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SCIENTOMETRIC ANALYSIS OF INFERTILITY THROUGH WEB OF SCIENCE DURING THE YEAR 2012-2017

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ABSTRACT

　　This paper represents the Scientometric analysis of International contributions to the **"Infertility"** during the year in 2012-2017. The data for the study has been downloaded from the Web of Science (Clarivate Analysis) database. The 17671 data were downloaded from the database. Scientometric is a scientific analysis in a particular field; it allows academic literature to be tested qualitatively and quantitatively. The studies about infertility were analyzed regarding the scientific growth rate of the respective subject, to determine the allocation of funding institutions. And also analysis and discussion with the yearly publication output, authorship productivity, language – wise release, type of document and countries collaboration.

KEY WORD: Scientometrics, impotence, Infertility, Qualitative .

INTRODUCTION:

　　In this modern technological era, the most of the young couples are suffering from Infertility illness. Despite all the facilities, the wealth of an infant is not equal to any wealth. Because every living thing desire to root their progeny after the death; In this view, the man is not the exception. Infertility is a massive attack on the human reproductive system. Infertility is a biological inability to reproduce naturally. In order to World Health Organization defines the Infertility is "a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse". There are many causes of infertility, such as Ovulation Problems, PCOs, tubal blockage, uterine problems, Fibroids and Premature ovarian failure in females, Azoospermia and Oligospermia in males are commonly identified the problem for natural pregnancy. Food and modern lifestyle are the main causes of this disease. Research around the world has been going to overcome this problem.

DATA COLLECTION

　　The study is a limited period of six years from 2012 to 2017. The database web of science was used for collect the data. The key word "Infertility" is used to download the results. The results 17671 were retrieved from the database and convert to numerical data through the Web of Science analyze result tool.

REVIEW OF LITERATURE

　　Despite the surge in population growth, the decreased fertility rate is a sensational problem of modern technological lifestyle. This defect is the same for both male and female. The numerous study has been conducted by various researchers during the above mentioned period. Particularly Fatemeh Makkizadeh Ph.D. and Farzaneh Sa'adat M.A. (2017) was analyzed and published the article entitle of "Bibliometric and thematic analysis of articles in the field of infertility (2011-2015)". They are collecting the data from the PubMed database

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for the five years, using key term Infertility and study focused on the thematic analysis.

OBJECTIVES OF THE STUDY:-

1. To analyze the year wise of contribution in Infertility research
2. To analyze the Author wise contribution in Infertility research
3. To analyze the country collaboration in the field of study
4. To analyze the document type in a field of research
5. To analyze the publication institutions in infertility research

ANALYTICAL STUDY

In total, we found 17671 articles in the field of infertility indexed in Web of Science for the year 2012 – 2017. Table:1 displayed year wise distribution of Infertility research.

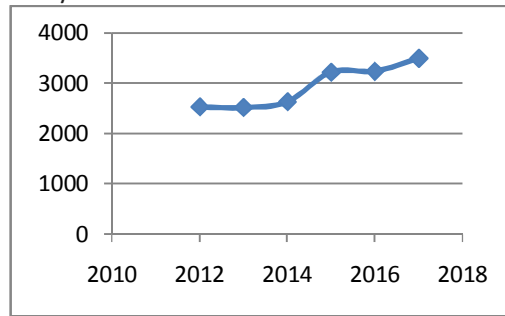| S.No	Publication Years	Records	% of 17671
1	2017	3502	19.81
2	2016	3240	18.33
3	2015	3225	18.25
4	2014	2640	14.94
5	2013	2525	14.28
6	2012	2539	14.36
	Total	17671	100

Table & Figure: 1 Representation of Year-wise distribution of infertility research output

It is seen that the total no 1 of the articles is 17671, the majority of articles published in the year 2017 with 3502 (19.81%). However, 3240 (18.33%) of them were published in the year 2016. Through the Figure no: 1, we can see clearly, research is averagely growing this subject year by year.

Author wise distribution of Infertility research during 2012 – 2017

The Study of authorship pattern or productivity is one of the major aspects of this analytical study. Generally, it is necessary to concentrate on the authorship pattern to assess the research contributions in a field and Infertility research is not an exception. The authorship pattern is analyzed to determine the type of research and their percentage. It is found from the table: 2. The Agarwala A has published 154 (20.75%) papers out of 742 papers; He is in the first position among the top ten authors. Next Esteves S.C is getting the second place, but he published 75 (10.10%) half part of the first position.

