



## Current status of dental journals published by Japanese organization

Haruto Hiraba<sup>a,b,\*</sup>, Yoshimasa Takeuchi<sup>c</sup>, Kensuke Nishio<sup>d</sup>, Hiroyasu Koizumi<sup>a,b</sup>,  
Takayuki Yoneyama<sup>a,b</sup>, Hideo Matsumura<sup>e</sup>

<sup>a</sup> Department of Dental Materials, Nihon University School of Dentistry, 1-8-13, Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8310, Japan

<sup>b</sup> Division of Biomaterials Science, Dental Research Center, Nihon University School of Dentistry, 1-8-13 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8310, Japan

<sup>c</sup> Department of Comprehensive Dentistry and Clinical Education, Nihon University School of Dentistry, Tokyo, Japan

<sup>d</sup> Department of Complete Denture Prosthodontics, Nihon University School of Dentistry, 1-8-13 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8310, Japan

<sup>e</sup> Department of Fixed Prosthodontics, Nihon University School of Dentistry, 1-8-13 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8310, Japan

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### ABSTRACT

The publication status of dental journals in Japan was examined, with a focus on metrics such as Journal Impact Factor (JIF), Eigenfactor, Article Influence Score, and percentage of open access. A total of 18 journals published by Japanese dental organizations were identified in the Journal Citation Reports (JCR), with JIF values ranging from 0.4 to 6.6. The highest JIF was observed in *The Japanese Dental Science Review*. Additionally, 16 journals were not listed on the JCR. The authors explored the implications of these findings on the visibility and impact of Japanese dental research, and discussed the potential benefits of embracing open-access publications for greater global dissemination. This study highlighted the opportunities for journals to enhance their international recognition by meeting the criteria for JIF inclusion and embracing open-access publications. By adopting effective publication strategies, the dental community in Japan will be able to contribute to the advancement of dentistry globally, ensuring broader accessibility and recognition of its research contributions.

### 1. Introduction

Dental research conducted in Japan has made significant contributions to dentistry, both domestically and internationally. Historically, many Japanese researchers have primarily contributed their Japanese papers to journals published by Japanese organizations, which has limited the visibility and impact of their research on an international level. Recently, there has been a noticeable shift in publication practices of dental researchers in Japan. An increasing number of researchers have chosen to contribute their work to English-language journals using the Journal Impact Factor (JIF). This change is attributed to the fact that the JIF of the journal that published the submitted paper and the number of citations of the submitted paper correlate with researchers' performance.

Eugene Garfield devised JIF as an index for evaluating journals to help librarians make journal subscription decisions [1]. In 1976, the first JIF was published in the Journal Citation Reports (JCR) by Thomson Scientific. Currently, JCR is published by Clarivate Analytics and is available for online access [2]. The JIF is a widely used metric that measures the average number of citations received by articles published

in a particular journal within 2 years [3]. While the JIF has some benefits, such as providing a way to evaluate the quality and impact of scientific journals, it has some limitations and drawbacks [4], as it only measures the impact of a journal within a particular field or discipline and does not consider the quality of individual articles or the impact of articles on fields outside the journal's specialty. Moreover, the JIF only considers articles that have been cited by other articles in indexed journals, potentially resulting in an underestimation of the impact of important but less cited articles. Thus, the use of JIF to evaluate researchers or a single paper is often controversial [5,6]. Overall, while JIF provide a useful method for comparing the relative impact of journals within a particular field, it should be used cautiously in conjunction with other metrics and qualitative assessments when evaluating the quality and impact of scientific research.

Several new indicators have been devised, one of which is the Eigenfactor (EF), which attempts to assess the influence of journals by referring to the PageRank algorithm that Google uses to rank the importance of websites [7,8]. EF algorithms consider not only the total number of citations a journal receives but also the importance of the citing journals [8,9]; this means that citations from highly cited and

\* Corresponding author at: Department of Dental Materials, Nihon University School of Dentistry, 1-8-13, Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8310, Japan.  
E-mail address: [hiraba.haruto@nihon-u.ac.jp](mailto:hiraba.haruto@nihon-u.ac.jp) (H. Hiraba).

influential journals are assigned more weightage than those from journals that do not. Unlike the JIF, which primarily focuses on the number of citations a journal receives, the EF score considers both the quality and quantity of citations. Moreover, EF is designed to be a more stable metric over time as it is less susceptible to manipulation and changes in citation practices. The EF score is typically reported along with the Article Influence Score (AIS), which measures the influence per article in a journal. To calculate the AIS for a journal, the EF score was divided by the total number of articles published by the journal over the previous 5 years [8]. Citations from previous papers in the same journal (self-citations) significantly affect JIF. By contrast, self-citations were excluded from the EF and AIS calculations, ensuring that these metrics were not influenced by such practices. Considering both the EF and AIS of a journal allows a more comprehensive assessment of its impact and influence in the field. Currently, the EF and AIS are listed in the JCR.

