

Subject category ONCOLOGY in JOURNAL CITATION REPORTS 2000-2006: Analysis of impact factor distribution and publishing data

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SUMMARY

Impact factor (IF) of journals is assumed an adequate measure of its importance in the scientific communication of a defined subject. It is important to have in mind that IF is varying very much in time. The range of IF for journals classified in the subject group ONCOLOGY is analyzed for the period 2000-2006. There are only seven of 127 journals in year 2006 which have IF higher than 10. The highest impact in the analyzed period has the journal CA-CANCER J CLIN, varying from 24,674 to 63,342, but the important fact about that journal is that it publishes very small number of articles annually. The number of journals on the list also changed from 103 in 2000 to 127 in year 2006. Only one journal from the list is published in German and five are multilingual, all the rest are published in English language. Besides US (66), Great Britain (29), Holland (7), and Switzerland (6), all other 11 countries have few journals, mostly situated in the last part of the list ranked by IF. When choosing where to publish their results, scientists should consider all available facts about a journal – from its IF and the way it changes with time, to its openness, availability in libraries and on the WWW, possibility to keep author rights and put the article in an open access repository, where it will get more attention from authors that do not have access to that journal, etc.

Key words: Oncology, Medical; Periodicals as Topic; Bibliometrics; Quality Control

INTRODUCTION

Impact factor is a measure of the frequency with which the „average article“ in a journal has been cited in a particular year or period. The annual JCR Impact Factor is a ratio between citations and recent citable items published. The Impact Factor of a journal is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years (1). There is a lot of discussion going on about the real significance of IF, but it is used widely as an evaluation tool in many countries, including Serbia. The problem is that there is a feedback influence of the intensive IF use for journal evaluation, that effects the editorial practice in quite non-scientific way (2). Important facts that should be considered are that IF is calculated from one commercial database - Thompson Reuters Web of Science – but from year 2006 onwards, it is not the only citation database (3,4). For biomedical sciences, the overlapping of existing citation databases is better than in other subjects, but it is far from complete. That could be very important for the evaluation of scientists from small scientific communities (5).

May be the best summary of that discussion was given by Hoeffel: “Impact Factor is not a perfect tool to measure the quality of articles but there is nothing better and it has the advantage of already being in existence and is, therefore, a good technique for scientific evaluation”.

JCR CATEGORY: ONCOLOGY

Experience has shown that in each speciality, the best journals are those in which it is most difficult to have an article accepted, and these are the journals that have a high impact factor. Most of these journals existed long before the impact factor was devised. The use of impact factor as a measure of quality is widespread because it fits well with the opinion we have in each field of the best journals in our speciality” (6).

Scientists in Serbia are also evaluated according to the number of papers they published in leading journals of their discipline and according to the number of

citations, their articles received. That is why we will show the details concerning leading journals in oncology from year 2000 to present, hoping to give relevant information to Serbian oncologists and help them to decide where to publish and which journals to consult.

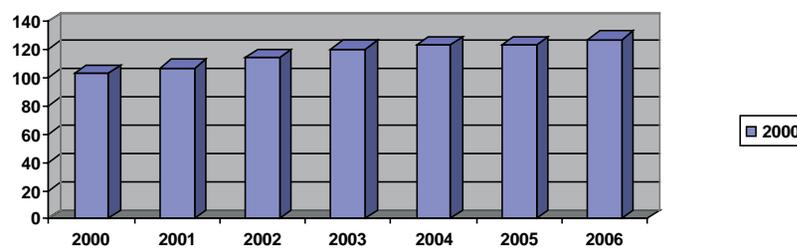


Figure 1. Number of journals in the category ONCOLOGY 2000-2006

Figure 1 shows that the absolute number of journals raised from 103 in year 2000 to 127 in year 2006.

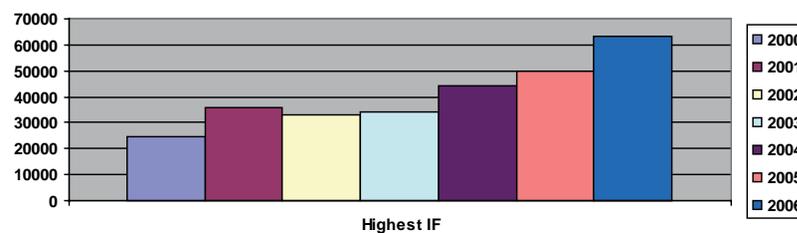


Figure 2. Highest IF in the category ONCOLOGY 2000-2006

Figure 2 shows that the highest IF in the category ONCOLOGY in the same period nearly tripled - from 24.674 in 2000 to 63.342 in year 2006. Impact factor of the journals that were in the middle of the list increased from 1.650 to 2.396, and the number of the journals with IF higher than five were increased from seven to 22.

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FIRST TEN JOURNALS FROM CATEGORY ONCOLOGY

Table 1 shows how IF even for leading journals can vary from year to year, and how a new journal in its second year has IF 18,913, as in the case of CANCER CELL. Minus mark signifies first year publishing. That makes it clear that IF can be only a relative criterion when deciding where to publish and what to read regularly. Very important criteria to consider should be the publisher, editorial board, recent history of the journal (did it change title, board, publisher etc.).

WHERE TO SEND AN ARTICLE

It is important for every author, before deciding where to send an article, to consider also some important facts about journals included in the JCR list – not only what is the latest IF of the journal but also how many articles this journal publishes annually. Those data for the first 30% of the list for the year 2006 are given on the Table 3.

