

Original Articles

Bibliometric analysis of Bangladesh Journal of Obstetrics and Gynecology (BJOG), 2008 – 2018

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Abstract:

In the last 20 years Bangladesh has addressed maternal health and child mortality most importantly, which has reduced the rate 63% successfully. Bangladesh Journal of Obstetrics and Gynecology (BJOG) is a reputed journal of Bangladesh published by the specialized association Obstetrical and Gynecological Society of Bangladesh (OGSB). This study is the first attempt to evaluate a Bangladeshi medical journal applying the bibliometric analysis method. Though the journal existed from 1999, a total of 284 articles were found in the archive of BanglaJOL in the latest 11 volumes. Each issue published 13.52 articles on average, predominantly 180 (63.38%) in joint authorship with an average degree of collaboration of 0.63. The pattern of collaboration has been visualized in clusters using Vosviewer. Majority of contributors were local where BSMMU as an institution and Saleha Begum Chowdhury as author ranked at the top. Finally, the article that received the highest number of citations was titled "Maternal and fetal outcome of eclamptic patients in a tertiary hospital". In this article, the most occurring keyword was 'pregnancy' occurred 11 times; however, like majority OBGYN journals, topics like 'preeclampsia' and 'endometriosis' have also focused in this article following the global trend. Most importantly, the joint authorship trend is getting among the authors.

Keywords: Bibliometric, Bangladesh Journal of Obstetrics and Gynecology (BJOG), OBGYN journals, Bangladesh, Joint authorship.

Introduction

Obstetrics and gynecology is a branch of medicine that specializes in the care of women during pregnancy and childbirth and in the diagnosis and treatment of diseases of the female reproductive organs¹. The American Congress of Obstetricians and Gynecologists has even issued guidelines for well-woman exams for women at every stage of life². Gynecologists are doctors who specialize in women's health, with a focus on the female reproductive system. Gynecologists perform surgeries and gynecological procedures on patients, such as cervical cryosurgery, dilation, and curettages, pelvic laparoscopies, sterilizations, etc. GYN is short for gynecology or for a gynecologist, a physician who specializes in treating diseases of the female reproductive organs. The word "gynecology" comes from the Greek 'gyno', gynaikos meaning woman +

'logia' meaning study, so gynecology literally is the study of women. Most OB/GYNs are generalists and see a variety of medical conditions in the office, perform surgery, manage labor and delivery. Research suggests that half of all OB/GYN's consider themselves a primary care OBGYN³.

The country has made significant progress in decreasing the maternal mortality ratio (MMR) from 322 to 194 per 100,000 live births between 2001 and 2010⁴. However, as per UN estimates, the MMR has further reduced to 176 per 100,000 live births in 2015. This was mostly due to fertility decline, better care-seeking practices and improved access to higher level care, with contributing factors represented by improvements in women's education and employment, income and access to communication⁵.

Bangladesh has experienced a dramatic decline in infant (from 87 to 38 per 1,000 live births) and under-

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five mortality (from 133 to 46 per 1,000 live births) between 1993 to 2014, though the reduction in neonatal mortality is rather slow (from 52 to 28 per 1,000 live births)⁶. The number fall gradually from 87 deaths per 1,000 in 2001 to 38 deaths per 1,000 live births in 2019⁷. This decreased rate by 63% in the last 20 years is the highest in South Asia after Bhutan 60%, Nepal 59%, and India 57% during the same period⁶. This achievement is nothing but evidence of the outstanding performance of the health worker, especially the obstetrician and gynecologist of the country. In the last 50 years, this specialized medical field achieved significant development.

The Government of Bangladesh has formulated National Maternal Health Strategy 2019-30, with all the necessary components for the development of mother health and with specific guidance in direction. Government has established hospitals throughout the country and reserved a few beds for mothers. There is great improvement in the curriculum. Establishment of Feto-maternal, infertility and gynecological oncology sub-specialties. A new society is formed for infertility specialists with their own journals. Female pelvic medicine and reconstructive and advanced laparoscopic surgery are two branches of surgery newly added. Moreover, Paediatric, adolescent, Menopausal, geriatric gynecology are newly introduced branches in this field.

