Editorial: Citation analysis of Acta Dermatovenerologica Alpina, Pannonica et Adriatica 1992–2008

M. Poljak and A. Oštrbenk

Eighteen years of existence is an important achievement for a small regional professional journal like *Acta Dermatovenerologica Alpina, Pannonica et Adriatica* (*Acta Dermatovenerol APA*). During this period, our journal and its editor-in-chief and editors have experienced various ups and downs, as described in detail previously (1, 2). Several important steps were taken in recent years in order to improve the quality and international profile of our journal. Thus, the entire content of the journal has been freely available since 2000 (from volume 9 onwards) at the journal's website http://ibmi.mf.uni-lj.si/acta-apa. In addition to Biomedicina Slovenica and EMBASE/Excerpta Medica, our journal achieved full indexing status in Index Medicus/Medline in 2005 and the entire content is listed in PubMed starting with volume 14. The next important goal we aim to achieve is indexing in the Thomson Scientific Science Citation Index (SCI) and acquiring an official impact factor. To foster this goal, here we briefly present the results of the first citation analysis of our journal from 1992 to 2008.

The entire content of *Acta Dermatovenerol APA* from 1992 to 2008 was included in the analysis. For the purpose of the citation analysis, all bibliographical items were reclassified from original *Acta Dermatovenerol APA* publication types into official Thomson Scientific Web of Science (WoS) publication types and divided into WoS citable and noncitable items (3). In order to distinguish between the WoS publication types and *Acta Dermatovenerol APA* publication types, the WoS publication types are capitalized in this present report. Following *Acta Dermatovenerol APA* publication types: various types of studies (clinical, epidemiologic, laboratory, etc.), various types of investigations and reports (basic, clinical, etc.), short communications, short reports, case reports, case presentations, continuing medical education papers, continuing dermatological education papers, guidelines, therapeutic and short therapeutic reports, review papers, reviews, historical reviews, and short reviews are all considered to be WoS citable items (Article or Review), and other *Acta Dermatovenerol APA* publication types as WoS noncitable items. As summarized in Table 1, 544 bibliographical items (excluding 120 meeting abstracts) were published in *Acta Dermatovenerol APA* from 1992 to 2008, including 310 articles, 136 reviews, 51 meeting summaries, 19 letters, 12 items about an individual, 11 book reviews, and 5 editorials. Among the 544 bibliographical items, 446 (82%) were considered to be WoS citable items and 98 (18%) to be WoS noncitable items. Detailed

analysis of all published data will be available as a full article in one of the upcoming issues of our journal.

Because *Acta Dermatovenerol APA* is not indexed in WoS, the official bibliometric data for our journal are not available. Thus, for the purpose of our study, the citation analysis was performed manually by a cited reference search of the WoS electronic database (http://home.izum.si/izum/ft_baze/wos.htm). The search was done individually for each bibliographical item on 1 August 2009. As shown in Table 1, the total number of SCI-citations retrieved by the WoS cited reference search was 303. Among the 303 citations, 248 (81.8%) were considered to be independent citations and 55 (18.1%) to be author self-citations (citations in which one of the authors was the author of both the citing and cited articles). The proportion of self-citations among all citations identified in our study is comparable to those obtained in six leading biomedical journals (4). Not a single journal self-citation (citations by *Acta Dermatovenerol APA* itself to the articles published in *Acta Dermatovenerol APA*) was identified, which is quite surprising and encouraging. Journal self-citation has been recently identified as one of the most common ways in which journals artificially improve their impact factors (3, 5–7). Among the 303 citations, 446 WoS citable items received 298 citations (on average 0.66 citations per item) and 98 WoS noncitable items received 5 citations (on average 0.05 citations per item). Among the 446 WoS citable items published in *Acta Dermatovenerol APA* from 1992 to 2008, 153 (34.3%) items received at least one SCI-citation and 293 (65.7%) were without a citation as of 1 August 2009. Among the 98 WoS noncitable items published in *Acta Dermatovenerol APA* from 1992 to 2008, 3 (3.1%) items received at least one SCI-citation and 95 (96.9%) items were without a citation as of 1 August 2009. Fourteen top SCI-cited articles published in *Acta Dermatovenerol APA* (e.g., those receiving five or more SCI-citations) are summarized in Table 2. In addition to the articles and reviews listed in Table 2, 18 bibliographical items published in *Acta Dermatovenerol APA* from 1992 to 2008 had received three SCI-citations, 44 items had received two SCI-citations, and 77 bibliographical items had received one SCI-citation as of 1 August 2009.