Table 1. Ten journals with the highest IF from year 2000 to 2006

Journal title	2006	2005	2004	2003	2002	2001	2000
CA-CANCER J CLIN	63.342	49.794	44.515	33.056	32.886	35.933	24.674
NAT REV CANCER	31.583	31.694	36.557	33.954	13.625	–	
CANCER CELL	24.077	18.725	18.122	18.913	–		
J NATL CANCER I	15.271	15.171	13.856	13.844	14.5	14.24	14.159
J CLIN ONCOL	13.598	11.81	9.835	10.864	9.868	8.53	8.773
ADV CANCER RES	10.682	7.909	6.2	7.938	9.778	11.192	21.68
LANCET ONCOL	10.119	7.855	7.47	6.83	–	–	–
BBA-REV CANCER	9.156	12.143	16.12	8.395	9.351	9.581	0.114
STEM CELLS	7.924	6.094	5.5	5.802	4.034	2.689	2.989
CANCER RES	7.656	7.616	7.69	8.649	8.318	8.302	8.46

The other important fact is that the vast majority of journals on the list are published in USA or Great Britain, and even those that are not published there, are published in English. Only one journal from the list is published in German and five are multilingual, all the rest are published in English language. The data about the country of the publisher and publication language are presented in Table 2.

Table 2. Distribution of titles by publishing country on the JCR 2006 list for ONCOLOGY

Publishing country	Number of titles in first 30% on the IF ranked list	Number of titles in 30%-50% on the IF ranked list	Number of titles in last 50% on the IF ranked list	Total number of titles
United States	24	10	32	66
Great Britain	10	6	13	29
Netherlands	2	4	1	7
Switzerland	1	1	4	6
Germany		3	1	4
Italy			4	4
Greece		1	2	3
Japan		1		1
New Zealand		1		1
France		1		1
Canada			1	1
Slovakia			1	1
Hungary			1	1
Czech			1	1
Norway			1	1

Table 3. IF and the number of published articles in 2006

Abbreviated Journal Title	IF	2006 Articles
CA-CANCER J CLIN	63.342	19
NAT REV CANCER	31.583	80
CANCER CELL	24.077	78
J NATL CANCER I	15.271	156
J CLIN ONCOL	13.598	734
ADV CANCER RES	10.682	9
LANCET ONCOL	10.119	91
BBA-REV CANCER	9.156	33
STEM CELLS	7.924	303
CANCER RES	7.656	1493
SEMIN CANCER BIOL	7.378	46
ONCOGENE	6.582	773
CLIN CANCER RES	6.177	946
LEUKEMIA	6.146	221
CANCER METAST REV	6.115	52
SEMIN RADIAT ONCOL	5.889	31
CURR CANCER DRUG TAR	5.677	44
CARCINOGENESIS	5.366	294
NAT CLIN PRACT ONCOL	5.364	46
ONCOLOGIST	5.206	120
ANN ONCOL	5.179	337
MOL CANCER THER	5.137	359
NEURO-ONCOLOGY	4.939	29
NEOPLASIA	4.913	117
ENDOCR-RELAT CANCER	4.763	99
MOL CANCER RES	4.759	92
INT J CANCER	4.693	837
BREAST CANCER RES TR	4.671	229
CANCER	4.582	675
J IMMUNOTHER	4.508	62
CRIT REV ONCOL HEMAT	4.490	85
INT J RADIAT ONCOL	4.463	639
BRIT J CANCER	4.459	541
CANCER TREAT REV	4.370	58
CANCER IMMUNOL IMMUN	4.313	164
CANCER EPIDEM BIOMAR	4.289	377
CANCER GENE THER	4.187	117
EUR J CANCER	4.167	395

Table 3 shows that the number of published articles varies from 9 to 1493, so it is easy to conclude that there is much greater chance to get an article published in a journal that is not so extremely selective and publishes only a few articles a year, probably mostly reviews, then in a journal with a greater coverage of results in oncology.

CONCLUSION

Serbian scientists should consider also the distribution of the journal, availability in libraries and on the WWW, possibility to keep author rights and put the article in an open access repository, where it will get more attention from authors that do not have access to that journal, etc. The recent researches show that articles with open access to everybody on the WWW get much more citations than those published in journals with toll access (7).

The situation will be changing even more because US National Institute of Health changed its policy. "The NIH Public Access Policy ensures that the public has access to the published results of NIH funded research. It requires scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to the digital archive PubMed Central upon acceptance for publication. To help advance science and improve human health, the Policy requires that these papers are accessible to the public on PubMed Central no later than 12 months after publication" (8). Open access journals are getting more importance in scientific communication process, because at the moment between 10 and 15% journals are in OA regime. Some of them, as for example journals that are published by PLoS (9), have leading positions according to IF in their subject categories.

However, some results show that it is not always the case that open access regime influence the increase of IF (10).

Many factors influence citation and IF. Editorial Boards have possibility to manipulate and improve Journal IF ranking, and stimulate citation by increasing numbers of articles per issue, number of cited references per article. One possibility is publishing review article, which as a rule increases Journal IF. "Numbers of citations do not necessarily mean that the science is good. In many cases the opposite is the case." All the same, the most important role in the process of publishing good science is the role of Editor-in-Chief as he selects and organizes manuscripts for each journal issue, edits English language, chooses still and format, and coordinates with publisher. Finally, he has responsible task to publish each issue on time, and many times that task is the most significant (11).

Conflict of interest

We declare no conflicts of interest.

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