

# Bibliometric Study of Published Articles in Journal of Surgery Pakistan

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## ABSTRACT

*Objective* To analyze various types of articles published, countries of their origin and institutes contributing to Journal of Surgery Pakistan (JSP).

*Study design* Descriptive study.

*Place & Duration of study* Library of College of Applied Medical Sciences, King Saud Bin Abdul Aziz University for Health Sciences Riyadh Kingdom of Saudi Arabia, from October 2016 to January 2017.

*Methodology* Articles published under various categories; namely original articles, review articles and case reports published in JSP between 1997 - 2015 were downloaded from the websites of Journal of Surgery Pakistan and PakMediNet for statistical analysis. Data were entered in to MS Office (Excel 2010).

*Results* JSP published 19 volumes and 76 issues with 936 articles during the period 1997 – 2015. These articles were contributed by 3116 authors. The highest number of articles were from Jinnah Postgraduate Medical Centre Karachi (n=177 - 18.9%). Majority (n=816 - 87.1%) of articles had multiple authors. A gender-wise comparison among the contributing authors revealed that 2334 (74.9%) of the authors were males and 810 (25.9%) females. Of the 21 classifications of medical subject headings, specialties and sub-specialties used for analysis, general surgery ranked highest by having 210 (22.4%) articles related to the subject.

*Conclusions* JSP published regularly its issues and contribution from all over Pakistan was found. It covered most of the specialties related to subject of surgery as reflection of its name.

*Key words* Journal of surgery Pakistan, Bibliometrics, E library, Research – Pakistan.

## INTRODUCTION:

The research publications are the embodiments of the intellectual thought contents expressed in published literature whose key objective is to transmit innovative ideas or information to any specific field of knowledge, towards the further development of a subject.<sup>1</sup> Journals are important channels for

dissemination of research outputs, besides being indispensable for academics and practitioners. They also reflect authors' productivity, extent of authors' collaboration, authors' institutional affiliation, authors' geographic affiliation, type of publication, language of papers, number of citations used per article, length of papers, and year-wise distribution of papers.<sup>2</sup>

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The Oxford English dictionary defines bibliometrics as the branch of library science concerned with the application of mathematical and statistical analysis to bibliography; the statistical analysis of books, articles, or other publications. A bibliometric analysis of Pakistani medical journals is infrequently reported.<sup>3</sup> Bibliometric analysis is an important activity as it reveals many aspects of scientific publications that could inform practices. A study was published on

published in a Latin American medical student journal which focused on the structural analysis of the information contained in scientific publication that helped in identification of challenges and achievements in research.<sup>4</sup>

First volume of Journal of surgery Pakistan was published in the year 1996. It is an open access journal and indexed with few international databases. It is recognized by Pakistan Medical & Dental Council and is assigned category "Y" by Higher Education Commission of Pakistan. JSP has made significant contributions to the field of medical journalism and maintained a high standard of peer review and publication in the field of surgical and allied disciplines. It also focused on ethical issues in clinical practice and encouraged continuing medical education.<sup>5</sup> This study was conducted to find out the type of articles published, their origin and pattern of authorship and subjects covered. As JSP is a specialty journal it would help in identifying current research trends in the field of surgery and allied disciplines from Pakistan.

#### METHODOLOGY:

Author conducted this research in the Library of

College of Applied Medical Sciences, King Saud Bin Abdul Aziz University for Health Sciences Riyadh Kingdom of Saudi Arabia, from October 2016 to January 2017. The variables identified for bibliometric analysis included the year, volume and issue wise publications, contribution of authors in publications, pattern of authorship, gender wise distribution of the authors, distribution of pages, and use of references. It was also decided to explore the twenty most contributing institutions/organizations, and to find out the twenty most used Medical Subject Headings (MeSH).

The data of original articles, review articles and case reports published in JSP during from 1997 to 2015, were downloaded and entered for statistical analysis in MS Office (Excel 2010). The websites of the respective journal, <http://www.jsp.org.pk/-Archives.html> and a Pakistani database PakMedinet (<http://www.pakmedinet.com/>) were accessed.

#### RESULTS:

JSP published a total of 936 articles from 1997 to 2015. The year-wise distribution of publications is given in table I. Maximum number of publications were 60, found in volume 7 of year 2002.

