

# Content Analysis of Biomedical E-Journal of Postgraduate Medicine,during 1980-2006 “

By

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## Abstract

*This research study is focused on the bibliometric analysis of 1872 articles of 27 volumes of 109 issues of electronic Journal of Postgraduate Medicine during 1980-2006. Analysis revealed that most of the papers are published under case reports, most of the reports on surgery and Indian authorship contribution is more than the international.However it gradual increasing onwards from the year 2001 when journal went online as an open access.Thus greater visibility and accessibility of the JPGM is increased as an impact of open access.*

## 1.Introduction

- In 21st century open access to scholarly communication has been help to journal's article for free visibility and free accessibility for downloading and printing by users.[8] Open access electronic journal of postgraduate Medicine of Mumbai has done a remarkable progress in raising their journal impact 0.02 of print journal to 0.9 when went online by publisher through open access publishing model.[7]
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## 2.Need of Study

- The journal of postgraduate medicine when has been transformed from print to electronic open access journal,the number of changes have been taken place with regard to authorship contributions, Medical subject paper productivity and type of publications newly generate. [6]In order to evaluateand assess the changing visibility, accessibility and citations received by articles up from 1980 to 2006 ,the study is essential yearwise the projection of changes can be well known to account the importance of open access. [5]
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### 3. Transformation of print journal to electronic journal of postgraduate medicine in the year 2001