The Obstetrical and Gynecological Society of Bangladesh (OGSB) is the national forum of Bangladesh that stands for the development of the field of Obstetrics and Gynecology. In 1972-73, there was only 21 gynecologist.⁸ This government-registered organization was formed in 1972 after the liberation war of 1971 and its activities include regular seminars, symposiums, and conferences. With a bunch of national contributions, OGSB is the hub of Obstetrics and Gynecology specialists in Bangladesh. The society is a network of 2180 members throughout the country providing services in both Institutional and private capacity. OGSB has attained a glorious light amongst various professional bodies of Bangladesh⁹.

Bangladesh Journal of Obstetrics and Gynecology (BJOG) is an internationally reputed and standalone journal published by OGSB. The aim of this journal is to encourage, promote and increase knowledge in the wide field of Medical Science through the publication of original articles, review articles, and case reports. The journal was first published in 1999 and till now

the number of published volumes is 33. Each volume consists of 2 issues as the journal is bi-annual. The journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. BJOG publishes all the relevant medical research works putting special emphasis on Obstetrics and Gynecology. Besides pure research work, BJOG publishes obituaries of renowned personalities of the field¹⁰. BJOG is among the 15 Scopus indexed journals from Bangladesh¹¹. This journal is one of the potential journals of Bangladesh published by one of the well renowned Obstetrical and Gynecological Societies in the world. This study will be the first attempt to explore a Bangladeshi medical journal by using the bibliometric analysis method to analyze the publications during the timeframe 2008-2018.

Paul Otlet used the term bibliométrie first in 1934¹². Alan Pritchard defined the same term as “the application of mathematics and statistical methods to books and other media of communication”¹³. Bibliometrics is the study of books, articles and other types of publications using statistical and mathematical methods which are frequently used in the field of library and information science. A sub-field of bibliometrics is called scientometrics which deals with the analysis of scientific publications. Citation analysis is one of the major bibliometric methods used in recent days, citation analysis represents the relation between documents in a graphical way¹⁴. Besides, it also has a wide range of use in other applications like measurement of impact, the delineation of reference sets, theories of citation, mapping science; and the policy and management contexts of indicator developments¹⁵.

Literature review

Obstetrics and gynecology is one of the core fields of research in medical science which includes complexities during pregnancy, use of drugs during pregnancy. USA, UK, Germany, Italy, France are the top listed countries contributing in this field globally where China, Japan, India, Taiwan are leading the same field in the asiatic region¹¹. The USA has made the greatest contribution to the field of obstetrics and gynecology by publishing most of the articles having high Impact Factor (IF)¹⁶. In comparison between articles with the highest relative citation ratios, top-cited articles were more likely to address gynecology

topics, less likely to be randomized clinical trials, and less likely to be published as open access articles¹⁷. Similarly, Palacios-Marqués¹⁸ found that the total scientific production rate in obstetrics increased from 2002 to 2013, especially randomised clinical trials. In terms of knowledge production the associations are contributing immensely, almost all gynecological societies have their own journals that publish research work frequently. Brandt¹⁹ found substantial differences between top-cited OBGYN articles published in non-specialty and OBGYN journals. Some countries have very early contributions in the field of obstetrics and gynecology with bibliometrics, Spain is one of them. Spanish scientific production trend identification in the period 1986–2002 is one of the the primary research work in the field of obstetrics and gynecology using bibliometric method²⁰. The annual number of publications on Preterm Birth increased significantly by 443% in 2016 (n=5027) from 1997 (n=1135) where Obstetrics & Gynecology is the leading research field with 10.4% total contribution as a field in the subject matter Preterm Birth in 2016²¹. Meng¹⁶ addressed a total of 906 papers extracted from MeSH terms where 41 high frequency ones were identified and hotspots were clustered into four categories. Results showed that research on intrauterine treatment of multifetal pregnancy reduction (MPR) was most well developed; however, data on sequelae of fetal reduction surgery and applications of multifetal pregnancy reduction (MPR) in assisted reproductive technologies are immature¹⁶. Zhu²² compared the average citation growth of the articles and showed that Hong Kong and Taiwan have higher average citation growth in comparison with mainland China and later Nie²³ explored the quality issue of academic papers published from the academic environment of China and suggested that the current academic evaluation system should pay special attention to the quality of academic papers, instead of the number of papers published by scientists.

