

## **INDIAN JOURNAL OF MEDICAL SCIENCE: A SCIENTOMETRIC STUDY**

**Dr. Mrs. Shubhangi Prabhakar Rao Bidarkar**

Librarian

Govt. Institute of Science,

Aurangabad, Maharashtra, India

### **Abstract**

*The study is based on the Scientometric analysis of 345 research article published in Journal of Medical Science during the period of 2010-2014. This Study will review on length of the title, numbers of pages, type of document, chronological distribution of article, no of references print as well as web references authorship pattern, The findings must reveal various aspects of the characteristics and patterns of contributions of the study.*

**Keywords: Scientometric, Indian Journal of Medical Science**

### **1.0 Introduction**

#### **1.1 Scientometrics**

Scientometrics is the science of measuring and analyzing science. In practice, Scientometrics is often done using Bibliometrics which is a measurement of the impact of (scientific) publications.

Scientometrics is the science of method scientific output similar to Bibliometrics used by librarians and information scientist. (Agrawal, aruna, 1982); related fields are the history of science and technology philosophy of science and sociology of scientific knowledge. (Eugene Garfield, 1995) ; application of mathematical and statistical methods of scientific literature (Derek de Solla, 2000) ; to identify national an international network and to map the development of new fields of science and technology as well as to know the inner logic of science development (YadavJaisi Ram, 1984) ; this enables to evaluate the size of scientific production on the assumption that the essence of scientific activity is the assumption the production of knowledge (Eugene Garfield, 2002); open access has emerged in the last few years as serious alternative to additional commercial publishing models taking the benefits offered by technology one step further (Wasudevan K T 1995); one significant finding in the field is principle of cost escalation to the effect that achieving further findings at a given level of

importance grow exponentially more costly in the expenditure of efforts and resources (Manavalan R 1982) ; other characteristics of open access journals are that author relation copyrights and they must self achieved content in an independent repository (David Wilson, 2001); modern Scientometrics is mostly based on latter founded the institute for scientific information which is heavily used for Scientometric analysis (Derek, J. 1995); currently prepares and international methodological manual that will contain guidelines for creating applying and interpreting the indices based on Bibliometric data (Eva Rodenas, 2001).

## **1.2 Definitional Analysis:**

### **1.2.1**

**SCIENTOMETRICS:- A complex of quantitative mathematical and statistical methods used to investigate such aspects as research staff, and to define evolutionary & prospectus of science (Bonitz, 1999). Scientometrics is a very recent term .It is often used synonymously with the term bibliometrics.**

Scientometrics is a quantative study of disciplines of science based on published literature and communication. This could include identifying emerging areas of scientific research, examining the development of research over time or geographic and organizational distribution of research,(Glossary of Thompson,2008).

SCIENTOMETRIC ANALYSIS:- The main currency for an academician is his reputation just as that for the politician is the politician is the power the commands and that for the business person is the wealth he has accumulated (Becher, 1989). LISA:- Library and Info are many definitions for the term"Scientometrics" in the literature; Scientometrics is the quantitative study of the disciplines of science based on published literature and communication. This could include identifying emerging areas of scientific research, examining the development of research over time, or geographic and organizational distributions of research (Glossary of Thompson..., 2008).

Tague-Sutcliffe (1992) defines Scientometrics as "the study of the quantitative aspects of science as a discipline or economic activity. It is part of the social There are many definitions for the term"Scientometrics" in the literature; Scientometrics is the quantitative study of the disciplines of science based on published literature and communication. This could include identifying

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### **1.2.2 Indian Journal of Medical Science**

#### **About Journal**

It is a multi-disciplinary, peer reviewed, open access medical journal being published quarterly from Jammu, J&K. It is a step & Endeavour to satisfy the professional quest, collect & disseminate medical information & scientific knowledge about various current medical problems, update & increase the interaction among the medical fraternity in the larger interest of the suffering mankind. Besides other medical literature, this journal contains Editorial, Review Articles, Original Articles & various interesting Case Reports. "JK Science" promises to be an important medical communication and journal of scientific excellence in the field of medicine .<http://www.indianjmedsci.org>

### **1.3 Review of Literature**

- **Alhamdi & others (2014)** has conducted a Scientometric analysis. The study revealed that most of the papers (71.4%) contributed by multiple authors. USA is the top producing country with 8 (14.3%). All the articles were in English language. The mean doubling time for the first five years (i.e. 2004 to 2008) is only (1.05) which is increased to (6.07) during the last five years (2009 to 2013).
- **Bidyarthi and Durga (2013)** The scientometric study of 1198 articles on Cosmology research. The two- authored publications highest almost 33%. A. Pradhan is the most productive author with 57 publications USA (12.13%) topmost country.