The impact factor (IF) is a measure of citations for science and social science journals. Although it was developed primarily as a bibliographical tool (8, 9), and has often been criticized as unrepresentative or misleading (3, 5, 10), the IF is still the most frequently used quality index for research and researchers (11). The IF is equally important to both authors and editors: authors depend on it for career promotion and research funding, and editors care about it because a high IF attracts more and better papers (12). Because *Acta Dermatovenerol APA* is not indexed in WoS, the official IF of our journal is not available. However, several studies have shown that the IF can be reliably calculated "in house" and that an IF predicted in this way matched the official IF published in the annual Thomson Scientific Journal Citation Reports fairly well (3, 6). Thus we calculated the IF of *Acta Dermatovenerol APA* for 1994 to 2008 from the number of citations retrieved by a cited reference search of the WoS electronic database for a particular year and from the number of citable items published in our journal in corresponding years, as described previously (3). According to the Thomson Scientific criteria, the journal's IF in year X is defined as the ratio of the number of citations received in year X by all documents published in the journal in the years X−1 and X−2 (value A, Table 1) and the sum of the number of citable documents published in journal in the years X−1 and X−2 (value B, Table 1). Thus, for example, the 2008 IF for *Acta Dermatovenerol APA* was calculated by dividing the total number of citations that papers published in 2006 and 2007 received during 2008 (29 citations; value A, Table 1 under year 2008) by the total number of *Acta Dermatovenerol APA* citable items published in 2006 and 2007 (58 citable items, value B, Table 1 under year 2008). Although the numerator in the IF equation is relatively easy to obtain, the way in which Thomson Scientific determines the denominator for IF calculation is not always clear (3, 12, 13). As described above, we determined the number of citable items (the denominator in the IF equation) using a very conservative and stringent approach, thus classifying as many *Acta Dermatovenerol APA* publication types as possible as WoS citable items. The predicted IFs for *Acta Dermatovenerol APA* are summarized in Table 1. Because we are not persuaded that Thomson Scientific would classify all *Acta Dermatovenerol APA* publication types as WoS citable items as we did, the calculated predicted IFs presented in Table 1 should be considered as a minimal IF for the particular year due to our very stringent approach for eligibility.

Our citation analysis showed a positive trend for the IF of *Acta Dermatovenerol APA* (Table 1). Looking back, the most noticeable increase in the IF of *Acta Dermatovenerol APA* occurred between 2005 and 2006, most probably due to full indexing in PubMed, which started in 2005. Interestingly, the free availability of entire content of the journal on the journal's website (since 2000) did not have any measurable impact on the IF, emphasizing again the importance of the indexing of small journals

in bibliographic bases such as PubMed. According to the Thomson Scientific Journal Citation Reports (Science Edition) (http://www.izum.si/scripts/cobiss?command=CONNECT&base=jcr), *Acta Dermatovenerol APA* could be ranked 36th among 40, 40th among 42, and 40th among 43 journals listed under the category "Dermatology" for 2006, 2007, and 2008, respectively.

Until recently, WoS was the only database available to track citation counts for published articles. Lately, however, several other citation databases have become available, including Scopus and Google Scholar, both introduced in 2004 (14). Scopus, like WoS, requires a paid subscription, whereas Google Scholar is free. A recent study of citation counts of 328 articles published in three major general medical journals showed quantitatively and qualitatively different citation counts when using different citation databases; for example, Google Scholar and Scopus retrieved significantly more citations per article than WoS (14). Although the current citation rate for our journal is satisfactory, it may be underestimated because we used WoS as the only citation database in our study.

In conclusion, despite the fact that *Acta Dermatovenerol APA* is a small journal with a relatively narrow readership from the "scientific periphery," it has significantly improved its quality and international visibility during the last 18 years, as is shown by the increase in the number of submissions, the significant increase in the number of downloads from the journal's website, and recent progressive increase in the number of SCI citations and the journal's IF. We hope that these facts will be also recognized and rewarded by Thomson Scientific in the near future.

Table 1. Results of the citation analysis of bibliographical items published in Acta Dermatovenerol APA, 1992-2008.

Publication year	Total number of published items	Total number of WoS citable items	Total number of citations received	Total number of independent citations received	Value A for IF calculation	Value B for IF calculation	Predicted IF (A/B)
1992	28	20	19	16	/	/	/
1993	30	24	4	3	/	/	/
1994	36	32	34	27	2	44	0.045
1995	41	36	10	9	3	56	0.054
1996	39	30	18	14	2	68	0.029
1997	26	22	2	2	2	66	0.030
1998	29	25	10	10	2	52	0.038
1999	32	25	15	12	0	47	0.000
2000	30	22	10	9	5	50	0.100
2001	32	26	20	5	2	47	0.043
2002	25	23	12	8	2	48	0.042
2003	29	24	8	8	6	49	0.122
2004	29	22	15	10	2	47	0.043
2005	30	26	61	56	2	46	0.043
2006	36	27	30	26	16	48	0.333
2007	38	31	31	29	28	53	0.528
2008	34	31	4	4	29	58	0.500
Total	544	446	303	248	/	/	/

Table 2. Top 14 SCI-cited articles published in Acta Dermatovenerol APA, 1992-2008.

