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# Golden Research Thoughts

**GRT****A SCIENTOMETRIC STUDY ON BONE CANCER  
RESEARCH DURING THE YEAR 2000-2014****Dr. P. Gomathi****Assistant Professor , Ph.D Research scholar , Department of Library and information science  
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**C. Sathiya priya****Assistant Professor , Ph.D Research scholar , Department of Library and information science  
Periyar University, Salem , Tamil Nadu, India.****Bone Cancer  
Awareness****ABSTRACT**

**T**his paper presents the Scientometric analysis of International contributions to the disease of bone cancer during the year in 2000-2014. The data for the study has been downloaded from the web of knowledge database. The downloaded 863 data were analyzed with the bibexcel tool. Scientometrics has typically been defined as the Quantitative study of Science and Technology: Scientometric methods are used at regular intervals for the Research Assessment Exercise (RAE) to determine the allocation of funding to research institutions. The focus of Scientometrics is the measurement of science and is therefore concerned with the growth, structure; interrelationship and productivity of

scientific disciplines (Hood & Wilson, 2001a, 291). The research, analysis and discuss on the yearly publication, authorship pattern, language wise, document type and country wise.

**KEYWORDS** :Scientometric, Cancer, Bibexcel tool, Collaboration Pattern, Web of knowledge.

## INTRODUCTION:

The bone cancer disease is a rare type of cancer. Cancer begins in the bone will always be called bone cancer, even if it spreads to other places. The most common cancer that invades bones include prostate, Lung, and breast cancers. The most type of primary bone cancer is osteosarcoma, which develops in new tissue in growing bones. Treatment depends on the type, location, size, and extent of the tumor. Surgery is often the primary treatment. Although amputation of a limb is sometimes necessary for primary bone cancer, chemotherapy has made limb sparing surgery possible in many cases, radiation may also be used. The study is confined period of fifteen years from 2000 to 2014. Coverage in the database web of knowledge. The key word "Bone Cancer" is used to download the results. The results 863 were saved in the text file format. The data were analyzed with tool box named to bibexcel. This is developed by olle person. This software is very useful for analyzing bibliographical data.

**Image – 1**  
**Higher Concentration of Trace Elements Found In Bone Cancer**



## REVIEW OF LITERATURE

Scientometric is complex of quantitative method which is used to investigate to process of science. Jeyshankar and Vellaichamy (2015) were analyzed Indian research output in Lung Cancer. Macias – Chapula and Muangos Nolasco (1998) Analyzed AIDS document produced in sub- Saharan Africa. Senthilkumar, V., Jayaraj,J., and Snjeevi, K. (2015) Analyzed research output in bone cancer. Vishwanathan et al (2015) has analyzed the research output on cervical cancer. Thanuskodi (2011) has studied the articles presented in Library Herald Journal for the period between 2006-2010. Further studied the authorship pattern, research contribution, etc.

## OBJECTIVE OF THE STUDY

- + To analyze the year wise of contributions in Bone Cancer
- + To analyze the Relative Growth Rate and Doubling Time research during 2000-2014
- + To Analyze the Language wise Contribution in Bone Cancer.
- + To examine the Author wise Contribution in Bone Cancer
- + To analyze the Collaboration pattern country wise use the pajeck software.
- + To analyze the Document type wise distribution in Bone Cancer.

- † To analyze the source wise distribution in bone cancer research.

## DATA ANALYSIS AND INTERPRETATION

**Table1: Year wise Distribution of bone cancer research during 2000-2014**

Year of publication	Records	%
2000	22	2.55
2001	15	1.74
2002	26	3.01
2003	34	3.94
2004	31	3.59
2005	47	5.45
2006	46	5.33
2007	41	4.75
2008	59	6.84
2009	61	7.06
2010	73	8.46
2011	70	8.11
2012	93	10.78
2013	105	12.17
2014	140	16.22
<b>Total</b>	<b>863</b>	<b>100</b>

The year wise distribution 863 articles published from 2000-2014 in web of knowledge is presented in the table 1. It is seen that the majority number of articles published in the year 2014 with 140 (16.22%) articles. However 105 (12.17%) of them were published in the year 2013, 93 (10.78%) of them were published in the year 2012, however 73 (8.46%) of them were published in the year 2010, 70 (8.11%) of them were published in the year 2011. Were 61 (7.06%) of them were published in the year 2009 respectively.