The JCR provides an open access (OA) profile for each journal. OA journals are academic publications that provide free access, browsing, and research findings [10]. By choosing OA, researchers ensure that their work is freely available to anyone with an Internet connection, breaking down barriers to accessibility, and enabling the global dissemination of knowledge. In JCR, articles published under the

Creative Commons license are tagged with the label Gold OA [11,12]. This license allows copyright holders to grant the public permission to use their work under certain conditions [13]. This clarifies the free sharing, reuse, and modification of papers. In the JCR, articles of "subscribe" or "free to read (formerly Bronze)" are clearly labeled in distinction from the Gold OA [11]. The purpose of the presentation of Gold OA by the JCR is to increase transparency regarding how these papers contribute to the citations of the journal.

This study aimed to investigate the publication status of English-language dentistry journals published in Japan to gain insights into the current state of international dissemination of Japanese dental research. Understanding the publication status of these journals is important for researchers, educators, and policymakers in the field of dentistry. This study aimed to provide an overview of various aspects such as the number of dental journals published in Japan and their corresponding JIF, EF, and AIS. Moreover, it identifies opportunities and challenges for improving the visibility and impact of Japanese dental research internationally. The results guide researchers and scholars in selecting appropriate journals to publish their research and help them obtain research funding and academic recognition. By shedding light on the publication landscape of dental journals in Japan, this study

**Table 1**  
Dental journals listed in 2023 JCR set up for official publication of Japanese organizations.

Journal title	Organizations	Publisher	2022 JIF	5-year JIF	EF	AIS	% of OA Gold
The Japanese Dental Science Review	Japanese Association for Dental Science (JADS) and JADS branch organizations	Elsevier Sci. Ltd., UK	6.6	6.2	0.00108	1.067	96.63%
Journal of Prosthodontic Research	JADS	Japan Prosthodontic Society, J-STAGE	3.6	4.0	0.00275	0.864	69.52%
Journal of Periodontal Research	Japan Prosthodontic Society	Wiley, NJ, USA	3.5	3.9	0.00327	0.694	10.83%
Journal of Oral Pathology & Medicine	The Japanese Society of Periodontology	Wiley	3.3	3.5	0.00346	0.564	6.55%
International Journal of Implant Dentistry	The Japanese Society of Oral Pathology	Springer Japan KK, Japan	2.7	3.3	0.00197	0.672	99.24%
Dental Materials Journal	The Japanese Society of Oral Implantology	The Japanese Society for Dental Materials and Devices, J-STAGE	2.5	2.5	0.00264	0.443	98.59%
Sleep and Breathing*	The Japanese Society for Dental Materials and Devices, Japan Society for Adhesive Dentistry	Springer Heidelberg, Germany	2.5	2.7	0.00622	0.678	14.42%
Journal of Oral Biosciences	The Japanese Academy of Dental Sleep Medicine	Elsevier, Netherlands	2.4	2.2	0.00058	0.351	6.33%
Oral Radiology	Japanese Association for Oral Biology	Springer, NY, USA	2.2	1.9	0.00108	0.397	8.03%
Gerodontology	Japanese Society for Oral and Maxillofacial Radiology	Wiley	2.0	2.4	0.00130	0.472	14.58%
Pediatric Dental Journal	Japanese Society of Gerodontology	Elsevier, J-STAGE 2004–2012	0.8	0.7	0.00013	0.103	5.94%
Clinical and Investigative Orthodontics* *	Japanese Society of Pediatric Dentistry	Taylor & Francis, UK	N/A	N/A	0.00000	N/A	83.33%
Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology	The Japanese Orthodontic Society	Elsevier Sci. Inc., NY, USA	0.4	0.4	0.00038	0.079	7.41%
Dysphagia*	The Japanese Society of Oral Pathology, The Japanese Academy of Maxillofacial Implants, The Japanese Society of Oral and Maxillofacial Surgeons, The Japanese Society of Oral Medicine	Springer	2.6	3.2	0.00367	0.719	20.72%
Oral Science International	Other than the JADS branch organizations	Wiley, J-STAGE 2004–2010	0.5	0.9	0.00018	0.151	8.20%
Odontology	The Japanese Society of Dysphagia Rehabilitation	Springer	2.5	2.7	0.00175	0.477	14.33%
Journal of Oral Science	The Japanese Stomatological Society	Nihon University School of Dentistry, J-STAGE	1.9	1.9	0.00138	0.362	98.81%
Bulletin of Tokyo Dental College	Dental university, School of dentistry	Tokyo Dental College, J-STAGE	0.5	0.7	0.00015	0.126	100%

