How Far Has the *International Neurology Journal* Progressed Since Its Transformation Into an English Language Journal?

Sun Huh

Department of Parasitology, Institute of Medical Education, Hallym University College of Medicine, Chuncheon, Korea

Purpose: The publisher of the *International Neurology Journal* changed the text to English in 2010 to promote the journal as an international publication. Four years later, what has happened to this journal? This paper will use citation indicators to describe the degree of internationalization.

Methods: Citation indicators such as impact factors, total citations from Web of Science, Science Journal Rankings (SJR), cites per documents (2 years), and Hirsch indexes (h-indexes) from Web of Science, digital object identifier (DOI)/CrossRef, Scimago-JR, or Scopus were calculated. In addition, the native countries of the authors and researchers citing the journal in Web of Science were analyzed.

Results: Impact factors in 2012 and 2013 were 0.645 and 0.857, respectively. Total citations in 2011, 2012, and 2013 from Web of Science were 15, 51, and 99, respectively, and the SJRs in 2011 and 2012 were 0.220 and 0.390, respectively. The h-indexes from DOI/CrossRef, Scopus, and Web of Science were 7, 8, and 6, respectively. Out of 153 unsolicited published papers, 27 (17.6%) were from outside of Korea. The researchers citing the journal in Web of Science and Scopus were primarily from the United States, Korea, China, the United Kingdom, and France. Funding agencies supported 39 of 101 original articles (38.6%).

Conclusions: After changing the text to the English language, the citation indicators show that the *International Neurology Journal* has been elevated to an international journal. Although the nationality of authors varies from year to year, the increase in the number of manuscripts from international authors is obvious.

Keywords: Journal impact factor; Bibliographic database; PubMed

INTRODUCTION

The *International Neurology Journal* aims to move readers beyond the traditional concepts of basic and clinical science with a special focus on translational research in neurology. When the Korean Continence Society decided to change the title of its journal from *Journal of the Korean Continence Society* to *International Neurology Journal* and to change the language of the text from Korean or English to English only in 2010, the society board members and members wanted the journal to rapidly achieve international status. What are the criteria for a journal to be classified as “international”? First, it should be read by international researchers and receive submissions from them; second, there should be an international editorial board composed

of members from at least three continents; third, the style and format of the journal should be consistent and accurate; fourth, it should be indexed in international indexing databases such as ScienceCentral [1], PubMed [2], PubMed Central [3], Scopus [4], or Web of Science [5] so that researchers all over the world can easily search and cite the journal papers; fifth, it should be possible for the quality of the journal to be evaluated using citation indicators. To be included in ScienceCentral, PubMed, and PubMed Central, citation analysis is not required, but scientific quality and technical requirements are evaluated. The journal fulfilled above the criteria and therefore, it was included in PubMed Central and PubMed from November 2010, Scopus from October 2011, and ScienceCentral from January 2014.

Four years have passed since the change in the journal title

Corresponding author: Sun Huh

Department of Parasitology, Institute of Medical Education, Hallym University College of Medicine, 1 Hallimdaehak-gil, Chuncheon 200-702, Korea
Tel: +82-33-248-2652 / Fax: +82-33-241-1672 / E-mail: shuh@hallym.ac.kr

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and language; thus, it is time to use journal metrics to assess its reputation and ranking among urology journals worldwide. This paper aims to disclose how far the journal has progressed since 2010 by analyzing the journal's citation indicators.

MATERIALS AND METHODS

Materials

The articles included in this review were from the first issue of 2010 to the last issue of 2013 of the *International Neurourology Journal*. There were 45 articles from 2010, 44 from 2011, 42 from 2012, and 41 from 2013.

Citation Indicators

Citation indicators such as impact factors, Hirsch-indexes (h-indexes) [6], and total citations were manually calculated from Web of Science since they are not yet indexed. Science Journal Rankings (SJR), cites per documents (2 years), and h-indexes were collected from ScimagoJR [7] or Scopus. In the calculation process, only countable articles such as reviews, original articles, and case reports were included in the denominator. Articles that were excluded were editorials, errata, book reviews, and letters to the editor. SJRs were compared with those of journals from Asia. H-indexes from digital object identifier (DOI)/CrossRef (http://crossref.org) were counted from KoreaMed Synapse [8]. Highly cited papers from the three databases were tabulated. Countries of researchers citing the journal in Web of Science were analyzed and data from those in Scopus were analyzed. The frequency of citations according to the publication type was also analyzed. The acknowledgements section in each orig-

inal article was checked for the disclosure of funding sources. Countries of authors of unsolicited papers published in *International Neurourology Journal* were counted. A precise explanation and definitions of the above citation indicators are available in a previous article [9].