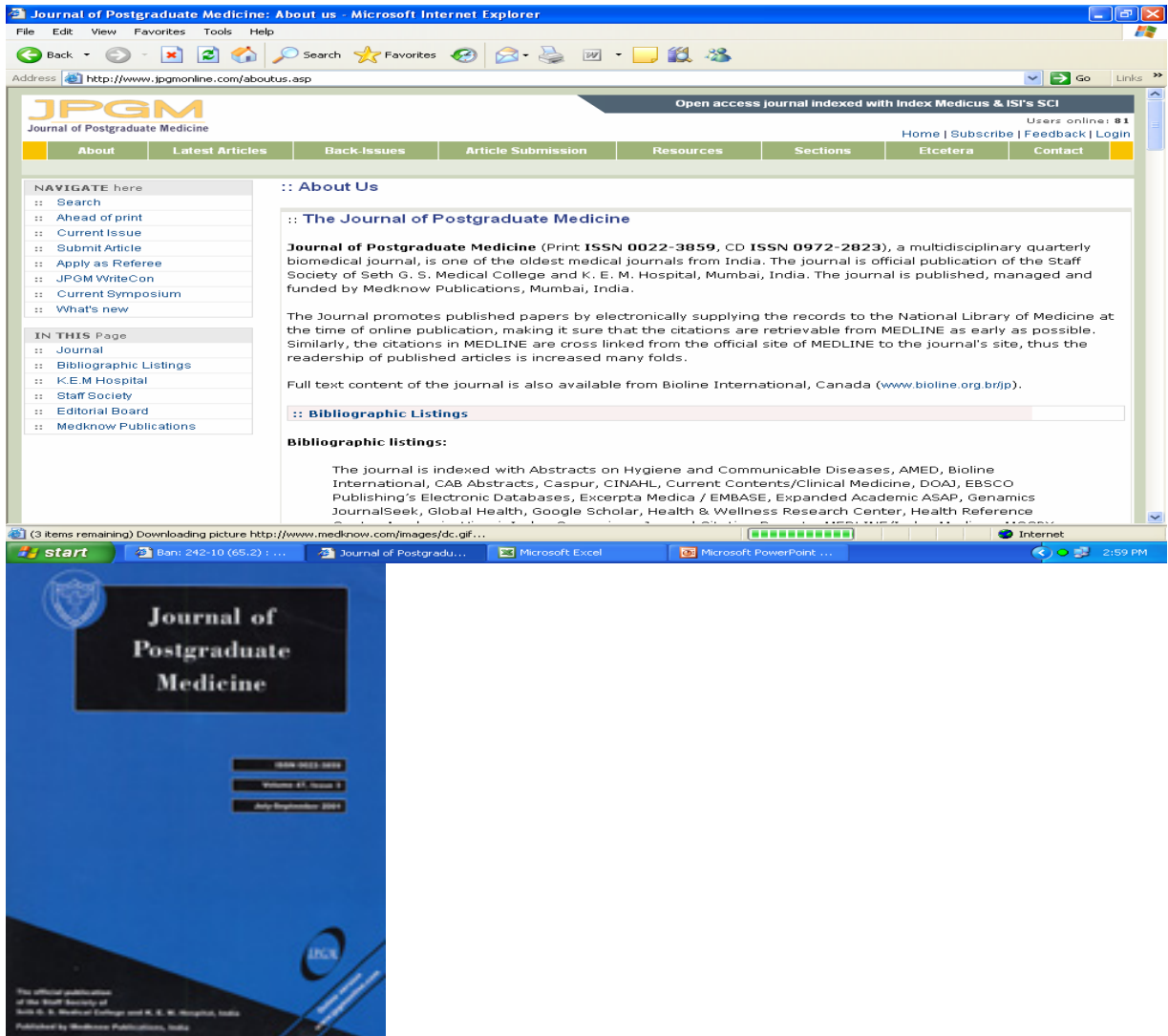


Fig1: showing home page online open access electronic journal of postgraduate Medicine above and below the cover page paper print journal of postgraduate Medicine

## 4. objectives

- [a] year wise growth of authors
  - [b] the year wise growth of research productivities in different medical papers
  - [c] year wise growth in type of publications
  - [d] measuring visibility and readership of journal article yearwise.
  - [e] Scope of the journal covering medical subjects during the period 1980-2006
- 

## 5. Hypothesis

- 1. There are maximum articles of multiple authorship
  - 2. There is more research productivities (papers) in Respiratory disorders.
  - 3. There are more Indian authors contributions than foreign authors
  - 4. There are more type of publications as a case report
  - 5. There are more articles of clinical medicine than basic medicine.
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## 6. Research Methodology and Limitation

Using Content analysis technique for classification and distribution of paper articles in various bibliographical categories, the Bibliometric research method was used to measure the growth and fall in pattern of authorship, pattern of medical papers subjectwise and type of publications analyzing accessed statistics of visibility data for the period 1980-2006[4]

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## 7. Data Collection

- Data of online 1872 free articles of electronic Journal of Postgraduate Medicine covering for 27 years of 1980-2006 period, was directly downloaded on compact disc from its 34 archives issues.
  - Each article is then classified, codified according to scheme of classification used for distribution of 1872 articles. Each bibliographical unit was measured with statistical technique for different years and then interpreted.
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## 8. Yearwise production of articles during the period 1980-2006

Year	No. of article	%	frequency
1980	42	2	low
1981	56	3	low
1982	52	3	low
1983	66	3	low
1984	67	3	low
1985	55	3	low
1986	62	3	low

1987	59	3	low
1988	72	4	low
1989	60	3	low
1990	63	3	Low
1991	67	3	
1992	80	4	
1993	79	4	
1994	65	3	
1995	47	3	
1996	42	2	
1997	37	2	
1998	27	1	E.Low
1999	33	2	
2000	82	5	
2001	82	5	
2002	110	6	
2003	104	6	
2004	110	6	
2005	139	8	E.higher
2006	114	7	higher
27years	1872 articles		L=1/H=8

