Statistical Analysis of the Journal of Saidu Medical College, Swat, Pakistan

Abid Hussain[1], Saeed Ullah Jan[2], Muhammad Ibrahim[3], Abdus Salam[4], Sarah Saeed[3]

ABSTRACT

Background: The bibliometric or bibliographic analysis is a quantitative approach towards the documentary flow of information. The main theme behind this attribute is to analyze the bibliographic data of the research published by journals/scholars in a specific area. Being a portrait of the journal, it serves as an instrument for the promotion, quality, and standardization of journals.

Objective: To study the bibliometric attributes of the published articles of Journal of Saidu Medical College (JSMC), Swat, Khyber Pakhtunkhwa, Pakistan from 2007 to 2017.

Material & Methods: This study was a multi-dimensional bibliometric approach towards the research productively of an esteemed medical research journal published by Saidu Medical College, Saidu Sharif, Swat. The title, abstract, author's affiliation and collaboration, gender, subject matter, the date of publication and references were used as an information source for bibliometric data collection.

Results: Male 823(86%) contributors were dominant over female 134 (14%). More productive year was 2014 with 36 (16.74%) articles per year. Authors from various parts of the county have contributed in This Journal. Most 80 (40%) of the authors are from the district Swat. Journal was cited as a major source 2623 (63.85%) in Journal of Saidu Medical College. Surgery 35 (17.50%), Community Medicine 27 (13.50%), Medicine 20 (10.00%), Gynecology 15 (7.50%) and E.N.T 14 (7.00 %) are addressed more than other medical specialties.

Conclusion: JSMC is publishing the articles of National standards and promote research activities in the field of medical science. From 2007 to 2017, this prestigious journal has published 200 original articles, majority of which have been published in 2014. Male authors published more than female. Collaborative research culture was adopted by the contributors. Authors from Swat have published more than other geographical areas. Journal was the most cited source in the articles of JSMC. Surgery was focused more than other 36 specialties.

Key Words: *Bibliometric, Statistical Analysis of JSMC, Thematic approach, Citation Pattern.*

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INTRODUCTION

Prichard is considered as the first person who coined the term *"bibliometric"* for the first time in 1969 and gained popularity in 1980. Broadus is of the view that bibliometric is the quantitative study which deals with the processing of published documents including articles, reports and case studies. Scientometric, statistical analysis and bibliometric are the words used for this securitization of research documents. The first study conducted on this aspect of Librarianship was the analysis of the literature of comparative anatomy from 1543 to 1860. This study was basically carried out by calculation of books and journal's titles and by grouping them country wise. Now a days a reasonable number of library and Information Science experts are addressing this emerging area of library profession.

Journal Of Saidu Medical College (JSMC)

Journal of Saidu Medical College (JSMC) is a Leading medical research journal published by Department of Research and Development (R&D), Saidu Medical College, Saidu Sharif, Swat Khyber Pakhtunkhwa (KP) Pakistan. Saidu Medical College (SMC) is a public sector medical college, established in 1998 and working under the control of Health Department, Government KP and affiliated with Khyber Medical University, Peshawar, Pakistan.

JSMC started in the year 2007 and published quarterly only for a year. The attractive valley of Swat has gone through a difficult period of the history during *Talibanization* era from 2007 to mid of 2010. Due to the unstable situation at Swat, the journal could not be published for four years (From 2008 to 2011). In the year 2012, this research journal was regularly started as a biannual publication. The main objective of the journal is to provide a platform to the medical professionals for their research activities and to contribute to improving the quality of life by innovation in health and medical education sectors nationwide. JSMC is recognized by Pakistan Medical and Dental Council (PM&DC) Islamabad via Pakistan Index No: *IP/0064* and Declaration No. 278/28/AG-I . Printed International Standard Serial Number (ISSN) of JSMC is 1819-4583. Archived and Listed by *PakMediNet* (Pakistan first leading medical

1. Saidu Medical College, Saidu Sharif, Swat
2. Khushal Khan Khattak University, Karak
3.Peshawar Medical College, Peshawar
4. Library of Congress Filed Office Islamabad, Pakistan

Correspondence: Abid Hussain
Librarian, Saidu Medical College, Saidu Sharif, Swat
Email: abid_as44@yahoo.com
Cell:03005911910

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Journals database). Articles from JSMC are indexed & abstracted in Google Scholar and Semantic Scholar. The Journal editorial and advisory board consists of national and international medical research specialists.

