

Research Impact on “Continenence”: A Scientometric Study on the Literature Output from SCOPUS

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Abstract - The hit rate of the media increasingly grew from day to day on sexual harassment and other crime as sex has its base. Therefore, to assess the response of the global social scientists, a study has been conducted with the support of scientometric tools. Relevant data were downloaded from the SCOPUS on “Continenence”. Hypotheses were framed and duly tested with appropriate statistical tools. The Year wise growth of publications, language wise publications, type of documents involved in the publications and top ten journals were assessed. The prediction of Lotka has been tested with KS Test. Finally, it is suggested to encourage the global social scientists to publish many more articles on the ethical background to improve the value of ethics of the society.

Keywords: Scientometric, Continenence, Regression Test, Kolmogorov Smirnov Test, Lotka’s Law

I. INTRODUCTION

The word “Continenence” is derived from the latin word “Continentia”, which mean “a holding back”. In general the word “Continenence” refers to “self control”.¹The day to day media strikes with intolerable news of enormous crimes because of the lack of incontinenence among the contemporary generation. Right from the child to the aged people are being affected by the delinquent whose acts are filled with incontinenence. The act of “Continenence” should be practiced by all sorts of peoples, irrespective of age, gender and professions, because it is one of the valuable asset to build a quality society. To improve, increase and implement the system of “Continenence”, a scientometric analysis has been done by ascertaining the number of publications published and indexed in “SCOPUS”.

II. REVIEW OF LITERATURE

The study was based on the data downloaded from “Web of Science” on the research topic “Marine” from the year 2008 to 2017. The publications indexed in the database were only 2912 records. It was proved through the Regression test that there was a significant relationship between the publications published and indexed from 2008 to 2012 and publications of 2013 to 2017. Journal articles played prominent role in publishing majority of the publications. English language publications were most prolific than other languages. The doubling time possibility of the second half of the records of 2013 to 2017 is 5 months and 5 days, where as the first half of the doubling time of the records of

2008 to 2012 is 8 months and 17 days.¹The scientometric study was on the literature output on “Childhood Obesity”. Relevant data were downloaded from PUBMED Medline data base from the year 1997 to 2016. It was identified that 4366 articles were published and the year 2015 was most prolific with 857 articles. The journal entitled “Pediatric Obesity” was placed first with 182 (4.17%) articles. Multi-authored papers played a predominant role with 3768 (86%) number of publications and the contribution of single author was 598 (14%). The prediction of Lotka has been accepted through Karl Migoorov Test.³ The scientometric research work has been conducted for ten years from 2003 to 2010 reveals a data collection of 16958. It was identified that there were eleven different type of documents were involved towards the publications on “nanomaterials”. Chi square test was applied and assessed that the frequency of the publications was quite good to go for a Time Series Analysis to predict the future number of publications. “English” language was predominant over other languages. Journal articles were more prolific among the different type of publications. Bradford’s Law has been applied to identify the core journals. It was suggested to allocate more funds to promote the research on “nanomaterials” for the benefit of the society.⁴

III. NEED FOR THE STUDY

The flash news of media reveals that there is a lacuna in the application of “Continenence” in the day to day life of each and every individual, which leads to many more crime and society becomes polluted. Therefore, it was decided to go for a scientometric study on the literature output on “Continenence” to assess the response of the social scientists on the contemporary situation of the society.

IV. METHODOLOGY

Data relevant to the publications published on “Continenence” and indexed in “SCOPUS” are downloaded from 2008 to 2017

A. Hypotheses

1. H₀: There is no significant relationship between the publications indexed in SCOPUS from 2008 to 2012 and 2013 to 2017.

2. H0: There is no significant relationship between the Lotka’s Law and the actual author productivity.

IV. RESULTS

A. Year wise Publication of Records

The year wise research publications on “Continence” from the year 2008 to 2017 reveals that 7243 publications were indexed in “SCOPUS”. The growth of the number of publications are seems to be neither in a steady continuous increasing trend nor decreasing. It is assessed that the number of publications of 769 in the year 2015 was most productive. The year 2014 was placed in the second place with 760 publications. The year 2013 was placed in the third place with a publication count of 752. Further, to assess the deviation among the publications it was decided to go for a regression test. The regression test conducted to assess the deviation among the number of publications published from the two set of years. The first set of year is 2008 to 2012 and the second of years is from 2013 to 2017. This can be a base test to take decision of predicting the future number of publications through statistical analysis of “Time Series” and the calculation of the “Doubling Time of Records”.