**Table I: Year-wise Distribution of Articles From 2015 – 1997**

S. No	Year & Volume	Issue 1	Issue 2	Issue 3	Issue 4	Total %
1	Year 2015, Vol: 20	10	Missing	10	9	29 (3.1%)
2	Year 2014, Vol: 19	11	10	10	10	41 (4.3%)
3	Year 2013, Vol: 18	14	13	12	10	49 (5.2%)
4	Year 2012, Vol: 17	12	11	10	12	45 (4.8%)
5	Year 2011, Vol: 16	12	10	9	11	42 (4.4%)
6	Year 2010, Vol: 15	13	14	13	10	50 (5.3%)
7	Year 2009, Vol: 14	11	13	11	12	47 (5.0%)
8	Year 2008, Vol: 13	12	13	12	11	48 (5.1%)
9	Year 2007, Vol: 12	11	13	15	12	51 (5.4%)
10	Year 2006, Vol: 11	13	13	15	14	55 (5.8%)
11	Year 2005, Vol: 10	13	14	12	15	54 (5.7%)
12	Year 2004, Vol: 9	17	14	13	15	59 (6.3%)
13	Year 2003, Vol: 8	11	12	14	13	50 (5.3%)
14	Year 2002, Vol: 7	15	13	16	16	60 (6.41)
15	Year 2001, Vol: 6	14	18	14	13	59 (6.3%)
16	Year 2000, Vol: 5	18	19	15	NA	52 (5.5%)
17	Year 1999, Vol: 4	11	9	13	13	46 (4.9%)
18	Year 1998, Vol: 3	10	14	11	12	47 (5.0%)
19	Year 1997; Vol: 2	12	16	13	11	52 (5.5%)
Total publications		240 (25.6%)	239 (25.5%)	238 (25.4%)	219 (23.4%)	936

Table II: Publication Related Variables

Year & Volume	Total Articles	Total Authors	First Author as Male	First Autho as Female	Total Male Authors	Total Female Authors	Key Words	Pages	Ref: From Medical Journals of Pakistan	Ref: from International Medical Journals	Total Refer
2015 Vol: 20*	29	91	19	10	52	39	101	120	29	490	461
2014 Vol: 19	41	145	24	17	89	56	136	167	42	617	659
2013 Vol: 18	49	161	27	22	95	66	162	190	68	675	743
2012 Vol: 17	45	167	32	13	138	29	146	171	52	665	717
2011 Vol: 16	42	157	31	11	110	47	142	175	61	693	754
2010 Vol: 15	50	171	29	21	101	70	144	194	60	699	759
2009 Vol: 14	47	150	28	19	102	48	156	178	68	678	846
2008 Vol: 13	48	148	31	17	112	36	157	166	67	717	784
2007 Vol: 12	51	185	33	18	130	55	165	188	87	717	813
2006 Vol: 11	55	199	36	19	150	49	121	136	54	479	533
2005 Vol: 10	54	177	37	17	121	56	154	181	74	784	858
2004 Vol: 9	59	201	44	15	161	40	126	152	36	613	649
2003 Vol: 8	50	156	39	11	117	39	97	110	40	425	465
2002 Vol: 7	60	189	52	8	161	28	172	191	69	797	866
2001 Vol: 6	59	169	44	15	138	30	155	163	46	718	764
2000 Vol: 5	52	180	42	10	149	30	128	160	38	328	483
1999 Vol: 4	46	139	42	4	127	12	125	134	27	576	603
1998 Vol: 3	47	139	43	4	120	19	128	142	39	591	630
1997 Vol: 2	52	192	45	7	161	61	132	145	17	559	576
Articles per issue (12.6%)	936	3116 (3.3%)	678 (72.4%)	258 (27.5%)	2334 (74.9%)	810 (25.9%)	2647 (2.82%)	3063 (3.2%)	974 (7.5%)	11821 (91.1%)	12963 (13.8%)

\* An issue is missing

The total number of authors who contributed to the research articles were 3116. The mean number of authors per article was 3.3. There were 2334 (74.9%) male and 810 (25.9%) females authors. In 678 (72.4%) articles males were the first author. References used in published articles from international medical journals and books were 11821 (91.1%) while that from Pakistani medical journals 974 (7.5%). Total of 3063 pages were utilized for 936 publications with the support of 2647 key words. Table II provides further details on variables analyzed.

Out of all the published articles 816 (87.1%) were written by multiple authors and 120 (12.8%) by a single author. Table III provides details of specialty related articles. Twenty institutes contributed 651 (69.5%) articles. Jinnah Postgraduate Medical Centre Karachi contributed the highest number with 177 (18.9%) articles (table IV).