MATERIAL AND METHODS

This study was a multi-dimensional bibliometric approach towards the research productive of an esteemed medical research journal published by the Department of Research and Development, Saidu Medical College (SMC) Saidu Sharif Swat officially titled as "Journal of Saidu Medical College and abbreviated as "JSMC". Before getting started, consent of the chief editor was acquired through electronic correspondence. The main purpose behind the prior approval of the editor was to know whether this type of work has been done on this journal or in the pipeline.

The title, abstract, author's affiliation and collaboration, gender, subject matter, the date of publication and references were used as an information source for bibliometric data collection. All published research articles from 2007 to 2017 were selected for analysis from the printed issues of JSMC which was available at Saidu Medical College Library and Available online at: (http://smcswat.edu.pk/current-issue.php) and (http://jsmc.pk/index.php/jsmc). The JSMC started in 2007 and published for only one year as quarterly. In the year 2012, the JSMC was restarted on regular basis as biannual publication.

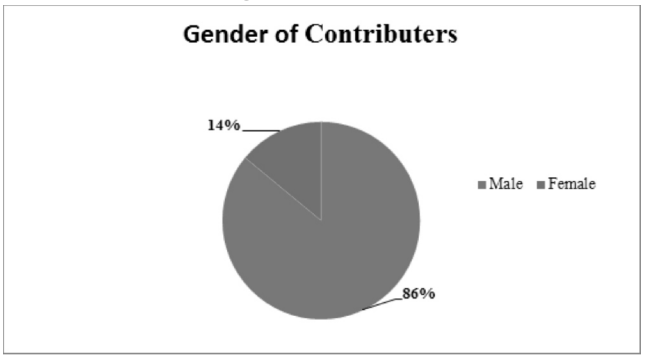
The primary investigation explores that there are 200 original articles, 9 case reports, 4 letters to the editor, 1 review articles and one short report were published by this prestigious official medical research journal of Saidu Medical College, Saidu Sharif, Swat, from 2007 to 2017. For the sake of convenience only original articles are designated for this study.

The data extracted were entered into Microsoft Excel spreadsheet for refinement and eradication of errors. The results derived were discussed and recommendations were made on the basics of finding. Finally, conclusions were drawn for sake of brevity.

RESULT

Year wise distribution of Table 1 reflects that year 2014 is the most 38 (18.74 %) productive followed by year 2007 and 2013. Year 2015 is the less 25 (11.63 %) productive era in the specified time span of this quality research Journal.

Figure 1 Gender



The analysis of Figure 1 elucidates that male 823 (86.00 %) contribution is more dominant as compared to female 134 (14.00 %) contributors.

Figure 2 Length of the Article (No. Of Pages)

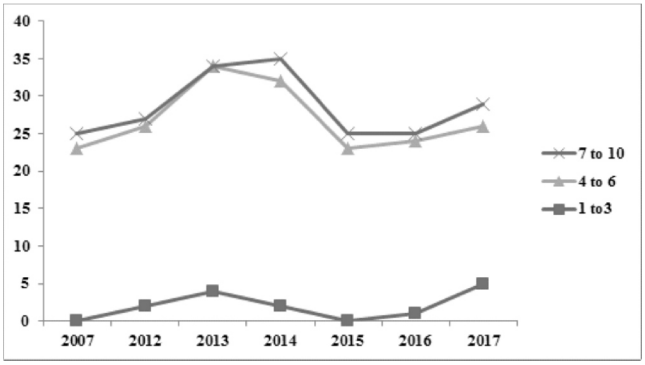


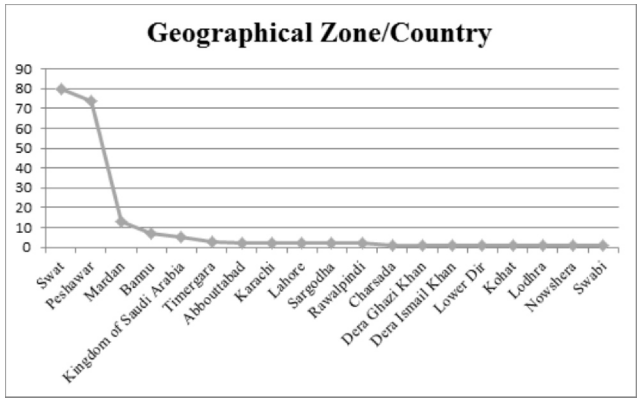
Table 1: Year wise distribution of Articles

Year	No of Issue	Original Article	Review Article	Case Report	Letter to Editor	Short Report	Total	Percentage
2007	4	25	1	5	4	0	35	16.28
2012	2	27	0	1	0	0	28	13.02
2013	2	34	0	1	0	0	35	16.28
2014	2	35	0	1	0	0	38	18.74
2015	2	25	0	0	0	0	25	11.63
2016	2	25	0	0	0	1	26	12.09
2017	2	29	0	1	0	0	30	13.95
Total	16	200	1	9	4	1	215	100
Percentage		93.02	0.47	4.19	1.86	0.47	100	

The assessment of above data depicts that majority 174 (87.00 %) of the article length is 4 to 6 pages and less 12 (6.00 %) number of articles published by this esteemed journal is 7 to 10 pages.