Abbreviation: 2023 JCR, 2023 Journal Citation Reports [2]; JIF, the Journal Impact Factor; EF, the Eigen factor; AIS, the Article Influence Score; OA, an open access; J-STAGE, Japan Science Technology Information Aggregator, Electronic

JCR category: \*Sleep and Breathing, clinical neurology, respiratory system; \*Dysphagia, otorhinolaryngology [2]

\*\*Title change: Clinical and Investigative Orthodontics changed from Orthodontic Waves in 2022 [2,14]

endeavored to contribute to the advancement and promotion of Japanese dental research on a global scale.

2. Study selection

The survey targeted dental journals published by Japanese organizations listed in the JCR, the Japanese Association for Dental Science (JADS), specialized and authorized organizations of the JADS, and dental schools and colleges in Japan. The necessary information was obtained through direct research on each society’s website, journal, and its submission rules, platforms, and databases used as of August 2023. The following criteria were used to select journals for inclusion: (1) the journal must be published in English, (2) the journal must focus on dentistry or related fields, and (3) the journal must be published or edited by an organization based in Japan. The following information was collected for each selected journal: (1) title, (2) organization and publisher, (3) 2022 JIF, (4) 5-year JIF, (5) EF, (6) AIS, and (7) percentage of Gold OA (% of OA Gold). This study did not involve human participants or animals, and no personal information was collected.

3. Results

The findings revealed 18 dental journals published by Japanese dental organizations listed in the 2023 JCR (Table 1) [2,14]. The 2022 JIF of the journals ranged from 0.4 to 6.6. The highest JIF was 6.6 in *The Japanese Dental Science Review* (JDSR) published by JADS. The EF of the journals ranged from 0.00013 to 0.00622. The journal AIS ranged from 0.079 to 1.067. The % of OA Gold ranged from 5.94 to 100. Sixteen dental journals in Japan were not listed in the 2023 JCR (Table 2). The results show that some Japanese academic societies set journals edited by related academic societies in Japan and abroad as their official journals.

4. Discussion

The results of this study provide valuable insights into the current status of dental journals published by Japanese organizations. These results of the 2022 JIF confirm that some Japanese dental journals have achieved high JIF, which position them favorably in international rankings (Table 1). Notably, JDSR ranked 5th among 157 dental journals worldwide in terms of JIF rank [14]. Clarivate Plc. announced that all Web of Science Core Collection journals would receive JIF in July 2022 [15]. In 2023, all JCR-listed journals (all Web of Science Core Collection journals) were assigned a JIF with one decimal place [14]. This allowed for a more comprehensive comparison of journals within the same database. Six journals published by Japanese organizations related to dentistry were not granted a JIF in 2022 despite being included in the Web of Science Core Collection. The granting of the JIF provided an opportunity for these journals to be evaluated and recognized at the same level as other journals. By publishing in internationally recognized journals, researchers have been suggested to enhance their reputation, increase their chances of securing research funding, and facilitate collaboration with experts worldwide [16]. Their correlation is unknown in the field of dental research and requires further study.