#### DISCUSSION:

The study found that 936 articles were published in 74 issues and 19 volumes of JSP from 1997 to

2015. In publication environment, a stable culture of accountability is forcing the researchers to take and promote research as a mark of productivity. An assessment was conducted on the authorship trends and collaborative research for Agriculture and Biosciences International Journal. Authors found a clear trend towards collaborative research.<sup>6</sup> Same was the pattern observed in articles published in JSP where most of the research papers had multiple authors.

Contribution of 258 (27.5%) females as first author is remarkable specially in context of surgical and allied disciplines including field of gynecology and obstetrics. This number is slightly higher than 22.8% as reported in a bibliometric study of the Library Herald Journal.<sup>7</sup>

#### CONCLUSIONS:

JSP is regular in its publication. It published articles related to general surgery and allied disciplines from all over Pakistan and abroad.

**Table III: Published Articles In Relation to Specialties**

S. No	Classification of Published Articles by Medical Specialties in JSP from 2015 – 1997	Articles with %	
1	General Surgery	210	22.4%
2	Oncology	111	11.8%
3	Pediatrics - surgery	101	10.7%
4	Obstetrics	86	9.1%
5	Orthopedics	64	6.8%
6	Urology	54	5.7%
7	Gynecology	31	3.3%
8	Pharmacology	25	2.6%
9	Radiology	25	2.6%
10	Anesthesia	24	2.5%
11	Otorhinolaryngology	22	2.3%
12	Endocrinology	21	2.2%
13	Thoracic Surgery	20	2.1%
14	Gastroenterology	18	1.9%
15	Cardiology	15	1.6%
16	Neurosurgery	14	1.5%
17	Dental Surgery	11	1.1%
18	Pathology	11	1.1%
19	Ophthalmology	8	0.8%
20	Neurology	7	0.7%
21	Total Articles by MeSH 936 – 878 = 58	878	93.8%
22	Remaining Articles related to various MeSH	58	6.2%

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**Table IV: Contribution From Various Institutes**

S. No	Contribution of Institutes and Organizations	Published Articles & %
1	Jinnah Postgraduate Medical Centre Karachi	177 (18.9%)
2	Dow Medical College, Civil Hospital & DUHS, Karachi	71 (7.5%)
3	National Institute of Child Health, Karachi	70 (7.4%)
4	Chandka Medical College Hospital, Larkana	42 (4.4%)
5	Liaquat University of Medical & Health Sciences & Hospital Jamshoro / Hyderabad	40 (4.2%)
6	Baqai Medical University Hospital, Karachi	34 (3.6%)
7	Pakistan Institute of Medical Sciences, Islamabad	30 (3.2%)
8	Bahawal Victoria Hospital, Bahawalpur	25 (2.6%)
9	Bolan Medical Complex Hospital, Quetta	20 (2.1%)
10	Hamdard University Hospital, College of Medicine and Dentistry Karachi	18 (1.9%)
11	Nishtar Medical College and Hospital, Multan	18 (1.9%)
12	Hayatabad Medical Complex, Peshawar	17 (1.8%)
13	Liaquat National Hospital & Medical College, Karachi	13 (1.3%)
14	Peoples Medical Collge, Hospital & University of Medical and Health Sciences for women Hospital Nawabshah	13 (1.3%)
15	Ziauddin Medical University Hospital, Karachi	13 (1.3%)
16	Khyber Teaching Hospital, Peshawar	12 (1.2%)
17	Sindh Govt. Lyari General Hospital, Karachi	11 (1.1%)
18	Quaid-e-Azam Medical College, Bahawalpur	10 (1.0%)
19	Rawalpindi Medical College and Benazir Bhutto Hospital, Rawalpindi	9 (0.9%)
20	Karachi Medical & Dental College, Karachi	8 (0.8%)
	Total Articles by institutes and organizations $936 - 651 = 285$	651 (69.5%)
	Remaining Articles related to various individual's, Institutes and Organizations	285 (30.4%)

Received for publication: 13-03-2017

Accepted after revision: 15-05-2017

Author's Contributions:

Zameer Hussain Baladi: Writing of manuscript

Conflict of Interest:

The authors declare that they have no conflict of interest.

Source of Funding:

None

How to cite this article:

Baladi ZH. Bibliometric study of published articles in journal of surgery pakistan. J Surg Pakistan. 2017;22(2):56-60. doi:<http://dx.doi.org/10.21699/jsp.22.1.6>.