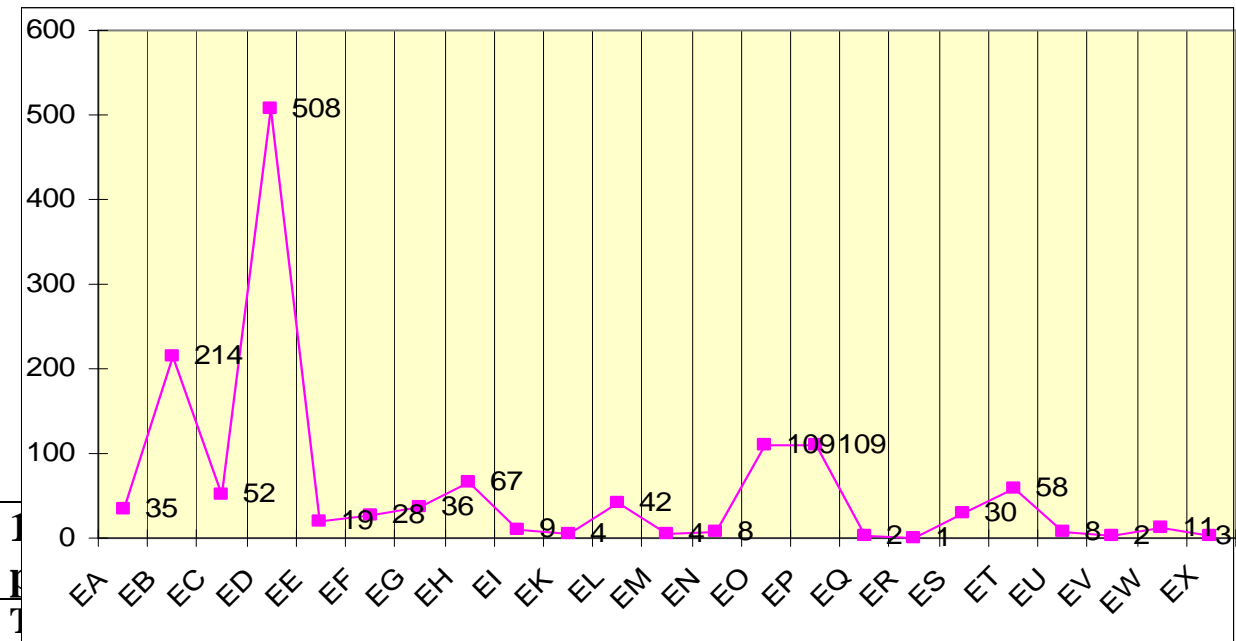
## 9. Productivity of Publications

there are total 23 ,out of which case report as highest for 568 while spot the diagnosis is 1

Type	No.	Type	No.
Editrial	35	Orignal articles	214
Experts comment	52	Case reports	568
Images in radiology	19	Images in pathology	28
Images in medicine	36	Review articles	67
Students corner	9	Commentary	4
symposium	42	Clinical sign	4
Technical review	8	Grand round case	13
Letter to editor	109	Keynote address	2

Brief report	58	View point	8
News and views	2	Drug reviews	11
Book reviews	3		

### 10. Showing through graphs

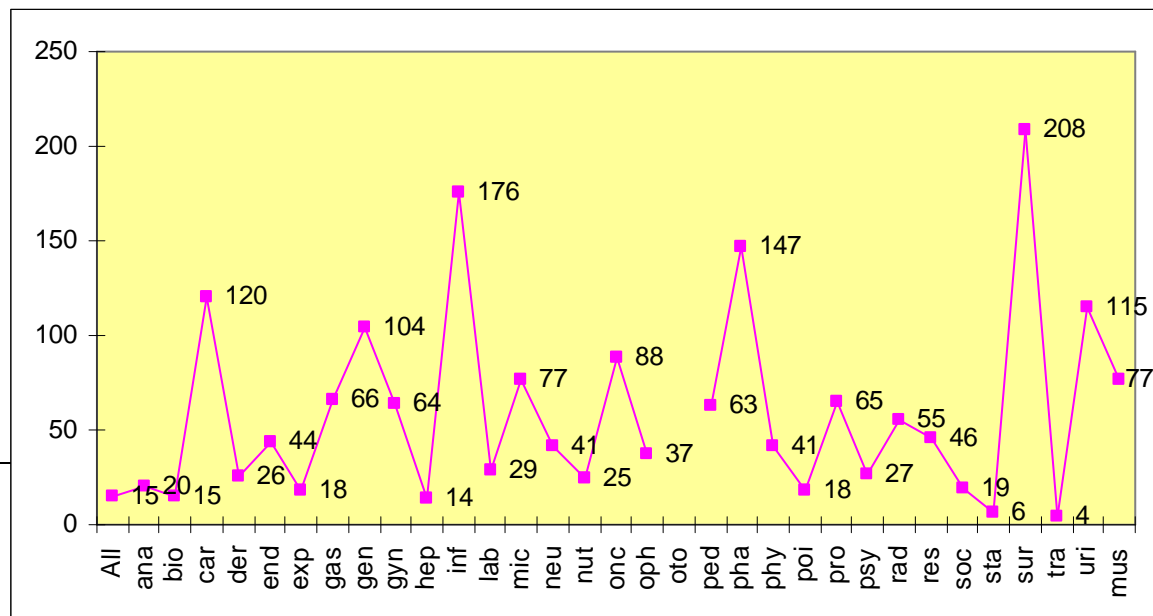


phy.trauma=4 as lowest

Subject	No.	Subject	no.
Allergy-immunology	15	Anatomy	20
Biochemistry	15	Cardiovascular	120
Dermatological disorder	26	Endocrine disorder	44
Experimental medicine	18	Gastrointestinal disorder	66
General and non medical	104	Hepato-biliary disorder	14
Infectious-parasitic disorders	176	Laboratory medicine	29
Microbiology	42	Muskulo-skeletal disorder	77

Neurological disorder	41	Nutritional –metalbolic	25
Hemato-Oncological	88	Ophthalmological	37
Otolaryngological	37	Paediatrics disorder	63
Pharmacology	147	Physiology	41
Poisoning –biting	18	Professional practice/ ethics	65
Psychiatric disorders	27	Radio diagnostics	55
Respiratory disorders	46	Social-preventative medicine	19
Medical statistics	6	Surgery	208 [H]
Physical trauma-injuries	4 [L]	Urino-genital disorders	115
		Tota33 subjets covered in	1872

