

A half-century of the *Journal of Endodontics* — Part 1: a historical review and bibliometric analysis of research output and citation patterns

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Abstract

Objective: This study aimed to present a bibliometric analysis of the Journal of Endodontics (JOE)'s publication output and citation patterns over five decades.

Methods: Scientific articles published in the JOE between 1975 and 2024 were retrieved from Elsevier's Scopus database. Bibliometric indicators including publication volume, citation counts, the h-index, the g-index, author productivity, and geographic distribution were analyzed. Data were cleaned and standardized to ensure accuracy, and descriptive statistics were used to identify key trends.

Results: JOE has demonstrated consistent growth in research output, publishing a total of 8,753 articles, with an average of 169.22 articles per year. The cumulative citation count was 390,265. Citation-based metrics showed a strong scholarly impact (*h*-index = 204; *g*-index = 293). The *i*10-index was 6,927, indicating that 6,927 articles had received at least 10 citations. Among the most highly cited research areas were root canal disinfection, regenerative endodontics, and biomaterials. Geographically, the United States accounted for the highest number of publications, followed by Brazil and China. Mahmoud Torabinejad was the most cited author, followed by Jose Siqueira Jr. and David Pashley. In terms of productivity, Siqueira Jr. ranked first with 162 articles, followed by Torabinejad (115) and Pashley (107).

Conclusions: Over its 50-year history, JOE has consistently published peer-reviewed papers across a broad range of topics in endodontics. This bibliometric evaluation offers a historical and quantitative overview of the journal's publication and citation trends.

Keywords: Bibliometrics, Citation analysis, Endodontics, Publication trends, Research productivity

Introduction

The history of endodontics spans more than 9,000 years, from early pain relief methods to advanced microsurgical techniques (1, 2). Early evidence includes Neolithic skull trephination (1, 2), Egyptian mummified teeth (3), and a Judean skull with the earliest known root canal treatment (4). During the Middle Ages, dental disease was commonly attributed to "tooth worms," but the Renaissance marked a turning point with significant scientific advancements. The field progressed substantially after the discovery of X-rays in 1895 (5), although it faced setbacks following the focal infection

theory proposed in 1910 (6). Endodontics was later advanced by the pioneering research of Louis Grossman, widely regarded as the Father of Endodontics (7). Today, it is an evidence-based specialty focused on preserving natural dentition through the application of modern materials, imaging technologies, and minimally invasive techniques.

The continuous evolution of endodontic practice relies heavily on advancements in research, which drive innovation in instruments, materials, techniques, and treatment modalities. Understanding research trends and their implications for clinical practice provides a strategic framework for identifying knowledge gaps and shaping the future of the field. By fostering high-quality investigations and promoting collaboration, such insights can improve professional standards and support the broader contribution of endodontics to healthcare (8). Several organizational and publishing developments have influenced the evolution of endodontics as a formal discipline. Notable among these are the formation of professional associations such as the

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American Association of Endodontists (AAE) and the launch of dedicated journals such as the *Journal of Endodontics* (JOE), which contributed to the structuring of educational, research, and clinical activities in the field.

Foundation of the AAE

In 1939, Louis Grossman founded the Philadelphia Study Club to unite dentists dedicated to advancing root canal therapy, with early members including Israel Bender and Samuel Seltzer. Supported by leaders such as William Gies, founder of the International Association for Dental Research, and Pierce Anthony, editor of the *Journal of the American Dental Association* (ADA), Grossman pursued the idea of establishing a national organization. After collaborating with Clyde Davis, who shared a similar goal, they planned an inaugural meeting during the Chicago Dental Society Conference and initially proposed the formation of the American Root Therapy Association (9).

On February 25, 1943, nineteen dentists gathered in Chicago, Illinois, to create a dedicated platform for sharing their experiences. They unanimously agreed to name the new organization the American Association of Endodontists. Key pioneers—including Louis Grossman, Edgar Coolidge, Clyde Davis, John Hospers, Harry Johnston, and Ralph Sommer—played instrumental roles in shaping the association (9, 10). In 1944, the organization formally adopted the name American Association of Endodontists. The AAE steadily grew in membership and professional influence, eventually becoming a leading global authority in the field (10).

In 1963, the AAE achieved a significant turning point when the ADA formally recognized endodontics as the eighth dental specialty. This recognition further strengthened the AAE's role in defining standards of care and certification for endodontic professionals. The AAE's mission has evolved over the decades, but its core purpose remains consistent: “to advance the art and science of endodontics and to promote the highest standards of patient care” (10). Today, the AAE has more than 8,000 members globally and continues to be a cornerstone of the endodontic community (10, 11). Supplementary Table S1 lists all the AAE presidents throughout its history, beginning with Clyde Davis (1943–1944); the current president is Craig Noblett (2026–2027) (10).

Establishment of the JOE

In 1943, only a few publications on endodontics were available. The first book exclusively devoted to the

field, *A Practicable Root Canal Technique*, was written by Arthur Crane of Washington, D.C., and published in 1920. Two decades later, a second major work, *Root Canal Therapy*, was published in the United States by Grossman. Reflecting evolving terminology, its title was later updated to *Endodontic Practice* (12).

Between 1946 and 1949, the AAE published a quarterly journal, the *Journal of Endodontia*, which marked the first attempt at a dedicated endodontic periodical (13). Following the discontinuation of the *Journal of Endodontia*, endodontic content transitioned to a dedicated section in *Oral Surgery, Oral Medicine, and Oral Pathology* (commonly known as Triple O), which became the main outlet for AAE-affiliated content (10, 12). During this transitional period, many endodontists also submitted their work to broader dental journals such as the *Journal of the American Dental Association* and *Dental Clinics of North America*, reflecting the specialty's expanding academic and clinical presence. Recognizing the need for a dedicated, peer-reviewed monthly journal, the AAE officially introduced the JOE at its 1975 Annual Meeting in New Orleans, where AAE President Alfred L. Frank humorously announced the birth of a “baby boy named JOE” (12, 13). Over time, the JOE has featured a range of formatting styles and cover designs, as illustrated in Figure 1, which includes the original *Journal of Endodontia* and representative covers from the JOE's 50-year history.