Starting with the 2023 JCR, the JIF is now displayed with only one decimal place instead of three. This change signified an increase in journals with the same JIF. Therefore, future journal comparisons should consider other metrics and descriptive data [17]. Therefore, this study aimed to investigate EF and AIS. These scores are typically reported annually and are used by many researchers and institutions to evaluate the relative importance of different journals in a given field. Journals with higher EF scores are considered more influential and prestigious in their fields. JIF is limited to journals indexed in the Web of Science database, whereas the EF score considers all journals in a given field and whether they are indexed in a particular database [7,9]. The AIS is another bibliometric indicator developed by the EF that measures

**Table 2**  
Dental journals set up for official publication of Japanese organizations.

Journal title	Organizations	Publisher
JADS branch organizations		
Operative Dentistry, Endodontology and Periodontology	The Japanese Society of Conservative Dentistry	The Japanese Society of Conservative Dentistry, J-STAGE
Anesthesia Progress	The Japanese Dental Society of Anesthesiology	The American Dental Society of Anesthesiology
The International Journal of Sports Dentistry Journal of Interdisciplinary Clinical Dentistry Journal of Digital Dentistry	Japanese Academy of Sports Dentistry	Quintessence Publishing Co., Ltd., Japan
	Academy of Clinical Dentistry	iACD (International Academy of Interdisciplinary Dentistry)
	The Japan Academy of Digital Dentistry	The Japan Academy of Digital Dentistry, J-STAGE
Other than JADS branch organizations		
Asian Pacific Journal of Dentistry	Japanese Dental Science Federation, Japanese Academy of Dental Technology	Asian Pacific Journal of Dentistry (ICJD Japan Editorial Office), J-STAGE
Japanese Journal of Comprehensive Rehabilitation Science	The Japanese Society of Dysphagia Rehabilitation	Kaifukuki Rehabilitation Ward Association, J-STAGE
MICRO: the International Journal of Microdentistry	Japan Association of Microscopic Dentistry	Quintessence Publishing Co., Ltd.
Journal of Oral Tissue Engineering	Japanese Association of Regenerative Dentistry	Japanese Association of Regenerative Dentistry, J-STAGE
Journal of Medical and Dental Sciences Journal of Oral Health and Biosciences	Dental university, School of dentistry	Tokyo Medical and Dental University, J-STAGE
	Tokyo Medical and Dental University	
The Showa University Journal of Medical Sciences	Tokushima University	Shikoku Society of Dental Research, J-STAGE
International Journal of Oral-Medical Sciences	Showa University	The Showa University Society, J-STAGE
The Bulletin of Kanagawa Dental College Aichi-Gakuin Dental Science	Nihon University - School of Dentistry at Matsudo	Nihon University School of Dentistry at Matsudo, J-STAGE
	Kanagawa Dental University	Kanagawa Odontological Society, Medical*Online
Journal of Osaka Dental University	Aichi Gakuin University	The Aichi-gakuin Society of Dental Science, Medical*Online
	Osaka Dental University	Osaka Odontological Society, J-STAGE

the average influence of articles in a journal over the first 5 years after publication [8]. While EF is dependent on the overall reputation or significance of a journal, AIS indicates the average impact of individual papers within a journal. The AIS is expressed as the ratio of the average score for all journals in a given field set at 1.0 [7]. The AIS of JDSR was 1.067 (Table 1). An AIS greater than 1.0 indicates that the articles in a journal have an above-average influence. Considering the number of articles published, the AIS allows for comparisons between journals that publish different numbers of articles. Similar to other fields, a strong correlation has been observed between JIF and EF or AIS in dental journals in Japan [17,18]. Journals with higher AIS have a greater impact on their fields, and researchers may use this information when deciding where to publish their studies.

In addition, 16 dental journals in Japan were not published in the JCR (Table 2); therefore, these journals should be prepared for publication in the JCR. In the process of preparing for inclusion in the JCR, these journals must undergo transformations, embracing the open-access model to align with international standards [19,20]. For a journal to be recognized as an internationally recognized OA journal, it should meet the criteria set forth by the Directory of Open Access Journals, which provides standards and guidelines to ensure the

reliability and quality of OA journals [21]. One study suggested that open-access publishing can increase the readership of articles [20]. Publishing a paper in an OA journal is considered an opportunity for Japanese researchers to increase the visibility and impact of their research on a global scale [22]. Therefore, each journal, including those with JIF, should increase the % of OA Gold in the JCR [12]. The results of this study indicate that there is an opportunity for several Japanese dental journals to gain more international recognition than they have now by improving their % of Gold OA (Table 1). The continued publication of high-impact papers is a major factor in high JIF, EF, and AIS. Journals will then become more internationally focused, and researchers will submit more papers. Thus, the competitiveness of dental journals in Japan is expected to improve. These findings provide important insights into the current status of dental journals in Japan and inform potential future research and policies in this field; however, establishing and maintaining OA journals involve several challenges, particularly in terms of running costs and adherence to quality standards. The funding of article processing charges fees can be problematic for both the journal and the contributor. These issues are important for the further development of OA publishing and need to be carefully considered and addressed. By enhancing the visibility and impact of Japanese dental research through international dissemination, the Japanese dental community will be able to make even greater contributions to the global advancement of dentistry.

#### Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors did not use AI and AI-assisted technologies in the writing process.

#### Conflict of interests

All authors declare that they have no conflicts of interest in regard to this work.

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#### References

- [1] Garfield E, Sher IH. New factors in the evaluation of scientific literature through citation indexing. *Am Doc* 1963;14:195–201.
- [2] Journal Citation Reports. Clarivate home page. Available online 17 August 2023 from doi: <https://jcr.clarivate.com/jcr/home>.
- [3] Garfield E. The history and meaning of the journal impact factor. *JAMA* 2006;295:90–3.
- [4] Seglen PO. Why the impact factor of journals should not be used for evaluating research. *BMJ* 1997;314:498–502.
- [5] Brembs B, Button K, Munafò M. Deep impact: unintended consequences of journal rank. *Front Hum Neurosci* 2013;7:291.
- [6] Callaway E. Beat it, impact factor! Publishing elite turns against controversial metric. *Nature* 2016;535:210–1.
- [7] Bergstrom CT, West JD, Wiseman MA. The Eigenfactor metrics. *J Neurosci* 2008;28:11433–4.
- [8] Kavic MS, Satava RM. Scientific literature and evaluation metrics: impact factor, usage metrics, and altmetrics. *JSL* 2021;25. e2021.00010.
- [9] Davis PM. Eigenfactor: Does the principle of repeated improvement result in better estimates than raw citation counts? *J Am Soc Info Sci Tech* 2008;59:2186–8.
- [10] Read the Declaration. Budapest Open Access Initiative home page. Available online 17 August 2023 from doi: <https://www.budapestopenaccessinitiative.org/read/>.
- [11] Journal Citation Reports Open access data. Clarivate home page. Available online 17 August 2023 from doi: <https://clarivate.com/webofsciencegroup/wp-content/uploads/sites/2/2021/06/OA-in-JCR-QRG-2021.pdf>.
- [12] Gumpenberger C, Ovalle-Perandones MA, Gorraiz J. On the impact of Gold Open Access journals. *Scientometrics* 2013;96:221–38.
- [13] About CC Licenses. Creative Commons home page. Available online 17 August 2023 from doi: <https://creativecommons.org/about/cclicenses/>.
- [14] First time Journal Citation Reports inclusion list 2023. Clarivate home page. Available online 16 August 2023 from doi: <https://clarivate.com/first-time-journal-citation-reports-inclusion-list-2023/>.
- [15] Clarivate announces changes to the 2023 Journal Citation Reports. Clarivate home page. Available online 1 June 2023 from doi: <https://clarivate.com/news/clarivate-announces-changes-to-the-2023-journal-citation-reports/>.
- [16] Abramo G, D'Angelo CA, Di Costa F. Research collaboration and productivity: is there correlation? *High Educ* 2011;61:455–71.
- [17] Rizkallah J, Sin DD. Integrative approach to quality assessment of medical journals using impact factor, eigenfactor, and article influence scores. *PLoS One* 2010;5:e10204.
- [18] Kianifar H, Sadeghi R, Zarifmahmoudi L. Comparison between impact factor, eigenfactor metrics, and scimago journal rank indicator of pediatric neurology journals. *Acta Inf Med* 2014;22:103–6.
- [19] Laakso M, Björk BC. Hybrid open access—a longitudinal study. *J Informetr* 2016;10:919–32.
- [20] Davis PM, Lewenstein BV, Simon DH, Booth JG, Connolly MJL. Open access publishing, article downloads, and citations: randomised controlled trial. *BMJ* 2008;337:a568.
- [21] About DOAJ. DOAJ home page. Available online 1 June 2023 from doi: <https://doaj.org/>.
- [22] Wang X, Lic C, Mao W, Fang Z. The open access advantage considering citation, article usage and social media attention. *Scientometrics* 2015;103:555–64.