## 12. Graph showing distribution of 1872 papers by different subjects



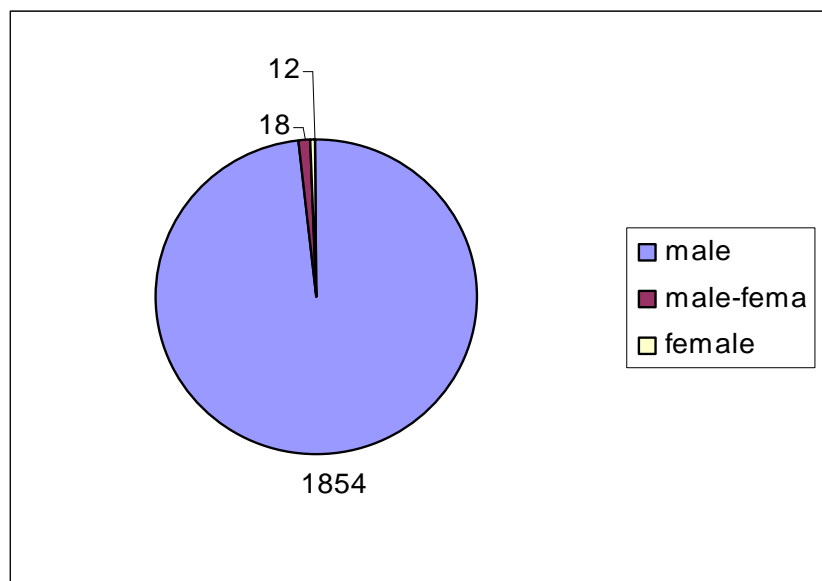
**13. Testing Bradford.s law for scattering of scientific papers in the farmula 1:n:n2**

Zone number	Divided 109 issues in 3 groups	Divided number of 1872 papers
1	25 [more important	624
2	41[medium]	624
3	42[Less imp]	624

**14. Authorship pattern**

[There are total 6081authors contributed either in single as well as in multiple numbers

- .Sex wise distribution of 1872 articles
- 
- Male=1854
- M+F=18
- F=12
- 



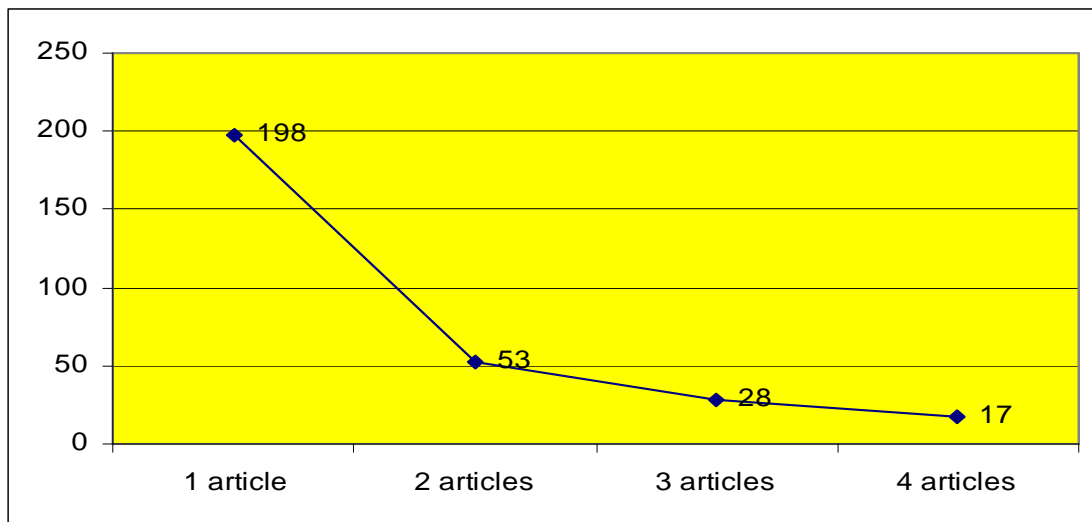
### 15. [b] Distribution of 1872 articles by authorship fold

Multipleship	No.of articles	Multipleship	No.of articles
Single	1078	Two authors	568
Three authors	345	Four authors	678
Five authors	234	Six authors	345
Seven authors	67	Eight authors	57
Nine authors	48	Ten authors	19
Eleven authors	6		

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### 16. Testing Lotka's law of authorship and article relations

- Taking example from  $K=1/n^2$  where single article written by 198 authors; 2 articles by 53 authors; 3 articles by 28 authors and 4 articles by 17 authors.