Since its inception, the JOE's editorial leadership has been shaped by six Editors-in-Chief (Figure 2):

1. Worth B. Gregory (January 1975–May 1977) – Founding Editor-in-Chief, University of North Carolina at Chapel Hill
2. Daniel B. Green (June 1977–April 1979) – Medical College of Virginia
3. Irving J. Naidorf (May 1979–January 1985) – Columbia University
4. Steve Montgomery (February 1985–January 1988) – University of Texas Health Science Center
5. Henry J. Van Hassel (February 1988–January 2003) – Oregon Health Sciences University
6. Kenneth M. Hargreaves (February 2003–Present) – Current Editor-in-Chief, University of Texas Health Science Center at San Antonio

In recent decades, the JOE has embraced significant advancements in digital publishing. The adoption of the Editorial Manager platform has streamlined the submission and peer-review process, enhancing accessibility for authors worldwide. Currently, the JOE is

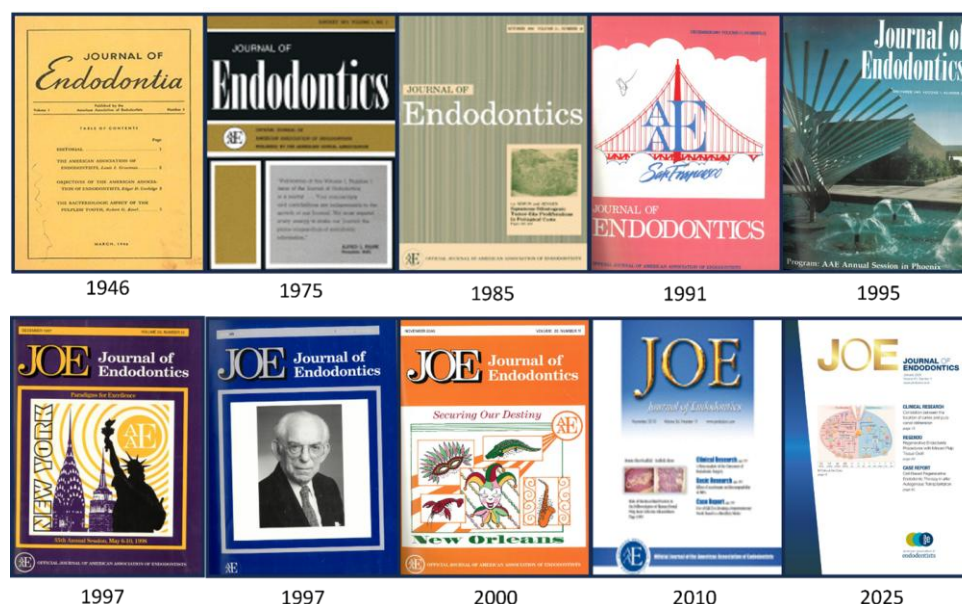


Figure 1. Composite image showing a cover of the Journal of Endodontics from 1946 and nine selected JOE cover designs spanning 1975 to 2025 (tiled and reproduced with permission from Elsevier. © 1975–2025 Elsevier. License number: 1621638-1).

classified as a Quartile 1 journal, signifying its placement in the top 25% of journals within its category based on key bibliometric indicators such as impact factor (IF) and citation metrics. The characteristics and metrics of the JOE are summarized in Table 1 (10, 11, 14–16).

The JOE features letters to the editor, review articles, original research (clinical and non-clinical studies), case reports, and clinical techniques. These articles cover traditional topics like conventional endodontic treatment and emerging areas like regenerative endodontics and the integration of artificial intelligence (AI) in endodontic diagnostics. Approximately 620 experts from around the world serve as members of the scientific advisory board, collaborating with the journal in the peer review process (10, 11).

Bibliometric perspectives

Bibliometrics, a quantitative evaluation of scholarly publications and a critical tool for evaluating journal performance, is an effective approach for mapping the conceptual structure of a research field and quantitatively analyzing academic literature (17). It is used to examine citation patterns, authorship trends, and publication growth, providing critical insights into

the impact and reach of research (18). Key bibliometric indicators such as the IF, which reflects the average number of citations received per article published in a journal over the preceding two years, and the *h*-index, an author-level metric assessing both productivity and citation impact, help researchers in selecting reputable journals, targeting the appropriate audience, and avoiding duplication in well-established areas. In contrast, scientometrics encompasses a broader analytical framework that extends beyond publication metrics to examine patterns of scientific collaboration, thematic evolution, and global research trends, thereby illuminating the dynamics of scientific advancement (18–20).

The origins of bibliometric and scientometric studies can be traced to the 1960s, when Derek J. de Solla Price introduced quantitative methods to study the growth and structure of science, notably through his work *Little Science, Big Science* (21). Building on these foundations, Eugene Garfield developed citation indices and launched the *Science Citation Index* (SCI) in 1964, enabling researchers to track citation patterns and identify influential studies (22). The field advanced

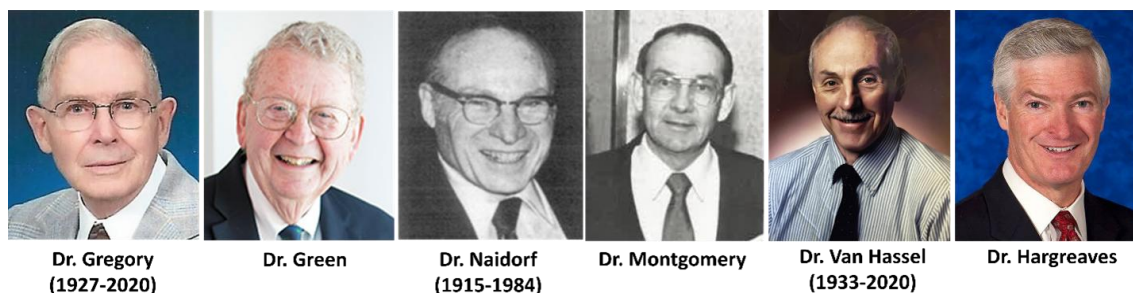


Figure 2. Editors-in-chief of the JOE over the years, with heartfelt remembrance of those who are no longer with us

