ABSTRACT

Objectives: Restorative Dentistry and Endodontics (Restor Dent Endod; RDE) is an English-language journal published by the Korean Academy of Conservative Dentistry, and it has been online since 2012 with quarterly publications. The purpose of this paper was to review and analyze the publications in this journal since its inception and over the 7-year period from 2012 to 2018.

Materials and Methods: This paper assessed the number, type, and subject of articles published, as well as authorship patterns and article citations of the journal over a 7-year period. The citation indicator for the journal (h-index) was assessed using Google Scholar.

Results: The number of articles per issue has remained relatively consistent in the 7 years that were analyzed. An analysis of the article types revealed various categories of review articles. Original research articles accounted for the most articles per volume. Twice as many articles per volume were on endodontic topics than on restorative subjects. Articles published in RDE have been widely cited in Synapse, Crossref, and PubMed Central. A country-wise mapping of authors’ institutions revealed significant contributions from authors around the world. With an h-index of 24, RDE ranks third among journals in its specialty. The most cited articles were open lectures on statistics and research articles on recent concepts, technology, and materials.

Conclusion: Over the last 7 years, RDE has served as a platform for a large number of manuscripts in the field of restorative dentistry and endodontics.

Keywords: Bibliometrics; Citation; Publications; Research; Restorative Dentistry and Endodontics

INTRODUCTION

Restorative Dentistry and Endodontics (Restor Dent Endod; RDE) is the official journal of the Korean Academy of Conservative Dentistry and was renamed from the Journal of Korean Academy of Operative Dentistry (abbreviation: J Korean Acad Oper Dent), which was published from 1975 to 1988 (with 13 volumes). This journal continued as the bimonthly Journal of Korean Academy of Conservative Dentistry (abbreviation: J Korean Acad Conserv Dent) from 1988 to 2011 (with 24 volumes). Currently it continues as Rest Dent Endod (RDE), a quarterly journal that has been online since 2012. In that year, some articles were in Korean, but since August 2012 all articles have been published in English only [1,2].
RDE is a peer-reviewed and open-access journal providing up-to-date information regarding research and development pertinent to the fields of contemporary clinical operative dentistry, restorative dentistry, and endodontics. The journal publishes original articles, review articles, and case reports dealing with the aforementioned topics from all over the world, and is indexed/tracked/covered by PubMed, PubMed Central, KoreaMed, Synapse, KoMCI, Crossref, DOAJ, and Google Scholar [1].

Bibliometrics are citation-based measures of the performance of authors, scientific articles, journals, or institutions [3,4]. Two of the most commonly used citation-based measures are the impact factor (IF; Clarivate Analytics’ Journal Impact Factor) and the Hirsch-index (h-index) [4,5]. IF is a measure of the journal’s performance over a 2-year period. The h-index is a measure of a researcher’s (or journal’s) output (quality and consistency) often measured over a 5-year period (the ‘h5-index’) [6].

No assessment has yet been carried out of the nature of articles published in RDE and their citations, nor has the journal been compared with other specialty journals. An analysis of publication patterns and citations of a journal aids in critiquing its contributions in a constructive way [7]. Thus, the aims of this article were: 1) to perform an assessment of all articles published from 2012 to 2018 based on their type, subject, and authorship patterns, and 2) to analyze the citations of RDE articles in comparison with other specialty journals.

MATERIALS AND METHODS

Using the official website for RDE (https://rde.ac/index.php?body=archive) [8], the seven volumes and 28 issues from the years 2012 to 2018 were analyzed to extract the number, type, and subject of articles, the country of the first author, and article citations in PubMed.

In Google Scholar metrics (https://scholar.google.com/citations?view_op=top_venues&hl=en) [9], a search for “Restorative Dentistry & Endodontics” was done to find the h5-index of the journal. A search was done for the other journals in the specialties of restorative/operative dentistry and endodontics using the SCImago Journal & Country Rankings website (https://www.scimagojr.com/journalrank.php?category=3501) [10], and their h5-indices were compared with that of RDE in Google Scholar. Considering the scope of the journal [1], all relevant journals in the fields of restorative/operative dentistry, endodontics, and dental materials were selected for comparison.

Both authors carried out the analysis independently, and discrepancies were resolved by consensus.

RESULTS

The number of articles per issue remained relatively consistent during the 7 years that were analyzed. The maximum output was observed in 2014, when 48 articles were published. The second issue of 2013 had the fewest articles. Being a specialty journal, the majority of articles in RDE were expected to pertain to the subjects of restorative dentistry and endodontics. On average, the number of endodontic articles per volume (24.4) was twice that of articles on restorative subjects (11.8). There was an average of 5 articles per volume
catering to other related specialties or interdisciplinary cases (Table 1). An analysis of the article types revealed various sub-categories of reviews including critical, conceptual, literature, and systematic reviews [11]. The ‘Reader’s Forum’ was a regular column from 2012 through 2016. Original research articles accounted for the highest number of articles per volume (28.3), followed by case reports (10.3). However, only one systematic review was published in the last 7 years (Table 2).

A country-wise mapping of the first authors’ institutions was conducted. Unlike in 2012, articles written by authors from around the world were published starting in 2013. By 2017, other Asian nations (Iran, Turkey, India, Malaysia, Thailand, China, and Japan) accounted for the majority of published articles, with a rising contribution from the nations of Europe (Italy, Portugal, Greece, and France), Africa (Egypt and Libya), and the Americas (USA, Canada, and Brazil). On the whole, Korea (the native country of RDE) represented the bulk of contributions (Figure 1).