Statistical analysis

Citation indicators were compared to the values in Journal Citation Reports (JCR) [10] and descriptive statistics were used.

RESULTS

Impact factors and cites per documents (2 years) are presented in Fig. 1. In the calculation of impact factors, self-citations could not be included; however, self-citations are included in cites per documents (2 years). The 2012 and 2013 impact factors were 0.645 and 0.857, respectively. When those results are compared to the 2012 data in the JCR in the category of nephrology-urology, the JCR rankings of 2012 and 2013 impact factors correspond to 89.0% and 85.7% each. Cites per documents (2 years) in 2011 and 2012 were 0.535 and 1.114. That of 2013 calculated from Scopus is 1.243. Total citations increased each year. The total number of citations from Web of Science was lower than that from Scopus: 165 and 261 were from Web of Science and Scopus, respectively (Fig. 2). There were 282 total citations in the 2010 to 2013 issues from DOI/CrossRef. Of these, 67 were from Korean medical journals. The number of citations for the *Journal of the Korean Continence Society* published from 1997 to 2009 was 6 from Web of Science and 72 from Scopus.

SJRs of journals from Asian countries such as Korea, Japan,

Fig. 1. Increase in impact factor and cites per documents (2 years) of the *International Neurourology Journal* according to year from Web of Science and SCImago Journal & Country Rank (cited 2014 Mar 23) [5,7].

Fig. 2. Increase in the total number of citations of the *International Neurourology Journal* from Web of Science and Scopus according to year (cited 2014 Mar 23) [4,5].

China, and Turkey that were indexed in Scopus were compared. Out of six journals, the *International Neurourology Journal* was the top-ranked with a value of 0.220 in 2011 and 0.390 in 2012 (Fig. 3). Its ranking in the urology category is in the second quartile in 2012 from SCImago Journal & Country Rank. The journal was cited all over the world. Countries of frequently citing authors from Web of Science were the United States of America (42), Korea (26), China (19), the United Kingdom (18), and France (16) (Fig. 4). Those from Scopus were Korea (67), the United States of America (65), the United Kingdom (25), China (22), France (17), and Japan (17) (Fig. 4). The number of citations differed according to publication type. The average number of citations in reviews, original articles, cases, and

Fig. 3. Comparison of Science Journal Rankings of six urology journals from Asia according to year (cited 2014 Mar 23) [7]. INJ, *International Neurourology Journal*; KJU, *Korean Journal of Urology*; JJU, *Japanese Journal of Urology*; TNDTJ, *Turkish Nephrology, Dialysis and Transplantation Journal*; AUJ, *Acta Urologica Japonica*; CJA, *Chinese Journal of Andrology*.

other articles was 3.1, 1.4, 1.1, and 0.2, respectively (Fig. 5).

The h-indexes from DOI/CrossRef, Scopus, and Web of Science were 7, 8, and 6, respectively. Papers with h-indexes were tabulated (Tables 1–3). In Web of Science and Scopus, review articles are frequently cited; while in DOI/CrossRef, the original articles share the most common portion. Out of 101 original articles, 39 (38.6%) were supported by funding agencies (Fig. 6). The proportion of included articles written by authors outside of Korea has increased from 2.4 % in 2010 to 15% in 2011, 20.6% in 2012, and 25.0% in 2013 out of unsolicited articles (Fig. 7).

DISCUSSION

It is clear that the change in the title and the language of the *International Neurourology Journal* has been a success. The in-

Fig. 5. Average frequency of citation of papers in the *International Neurourology Journal* according to publication types and years, analyzed from Web of Science (cited 2014 Mar 23) [5].

Fig. 4. (A) Countries of authors who cited the *International Neurourology Journal* from volume 14 (2010) to volume 17 (2013), analyzed from Web of Science. (B) Countries of authors who cited the *International Neurourology Journal* from volume 14 (2010) to volume 17 (2013), analyzed from Scopus (cited 2014 Mar 23) [4,5].