Table 1. Characteristics and key metrics of the JOE

ISSN	0099-2399
EISSN	1878-3554
National Library of Medicine (NLM) ID	7511484
LCCN	76646264
CODEN	JOENDN
NLM Title Abbreviation	J Endod
Journal Citation Reports (JCR) Abbreviation	J ENDODONT
ISO 4 Abbreviation	J. Endod.
Web of Science Category	Dentistry, Oral Surgery & Medicine
Publisher	First publisher (1975-1982): ADA, Chicago Current publisher: Elsevier, via the ScienceDirect platform, New York
Language	English (In 1985, the title and abstract were published bilingually in English and Spanish)
Frequency	Monthly; one volume a year beginning in January
Publication Type	Both online and print (Acid-free paper)
Indexing	Indexed in ISI Web of Science, MEDLINE/PubMed, Scopus, etc.
Including in JCR	From 1997
Journal Citation Indicator (JCI)	1.67 (Ranking 13th out of 165 journals)
2025 Impact Factor (IF)	3.9 (Ranking 25th out of 165 journals)
Self-Citation-Excluded IF	3.1
Five-year IF	4.2
Cited Half-life	11 years
CiteScore™	7.9
Citing Half-life	8.2 years
Eigenfactor Score	0.01-0.05
Normalized Eigenfactor	1.62143
Article Influence Score	0.754
Immediacy Index	1.9
h-index (According to the Web of Science)	171
Source Normalized Impact per Paper (SNIP)	1.627
Publishing Timeline (Average)	Days from submission to first decision 5 days Review Time 36 days Submission to Acceptance 81 days Acceptance to Online Publication 7 days Acceptance to Final Publication 86 days
Acceptance Rate	16%
Official Website	https://www.jendodon.com
Online Submission Platform	https://www.editorialmanager.com/joe

All citation metrics were retrieved from Web of Science (2026) and Scopus, where indicated.

further in the 2000s with the launch of Scopus in 2004 and the introduction of the h-index by Jorge Hirsch in 2005, a widely used metric for assessing researcher productivity and impact (18).

Bibliometric analyses in endodontics have grown significantly since the early 2000s, reflecting the field’s expanding research base and evolving methodologies. Early studies primarily explored influential articles and citation patterns in leading journals like the JOE and the International Endodontic Journal. Over time, these analyses have expanded to include emerging topics such as cone-beam computed tomography (CBCT) and regenerative endodontics, demonstrating the dynamic nature of the field (23).

Despite its prominence, the long-term impact of the JOE remains underexplored. Previous studies have focused on narrow aspects such as topic trends or short-term citation patterns, but no comprehensive analysis has assessed the journal’s broader role in shaping

research directions, fostering collaboration, or influencing the field of endodontics (23). As the JOE marks its 50th anniversary, this study presents the first part of a three-part bibliometric and scientometric analysis covering publications from 1975 to 2024, using data from the Scopus database (10, 11). The purpose of this research is to provide a historical overview and examine publication trends and citation impact.

Materials and methods

Ethical approval

This study was conducted in strict adherence to publication ethics guidelines and was formally approved as Non-Human Subject Research (NHSR) by the Institutional Review Board (IRB) / Ethics Committee of West Virginia University, Morgantown, WV, USA (Protocol #0887).

Data collection

On December 31, 2024, a comprehensive search was conducted in Elsevier's Scopus database using the exact source identifier for the *Journal of Endodontics* (Source ID: 23803; ISSN: 0099-2399) with the query: SRCTITLE ("Journal of Endodontics") AND PUBYEAR > 1974 AND PUBYEAR < 2025. This ensured the complete capture of all 609 published issues (standard and supplementary) indexed during the 50-year evaluation period. The overall methodological structure of this review was informed by the preliminary reporting guideline for bibliometric reviews of biomedical literature, which provides structured recommendations for the essential components of bibliometric reporting, including search transparency, eligibility criteria, descriptive synthesis, and schematic presentation of trends (24).

The search output was exported as a CSV file. Key fields included in the export were authors, title, year,

volume, issue, pages, keywords, cited by, affiliations, corresponding author, document type, and references, providing a comprehensive dataset for detailed examination.

Data cleaning and processing

The initial export comprised 9,630 documents, representing the full publication record available in the Scopus database for the JOE. It contained raw information that required extensive data processing to ensure accuracy, consistency, and relevance. This involved excluding non-relevant document types (e.g., editorials and insights), addressing inconsistencies in metadata (e.g., author names or affiliations), and standardizing entries for consistency across all fields, using Python for implementation. These refinements resulted in a dataset of 8,753 documents, representing