Authorship pattern of Journal of Saidu Medical College is represented in Table 2. Some 47 (23.50 %) good numbers of articles was published by four authors jointly. Followed by 45 (22.50%) Fiver authors contribution. Very few 6 (3.00 %) are single authors article and majority are 194 (97.00 %) joint contribution articles in the research journal. Baladi Zh and Umedani Lv reported that Pakistan Journal of Medical Science has 147 (12.02 %) articles of single authored.

Figure 3 Geographical Affiliation of Principal Authors



The analysis of Figure 3 shows the geographical affiliation of principal authors. Some good number 80 (40.00 %) of contributors are from the beautiful valley of Swat followed by Peshawar 74 (37.00%) the capital city of Khyber Pakhtunkhwa. It is noted that only 5 (2.50%) principal authors were from abroad.

Table 3 represents the citation patters of the original article published by the JSMC. It is revealed from the analysis that the journals were the most 2623 (63.85 %) cited source by the authors followed by the books 1209 (29.43 %). Others sources included reviewed article, case studies, newspapers, research poster were 117 (2.85 %). Less 26 (0.63 %) cited source were Websites. Ullah S, Jan SU, Jan T, Ahmad ST, Jan MY, and Rauf MA, stated that research Journal was the most 13310 (92.36%) cited document in the Journal of The College of Physicians and Surgeons of Pakistan (JCPSP).

The assessment of Table 4 reveals that Surgery is the most documented subject as compared to other fields of Medical sciences. Community Medicine followed by Medicine and Gynaecology clinched 2nd, 3rd and fourth position respectively. The articles in the area of Tuberculosis, Rheumatology, Pulmonary, Psychology, Nutrition, Medical Ethics, Liver & Kidney Diseases, Histopathology, Forensic Medicine and Appendicitis seem rare or almost lacking in this esteemed Journal. Ibrahim, Muhammad and Saeed Ullah Jan (2015) pinpointed Community Medicine on the top followed by Clinical Medicine and Surgery as most addressed subjects in Pakistan Journal of Medical Association from 2009 to 2013.

Table 2: Authorship Patterns

Year	One	Two	Three	Four	Five	Six	Seven & More	Total	Percentage
2007	0	1	6	6	4	5	3	25	12.50
2012	1	1	3	9	8	2	3	27	13.50
2013	2	1	5	7	7	4	8	34	17.00
2014	2	3	6	3	8	7	6	35	17.50
2015	1	2	5	6	5	3	3	25	12.50
2016	0	0	2	6	11	5	1	25	12.50
2017	0	2	5	10	2	6	4	29	14.50
Total	6	10	32	47	45	32	28	200	100
Percentage	3.00	5.00	16.00	23.50	22.50	16.00	14.00	100	
Single Author Contribution =				6 (3 %)		Joint Authors Contributions =			194 (97.00%)

Table 3: Citation Pattern

Year	Journals	Books	Websites	Reports	Conference Proceeding	Other	Total	Percentage
2007	362	112	0	11	5	12	502	12.22
2012	364	139	0	25	7	26	561	13.66
2013	369	210	13	8	9	15	624	15.19
2014	441	236	10	23	14	22	746	18.16
2015	334	197	0	6	6	10	553	13.46
2016	333	130	0	3	5	15	486	11.83
2017	420	185	3	2	9	17	636	15.48
Total	2623	1209	26	78	55	117	4108	100
Percentage	63.85	29.43	0.63	1.90	1.34	2.85	100	