- **Bala and Gupta** (2010) have analyzed research profile of biochemistry, genetics and molecular biology research in India. Publications output of 45,712 papers and 2.37 % in 2007. India's world ranking improved form 14<sup>th</sup> in global context. 20 most productive institutions in India's total research during 1998-2007 were 40.91%.
- **Kumar** ,(2014) conducted scientometric study of Digital Literacy in Online LISTA. Results indicate that majority of articles published during the year 2009-2011 and focus mainly on academic education. International Information & Library Review has published greater number of articles on digital literacy.

## **2.0 Objectives of the Study:**

The primary objective of this study is to understand the growth of Journal of Medical Science and their research output in global during the period 2010 - 2014. More specific objectives are as follows:

1. To study the year-wise distribution of articles
2. To find out the authorship pattern in the publication.
3. To find out the Author wise distribution of articles.
4. To identify the length of title wise distribution of Contribution
5. To find out the reference of the article (Print as well as Web).
6. Length of Pages wise distribution of article

## **3.0 Hypothesis:**

The following hypotheses are formulated for the present study.

1. Maximum articles are published in year 2010.
2. Majority of the contributions are contributed by Three Authors.
3. Majority of the references are print references.

## **4.0 Scope and Limitation of the Study:**

The present study is based on the Scientometrics Profiles of journal of Medical Science. The present study is based on over all 345 articles during 2010-2014.

**5.0 Data Collection:**

The data was collected from journal of Medical Science, with the help of Microsoft office excel 1 total 345 articles, during 2010-2014.

**6.0 Data Analysis and Interpretation:**

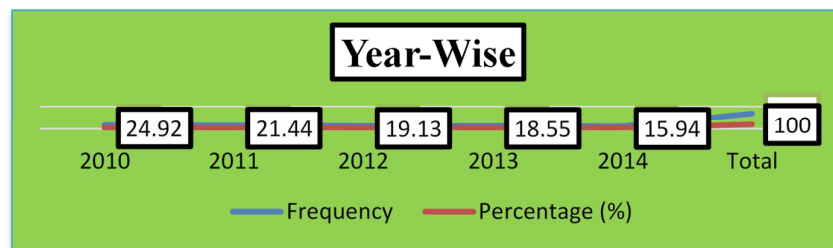
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**Year-Wise Distribution of Contributions**

**Table No. 6.1: Year-Wise Distribution of Contributions**

Year	Frequency	Percentage (%)
2010	86	24.92
2011	74	21.44
2012	66	19.13
2013	64	18.55
2014	55	15.94
<b>Total</b>	<b>345</b>	<b>100</b>

**Figure No 6.1.1 Distribution of contributions (year-wise)**



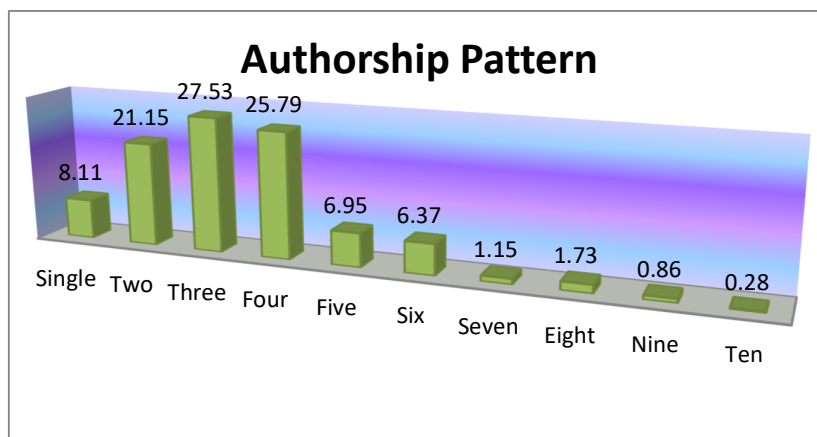
It can be observed from the table No. 6.1 & Figure no. 6.1.1 out of the total 345 contributions majority of the contributions i.e. 86 contributions were contributed in 2010 were as minimum contributions i.e. 55 contributions were contributed in 2014. **In which hypothesis no.01 is valid. “Majority of the contributions are contributed in 2010” Table no, 6.1.**