## 17. Distribution of 1872 articles by different countries

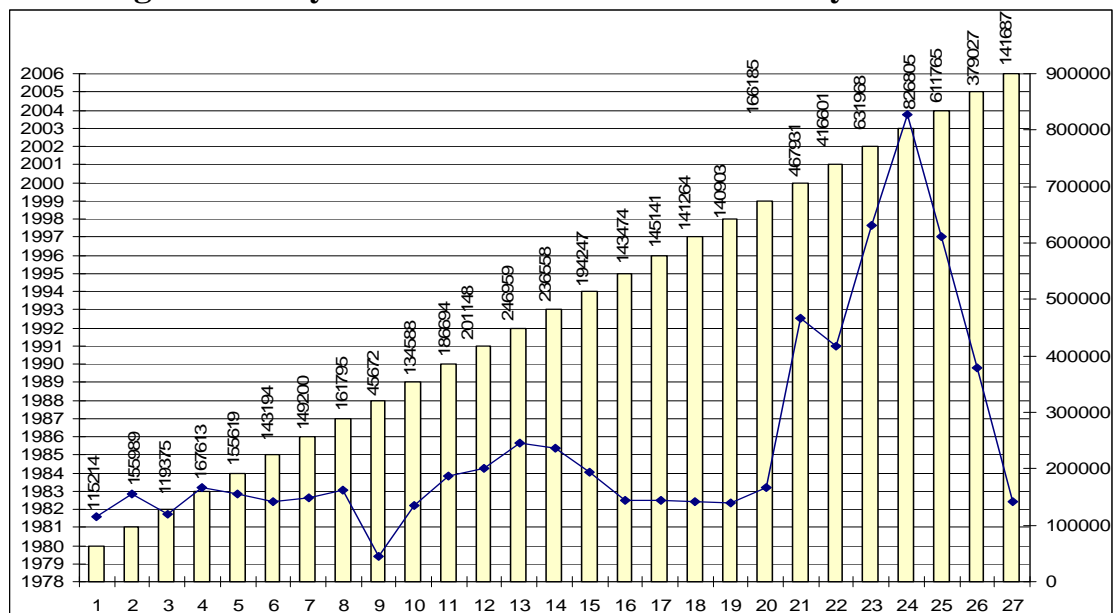
[there are total 37 countries participated as below]

India	1635 [1/highest]	Italy	4
Pakistan	7	Canada	14
Australi	11	Malaysia	3
France	3	Quatar	2
Turkey	10	U.K.	53 [3/highest]
Spain	6	Japan	4
Germany	4	Libya	2
Greece	11	Oman	4
Belgium	4	Singapore	2
U.S.	58 [2/highest]	Netherland	4
Sweden	2	Israel	2
Saudi Arabia	4	Iran	3
Taiwan	4	Morocco	2
Brazil	1	South Idia	2
New Zealand	1	Nigeria	1
Colorado	1	Thailand	1
Beharin	2	Yugoslavia	1
Kuwait	2	Nepal	1 [L]

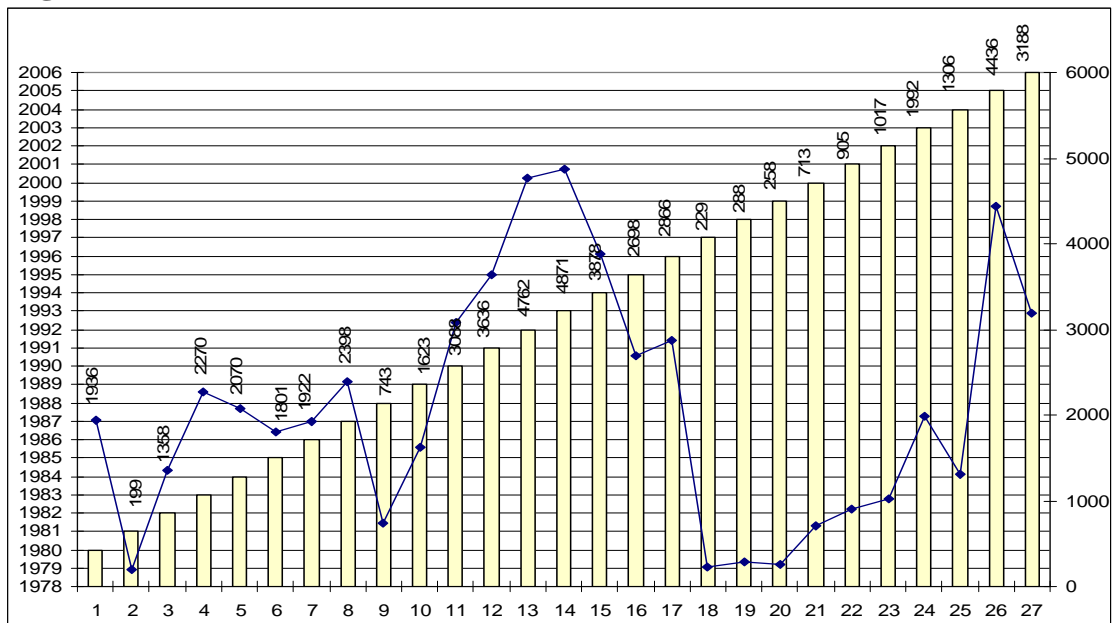
## 18. Analyzing Yearwise statistics of Viewed the articles Analyzing access statistics of Visibility and Readership