Table 1. Hirsch-index of the *International Neurourology Journal* from Web of Science [cited 2014 Mar 23]

Ranking	Publication type	Article title	Year	Volume	Page	No. of cited
1	Original article	The impact of overactive bladder on health-related quality of life, sexual life and psychological health in Korea	2011	15	143	8
2	Review	Quality of life of women with urinary incontinence: a systematic literature review	2010	14	133	7
3	Review	Mechanisms and prospects of ischemic tolerance induced by cerebral preconditioning	2010	14	203	6
4	Original article	Alteration of autonomic function in female urinary incontinence	2010	14	232	6
5	Review	Regenerative medicine strategies for treating neurogenic bladder	2011	15	109	6
6	Review	The role of NLR-related protein 3 inflammasome in host defense and inflammatory diseases	2012	16	2	6

Table 2. Hirsch-index of the *International Neurourology Journal* from Scopus [cited 2014 Mar 23]

Ranking	Publication type	Article title	Year	Volume	Page	No. of cited
1	Review	Quality of life of women with urinary incontinence: a systematic literature review	2010	14	133	15
2	Original article	The impact of overactive bladder on health-related quality of life, sexual life and psychological health in Korea	2011	15	143	11
3	Review	Mechanisms and prospects of ischemic tolerance induced by cerebral preconditioning	2010	14	203	11
4	Case	Unusual foreign bodies in the urinary bladder and urethra due to autoerotism	2010	14	186	11
5	Review	Regenerative medicine strategies for treating neurogenic bladder	2011	15	109	9
6	Review	The role of NLR-related protein 3 inflammasome in host defense and inflammatory diseases	2012	16	2	8
7	Review	Potential targeting of siglecs, mast cell inhibitory receptors, in interstitial cystitis	2011	15	61	8
8	Original article	Impact of nocturia on health-related quality of life and medical outcomes study sleep score in men	2011	15	82	8
9	Original article	Bladder pain syndrome treated with triple therapy with gabapentin, amitriptyline, and a nonsteroidal anti-inflammatory drug	2010	14	256	8
10	Case	Robot-assisted laparoscopic augmentation ileocystoplasty: a case report	2010	14	61	8
11	Original article	Predictors of postoperative voiding dysfunction following transobsturator sling procedures in patients with stress urinary incontinence	2010	14	26	8

creases observed in the citation indicators such as impact factors, cites per documents (2 years), total citations, SJRs, and h-indexes (Figs. 1–3, Tables 1–3) are noteworthy. The position in the journal citation ranking (85.7%) and in the SCImago Journal & Country Rank (the second quartile) implies this is a pres-

tigious journal. The discrepancy in the citation indicator values between Web of Science and Scopus originates from the different population the journals serve, although the two values may be correlated when a journal is indexed in both databases [11]. Since the current journal is indexed in only one database, a dis-

Table 3. Hirsch-index of the *International Neuourology Journal* from DOI/CrossRef [cited 2014 Mar 23]

Ranking	Publication type	Article title	Year	Volume	Page	No. of cited
1	Review	Quality of life of women with urinary incontinence: a systematic literature review	2010	14	133	13
2	Original article	The impact of overactive bladder on health-related quality of life, sexual life and psychological health in Korea	2011	15	143	11
3	Case	Unusual foreign bodies in the urinary bladder and urethra due to autoerotism	2010	14	186	10
4	Original article	Bladder pain syndrome treated with triple therapy with gabapentin, amitriptyline, and a nonsteroidal anti-inflammatory drug	2010	14	256	9
5	Original article	Alteration of autonomic function in female urinary incontinence	2010	14	232	8
6	Original article	Predictors of postoperative voiding dysfunction following transobsturator sling procedures in patients with stress urinary incontinence	2010	14	26	8
7	Original article	Effects of tamsulosin on urinary bladder function and neuronal activity in the voiding centers of rats with cyclophosphamide-induced overactive bladder	2012	16	13	7
8	Review	Regenerative medicine strategies for treating neurogenic bladder	2011	15	109	7
9	Original article	Korean version of the overactive bladder symptom score questionnaire: translation and linguistic validation	2011	15	135	7

DOI, digital object identifier.