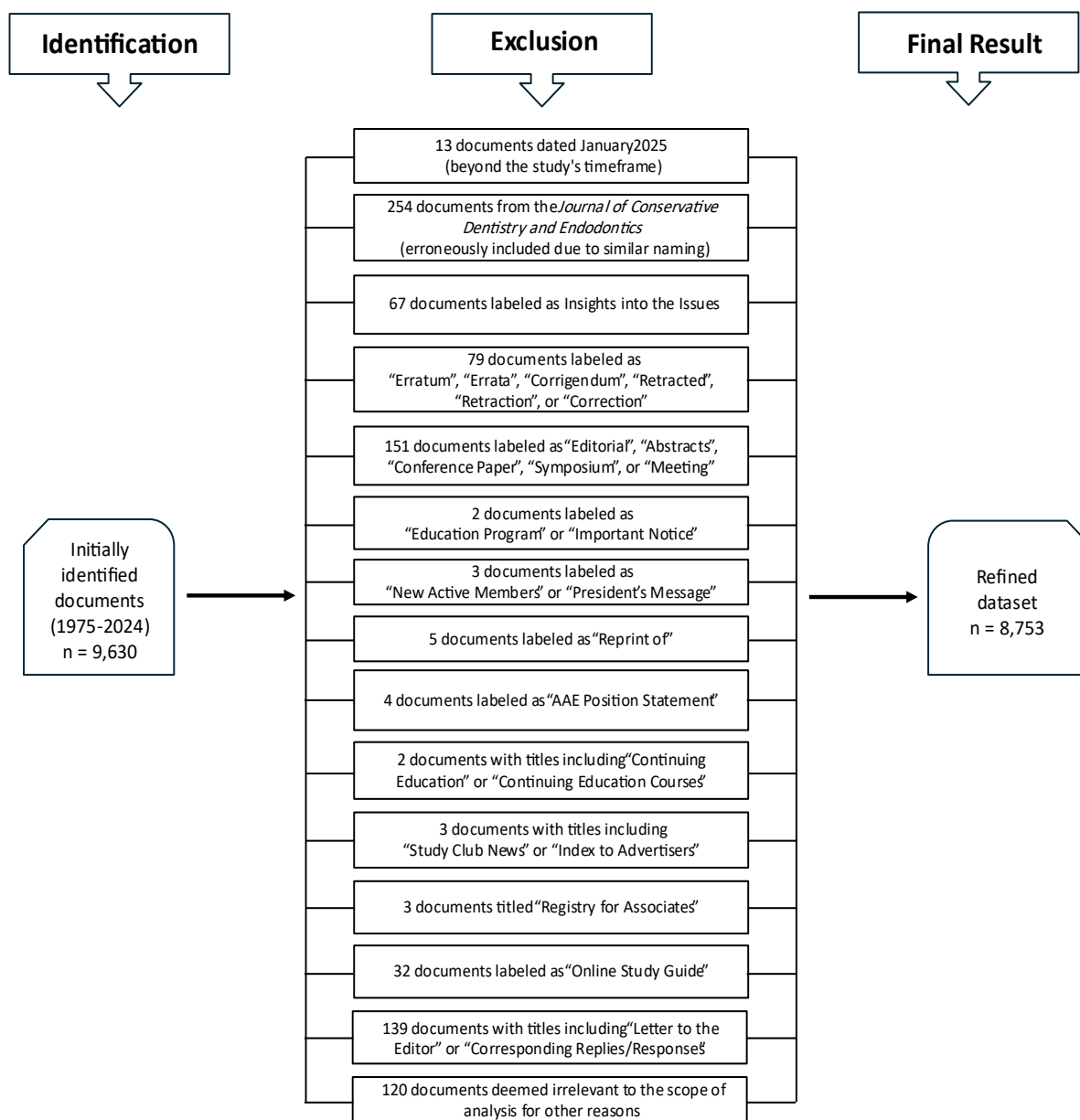


Figure 3. Flowchart illustrating initial search and data filtration of the JOE publications

only the relevant scientific articles suitable for bibliometric and scientometric evaluation. Figure 3 illustrates the data filtering process used to achieve this

In this study, a combination of descriptive statistics and visualization techniques was employed to analyze publication metrics, citation trends, and authorship

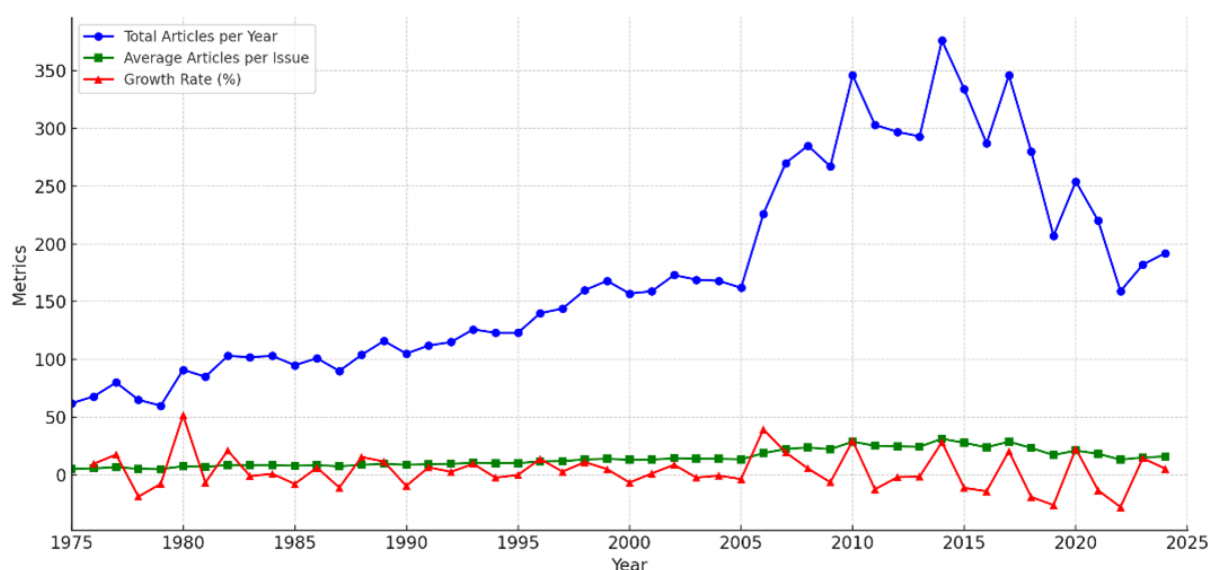


Figure 4. Total articles published per year, average articles per issue, and growth trends across five decades.

final refined dataset.