Authors	Publication year	Article title	Acta publication type	WoS publication type	Total number of citations received	Total number of independent citations received	Total number of citations eligible for IF calculation
Poljak M et al.	2005	Retrospective and prospective evaluation of the Amplicor HPV test for detection of 13 high-risk human papillomavirus genotypes on 862 clinical samples	clinical study	article	13	10	8
Tomažič J et al.	2005	Effect of metformin and rosiglitazone on lipid metabolism in HIV infected patients receiving protease inhibitor containing HAART	clinical study	article	8	8	7
Soyer HP et al.	1992	The significance of histopathology in the diagnosis of dermatomycoses	clinical study	article	6	6	1
Pierer K et al.	1996	Investigation of tick-derived Lyme disease borrelia strains isolated in Styria, Austria	review paper	review	6	5	2
Potočnik M et al.	2007	Distribution of human papillomavirus (HPV) genotypes in genital warts from males in Slovenia	clinical investigation	article	6	4	6
Hodl S	1992	Skin disorders in diabetes mellitus: a review of the diabetes-associated dermatoses and their implications for other disorders	review paper	review	5	5	0
Eros N et al.	1999	*Trichophyton equinum* infections among young wrestlers in Hungary	epidemiologic study	article	5	5	0
Dervis E et al.	2005	The prevalence of dermatologic manifestations related to chronic hepatitis C virus infection in a study from a single center in Turkey	clinical study	article	5	5	2
Rozman P et al.	2007	Use of platelet growth factors in treating wounds and soft-tissue injuries.	review	review	5	5	5
Baran W et al.	2005	Expression of p53 protein in psoriasis	clinical study	article	5	5	3
Huggins RH et al.	2005	Vitiligo	review	review	5	4	1
Turner JD et al.	2006	Atopic dermatitis. A clinical challenge	review	review	5	3	4
Weger W et al.	2001	Histopathology and immunohistochemistry of dermatoborrelioses	laboratory investigation	article	5	0	0
Luft S et al.	2004	Laboratory diagnosis of human immunodeficiency virus infection	review	review	5	0	5

REFERENCES

1. The Editors. Editorial 2006. Acta Dermatovenerol Alp Pannonica Adriat. 2006;15:3–4.

2. Kansky A. Acta Dermatovenerologica Alpina, Pannonica et Adriatica: At the occasion of 10th anniversary. Acta Dermatovenerol Alp Pannonica Adriat. 2002;11:133–6.

3. Wu XF, Fu Q, Rousseau R. On indexing in the Web of Science and predicting journal impact factor. J Zhejiang Univ Sci B. 2008;9:582–90.

4. Falagas ME, Kavvadia P. "Eigenlob": self-citation in biomedical journals. FASEB J. 2006;20:1039–42.

5. Brown H. How impact factors changed medical publishing – and science. BMJ. 2007;334:561–4.

6. Kovačić N, Huić M, Ivaniš A. Citation analysis of the Croatian Medical Journal: the first 15 years. Croat Med J. 2008;49:12–7.

7. Fassoulaki A, Papilas K, Paraskeva A, Patris K. Impact factor bias and proposed adjustments for its determination. Acta Anaesthesiol Scand. 2002;46:902–5.

8. Garfield E. The history and meaning of the journal impact factor. JAMA. 2006;295:90–3.

9. Garfield E. Use of journal citation reports and journal performance indicators in measuring short and long term journal impact. Croat Med J. 2000;41:368–74.

10. Anon. Not-so-deep impact. Nature 2005;435:1003–4.

11. Garfield E. Impact factors, and why they won't go away. Nature. 2001;31:522.

12. Golubic R, Rudes M, Kovacic N, Marusic M, Marusic A. Calculating impact factor: how bibliographical classification of journal items affects the impact factor of large and small journals. Sci Eng Ethics. 2008;14:41–9.

13. McVeigh ME, Mann SJ. The journal impact factor denominator: defining citable (counted) items. JAMA. 2009;302:1107–9.

14. Kulkarni AV, Aziz B, Shams I, Busse JW. Comparisons of citations in Web of Science, Scopus, and Google Scholar for articles published in general medical journals. JAMA. 2009;302:1092–6.

AUTORS' ADDRESSES

Mario Poljak, MD, PhD, Professor, Institute of Microbiology and Immunology, Medical Faculty, Zaloška 4, 1000 Ljubljana, Slovenia, Tel.: +386 1 543 7453, Fax: +386 1 543 7418, E-mail: mario.poljak@mf.uni-lj.si

Anja Oštrbenk, Student, same address