Table 4: Thematic Approach

S.No	Theme of Articles	Frequency	Percentage	Cumulative Percentage
1	Surgery	35	17.5	17.5
2	Community Medicine	27	13.5	31.0
3	Medicine	20	10	41.0
4	Gynaecology	15	7.5	48.5
5	E.N.T	14	7.0	55.5
6	Pharmacology	9	4.5	60.0
7	Pediatrics	8	4.0	64.0
8	Cardiology	5	2.5	66.5
9	Diabetes	5	2.5	69.0
10	Orthopedic	5	2.5	71.5
11	Pathology	5	2.5	74.0
12	Urology	5	2.5	76.5
13	Gastroenterology	4	2.0	78.5
14	Heart Disease	4	2.0	80.5
15	Cancer	3	1.5	82.0
16	Hematology	3	1.5	83.5
17	Obstetrics	3	1.5	85.0
18	Ophthalmology	3	1.5	86.5
19	Anatomy	2	1.0	87.5
20	Biochemistry	2	1.0	88.5
21	Dermatology	2	1.0	89.5
22	Hepatitis	2	1.0	90.5
23	Neurology	2	1.0	91.5
24	Neurosurgery	2	1.0	92.5
25	Physiology	2	1.0	93.5
26	Radiology	2	1.0	94.5
27	Appendicitis	1	0.5	95.0
28	Forensic Medicine	1	0.5	95.5
29	Histopathology	1	0.5	96.0
30	Kidney Disease	1	0.5	96.5
31	Liver Disease	1	0.5	97.0
32	Medical Ethics	1	0.5	97.5
33	Nutrition	1	0.5	98.0
34	Psychology	1	0.5	98.5
35	Pulmonary disease	1	0.5	99.0
36	Rheumatology	1	0.5	99.5
37	Tuberculosis	1	0.5	100
	Total	200	100	

DISCUSSION

Bibliometric is a statistical method used to assess the documentary flow of information. It is a magnifying glass used for the critical review of scholarly documents. It is termed as a portrait of a research based manuscripts. Various studies have been conducted by eminent library scientists at local level and abroad. Interesting is to note that medical field is mostly addressed by the researchers for these studies. Midrar Ullah, Khalid Mehmood, Mirza Muhammad Naseer, Muhammad Ibrahim, Saeed Ullah Jan, Abid Hussain, Arsalan Sheikh, Ishtiaq Ahmad, Saeed Ullah, Dr. Rafia Ahmed Sheikh and so many local library experts have addressed bibliometric studies of different research documents.

The scrutiny of present study reveals that the year 2014 has proved to be the most productive year. It is further reflected that contribution of male authors is more as compared to female. Female writers should be motivated and encouraged to contribute in this important research journal. Female authors should have to address the medical issues of women as women are the almost half of the total population of Pakistan. The analysis of the collected data shows that majority of the articles have length 4 to 6 pages. More than seven pages' articles are very rare. Authors should be instructed to produce little bit brief and qualitative manuscripts.

Joint contribution is on the top at this esteemed Journal. A reasonable number of research papers have been written by four authors who communicate a positive message to the research community. It is obvious that more contributions in a paper tend to better quality. Single authorship and more than seven authors are next to nil. It is also evident from the mathematical processing of data that Swat and Peshawar are the areas, from which more contribution is reported in Journal of Saidu Medical College, Swat, Pakistan. This is due to the reason that Swat is the native place of the Institution from where Journal published and Peshawar is the Capital of the Province. It is suggested that medical community from other parts of the country and International writers should be encouraged for contribution. This practice will broaden the vision and boundaries of the Journal.

An effort was made to evaluate the citation pattern of the journal. It is revealed that Journals followed by Books are the most cited documents. Web sources, reports and conference proceedings should also be given due importance while citing documents. The research documents published from 2007 to 2017 were analyzed on the basis of themes and contents. It was reflected that Surgery followed by Community Medicine and Medicine are the more targeted areas of medical field addressed by this prestigious Journal.

In order to improve the standard and quality of the Journal, indexing in Higher Education Commission (HEC) recognized data bases may please be ensured. Foreign blind review should be given preference. Recognition from HEC and Pakistan Medical and Dental Council (PMDC) should be also kept on top priority basis.

CONCLUSION

It is concluded that this esteemed medical research journal of Saidu Medical Collage, Swat, has been providing an extensive platform to the researcher of this war and terror affected valley of Swat. About 200 original articles have been published in the last decade by the JSMC. More 38 (18.74%) articles were published in the year 2014 followed by 2013 and 2007 comprising 35 (16.28%) articles per annum. The male contributors have an edge over the female. Most of the articles (87.00%) published by the esteemed journal are of length from 4 to 6 pages. The joint authors' culture is reflected by the authorship pattern. The JSMC has attracted the research from all over the country with a few 5 (2.50 %) from abroad. Leading national and international journals have been cited as a top source for their articles. Surgery is the most documented subject as compared to other fields of Medical Science in this journal. This statistical analysis brought a portrait of the JSMC which will help the researchers in future. The successful publishing of JSMC from such remote area is encouraging for other medical institutions.

Conflict of Interest: None
Source of Finding: None

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