Since there were some discrepancies in the spelling of author names due to misspellings or changes in name preference over time, the publication count for all authors was recalculated and confirmed using the unique Scopus ID for each author. For example, Markus Haapasalo had several variations of his name, including Haapasalo, Markus (93 articles), Haapasalo, M.P.P. (one article), and Haapasalo, Markus P. (one article). Therefore, the total publication count for this author was considered 95. Additionally, to ensure consistency, the data were standardized by accounting for variations in country names, including but not limited to US (USA, United States, United States of America, U.S., or U.S.A.) or UK (United Kingdom, England, or Britain). Geographical and institutional distributions were analyzed using full co-authorship counting, with each country and institution in the author affiliation list receiving one count per article.

Bibliometric parameters

To comprehensively analyze the contributions and impact of the JOE, various bibliometric variables were evaluated. The variables analyzed in this study include publication and journal metrics, citation metrics, and authorship metrics. These variables were carefully selected to provide insights into the journal's publication trends, citation dynamics, and authorship patterns.

Statistical analysis and software overview

patterns in the JOE. The primary focus was on descriptive approaches to summarize and interpret data trends. This study did not involve inferential statistics (such as hypothesis testing) as the goal was exploratory; however, descriptive techniques offered valuable insights. For comparison of IF, the official Clarivate website was used to find past JOE IFs (14).

Results

Through the evaluation of articles published in the JOE, the following results were obtained:

Publication metrics

Number of publications

The JOE has consistently published 12 regular issues annually and nine supplementary issues, with a total of 609 issues. The supplementary issues highlight significant events, collaborations, and advancements in endodontics (Supplementary Table S2). A total of 9,630 documents were published, including 8,753 scientific articles, of which 582 were available through Open Access.

Publication trends

Sixty-two articles were published in 1975, and 172 articles were published in 2024, reflecting significant growth in research output over the past five decades. JOE published approximately 169.22 articles per year, with annual growth rates varying over time, reflecting periods of rapid growth and stability (Figure 4).

The journal experienced steady publication output until the early 2000s, followed by a sharp increase, peaking at over 350 articles between 2010 and 2015. This was followed by a decline after 2018, with publication output stabilizing in recent years. While the average articles per issue remained consistent, the growth rate fluctuated, with notable spikes and declines.

Document types

Over the years, the JOE has published 8,173 original research articles, 291 review articles, and 289 case reports/clinical techniques.

Geographical distribution

In terms of the global distribution of research in the field, researchers in the United States published 2,319 publications, followed by researchers from Brazil (1,134) and China (506). Other major contributors include researchers from Turkey (382), South Korea (339), Japan (331), Canada (322), Italy (297), Germany (248), and the United Kingdom (212). Researchers from India (187), Spain (180), Australia (168), and Iran (156) also made significant contributions. Other contributors included researchers from Taiwan (153), Switzerland (144), France (144), Israel (120), Saudi Arabia (107), and Greece (99).

Citation metrics

Total citations and citation trends

Over the past 50 years, articles in the JOE have received 390,265 citations (mean = 44.59 citations per article; median = 26 citations per article).

The citation analysis of the JOE demonstrates the steady and significant growth in scholarly influence. In the initial decade (1975–1984), the journal garnered 10,485 citations, reflecting its early establishment and initial recognition within the field. Citation counts increased substantially in the following decades, reaching 33,618 citations in the 1980s (1985–1994) and 59,111 in the 1990s (1995–2004). The most significant surge occurred in the 21st century, with citations increasing to 130,331 in the 2000s (2005–2014) and peaking at 144,857 in the 2010s (2015–2024).

h-index, g-index, and i10-index

Although the most recent Journal Citation Reports from Web of Science indicate an *h-index* of 171 (14), our analysis using Scopus data shows a higher *h-index* of 204, meaning that 204 articles published in the journal have each received at least 204 citations.

The *g-index* was calculated as 293, indicating that the top 293 articles collectively received at least $293^2 = 85,849$ citations.

The *i10-index* was calculated as 6,927, indicating that 6,927 articles published in the journal have received at least 10 citations each.

Most-cited articles

Top 100 most-cited articles

Table 2 shows the 100 most-cited articles published by the JOE. Citations for these articles range from 1,337 to 263. The senior authors of the three most-cited articles (Matthias Zehnder, Ulf Sjögren, and Mahmoud Torabinejad) can be regarded as highly influential figures in endodontics.

Top authors with the highest number of articles among the most-cited articles

Based on the analysis of authorship data from the list of 100 most-cited articles, Mahmoud Torabinejad stands out as the most prolific contributor among these articles. As the first author, Torabinejad appeared on 11 publications, more than any other first author on the list. Other notable first authors include Domenico Ricucci and Franklin Tay, each with three first-author publications.

When the analysis is expanded to include all authorship positions, Torabinejad's contributions increase to 15 publications, further underscoring his critical role in the field. He is followed by Thomas Pitt Ford, with 8 contributions, while Kenneth Hargreaves contributed 6 articles.

Distribution of contributions among the 100 most-cited articles by country and university

Supplementary Table S3 presents the distribution of research contributions among the 100 most-cited articles by country. Researchers from the United States accounted for the largest number of contributions (62 articles), followed by researchers from Brazil with 11 contributions.

In terms of institutional affiliations, Loma Linda University ranked first with 15 contributions, followed by the University of Texas Health Science Center with 14. The United Medical and Dental Schools of Guy's and St. Thomas's Hospitals, University of London, United Kingdom, contributed eight articles, whereas Estácio de Sá University, Brazil, contributed six. Institutions with four articles each included the Dental College of Georgia at Augusta University, the University of Southern California, the University of Zürich (Switzerland), and the

University of North Carolina at Chapel Hill. Those contributing three articles each were the Mashhad University of Medical Sciences (Iran), Texas A&M University, Wilford Hall USAF Medical Center, the University of Pennsylvania, Catholic University of Sacred Heart (Italy), the University of Minnesota, and the University of British Columbia (Canada).