Fig. 6. Proportion of papers that acknowledged funding agencies out of 101 original articles in the *International Neuourology Journal* according to year.

crepancy in the values is inevitable.

H-indexes of 6–8 in three databases are commendable in a small, specialized journal with a four-year history. Although many of the authors are from Korea, its papers are cited more frequently by authors outside of Korea: 89.2% in Web of Science and 78.9% in Scopus (Fig. 4). This is an indicator of the international quality of papers. The fact that 38.6% of original ar-

Fig. 7. Proportion of authors from Korea and outside of Korea out of unsolicited articles in the *International Neuourology Journal* according to year.

ticles have been supported by funding agencies means that their research designs have already been verified by the peer reviewers in the funding agencies (Fig. 6). Therefore, such papers are usually believed to contain abundant data and to be well analyzed. The increased proportion of the authors outside of Korea is also a reflection of the reputation of the journal (Fig. 7).

In addition to the advancement of the journal to the interna-

tional level, some other interesting findings were revealed in the analysis. First, it was underestimated due to a language barrier when it was published in a Korean-English bilingual journal. After it became an English-only journal and an open access journal with a Creative Commons license, it was included in PubMed Central, PubMed, and ScienceCentral. Being indexed in PubMed was the changing point that resulted in journal articles being cited by researchers worldwide. Even the researchers in Korea usually did not cite this journal when they submitted to Web of Science journals. This is the reason there were so few citations of the *Journal of the Korean Continence Society*. The process of becoming indexed as a Medline journal has recently become very difficult. The easiest and fastest way to be indexed in PubMed is to become a PubMed Central journal so that citation data can be transferred to PubMed automatically. This is the merit of an open-access, English-language medical journal. The *International Neuourology Journal* caught the changing market of medical journals and located in the most important database platform, PubMed. Open access by itself could not raise the impact factor [12].

Second, the type of paper mostly highly cited in the journals is review (Fig. 5) [13,14]. Usually, case reports receive fewer citations than original articles; however, in the *International Journal of Neuourology*, some case reports received a high number of citations (Table 3). The editor needs to identify unique and useful case reports.

The most frequently cited papers in the three databases were different (Tables 1–3). One reason is that there was a difference in the journal populations for each database, and the other is that 67 citations are from medical journals from Korea that deposited their references in DOI/CrossRef. Therefore, the value from DOI/CrossRef may reflect the characteristics of Korean researchers. In Korea, most of the references from medical journals have been deposited in DOI/CrossRef since 2007. Out of six urology journals from Asia that are indexed in Scopus, the *International Neuourology Journal* had the highest SJR from 2011 to 2012. The SJR, which is a reflection of a journal's reputation, indicates that the *International Journal of Neuourology* is the most competitive journal in Asia (Fig. 3).

Why should a journal be indexed in major databases? One reason is to elevate the reputation of the journal and increase exposure to readers. Further, these databases provide the citation indicators so that it is not necessary to calculate the values manually. In addition, databases provide information about the location of each journal, author, and institution, thereby en-

abling readers to identify networks among them. This is invaluable information for editors to inform them of the present position of the journal [15].

What should be done to make the journal more prosperous? The *International Neuourology Journal* has already participated in CrossMark and FundRef [16]. It is time to add Open Researcher and Contributor ID (ORCID) of editorial board members and all authors to verify the authors' career and work. ORCID data can be used by funding agencies and institutions to trace the researchers' activities. Already many journals describe ORCIDs published in Korea [17] and abroad. Case reports and articles on procedures including audiovisual files might be helpful for clinicians to understand the article easily [18]. In addition, audio recordings of the abstract or important short messages may be helpful to broaden the audience [19]. If full-text Journal Article Tag Suite eXtensible Markup Language files can be deposited in ScienceCentral continuously, many researchers or laypersons can read the papers in their native language with the help of a translation function; however, this feature has not yet been perfected [20]. The *International Journal of Neuourology* could develop and become the co-official journal of other countries' societies, and thereby attract more submissions from all over the world [21]. Since it is difficult to recruit good peer reviewers, collaboration with similar journals should be considered for cascading reviews or the transfer of review opinions [22].

In conclusion, it is evident that the *International Neuourology Journal* has become a prestigious, international journal according to citation indicators. It is one of the best models of a local journal published by a nonprofit society being elevated to a successful, international journal.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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