%	Cumulative %
1.	Oncology	47	44.76	44.76
2.	Medicine	32	30.48	75.24
3.	Public Health	8	7.62	82.86
4.	Surgery	7	6.67	89.53
5.	Pathology	3	2.86	92.39
6.	Epidemiology	2	1.90	94.29
7.	Nursing	2	1.90	96.19
8.	Radiology	2	1.90	98.09
9.	Biochemistry	1	0.95	99.04
10.	Genetics	1	0.95	100.00
Total		105	100.00	

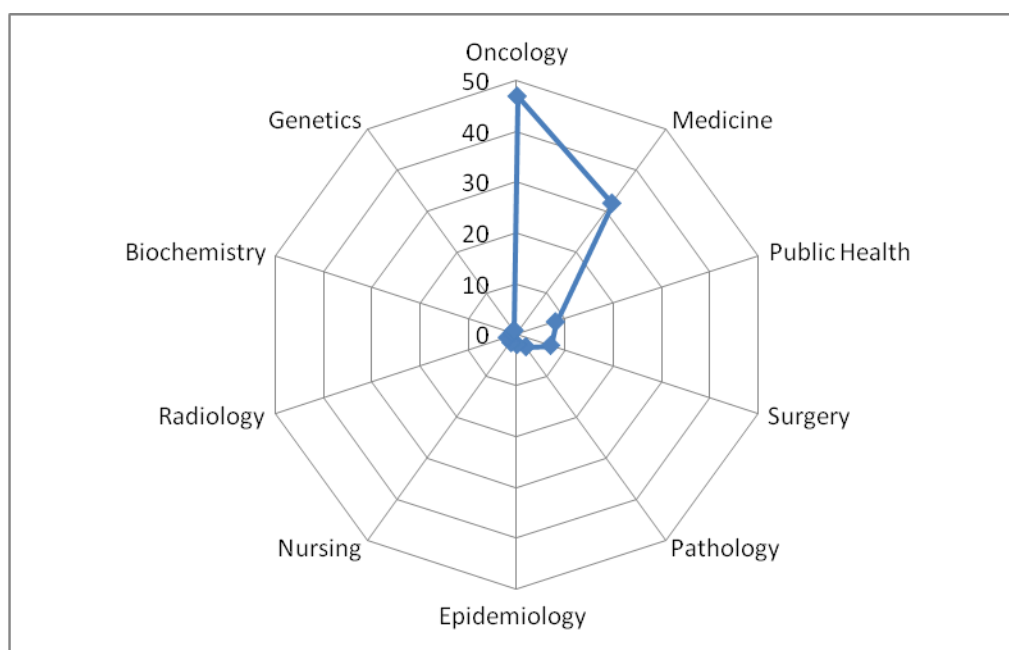


Figure 5 Subject wise coverage of Zone-2 records in Breast Cancer

Table-6 shows that in zone-1 & 2 combined; 57 frequently cited journals are Oncology subject out of 123 journals covered, 35 in Medicine, 9 each in Public Health and Surgery, 3 each in Nursing and Pathology, 2 each in Epidemiology and Radiology, 1 each in Biochemistry, Genetics and Nutrition. (Fig.-6)

Table-6: Subject wise coverage of Zone1 & 2 Journals in Breast Cancer

S. No.	Subject	Frequency	Percent	Cumulative Percent
1.	Oncology	57	46.34	46.34
2.	Medicine	35	28.45	74.79
3.	Public Health	9	7.32	82.11
4.	Surgery	9	7.32	89.43
5.	Nursing	3	2.44	91.87
6.	Pathology	3	2.44	94.31
7.	Epidemiology	2	1.63	95.94
8.	Radiology	2	1.63	97.57
9.	Biochemistry	1	0.81	98.38
10.	Genetics	1	0.81	99.19
11.	Nutrition	1	0.81	100
Total		123	100.00	