Distribution of most-cited articles in each decade

By decade, the distribution of the most-cited articles was as follows: 1975–1984 (6 articles), 1985–1994 (14 articles), 1995–2004 (27 articles), 2005–2014 (51 articles), and 2015–2024 (2 articles).

Table 2. The 100 most-cited articles published in the JOE

Rank	First Author	Article Title	Year	Cited by
1	Zehnder, Matthias	Root Canal Irrigants	2006	1,337
2	Sjögren, Ulf	Factors affecting the long-term results of endodontic treatment	1990	1,192
3	Torabinejad, Mahmoud	Physical and chemical properties of a new root-end filling material	1995	1,020
4	Peters, Ove A.	Current challenges and concepts in the preparation of root canal systems: A review	2004	987
5	Parirokh, Masoud	Mineral Trioxide Aggregate: A Comprehensive Literature Review-Part III: Clinical Applications, Drawbacks, and Mechanism of Action	2010	958
6	Sonoyama, Wataru	Characterization of the Apical Papilla and Its Residing Stem Cells from Human Immature Permanent Teeth: A Pilot Study	2008	940
7	Torabinejad, Mahmoud	Clinical applications of mineral trioxide aggregate	1999	878
8	Parirokh, Masoud	Mineral Trioxide Aggregate: A Comprehensive Literature Review-Part I: Chemical, Physical, and Antibacterial Properties	2010	863
9	Stuart, Charles H.	<i>Enterococcus faecalis</i> : Its role in root canal treatment failure and current concepts in retreatment	2006	844
10	Walia, Harmeet	An initial investigation of the bending and torsional properties of nitinol root canal files	1988	777
11	Pruett, John P.	Cyclic fatigue testing of nickel-titanium endodontic instruments.	1997	751
12	Torabinejad, Mahmoud	Sealing ability of a mineral trioxide aggregate when used as a root end filling material	1993	742
13	Banchs, Francisco	Revascularization of immature permanent teeth with apical periodontitis: New treatment protocol?	2004	727
14	Siqueira Jr., José F.	Clinical Implications and Microbiology of Bacterial Persistence after Treatment Procedures	2008	715
15	Schwartz, Richard S.	Post placement and restoration of endodontically treated teeth: A literature review	2004	708
16	Murray, Peter E.	Regenerative Endodontics: A Review of Current Status and a Call for Action	2007	679
17	Torabinejad, Mahmoud	Mineral Trioxide Aggregate: A Comprehensive Literature Review-Part II: Leakage and Biocompatibility Investigations	2010	669
18	Lee, Seung-Jong	Sealing ability of a mineral trioxide aggregate for repair of lateral root perforations	1993	621
19	Sattapan, Boonrat	Defects in rotary nickel-titanium files after clinical use.	2000	620
20	Huang, George T.-J.	The Hidden Treasure in Apical Papilla: The Potential Role in Pulp/Dentin Regeneration and BioRoot Engineering	2008	598
21	Sarkar, Nikhil K.	Physicochemical basis of the biologic properties of mineral trioxide aggregate	2005	596
22	Kim, Syngcuk	Modern Endodontic Surgery Concepts and Practice: A Review	2006	549
23	Reeh, Ernest S.	Reduction in tooth stiffness as a result of endodontic and restorative procedures	1989	536
24	McComb, Dorothy	A preliminary scanning electron microscopic study of root canals after endodontic procedures	1975	535
25	Cordeiro, Mabel M.	Dental Pulp Tissue Engineering with Stem Cells from Exfoliated Deciduous Teeth	2008	526
26	Gu, Li-sha	Review of Contemporary Irrigant Agitation Techniques and Devices	2009	524
27	Ricucci, Domenico	Biofilms and apical periodontitis: Study of prevalence and association with clinical and histopathologic findings	2010	503

Journal metrics and citation age patterns

Peak citation age

The peak citation age for the JOE was 14 years, indicating that articles receive the highest number of citations approximately 14 years after publication. However, this metric reflects a cross-sectional snapshot influenced by historical publication volume and cumulative exposure time rather than an absolute post-publication citation rate curve.