**Table 2: Relative Growth Rate and Doubling Time research during the year 2000-2014**

Year	Total No. of Articles	Cumulative No. of Articles	W1	W2	R (a)	Mean	Doubling Time Dt (a)	Mean Doubling Time
2000	25	25		3.21				
2001	15	40	3.21	3.69	0.48		1.44	
2002	26	66	3.69	4.19	0.5		1.38	
2003	34	100	4.19	4.6	0.41		1.69	
2004	31	131	4.6	4.88	0.28		2.47	
2005	47	178	4.88	5.18	0.3		2.31	
2006	46	224	5.18	5.41	0.23		3.01	
2007	41	265	5.41	5.58	0.17	0.23	4.07	3.03
2008	59	324	5.58	5.78	0.2		3.46	
2009	61	385	5.78	5.95	0.17		4.07	
2010	73	458	5.95	6.13	0.18		3.85	
2011	70	528	6.13	6.27	0.14		4.95	
2012	93	621	6.27	6.43	0.16		4.33	
2013	105	726	6.43	6.58	0.15		4.62	
2014	140	863	6.58	6.76	0.18		3.85	

The relative growth rate [R (c)] and doubling time [Dt (c)] of citations are derived and presented in Table 2. It can be noticed that relative growth of publication [R (c)] Decreased from the rate (0.48) in 2000 to (0.18) 2014. The mean relative growth for fifteen years (i.e. 2000-2014) showed a growth rate of (0.23) whereas the corresponding doubling time for different years [Dt (c)] gradually increased from (1.44) in 2000 to (3.85) in 2014. The mean doubling time for the fifteen years (i.e. 2000-2014) was only 3.03 which was increased to corresponding doubling time was increased.

**Table 3: Language wise Distribution of bone cancer research**

Language	Report	%
English	843	97.68
France	7	0.81
German	6	0.69
Japanese	2	0.23
Spanish	2	0.23
Chinese	1	0.12
Korean	1	0.12
Italian	1	0.12
<b>Total</b>	<b>863</b>	<b>100</b>

The distribution of bone cancer disease article by language is shown in table 3. The scholarly communication is through English language in almost all the countries, irrespective of the native language of the country. This phenomenon is not an exception to the subject of the bone cancer article which published about (97.68%) of the research output in English. Then followed by France (0.81%) as to second position respectively. Therefore, from the above analysis, it is inferred that the English language is dominating in the scholarly communicating of bone cancer research.

**Table 4: Authorship pattern**

No. of authors	No. of record	%
1	59	6.84
2	89	10.31
3	98	11.35
4	101	11.7
5	94	10.89
6	104	12.05
7	102	11.82
8	43	4.98
9	52	6.03
10	30	3.48
11	18	2.08
12	26	3.01
13	11	1.27
14	11	1.27
15	3	0.35
16	4	0.46

17	4	0.46
18	2	0.23
20	2	0.23
21	3	0.34
22	1	0.12
23	1	0.12
24	1	0.12
26	2	0.23
39	1	0.12
50	1	0.12
<b>Total</b>	<b>863</b>	<b>100</b>

The study of authorship pattern or productivity is one of the important aspect in the bibliometric analysis. Generally it is necessary to concentrate on authorship patter to assess the research contributions in a field and bone cancer research is not an exception. The authorship pattern in analyzed to determine the type of research and their percentage. It is found from the table 4. The Six authors' occupy the first position 104 (12.05%). The Seven authors article contributes 102 numbers (11.82%) and occupy the second position followed by the four authors article contributing 101 numbers (11.70%) and occupy third position.

**Table 5: Document wise distribution of bone cancer research**

Document Type	No. of Papers	%
Article	635	73.58
Review	116	13.44
Meeting Abstract	65	7.53
Article; Proceedings Paper	25	2.89
Editorial Material	10	1.16
Letter	9	1.04
News Item	2	0.23
Correction	1	0.12
<b>Total</b>	<b>863</b>	<b>100</b>

During the study period, out of 863 publications, most of the publication (73.58%) was found an article followed by (13.44%) review; (7.53%) meeting abstract and other type of publications like conference paper, editorial material, letter, News item, Correction were below (1.5%) in table 5. It makes to understand that most preferred publishing channel of the researches was journal articles.