Objective

Bangladesh Journal of Obstetrics and Gynecology (BJOG) is one of the reputed and resourceful medical journals of Bangladesh. The purpose of this study is to evaluate the journal considering some predefined indicators. These indicators includes-

1. Distribution of contribution (year/volume/issue-wise/type-wise/authorship-wise)

2. Most contributing local institutions
3. Most contributing foreign institution
4. Subject area
5. Co-authorship network cluster analysis
6. Most occurred keywords
7. Degree of collaboration
8. Most cited articles

Materials & Method

The first criteria of any bibliometric research is a bibliometric data set, for this study bibliometric data was collected manually. Usually studies collect data from specialized bibliometric databases like ISI Web of Science, PubMed, EMBASE: Obstetrics and Gynecology database and InCites Journal Citation Reports and science citation index (SCI). Since BJOG is indexed in the list of Scopus, the abstract and citation database contains incomplete data of this journal. An article reference is a combination of some bibliographic data. Thus, we have taken an empirical approach by using a manual method. In this method bibliographic data was extracted as article reference from the national database BanglaJOL²⁴ using the Mendeley citation manager. BanglaJOL is a project of International Network for the Availability of Scientific Publications (INASP) funded by the Department of International Development of the British Government to encourage open access of the information in Bangladesh through an Open Archives Initiative by harvesting the metadata for each journal article²⁵. In total 11 volumes have been selected to analyze the trend of the last 12 years of the journal. The collected data were analyzed using Microsoft Excel 2013 and presented accordingly to the predefined indicators. The formula used to calculate the Degree of Collaboration (DC) is derived from Subramanyam²⁶ which is the ratio of multi-authored publications (MAP) to annual publication count (APC).

C = degree of collaboration in a discipline,

N_m = multi-authored publications (MAP),

N_s = annual publication count (APC).

Subramanyams' formula-

$$C = \frac{N_m}{N_m + N_s}$$

For counting citations the data was collected from Google scholar extracting using a software called 'publish and perish' on Jan 23, 2020. Co-authorship

cluster analysis and key analysis are two most crucial indicators to present in this study, for these two analyses the collected bibliographic data was converted from xls to csv file format and analyzed using bibliometric constructing and network visualization tool VOS viewer. VOS viewer is freely downloadable and available for multiple OS systems.

Results

A total of 284 articles were found in the archive of BanglaJOL published during 2008-2018. Each issue published 13.52 articles on average and the total number of contributors were 571.

Table I reveals the year wise relation between articles and citations. The highest number of articles was published in 2018 (13.03%) and issue-wise it was 33(1) with 19 articles and the most citation receiving issue was 26(2) with 33 citations. On the other hand, articles published in 2008 received the highest number of citations (53, 23.98%).

Table II shows that among the published articles 121 (42.61%) were original research works, 62 (21, 83%) were miscellaneous, 52 (21.83%) were case report and editorial and review articles both were 21 (7.39%) and in total the journal published obituaries of 7 (Dr. Nazma Nasrin, Prof. Dr. Asia Akhter Khatun, Dr. Shabnom Ferdous Chowdhury, Dr. Razia Sultana, Parveen Shahida Khanum & Prof. Ameena Mojid, Prof Syed Ershad Ali & Dr. AKM Salehuddin renowned medical professionals.

According to table III single authorship articles were highest in number (104, 36.62%) and two authorship articles were in second position (28, 9.86%) while the articles with seven authorship were lowest (4, 1.41%).

Table IV highlighted the contributions made by the local institutions of Bangladesh. The standalone medical university of the country, Bangabandhu Sheikh Mujib Medical University (BSMMU) appeared with the highest number (72) of contribution among the local institutions.

Except three, Ibrahim Medical College & BIRDEM Hospital (20), Bangladesh Medical College and Hospital (8) and Shahabuddin Medical College Hospital (7), most of the institutions of the list (DMCH, SSMC, ShSMCH, RMC, KMCH) are government medical colleges. Following the public institutions the privates are also getting involved in research intimately.