28	Nair, P.N. Ramachandran	Intraradicular bacteria and fungi in root-filled, asymptomatic human teeth with therapy-resistant periapical lesions: A long-term light and electron microscopic follow-up study	1990	500
29	Ather, Amber	Coronavirus Disease 19 (COVID-19): Implications for Clinical Dental Care	2020	484
30	Rôças, Isabela N.	Association of <i>Enterococcus faecalis</i> with different forms of periradicular diseases	2004	472
31	Torabinejad, Mahmoud	A new solution for the removal of the smear layer	2003	460
32	Sert, Semih	Evaluation of the root canal configurations of the mandibular and maxillary permanent teeth by gender in the Turkish population	2004	459
33	Estrela, Carlos	Accuracy of Cone Beam Computed Tomography and Panoramic and Periapical Radiography for Detection of Apical Periodontitis	2008	450
34	Torabinejad, Mahmoud	<i>In vitro</i> bacterial penetration of coronally unsealed endodontically treated teeth	1990	443
35	Cotton, Taylor P.	Endodontic Applications of Cone-Beam Volumetric Tomography	2007	425
36	Tronstad, Leif	pH changes in dental tissues after root canal filling with calcium hydroxide	1981	413
37	Parashos, Peter	Rotary NiTi Instrument Fracture and its Consequences	2006	411
38	Craig Baumgartner, J.	A scanning electron microscopic evaluation of four root canal irrigation regimens	1987	399
39	Yamada, Russell S.	A scanning electron microscopic comparison of a high volume final flush with several irrigating solutions: Part 3	1983	393
40	Roane, James B.	The "balanced force" concept for instrumentation of curved canals	1985	392
41	Bose, Raison	A Retrospective Evaluation of Radiographic Outcomes in Immature Teeth With Necrotic Root Canal Systems Treated With Regenerative Endodontic Procedures	2009	389
42	Shipper, Guy	An evaluation of microbial leakage in roots filled with a thermoplastic synthetic polymer-based root canal filling material (Resilon)	2004	386
43	Çalt, Semra	Time-dependent effects of EDTA on dentin structures	2002	384
44	Gambill James M.	Comparison of nickel-titanium and stainless steel hand-file instrumentation using computed tomography	1996	381
45	Kerekes, Kasmer	Long-term results of endodontic treatment performed with a standardized technique	1979	379
46	Glosson, Charles R.	A comparison of root canal preparations using Ni-Ti hand, Ni-Ti engine-driven, and K-Flex endodontic instruments	1995	374
47	Lovelace, Tyler W.	Evaluation of the delivery of mesenchymal stem cells into the root canal space of necrotic immature teeth after clinical regenerative endodontic procedure	2011	367
48	Shen, Ya	Current challenges and concepts of the thermomechanical treatment of nickel-titanium instruments	2013	365
49	Weine, Franklin S.	The effect of preparation procedures on original canal shape and on apical foramen shape	1975	364
50	Ruparel, Nikita B.	Direct effect of intracanal medicaments on survival of stem cells of the apical papilla	2012	363
51	Nowicka, Alicja	Response of human dental pulp capped with biodentine and mineral trioxide aggregate	2013	362
52	Shuping, George B.	Reduction of intracanal bacteria using nickel-titanium rotary instrumentation and various medications	2000	360
53	Salehrabi, Robert	Endodontic treatment outcomes in a large patient population in the USA: An epidemiological study	2004	359
54	Tay, Franklin R.	Geometric factors affecting dentin bonding in root canals: A theoretical modeling approach	2005	359
55	Torabinejad, Mahmoud	Investigation of mineral trioxide aggregate for root-end filling in dogs	1995	351
56	Torabinejad, Mahmoud	Histologic assessment of mineral trioxide aggregate as a root-end filling in monkeys	1997	348
57	Cvek, Miomir	A clinical report on partial pulpotomy and capping with calcium hydroxide in permanent incisors with complicated crown fracture	1978	342
58	Tang, Weirong	Identifying and Reducing Risks for Potential Fractures in Endodontically Treated Teeth	2010	341
59	Siqueira Jr., José F.	Chemomechanical reduction of the bacterial population in the root canal after instrumentation and irrigation with 1%, 2.5%, and 5.25% sodium hypochlorite	2000	340
60	Wang, Xiaojing	Histologic Characterization of Regenerated Tissues in Canal Space after the Revitalization/Revascularization Procedure of Immature Dog Teeth with Apical Periodontitis	2010	335
61	Jeeruphan, Thanawan	Mahidol study 1: Comparison of radiographic and survival outcomes of immature teeth treated with either regenerative endodontic or apexification methods: A retrospective study	2012	334

62	Zhou, Hui-Min	Physical properties of 5 root canal sealers	2013	328
63	Peters, Ove A.	Changes in root canal geometry after preparation assessed by high-resolution computed tomography	2001	326
64	Nakashima, Misako	The application of tissue engineering to regeneration of pulp and dentin in endodontics	2005	323
65	Tay, Franklin R.	Monoblocks in Root Canals: A Hypothetical or a Tangible Goal	2007	321
66	Ricucci, Domenico	Correlation between clinical and histologic pulp diagnoses	2014	320
67	Sundqvist, Göran	Ecology of the root canal flora	1992	320
68	Koh, Eng Tiong	Cellular response to mineral trioxide aggregate	1998	312
69	Torabinejad, Mahmoud	Bacterial leakage of mineral trioxide aggregate as a root-end filling material	1995	311
70	Sedgley, Christine M.	Are endodontically treated teeth more brittle?	1992	311
71	Torabinejad, Mahmoud	Dye leakage of four root end filling materials: Effects of blood contamination	1994	310
72	Islam, Intekhab	Comparison of the physical and mechanical properties of MTA and Portland cement	2006	306
73	Aguilar, Panuroot	Vital pulp therapy in vital permanent teeth with cariously exposed pulp: A systematic review	2011	301
74	Wu, Daming	Evaluation of the antibacterial efficacy of silver nanoparticles against <i>Enterococcus faecalis</i> biofilm	2014	294
75	Reyes-Carmona	Biomaterialization Ability and Interaction of Mineral Trioxide Aggregate and White Portland Cement With Dentin in a Phosphate-containing Fluid	2009	293
76	Bürklein, Sebastian	Apically extruded debris with reciprocating single-file and full-sequence rotary instrumentation systems	2012	292
77	Torabinejad, Mahmoud	Outcomes of Nonsurgical Retreatment and Endodontic Surgery: A Systematic Review	2009	290
78	Hülsmann, Michael	Root canal cleanliness after preparation with different endodontic handpieces and hand instruments: A comparative SEM investigation	1997	290
79	Pak, Jaclyn G.	Pain prevalence and severity before, during, and after root canal treatment: A systematic review	2011	288
80	Myers, Garry L.	A comparison of weights of debris extruded apically by conventional filing and canal master techniques	1991	288
81	Plotino, Gianluca	A Review of Cyclic Fatigue Testing of Nickel-Titanium Rotary Instruments	2009	287
82	Trevino, Ernesto G.	Effect of irrigants on the survival of human stem cells of the apical papilla in a platelet-rich plasma scaffold in human root tips	2011	285
83	Tay, Franklin R.	Effect of Vapor Lock on Root Canal Debridement by Using a Side-vented Needle for Positive-pressure Irrigant Delivery	2010	284
84	Jeansonne, Michael J.	A comparison of 2.0% chlorhexidine gluconate and 5.25% sodium hypochlorite as antimicrobial endodontic irrigants	1994	283
85	Cleghorn, Blaine M.	Root and Root Canal Morphology of the Human Permanent Maxillary First Molar: A Literature Review	2006	283
86	Çalışkan, Mehmet Kemal	Root canal morphology of human permanent teeth in a Turkish population	1995	282
87	Petrino, Joseph A.	Challenges in Regenerative Endodontics: A Case Series	2010	282
88	Fridland, Marcela	Mineral trioxide aggregate (MTA) solubility and porosity with different water-to-powder ratios	2003	281
89	Gambarini, Gianluca	Fatigue Resistance of Engine-driven Rotary Nickel-Titanium Instruments Produced by New Manufacturing Methods	2008	280
90	Distel, John W.	Biofilm formation in medicated root canals	2002	280
91	Kogan, Paul	The Effects of Various Additives on Setting Properties of MTA	2006	279
92	Plotino, Gianluca	Ultrasonics in Endodontics: A Review of the Literature	2007	278
93	Kim, Jong-Hyun	Tooth discoloration of immature permanent incisor associated with triple antibiotic therapy: A case report	2010	278
94	Matherne, Ryan P.	Use of Cone-Beam Computed Tomography to Identify Root Canal Systems <i>In Vitro</i>	2008	275
95	PradeepKumar, Angambakkam Rajasekharan	Diagnosis of Vertical Root Fractures by Cone-beam Computed Tomography in Root-filled Teeth with Confirmation by Direct Visualization: A Systematic Review and Meta-Analysis	2021	273
96	Ricucci, Domenico	Histologic Investigation of Root Canal-treated Teeth with Apical Periodontitis: A Retrospective Study from Twenty-four Patients	2009	272
97	Zhang, Hui	Antibacterial Activity of Endodontic Sealers by Modified Direct Contact Test Against <i>Enterococcus faecalis</i>	2009	268
98	Estrela, Carlos	A New Periapical Index Based on Cone Beam Computed Tomography	2008	266
99	Rotstein, Ilan	Histochemical analysis of dental hard tissues following bleaching	1996	265