[A] Analyzing Yearwise statistics of Viewed the articles

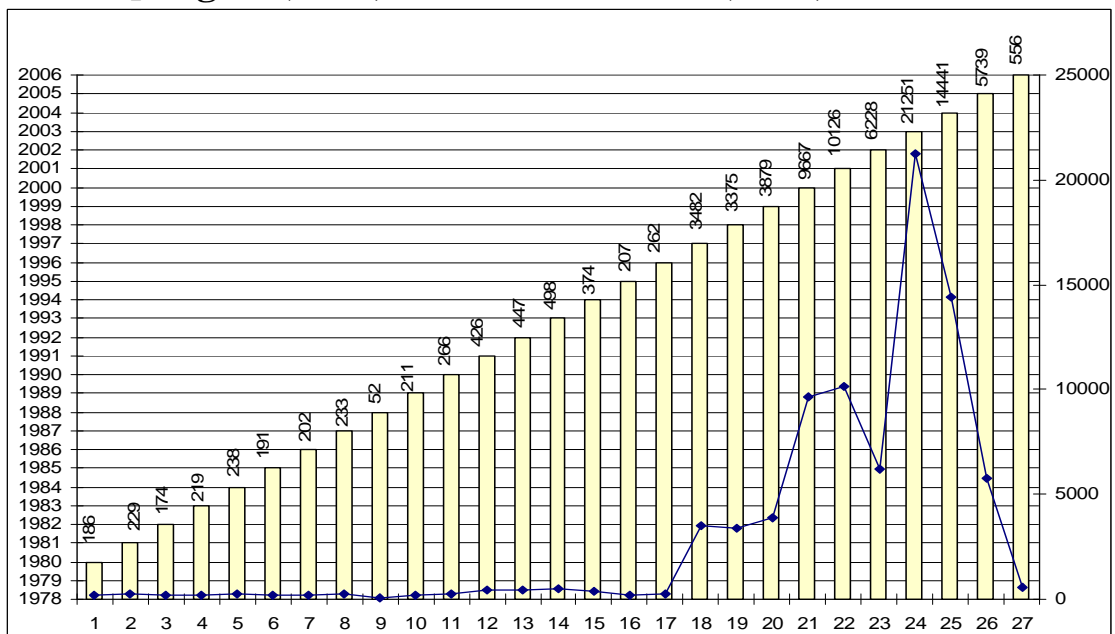
- Higher in the ye2003=826806 and Lower in the year 1988=48672