**Authorship pattern of contribution**

**Table No.6.2: Authorship pattern of contributions**

Number of Authors			
Sr No	Number of Author	Frequency	Percentage (%)
1	Single	28	8.11
2	Two	73	21.15
3	Three	95	27.53
4	Four	89	25.79
5	Five	24	6.95
6	Six	22	6.37
7	Seven	4	1.15
8	Eight	6	1.73
9	Nine	3	0.86
10	Ten	1	0.28
<b>Total</b>		<b>345</b>	<b>100</b>

**Figure No. 6.2.1 Authorship pattern of contributions**



The distribution of Authorship pattern is given in the Table No.6.2. The table shows the multi authorship is predominant then single authors. Table No. 6.2 & Figure no. 6.2.1 indicates the majority of the contributions are contributed by three authors. **In which hypothesis no.02 is valid. “Majority of the contributions are contributed by Three authors” Table no, 6.2.**

**Author wise distribution of article**

**Table No. 6.3 Author wise distribution of article**

<b>Author Name</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Aalia R Sufi	6	1.73
Abdul Waris	6	1.73
Sanjay Anand,	6	1.73
Amandeep K Anand	5	1.44
Hardeep Kaur	5	1.44
Sadat Bashir,	4	1.15
Amit Suri	4	1.15
Renuka Chowdary	4	1.15
Anirudh Kaul,	3	0.86
Anita Koul	3	0.86
Rakesh kaul	3	0.86
Pankaj Mahajan	3	0.86
Archana Gupta	3	0.86
Rakhi J Dhok	3	0.86
Balwant Oberoi	3	0.86
Sarbjeet Taj	3	0.86
Sakshi Khurana	3	0.86
Ashfaq ul Hassan	3	0.86
Two time publication (2* 33)	66	19.13
Single Author Publication (1*209)	209	60.57
<b>Total</b>	<b>345</b>	<b>100</b>

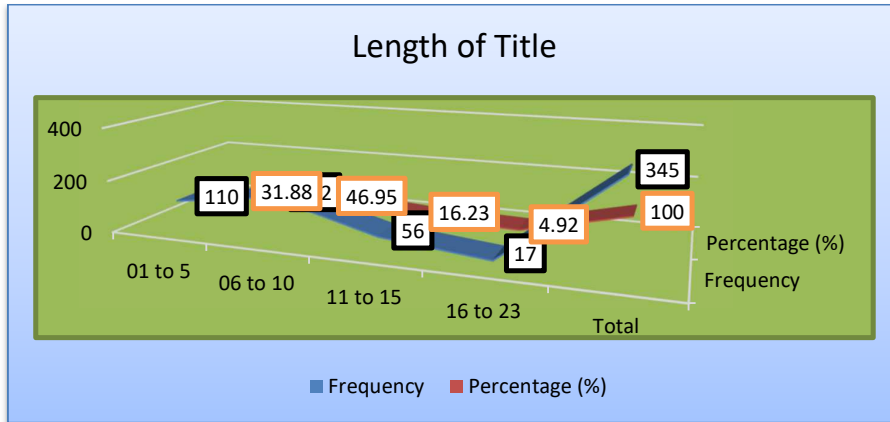
It can be observed from the table no 6.3 they had 6 publication name of these Three author Aalia R Sufi ,Abdul Waris and Sanjay Anand.then5 author published 2 articles and 4 author published 3 articles and 3 author published 10 articles 2 time publication were 66 authors and 209 author had only one publication.

**Length of Title wise distribution of Contribution**

**Table No 6.4 Length of Title wise distribution of Contribution**

Length of Title	Frequency	Percentage (%)
01 to 5	162	46.95
06 to 10	110	31.88
11 to 15	56	16.23
16 to 21	17	4.92
<b>Total</b>	<b>345</b>	<b>100</b>