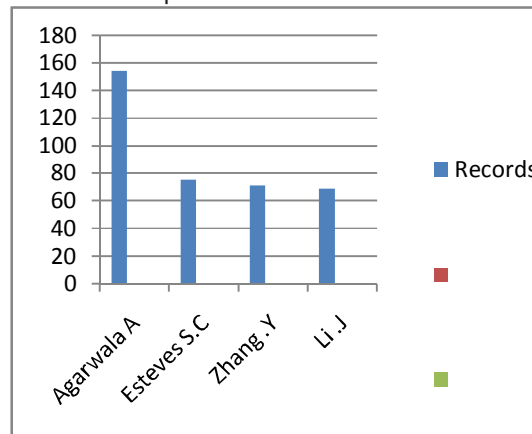| S.No		Records	%
1	Agarwala A	154	20.75
2	Esteves S.C	75	10.10
3	Zhang .Y	71	9.57
4	Li .J	69	9.29
5	Wang. Y	65	8.77
6	Zhang. J	65	8.76
7	Wang. L	64	8.62
8	Li. Z	61	8.22
9	Hauser. R	59	7.96
10	Legro R.S	59	7.96
	Total	742	100

Table & Figure: 2 Author wise distribution of Infertility output

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During the study period, out of 17823 publications, most of the publication 13519 (75.85%) was found an article followed by 2269 (12.73%) review, followed by 1025 (5.75%) Meeting abstract and another type of publications like Editorial material, Proceedings Paper, Letter, Book chapters are in the next places. It makes to understand that most preferred publishing channel of the researches was journal articles.

S.No	Document Types	Records	%
1	Article	13519	75.85
2	Review	2269	12.73
3	Meeting Abstract	1025	5.75
4	Editorial Material	516	2.89
5	Proceedings paper	238	1.33
6	Letter	119	0.68
7	Book chapter	62	0.34
8	Book review	31	0.18
9	Correction	26	0.14
10	News item	18	0.10
	Total	**17823**	**100**

Table & Figure: 3 Documentation wise distribution of Infertility Output

The Table 4 displays, the top 10 countries that published the articles in the field of infertility 2012-2017. The countries with the most published papers were the USA 4582(34.25%), followed by China 2102 (15.71%), and Italy 1052 (7.87%). The admirable thing is, China is the world first populated country; nevertheless, it is the second country in the field of Infertility research through the world wide. India, the world's second most populous nation after China. It is in the sixth place in this research table.

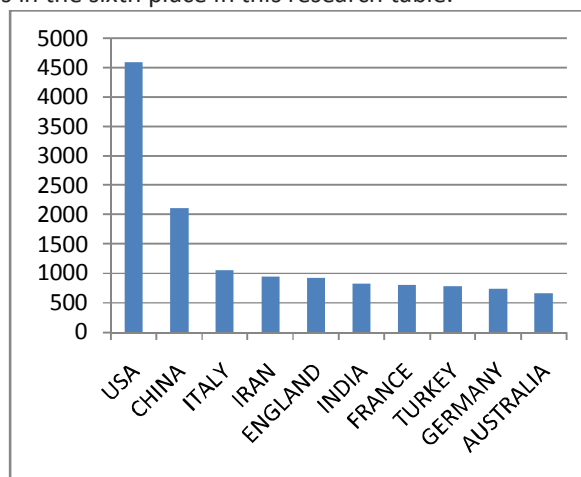| S.No		Records	%
1	USA	4582	34.25
2	China	2102	15.71
3	Italy	1052	7.87
4	Iran	941	7.03
5	England	916	6.84
6	India	818	6.11
7	France	801	5.99
8	Turkey	774	5.80
9	Germany	735	5.50
10	Australia	655	4.90
	Total	**13376**	**100**

Table & Figure: 4 Top Ten country Collaboration Output

Table 5 represents the institution wise research output in the field of infertility. It is seen from the table Harvard University has produced 228 (13.53%) records ranking in first place out of 1686. Univ Tehran Med Sci 191 (11.32%) in the second place and the Cleveland Clin 174 (10.32) in third position respectively. Univ Sao Paulo 141(8.37%) is last ranked out of 10 institutions in 2012 to 2017 research.