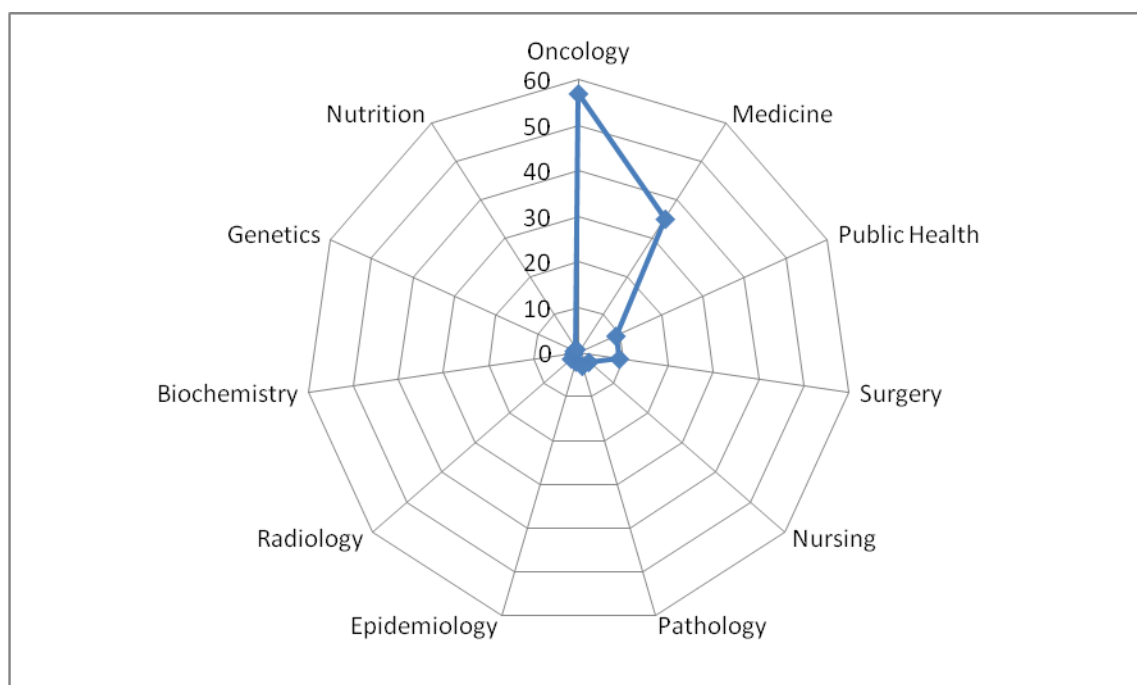


Figure 6 Subject wise coverage of Zone1 & 2 records in Breast Cancer

There are 123 core journals (Table-7) identified in the field of Breast Cancer. The list of the core journals showed that the journals i.e. Asian Pacific journal of cancer prevention : APJCP, Voprosy onkologii, Breast cancer research and treatment, Breast cancer (Tokyo, Japan), Indian journal of cancer, JPMA. The Journal of the Pakistan Medical Association, Japanese journal of clinical oncology, Cancer, International journal

of cancer, Journal international du cancer, Gan to kagaku ryoho, Cancer & chemotherapy are the top ten journals as far as the Breast Cancer research is concerned.

Table-7: Core Journals in Breast Cancer Research

S.No.	Name of the Journal	No. of Records	Rank
1.	Asian Pacific journal of cancer prevention : APJCP	349	1
2.	Voprosy onkologii (Russian)	56	2
3.	Breast cancer research and treatment	53	3
4.	Breast cancer (Tokyo, Japan)	50	4
5.	Indian journal of cancer	48	5
6.	JPMA. The Journal of the Pakistan Medical Association	47	6
7.	Japanese journal of clinical oncology	43	7
8.	Cancer	38	8
9.	International journal of cancer. Journal international du cancer	33	9
10.	Gan to kagaku ryoho. Cancer & chemotherapy (Japanese)	29	10
11.	World journal of surgery	28	11
12.	Breast (Edinburgh, Scotland)	27	12
13.	British journal of cancer	27	12
14.	Gan no rinsho. Japan journal of cancer clinics	27	12
15.	Supportive care in cancer : official journal of the Multinational Association of	26	13
16.	Cancer nursing	25	14
17.	Journal of the Indian Medical Association	24	15
18.	Saudi medical journal	24	15
19.	The breast journal	23	16
20.	Journal of the National Cancer Institute	22	17
21.	IARC scientific publications	21	18
22.	Zhonghua liu xing bing xue za zhi = Zhonghua liuxingbingxue zazhi	21	18
23.	BMC cancer	20	19
24.	Eastern Mediterranean health journal = La revue de sante de la Mediterranee	20	19
25.	Journal of the Medical Association of Thailand = Chotmaihet thangphaet	20	19
26.	Journal of surgical oncology	19	20
27.	Medical oncology (Northwood, London, England)	19	20
28.	Anticancer research	18	21
29.	Asia-Pacific journal of clinical oncology	18	21
30.	Harefuah (Israel)	18	21
31.	Israel journal of medical sciences	17	22
32.	Psycho-oncology	17	22
33.	European journal of oncology nursing : the official journal of European Oncology	15	23
34.	Singapore medical journal	15	23
35.	The Medical journal of Malaysia	14	24
36.	Indian journal of pathology & microbiology	13	25

8. CONCLUSION

The majority of the records were journal articles. In zone-1, 10 journals are associated with Oncology, 3 journals are associated with Medicine, 2 with Surgery, one each with Nursing, Nutrition and Public Health. In zone-2; 47 journals are Oncology subject out of 105 journals covered, 32 in Medicine, 8 in Public Health, 7 in Surgery, 3 in Pathology, 2 each in Epidemiology, Nursing and Radiology and 1 each in Biochemistry and Genetics. In zone-1 & 2 combined; 57 frequently cited journals are Oncology subject out of 123 journals covered, 35 in Medicine, 9 each in Public Health and Surgery, 3 each in Nursing and Pathology, 2 each in Epidemiology and Radiology, 1 each in Biochemistry, Genetics and Nutrition. It shows that the most cited records are Oncology subject. 123 journals are identified as core journals in the field of Breast Cancer.

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