**Figure no. 6.4.1 Length of Title wise distribution of Contribution.**



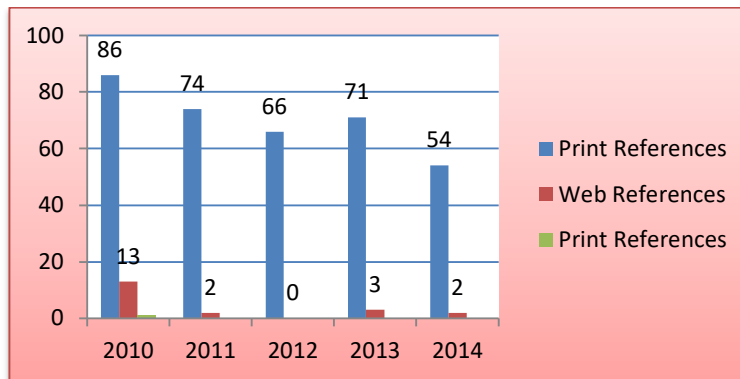
It can be observed from the table no 6.4 and figure no 6.4.1 Show that Length of Title wise distribution of contribution, there were as many as total 345 articles. The highest length of title are 162 (46.95%) are from 1 to 5, 110 (31.88) followed by 6 to 10 Length of Title are 56 (16.23%) followed by 11 to 15 Length of Title and remaining four articles were from 16 to more than Title.

**References wise distribution of article**

**Table No. 6.5 References wise distribution of article**

year	Print References	Web References	Total No. of References	Percentage
2010	86	13	99	26.68
2011	74	2	76	20.48
2012	66	0	66	17.78
2013	71	3	74	19.94
2014	54	2	56	15.09
<b>Total</b>	<b>351</b>	<b>20</b>	<b>371</b>	<b>100</b>

**Figure no.6.5.1 References wise distribution of article**



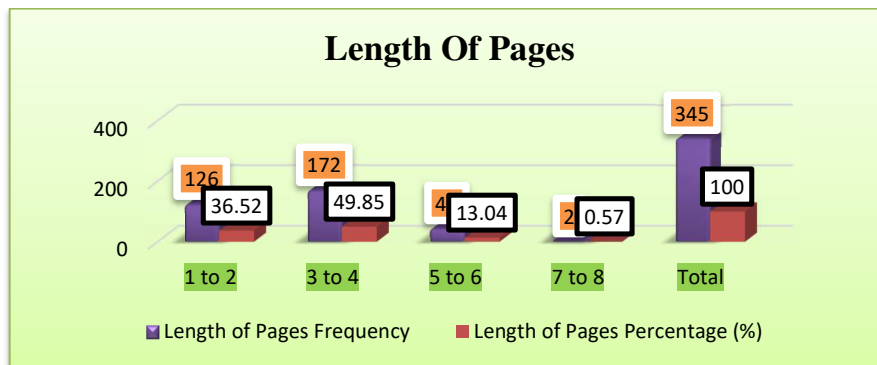
It can be observed from the table no 6.5 and figure No.6.5.1 also maximum articles are from print references the majority print references in the year of 2010 were 86. and then the minimum references are from web references total 20 web references in the duration of 2010 to 2014 and majority web references in the year of 2010 is total 13 web references are given there. **In which hypothesis no.03 is valid. “Majority of the contributions are contributed by print references”**

**Length of Pages wise distribution of Article**

**Table No.6.6 Length of Pages wise distribution of article**

<b>Length of Pages</b>		
<b>Length of Pages</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1 to 2	126	36.52
3 to 4	172	49.85
5 to 6	45	13.04
7 to 8	2	0.57
<b>Total</b>	<b>345</b>	<b>100</b>

**Figure no. 6.6.1 Length of Title wise distribution of article**



It can be observed from the table no 6.6 and figure no 6.6.1 the majority articles length of pages 126(36.52%)articles publication from 1 to 2 pages. Then172(49.85%) articles were published from 3 to 4.then45 (13.04 %) articles published from 5 to 6 pages and remaining 2 articles were from 7 to more than pages.

## **7.0 FINDINGS:**

1. The highest numbers 86 (24.92%) of papers were published in the year 2010 .
2. More than two-third, 40 (71.4%) papers were contributed by multiple authors.
3. Most productive authors are Aalia R Sufi, Abdul Waris and Sanjay Anand who had contributed 6 Papers.
4. The majority 172 of publications have citations from 03 to 04.
5. Majority references are from print references.
- 6.. Majority of web references are available in year 2010.

## **CONCLUSION:**

Scientometric is relatively new subject of information. It helps to evaluate information & to handle the information in libraries and information centers by the quantitative analyzed information. It deals with the mathematical and statistical analysis. This is an umbrella term used for many studies where quantitative method or techniques are used to investigate various aspect of written document.

We concluded that the present study is based on Medical Science during the period from 2010-2014 on the “Journal of Medical Science. this study is completed with the help of Microsoft office excel .This study is helpful for researchers in medical science. it is good and informative for the researcher.

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