Table V highlighted 23 foreign institutions that contributed to the journal by single article. These institutions are mostly Indian (9) similarly some are located in Nigeria (4), Iran (3), USA (2) and many more listed in the next table.

Table VI highlighted the covered subject areas in the journal, most frequently covered subject areas are Infertility (12), Pre-eclampsia (11), Ovarian tumour (11), Emergency condition in pregnancy (11) and sequentially others mentioned in the table.

Table-I
Distribution of contribution (year/volume/issue-wise)

Year of publication	Vol. No	No. of articles issue- wise				Total no. of articles	Total no. of articles in percentage (%)	Total no. of citations	Total no. of citations in percentage (%)
		Issue no 1 Number of publication	Times cited	Issue no 2 Number of publication	Times cited				
2008	23	11	30	10	23	7.39	53	23.98	
2009	24	10	15	12	2	7.75	17	7.69	
2010	25	10	16	10	15	7.04	31	14.03	
2011	26	12	4	12	33	8.45	37	16.74	
2012	27	11	6	14	4	8.8	10	4.52	
2013	28	14	9	14	7	9.86	16	7.24	
2014	29	16	7	16	8	11.27	15	6.79	
2015	30	16	20	15	9	10.92	29	13.12	
2016	31	13	3	14	10	9.51	13	5.88	
2017	32	-	-	17	0	5.99	0	0	
2018	33	19	0	18	0	13.03	0	0	
Total	11	132	110	152	111	100	221	100	

Table-II
Distribution of contribution (type-wise)

Year of publication	Vol. No	Issue	Editorial	Original Article	Review Article	Case Report	Miscellaneous	Number of publications	Times cited
2018	33	2	1	9	1	3	4	18	0
		1	1	11	1	2	4	19	0
2017	32	2	1	8	1	3	4	17	0
2016	31	2	1	6	1	3	3	14	10
		1	1	6	1	3	2	13	3
2015	30	2	1	6	1	3	3	15	9
		1	1	6	1	4	3	16	20
2014	29	2	1	6	1	4	3	16	8
		1	1	6	1	4	3	16	7
2013	28	2	1	6	1	2	3	14	7
		1	1	6	1	2	3	14	9
2012	27	2	1	6	1	2	3	14	4
		1	1	4	1	2	3	11	6
2011	26	2	1	6	1	1	3	12	33
		1	1	5	1	2	3	12	4
2010	25	2	1	4	1	2	2	10	15
		1	1	4	1	2	2	10	16
2009	24	2	1	4	1	2	4	12	2
		1	1	4	1	2	2	10	15
2008	23	2	1	4	1	2	2	10	23
		1	1	4	1	2	3	11	30
Total	11	21	21	121	21	52	62	284	221

Table-III
Distribution of contribution (authorship-wise)

S. No	No. of Authors	No. of Contributions	No. of Contributions in percentage (%)
1	Single Author	104	36.62
2	Double Authors	28	9.86
3	Three Authors	48	16.9
4	Four Authors	38	13.38
5	Five Authors	32	11.27
6	Six Authors	24	8.45
7	Seven Authors	4	1.41
8	Eight Authors	6	2.11
	Total	284	100

Table-IV
Most contributing local institutions (Journal article)

Rank	Name of institution (local)	Number of contribution (Journal article)
1	BSMMU	72
2	Dhaka Medical College Hospital (DMCH)	25
3	Ibrahim Medical College & BIRDEM Hospital	20
4	Institute of Child and Mother Health (ICMH)	20
5	Sir Salimullah Medical College (SSMC)	19
6	Shaheed Suhrawardy Medical College (ShSMCH)	14
7	Rajshahi Medical College Hospital (RMC)	9
8	Bangladesh Medical College and Hospital	8
9	Infertility Care and Research Centre (ICRC)	7
10	Khulna Medical College Hospital (KMCH)	7
11	Shahabuddin Medical College Hospital	7
12	Upazila Health Complex	7

Table-V
Most contribution foreign institution (Journal article)