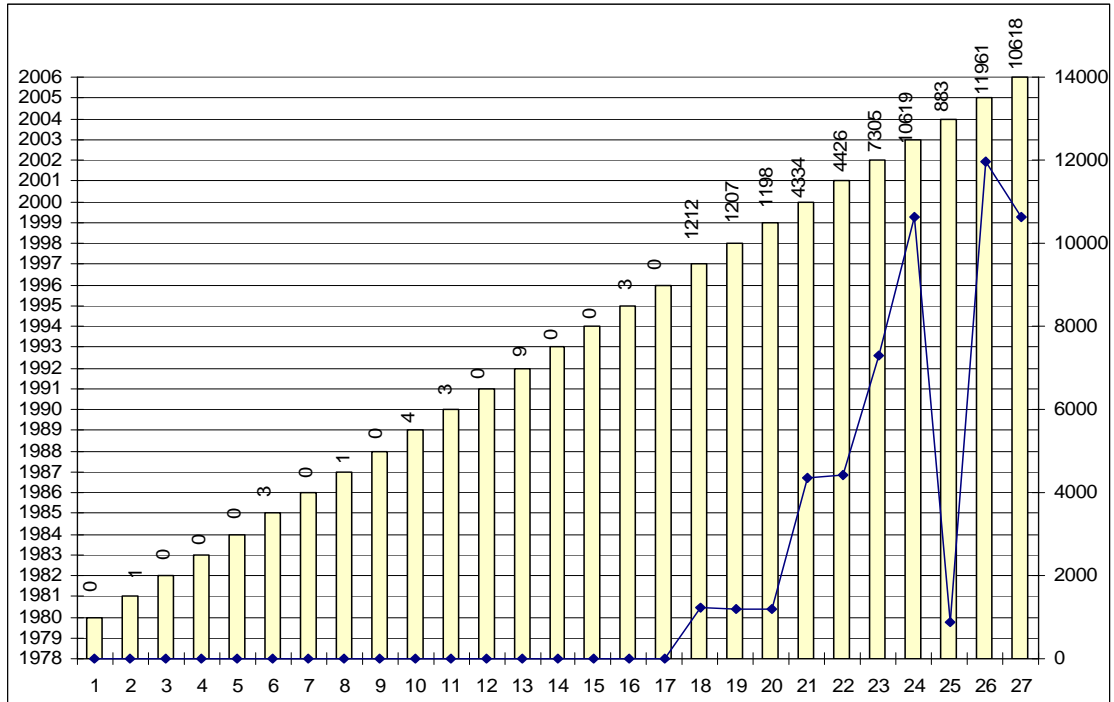
**19. Yearwise Analyzing yearwise printed the articles**  
**Higher(1993)=4871;Lower(1997)=229**



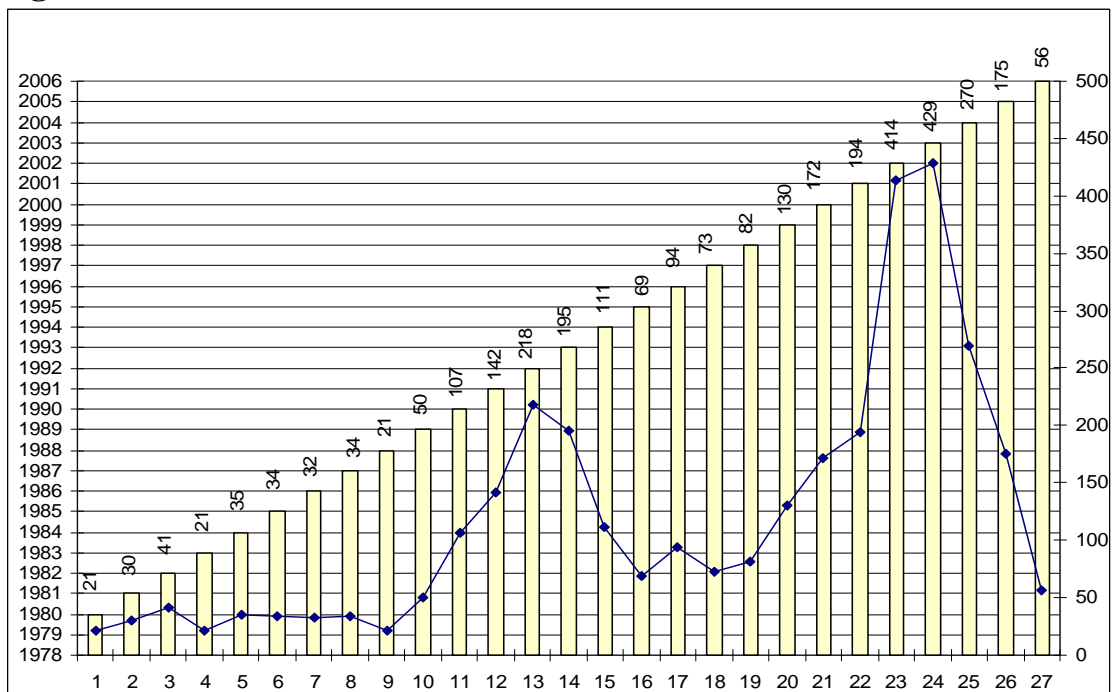
**20. Analyzing yearwise access statistics for E-mail received by articles**  
**Higher(2003)=21251 and Lower(1988)=52**