TABLE I YEAR WISE PUBLICATIONS

Year	No. of Records
2017	721
2016	722
2015	769
2014	760
2013	752
2012	694
2011	735
2010	721
2009	687
2008	682
Total	7243

B. Regression Test

TABLE II REGRESSION STATISTICS

Multiple R	0.232785457
R Square	0.054189069
Adjusted R Square	-0.26108124
Standard Error	24.82519693
Observations	5

TABLE III REGRESSION TEST

	Coefficients	Standard Error	t Stat	P-value
Intercept	902.018	379.379	2.378	0.098
X Variable 1	-0.223	0.539	0.415	0.706

The table III indicates the regression test conducted for the above mentioned two sets of data. The test reveals that the P-value of 0.706 is greater than the critical value 0.05 and therefore it is interpreted that the null hypothesis “There is no relationship between the first half of the number of publications and the second half of the number of publications” is accepted. Further, through the test, it is further proved to express that there is no possibility of conducting a “Time Series Analysis” to predict the possibility of the future number of publications and calculation of “Doubling Time” to predict the doubling time of the current total records of 7243. Therefore, the hypothesis framed “H0: There is no significant relationship between the publications indexed in SCOPUS from 2008 to 2012 and 2013 to 2017”, is accepted.

C. Language wise Publications

TABLE IV LANGUAGE WISE PERCENTAGE ANALYSIS

Sl. No.	Language	No. of Records	%
1	English	6576	89.555
2	German	196	2.669
3	French	185	2.519
4	Spanish	105	1.430
5	Chinese	80	1.089
6	Japanese	37	0.504
7	Turkish	25	0.340
8	Portuguese	23	0.313
9	Korean	21	0.286
10	Russian	21	0.286
11	Czech	18	0.245
12	Dutch	14	0.191
13	Italian	11	0.150
14	Polish	9	0.123
15	Croatian	3	0.041
16	Persian	3	0.041
17	Slovak	3	0.041
18	Bulgarian	2	0.027
19	Lithuanian	2	0.027
20	Serbian	2	0.027
21	Arabic	1	0.014
22	Azerbaijani	1	0.014
23	Danish	1	0.014
24	Finnish	1	0.014
25	Hebrew	1	0.014
26	Hungarian	1	0.014
27	Slovenian	1	0.014
Total		7343	100

It was identified that twenty seven countries were involved towards the publications of 7343 records on “Continenence”. Among them, the language “English” plays a predominant role towards publishing 6576 records and placed first among the other language publications. “German” language placed second with a record count of 190 records. The third place is occupied by “French” language with a record count of 185.

D. Document wise Publications

TABLE V DOCUMENT WISE PERCENTAGE ANALYSIS

Sl. No.	Type of Documents	No. of Records	%
1	Article	5449	75.23
2	Review	921	12.72
3	Book Chapter	241	3.33
4	Note	205	2.83
5	Conference Paper	140	1.93
6	Letter	80	1.10
7	Editorial	68	0.94
8	Short Survey	67	0.93
9	Article in Press	31	0.43
10	Erratum	28	0.39
11	Book	11	0.15
12	Conference Review	2	0.03
Total		7243	100

The publications of 7243 records on “Continenence” are involved with twelve type of documents. Out of the twelve type of publications, article is placed in the first place with a record count of 5449(75.23%). The second place is occupied by the document “Review” with a record count of 921(12.72%). “Book Chapter” placed in the third place with a record count of 241(3.33%) records.

E. Top Ten Journals

The top ten Journals are identified and tabled in Table No.4.5. Out of which, the journal entitled “Journal of Wound Ostomy and Continenence Nursing” leads the table with 616 publications. “Journal of Urology” placed in the second place with 344 number of publications. The third place is occupied by the journal entitled “International Neurourology Journal” with 275 number of publications. The Journal entitled “Urology” credited with 215 publications; “Neurourology and Urodynamics” with a publication count of 197; “BJU International” with a publication count of 196; “European Urology” with a record count of 161; “Diseases of the Colon and Return” with a record count of 142; “ International Urogynecology Journal” with a record count of 134 and “Journal of Paediatric Urology” with a publication count of 118, placed fourth, fifth, sixth, seventh, eighth, ninth and tenth respectively.

TABLE VI TOP TEN JOURNALS

Sl. No.	Journal	No. of Records
1	Journal Of Wound Ostomy And Continenence Nursing	616
2	Journal Of Urology	344
3	International Neurourology Journal	275
4	Urology	215
5	Neurourology And Urodynamics	197
6	BJU International	196
7	European Urology	161
8	Diseases Of The Colon And Rectum	142
9	International Urogynecology Journal	134
10	Journal Of Pediatric Urology	118

F. Top Ten Country wise Publications

United States of America stands first in publishing more number of publications on “Continenence” with a publication count of 2018. The second place is occupied by United Kingdom with a publication count of 862. There was great marginal difference between the first place and second place. The third place is occupied by Germany with a record count of 561. The continent “Europe” plays dominant role in publishing more literatures on “Continenence” than any other continents.