S.No	Name of institution (foreign)
1	Acharaya Sri Chander College of Medical Sciences, India
2	Al-Ula Medina Monawarrarh, Saudi Arabia
3	Azad university of Medical Sciences, Iran
4	Bayero University/Aminu Kano Teaching Hospital, Nigeria
5	Burdwan Medical College & Hospital, India
6	College of Public Health and Human Sciences, USA
7	Delhi State Cancer Institute, India
8	Federal Medical Centre (BIDA), Nigeria
9	Gulf Medical University, UAE
10	Harvard School of Public Health, USA
11	Iran University of Medical Sciences, Iran
12	Istanbul University, Turkey
13	Kerman University of Medical Sciences, Iran
14	KPC Medical College & Hospital, India
15	Medical College and Hospital, India
16	Murtala Mohammed Specialist Hospital, Nigeria
17	N.R.I Medical College and General Hospital, India
18	PGIMER, India
19	Prince Hashem Hospital, Jordan
20	Surat Municipal Institute of Medical Education and Research (SMIMER), India
21	Teerthanker Mahaveer university, India
22	University Of Ilorin Teaching Hospital, Nigeria
23	University Teaching Hospital (Yaoundé), Cameroon

Figure 1. shows the VOSviewer software-generated Co-authorship network analysis of 365 authors out of 571 who meet the threshold of the minimum number of contributions of 1 time. The co-authorship pattern of the contributors are identified within 26 clusters.

Table VII is the list of highest contributing authors where chowdhury, saleha begum hold the first position (41) followed by dewan, farhana (14), begum, firoza

(13), khatun, sabera (13) and others. Notably, begum, firozas' (13) contributions were oldest (2002) and chowdhury, sameenas' (9) contributions are most recent (2018). VOSviewer software listed 571 individual authors who had contributed from 2008-2018.

'Title Keywords' was analyzed using VOSviewer software to provide insight into main topics and research trends (Table VIII). Out of 459 keywords, only 17 meet

the threshold of the minimum number of occurrences of 3 times. Table VIII listed the top 10 most occurring keywords accordingly where 'pregnancy' has come out as the most occurring (11) term.

Table IX shows the details about the degree of collaboration indicating trend of authorship in the latest 11 volumes. The degree of collaboration in this year

ranged from 0.45 to 0.71 and the average degree of collaboration was 0.63. The Degree of Collaboration (DC) is the ratio of multi-authored publications (MAP) to annual publication count (APC). The formula used for this study is by Subramanyam²⁶.

From table X the most citation receiving article of the journal titled "Maternal and fetal outcome of eclamptic