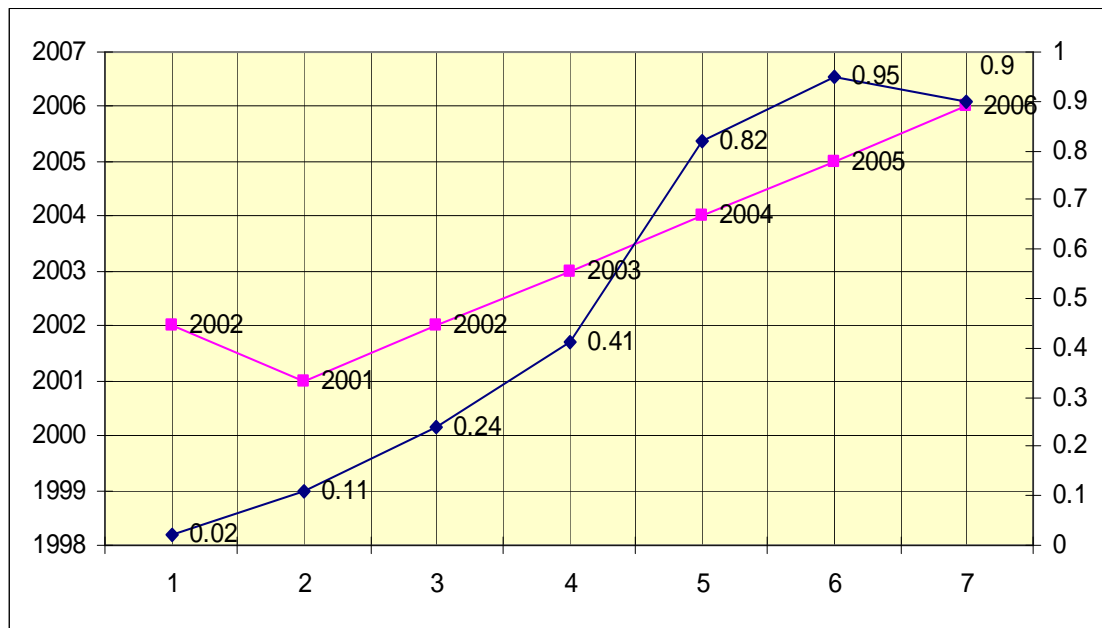
**21. Analyzing Statistics downloaded the articles yearwise[  
Higher(2005)=11961 and  
Lower(1996,94,93,88,86,84,83,82,80)=0**



**22. Analyzing statistics of citation nos. received by articles yearwise(  
higher(2003)=429 and Lower(1988&1983)=21**



### 23. Journals Impact factor( from the period 2000 to 2006) (higher in 2005=0.95 and lower in 2000=.02)



### 24. Observations

- There are two periods during 1980-2006. First when the Journal of Postgraduate Medicine was only in print version up to 2000. Then electronic version started from the year 2001. Following main changes have been found due to open access. These are;
- [1] The Overall changes in author contributions from national and international have been increased.
- [2] The number of medical subjects also increased with the number of papers for each issue.
- [3] There has been additions of new type publications.
- [4] There is an increase in visibility and access statistics for viewing, downloading, printing, e-mail receiving, and more citations received.
- [5] Journal impact factor has been enhanced from lower to higher.

## 25. Conclusions

- 1] Print JPGM Journal while in print version up to 1980-2000 were receiving poor visibility and low citations receiving rate by articles
  - 2] Open access electronic version of e-JPGM has remarkable progress in enhancing the higher visibility with increasing of no. citation receiving rate by articles.
  - 3] Authors contributions for submitting papers was limited to india for print version up to 2000 which was increased to 37 international countries after Journal went online by MedKnow,Mumbai in 2001.
  - 4] The Journal Impact Factor which was low for 0.02 has been increased to 0.9 in the year 2005,
  - 5] Thus it has been proved that open access publishing model has done a direct impact over print version of journal of postgraduate medicine for enhancing its visibility ,accessibility and journal impact factor
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## 26. Suggestions

1] More important suggestion to promote open access publishing model for costly biomedical journals in india and abroad,the collaboration of open access publishers should be established.

2]The collaborative model of open access publishing set up by national and international agencies should be supported by government of their respective countries by providing funds

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## 27. Applications of Research Study

- Bibliometric Content Analysis of an Biommedical E-Journal of Postgraduate Medicine helps in three categories of medical societies.These are
- [1] Medical Librarian and Medical Library Users : From article analysis Librarian and users can choose and select the needful issues for library for procurement at minimum cost through the indexes and abstracts of the articles compiled as a

guide or manual of papers published in JPMG for archived issues. without wasting of time and energy.[3]

2] Medical Practitioners : From indexing or abstracted manual of archived articles. These are helpful to choose correct issue for their relevant study for advancement in diagnosis and treatment for a particular chronic disease. Thus updating the recent knowledge for better patient care.[2]

- 3] This research study promotes LIS scholars to take initiative in Internet based researches to conduct bibliometric analysis of online open access journals.[1]

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