TABLE VII TOP TEN COUNTRY WISE PUBLICATIONS

Sl. No.	Country	No. of Records
1	United States	2018
2	United Kingdom	862
3	Germany	561
4	Italy	472
5	France	423
6	South Korea	357
7	Australia	330
8	Canada	281
9	Netherlands	234

G. Application of Lotka’s Law

The prediction of Lotka has been tested with the application of Kolmogorov Smirnov Test. It was identified that the value of ‘n’ as “0.451”. The assessment was also made to find out the Thresh Hold Value as 0.06. Finally, the D-Max Value was identified as 0.46. As the D-Max value of 0.46 is greater than the Thresh Hold Value of 0.06, it is observed that the Lotka’s Law does not fit to the author productivity of this research data. Therefore, the null Hypothesis framed as “H0: There is no significant relationship between the Lotka’s Law and the actual author productivity” is accepted.

TABLE VIII APPLICATION AND TESTING OF LOTKA’S LAW WITH KOLMOGOROV SMIRNOV TEST

No. of Records	No. of Authors	Observed Value						Lotka's Law				
		X	Y	XY	XX	D	O	Cum. of y	1/xn	fe	cum fe	Dif
1	475	0.00	2.68	0	0.00	0.64	0.64	475	1	0.18	0.18	0.46
2	28	0.30	1.45	0.43564	0.09	0.04	0.68	503	0.73	0.13	0.32	0.36
3	46	0.48	1.66	0.79334	0.23	0.06	0.74	549	0.61	0.11	0.43	0.31
5	18	0.70	1.26	0.8774	0.49	0.02	0.77	567	0.48	0.09	0.52	0.25
6	20	0.78	1.30	1.0124	0.61	0.03	0.79	587	0.45	0.08	0.60	0.20
8	17	0.90	1.23	1.11121	0.82	0.02	0.82	604	0.39	0.07	0.67	0.15
18	16	1.26	1.20	1.5115	1.58	0.02	0.84	620	0.27	0.05	0.72	0.12
21	14	1.32	1.15	1.51543	1.75	0.02	0.86	634	0.25	0.05	0.76	0.09
24	15	1.38	1.18	1.62325	1.90	0.02	0.88	649	0.24	0.04	0.81	0.07
41	13	1.61	1.11	1.79655	2.60	0.02	0.89	662	0.19	0.03	0.84	0.05
64	12	1.81	1.08	1.9492	3.26	0.02	0.91	674	0.15	0.03	0.87	0.04
88	11	1.94	1.04	2.02497	3.78	0.01	0.93	685	0.13	0.02	0.89	0.03
182	10	2.26	1.00	2.26007	5.11	0.01	0.94	695	0.10	0.02	0.91	0.03
253	9	2.40	0.95	2.29316	5.77	0.01	0.95	704	0.08	0.02	0.93	0.02
392	8	2.59	0.90	2.34197	6.73	0.01	0.96	712	0.07	0.01	0.94	0.02
539	7	2.73	0.85	2.30846	7.46	0.01	0.97	719	0.06	0.01	0.95	0.02
862	6	2.94	0.78	2.28427	8.62	0.01	0.98	725	0.05	0.01	0.96	0.02
913	3	2.96	0.48	1.4125	8.76	0.00	0.98	728	0.05	0.01	0.97	0.02
926	5	2.97	0.70	2.07357	8.80	0.01	0.99	733	0.05	0.01	0.97	0.02
927	2	2.97	0.30	0.89318	8.80	0.00	0.99	735	0.05	0.01	0.98	0.01
944	4	2.97	0.60	1.79111	8.85	0.01	1.00	739	0.05	0.01	0.99	0.01
1009	1	3.00	0.00	0	9.02	0.00	1.00	740	0.04	0.01	1.00	0.00
	740	40.28	22.89	32.3092	95.03	1.00	19.51		5.48	1		

V. CONCLUSION

A Total number of 7243 publications were published from the year 2008 to 2017. The year 2015 was most prolific with 769 publications. It was proved through the Regression Test that the frequency of the publications was uneven and therefore it is not possible to predict the doubling time of records. The Kolmogorov Smirnov Test is conducted to check the prediction of “Alfred Lotka” and the test proves that the law of Lotka cannot be acceptable for the data indexed in SCOPUS on “Continenace”.

It is suggested that the research scholars and scientists of social science should be encouraged to publish many more articles to boost the morality level of thinking of each and

every individual to have absolute “Continenace” to develop a society of high ethical values.

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