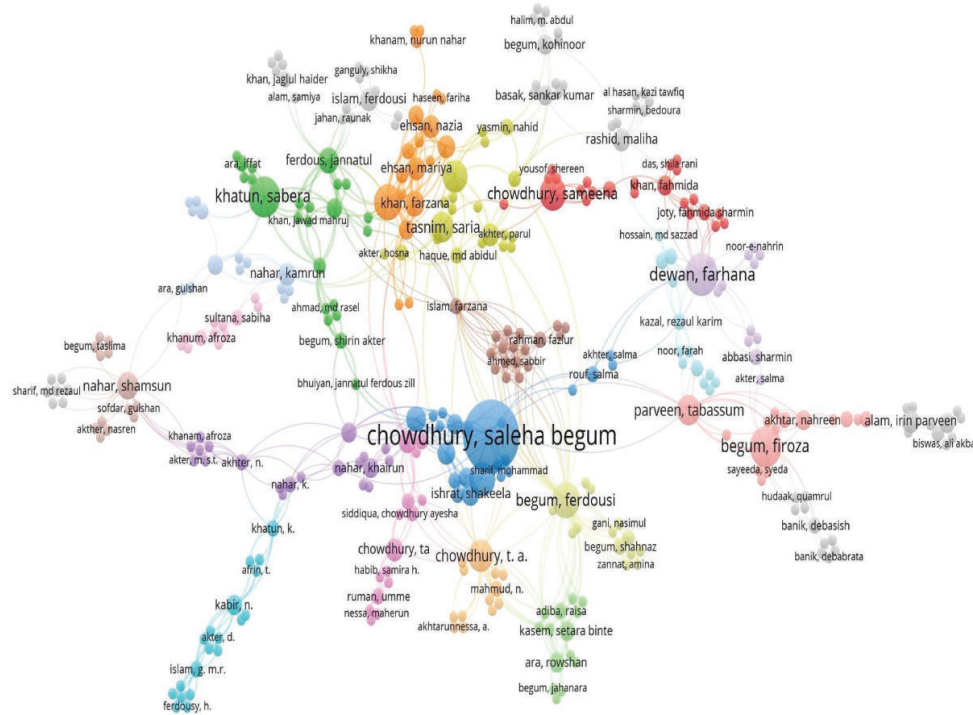


Fig.-1: Co-authorship network analysis

Table-VI
Covered subject area

S.No	Subject Area	Number of Article
1	Infertility	12
2	Ovarian tumour	11
3	Pre-eclampsia	11
4	Ectopic pregnancy	10
5	Emergency condition in pregnancy	10
6	PPH	9
7	Cervical cancer	7
8	Termination in pregnancy	7
9	Placenta	6
10	Pre invasive cervical lesion	6
11	preterm birth	6
12	Anaesthesia	5
13	Eclampsia	5
14	Drug effect	4
15	Gestetional topoblastic tumor	4
16	Maternal- child healthcare	4
17	Uterine Fibroid	4

Table-VII
Most contributing authors

Ranking	Name of the author	Number of document	Average publication year
1	chowdhury, saleha begum	41	2015
2	dewan, farhana	14	2015
3	begum, firoza	13	2002
4	khatun, sabera	13	2017
5	begum, ferdousi	10	2017
6	begum, mosammat rashida	10	2013
7	chowdhury, sameena	9	2018
8	fatima, parveen	9	2016
9	chowdhury, t. a.	8	2014
10	kabir, nazneen	8	2013

Table-VIII
Most occurred keywords

Ranking	Keyword	Occurrences
1	pregnancy	11
2	preeclampsia	9
3	ectopic pregnancy	7
4	infertility	6
5	bangladesh	5
6	misoprostol	5
7	endometriosis	4
8	amenorrhoea	3
9	caesarean section	3
10	carbetocin	3

Table-IX
Degree of collaboration

Year of publication	Vol. No	No. of author		Total number of	Degree of	
		Single	Multiple		publication	collaboration
2008	23	7	14	21	0.67	
2009	24	12	10	22	0.45	
2010	25	8	12	20	0.60	
2011	26	9	15	24	0.63	
2012	27	9	16	25	0.64	
2013	28	10	18	28	0.64	
2014	29	11	21	32	0.66	
2015	30	11	20	31	0.65	
2016	31	10	17	27	0.63	
2017	32	5	12	17	0.71	
2018	33	12	25	37	0.68	
Total	11	104	180	284		

Table-X
Most cited articles

Ranking	Reference	Citation received
1	Akhtar, R., Ferdous, A., & Bhuiyan, S. N. (2011). Maternal and fetal outcome of eclamptic patients in a tertiary hospital. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 26(2), 77-80.	18
2	Alam, I. P., & Akhter, S. (2008). Perinatal outcome of eclampsia in Dhaka medical college hospital. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 23(1), 20-24.	15
3	Khanam, R. A., Khan, M., Halim, M. A., Begum, K., & Jahan, S. (2009). Facility and community based maternal death review in Bangladesh. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 24(1), 18-21.	10
4	Ara, I., & Banu, H. (2008). A prospective randomised trial of nifedipine versus placebo in preterm labour. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 23(2), 61-64.	11
5	Akhtar, N., Sultana, S., & Zabin, F. (2010). Successful outcome of pregnancy with large fibroid uterus-A case report. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 25(2), 87-89.	8
6	Aggarwal, N., Singla, R., Dhaliwal, L., & Suri, V. (2015). Audit of emergency obstetric referrals-a pilot study from tertiary care centre of North India. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 30(1), 25-29.	6
7	Begum, F., & Parveen, T. (2008). Antihypertensives in hypertensive disorders of pregnancy. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 23(2), 65-72.	7
8	Basak, S. K., Begum, K., Rashid, M., Yasmin, N., & Begum, H. (2015). Haematocrit value in preeclampsia. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 30(2), 80-85.	6
9	Sharmin, S., Chy, S., Alam, D., Banu, N., Rashid, F., & Kabir, S. (2016). Association of Serum C-reactive Protein in Preeclampsia and its Effect on Fetal Birth Weight A Case Control Study. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 31(2), 75-80.	5
10	Ramalingam, K., Surasani, V. M., & Bollu, M. (2015). Prevalence of asymptomatic bacteriuria in antenatal women coming to NRIMC&GH. <i>Bangladesh Journal of Obstetrics & gynecology</i> , 30(1), 30-36.	5