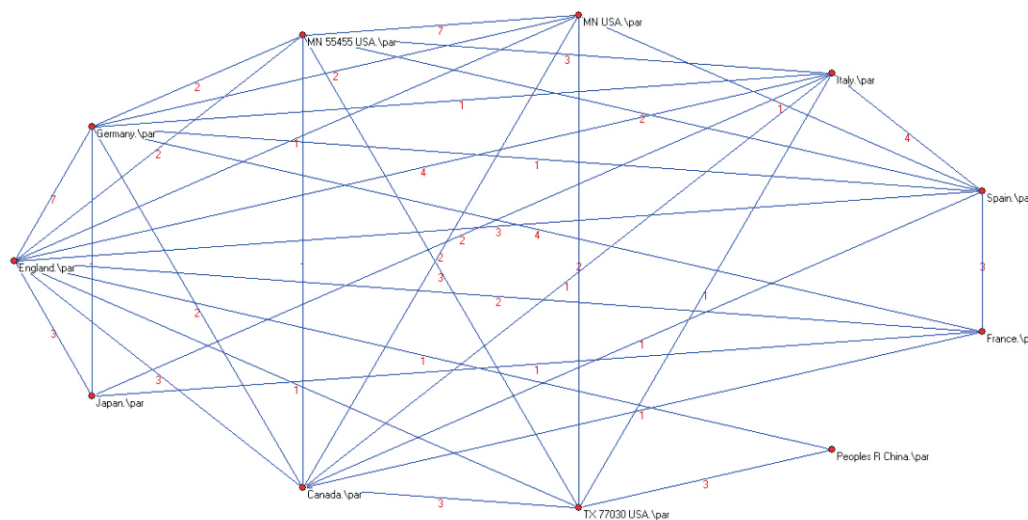


**Table 6: Top twenty 20 Country Collaboration**

Country	Records	% of 863
China	136	15.76
England	64	7.42
USA	57	6.6
Japan	53	6.14
Spain	43	4.98
Italy	43	4.98
Germany	40	4.63
Canada	39	4.52
France	27	3.13
TX USA	25	2.89
MN USA	24	2.78
MD USA	23	2.66
Netherlands	20	2.31
Australia	19	2.2
MN USA	18	2.08
Taiwan	18	2.08
AZ USA	15	1.73
CA USA	15	1.73
India	14	1.62
MA USA	13	1.5

**Image – 2**

**Vector Analysis of country collaboration of bone cancer research**



Distribution of contribution of bone cancer by country wise is presented in table 6. It is seen from the table that china has produced (136) records ranking in first position, England (64) in the second and the USA (57) in the third position respectively. Indian contributions (14) have been ranked



in 29th position. The data cited document field was taken for the analysis with the help of “Any: separator” in the Bibexcel tool. As a result “out” file was obtained. On this basis “.net” was created. The “.net” file was called from the pajek. From the pajek the highly cited map was created.

**Table 7: Source wise distribution of bone cancer research**

Source per records	Records	%
Pain	35	4.05
Bone	17	1.96
Plos One	16	1.85
Cancer Research	14	1.62
Neuroscience	14	1.62
Radiation Research	12	1.39
Pediatric Blood & Cancer	11	1.27
Journal of Bone And Mineral Research	11	1.27
Journal of Pharmacological Sciences	10	1.15
Pharmacology, Biochemistry And Behavior	10	1.15
Brain Research	9	1.04
Molecular Pain	9	1.04
European Journal Of Pharmacology	9	1.04
Health Physics	9	1.04
Cancer	9	1.04
European Journal Of Pain	8	0.92
Anesthesiology	8	0.92
Cancer Treatment Reviews	8	0.92
Journal of Neuroscience	7	0.81

The study found that the total source wise distribution of publication for the study period (2000-2014) downloaded data was web of knowledge. As the major portion research publication 35 covered by pain in bone, pols, one, cancer research and so on.

## CONCLUSION

Concluding results from the analysis of collecting data appended 863 of bone cancer is presented in a manner corresponding to objective of the study. I could be deducted, that in general there is a progressive increase in the number of publications of research on bone cancer disease. The mean relative growth for the total year's percentage of 0.23. The Corresponding Doubling time for different years [Dt (a)] gradually increased from 3.03 in 2000-2014. The highest percentage of publication has been published in the year 2014 (140). The lowest percentage of bone cancer research articles have been published in the year 2001 (15). English 843 (97.68%) is the most important language found during the study undertaken. The other languages France, German, Japanese, etc. Majority of the paper have published in reputed journals like a man in pain, bone, pols one, cancer research and so on. During the study period contribution of researcher in terms of publications is not significant.

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