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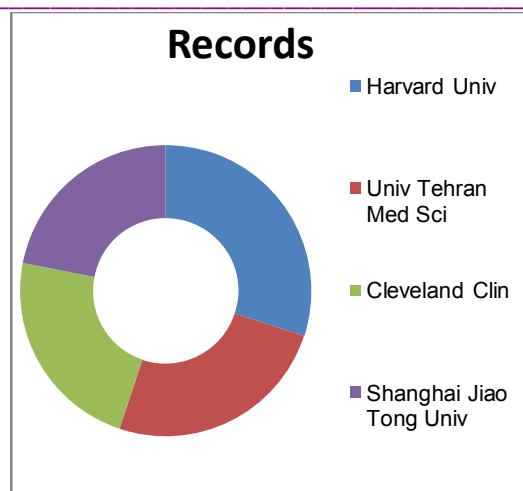| S.No	Institution	Records	%
1	Harvard Univ	228	13.53
2	Univ Tehran Med Sci	191	11.32
3	Cleveland Clin	174	10.32
4	Shanghai Jiao Tong Univ	167	9.90
5	Baylor Coll Med	161	9.55
6	Nanjing Med Univ	157	9.31
7	Acecr	156	9.25
8	Mcgill Univ	156	9.25
9	Univ Copenhagen	155	9.20
10	Univ Sao Paulo	141	8.37
	Total	**1686**	**100**

Table & Figure: 5 Top 10 Institution wise Infertility Research Distribution

Journal wise distribution represents in table 6. It is seen from the table that infertility has produced 5804 (32.79%) records ranking in the first position in out of 17696 (32.79%), Reproductive Biology 4672 (26.42%) in the second place, Endocrinology Metabolism 1119 (6.32%) in the third position respectively. This study relates to breeding; the first two position journals are purely dealing with the human reproductive system; therefore more than 60% of papers published in these two journals. Remaining papers are published in other journals it's related to infertility study.

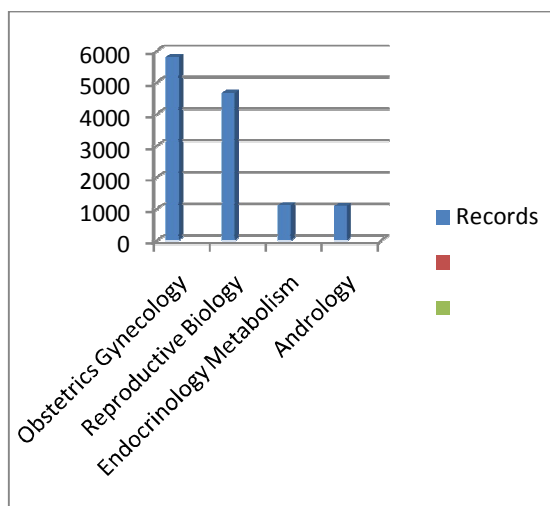| S.No		Records	%
1	Obstetrics Gynecology	5804	32.79
2	Reproductive Biology	4672	26.42
3	Endocrinology Metabolism	1119	6.32
4	Andrology	1096	6.2
5	Medicine General Internal	1016	5.74
6	Urology Nephrology	943	5.32
7	Genetics Heredity	934	5.27
8	Biochemistry Molecular Biology	758	4.28
9	Cell Biology	679	3.84
10	Multidisciplinary Sciences	675	3.82
	Total	**17696**	**100**

Table & Figure: 6 Top 10 Journal Wise Research Distributions

FINDING AND CONCLUSION

The Scientometric analysis is most effective studies in the field of Library and Information science and research. It is very helpful to identify the latest trends in a particular field. This study covered up to 2012 – 2017 and data collected from the Web of Science database. The study analyzed the contribution of authors and research outputs in a particular period through various aspects. Year wise distribution is gradually increasing every year, the finding the result of this study Agarwal. A is the highest researcher on this subject.

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The USA is the top most country regard this research topic, followed by China in second place; more than 70% of records are articles, review and meeting records are in subsequent places. The Harvard University, University of Tehran Medical Sciences and Cleveland Clin are top three institutions of this research. The majority of papers have published in Obstetrics, Gynecology and Reproductive Biology.

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