Articles published in RDE have been cited in PubMed. The number of citations showed a sharp spike in 2013, peaking in the 2012 issue with 100 citations. In general, original research articles were consistently among the most cited, as compared to case reports or reviews. Citations decreased slightly starting in 2016 (Figure 2 and Table 3). The number of citations was analyzed for each article, using the abstract page of the articles on the RDE website. The 10 most cited articles in PubMed and Google Scholar (as of July 2019) are given in Table 4.
The most cited article in RDE since its inception was the open lecture on statistics published in 2013. The other most cited articles catered to topics ranging from dental materials (novel composites and newer biomaterials) and technical aspects of rotary-driven root canal preparation to regenerative endodontics (Table 4).

In a comparison of h-indices on Google Scholar, RDE was found to have the third-highest h5-index amongst both restorative/operative dentistry and endodontic specialty journals, without considering the journals that would come under the scope of RDE but are not specialty journals in restorative dentistry or endodontics per se (e.g., Dental Materials, Journal of Adhesive Dentistry) (Figure 3).
DISCUSSION

In our assessment of the publication patterns of RDE during a 7-year period, a key factor that stood out was the large number of quality peer-reviewed original research articles and reviews. The Reader’s Forum was a platform that served to provide valuable insights into key concepts and ideas, and also on diagnosis and treatment protocols [12-16].

A year after its inception, researchers from around the world began contributing to the ever-expanding collection of articles in RDE. While the bulk of articles have been from South
The journal was found to publish almost twice the number of articles in the specialty of endodontics than in restorative dentistry. We hope to see more articles from the latter specialty in the future. An analysis of the various subspecialties and subject matter of each of the articles was not done (apart from the top 10 most cited articles). Additionally, we have taken into account only the institution (country) of the first author, although in some articles, contributions were made by authors from different countries.

IF and the h-index are the 2 most commonly used citation-based measures (‘bibliometrics’) of the performance of scientific articles, their authors, journals, or institutions. IF reflects Korea, a growing number of contributors are from other Asian nations, Europe, Africa, and North and South America. In 2012, the publishers of RDE decided to convert to publishing all articles in English, with hopes to introduce their research results to international readers, to communicate with them, and to be cited worldwide [17]. Internationalization is a significant factor in a journal’s success. Inclusion in several relevant international databases provides visibility and also improves the editing and publishing quality of a journal [7]. Currently, RDE is indexed/tracked/covered by PubMed, PubMed Central, KoreaMed, Synapse, KoMCI, Crossref, DOAJ, and Google Scholar [1].
the average number of citations of articles published by a journal; hence, it measures a journal’s relevance and scope of contribution to a research field [6]. Some have argued that IF is not useful for analyzing the scientific quality of publications or journals because of concerns that it measures quantity rather than quality of publications, the issue of self-citation, and English-language bias [4]. In a study by Chua et al. [18], the correlation between citations and IF was assessed. The authors expected to see a significant correlation between IF and the number of future citations, given the common belief that higher IFs indicate higher journal and article quality. However, for open-access journals, this correlation was poor and insignificant. The authors concluded that for open-access journals, IF contributes minimally to future citations. Open-access journals are universally accessible and do not require libraries to purchase subscriptions. Moreover, the authors found that the gain in terms of citations was minimal, given the need to pay high publishing fees for higher-IF journals [18].

The h-index is a measure of a researcher’s (or journal’s) output (quality and consistency) based on the total number of publications and total number of citations of those works, traditionally measured over a 5-year period (h5-index) [4,6]. A comparison of the h5-index of RDE with those of other restorative/operative dentistry and endodontic specialty journals showed that RDE had the third-highest h5-index in both specialties (Figure 3).

The number of article citations in PubMed showed a sharp spike in 2013, peaking with 100 citations for the 2012 issue (Figure 2 and Table 3). In general, original research articles were consistently among the most cited, as compared to case reports or reviews. Citations decreased slightly starting in 2016. There is a phenomenon called the bandwagon effect, in which the individual adoption of some behavior or trend increases as others do the same thing in academic fields. Papers that follow a popular trend are cited more often because other scientists tend to follow the same research trend [19]. This implies the need for researchers to investigate and provide updates on topics that are of relevance for the progress of the specialty, rather than catering to trends. Editorials and guest editorials can offer expert opinions that are useful from this perspective, such as an opinion on a crucial topic of research, and serve as a call to inspire researchers in this direction [20,21].

An analysis of the topics of the most cited articles revealed an interesting trend (Table 4). The most cited article in RDE since its inception was the open lecture on statistics published in 2013. It is crucial for researchers to have a basic knowledge of statistical analysis, as it serves as the means to interpreting data and forms a vital part of research. The numerous open lectures published in RDE on this topic help budding researchers acquire a foundational understanding of statistics relevant to the life sciences.

There is a need to keep oneself updated on recent developments. In this regard, journals play a key role in compiling the latest findings, interpreting the available data, and presenting them to the reader in a concise format. This trend was reflected in the topics from dental materials science, endodontic technology, and contemporary concepts in endodontics, which were among the most cited in RDE. These included bulk-fill composites, novel composites (containing nanoparticles and chitosan), and updates, case reports, and reviews on newer biomaterials (biodentin, mineral trioxide aggregate, bioceramics). There were also articles on the technical aspects of rotary root canal preparation (canal centering ability, shaping ability, impact of glide path) and on regenerative endodontics (revascularization, platelet-rich fibrin).
CONCLUSIONS

Over the last 7 years, RDE has served as a platform for a large number of manuscripts in the fields of restorative dentistry and endodontics, and for a few other relevant specialties. The zeal of the editors in maintaining RDE as an open-access journal has gone a long way in ensuring that students, instructors, and clinical practitioners alike have unrestricted access to the latest in dental research. Additionally, since RDE charges no fees to contributing authors, it encourages students and researchers to submit their research and review papers to the journal.

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