patients in a tertiary hospital” received 18 Google citation in total and article titled “Perinatal outcome of eclampsia in Dhaka medical college hospital” received (15) the second highest citation followed by the rest.

Discussion:

Publication is central to the activity of the scientific community and consequently to scientific progress, principles and standards. This study revealed some of the crucial indicators of the Bangladesh Journal of Obstetrics and gynecology (BJOG). The journal has published 25.82 articles per year from 2008-2018 including 209 pure research papers covering most of the topics of Obstetrics and gynecology. The principles and standards of scientific publication are also consistent with society’s interest in the applications

of scientific knowledge and their economic and other benefits. To prepare a scientific paper, the author gives a huge commitment of time and energy. Each scientific paper contains the most up-to-date information in their respective study area. The mean number of authors per article calculated during the study period was 2.90 (SD=0.28). The collaboration index increased during the study period by 24.34% (2.67 in 2008 and 3.32 in 2018). In comparison with the global trend, the authors’ per article count is substantially low; however, the author collaboration index of the journal is very close to the global index²¹. Contributions from 571 authors were identified in 26 clusters where chowdhury, saleha begum contributed the highest (41) followed by dewan, farhana (14) and the rest. Among the predominant academic (both

public & private) contributors as an institution, BSMMU, the only medical university, was the most productive following the global trend²⁰. There are 60(sixty) topics in the textbook of obstetrics and gynecology. Published articles include all topics. BJOG also published on maternal health, child health, adolescent health, puberty and menopause of Bangladeshi women. This publication includes pregnancy, pregnancy with different medical disorders, puerperium and mental health after delivery and the line of treatment practices in Bangladesh. For treatment of Eclampsia, use of MgSo4 (magsulph) is highly effective and can be used in low resource settings^{27,28}. To control PPH (postpartum hemorrhage) Sayeba's method is very cheap and easily available. Use of Misoprostol for induction of labour, control of PPH and termination of early pregnancy is effective and safe. To protect a newborn, Kangaroo care is one of the best which does not require any expenditure and can be served by any member of the community with little training²⁹. Use of Acetic acid (VIA) to detect precancerous conditions of cervix/ screening cervical cancer is a simple method, easy to perform and cost effective. It may be associated with a referral procedure for further methods³⁰. Public academic institutions are dominating (199) and the private medical colleges are also providing their potential (89) as a powerful tool³¹. The journal publishes six types of articles, mostly original research articles, 121 (42.61%). There were eight authorship patterns observed among the authors, from them five authorship articles had made the highest number of contributions. One of the major outcomes of the study was that out of 284 articles 104 (36.62%) were contributed by single authors while the remaining 180 (63.38%) were contributed jointly. Gynecologists need to conduct research to increase knowledge about medical issues.

Conclusion:

Scientific papers are the heart of a scientific community, they are one of the major ways scientists communicate their results and ideas to one another. Scientific papers also contain information about how experiments were conducted, including how long they took, the equipment and materials necessary, and details about how to physically perform the experiments. This kind of information is critical for figuring out how to do your own experiments, and even whether the project will be physically possible given

your equipment constraints. More than two thousand obstetricians and gynecologists are practicing throughout the country; from them participation of 571 with an increasing degree of collaboration indicates a healthy practice of knowledge sharing among the practitioners to ensure better health care service.

Limitations:

The BanglaJOL database contains the articles of BJOG published since 2008 through the first volume was published in 1999. Soft copies of the articles published before 2008 are not available on the internet. It will be a humble request to preserve the soft copy version of those volumes for the development of the scientific community.

Conflict of interest:

The authors declare that there is no conflict of interest.

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