100	Low, Kenneth M.T.	Comparison of Periapical Radiography and Limited Cone-Beam Tomography in Posterior Maxillary Teeth Referred for Apical Surgery	2008	263
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To determine this metric, citation age was calculated as the difference between the evaluation year (2024) and the publication year of each article. Total citations were then aggregated for each citation age, and the age with the highest cumulative citations was identified. The citation distribution revealed that articles published 14 years ago received the most citations, making 14 years the peak citation age for the JOE.

IF over time

The JOE's IF, which measures the average number of citations received by recent articles published in the journal, has shown fluctuations over the years, with a general upward trend from 2018 to 2021, peaking at 4.422 in 2021. However, the IF declined to 4.2 in 2022 and further to 3.5 in 2023, before increasing to 3.9 in 2025. Supplementary Figure S1 shows the available data

for the JOE's IF from 1997 to 2023, as released by Clarivate (14).

Authorship metrics

Of the 8,753 scientific articles, 2,092 (23.9%) involved international co-authorship, with affiliations from two or more countries.

The analysis revealed a total of 759 single-authored articles (8.7%), while the number of multi-authored articles was 7,994 (91.3%) of all publications. Initially, single-authored articles dominated, reflecting earlier norms of independent research.

The list of authors with the highest citation counts is shown in Table 3. According to this analysis, the three most-cited authors over the years were Mahmoud Torabinejad with 14,794 citations, José F. Siqueira Jr. with 11,755 citations, and David H. Pashley with 7,930 citations.

Table 3. Top 100 contributing authors ranked by citation count and publication volume

Author	Number of total citations	Rank according to the total citations	Number of publications	Rank according to the number of publications
Torabinejad, Mahmoud	14,794	1	115	2
Siqueira, José F.	11,755	2	162	1
Pashley, David H.	7,930	3	107	3
Haapasalo, Markus	7,477	4	95	5
Tay, Franklin	6,768	5	87	8
Rôças, Isabela N.	6,764	6	94	6
Shen, Ya	6,188	7	88	7
Pitt Ford, Thomas	5,494	8	23	Not in the first 100
Baumgartner, J. Craig	5,455	9	84	9
Trope, Martin	5,431	10	50	29
Messer, Harold H.	5,276	11	45	32
Hargreaves, Kenneth M.	4,915	12	47	30
Friedman, Shimon	4,650	13	78	11
Peters, Ove A.	4,238	14	56	22
Reader, Al	4,027	15	97	4
Diogenes, Anibal	3,828	16	43	38
Plotino, Gianluca	3,743	17	38	47
Weller, Roger N.	3,715	18	59	19
Ricucci, Domenico	3,704	19	41	40
Wesselink, Paul R.	3,570	20	40	43
Kishen, Anil	3,528	21	79	10
Beck, Mike	3,526	22	77	12
Huang, George T.-J.	3,463	23	26	Not in the first 100
Zehnder, Matthias	3,379	24	32	69
Loushine, Robert J.	3,328	25	54	25
Grande, Nicola M.	3,266	26	29	82
Parirokh, Masoud	3,228	27	17	Not in the first 100
Gomes, Brenda P.F.A.	3,141	28	66	14
De-Deus, Gustavo	3,009	29	56	23
Lee, Seung-Jong	2,955	30	30	78
Cheung, Gary Shun Pan	2,938	31	45	33
Nusstein, John	2,935	32	73	13
Kim, Syngcuk	2,911	33	31	74
Teixeira, Fabricio B.	2,890	34	25	Not in the first 100

Lin, Louis M.	2,832	35	41	41
Duarte, Marco Antonio	2,803	36	61	16
Hungaro				
Shabahang, Shahrokh	2,785	37	26	Not in the first 100
Gutmann, James L.	2,750	38	60	18
Ørstavik, Dag	2,697	39	21	Not in the first 100
Sousa-Neto, Manoel Damião de	2,616	40	61	17
Sundqvist, Göran	2,560	41	9	Not in the first 100
Gambarini, Gianluca	2,520	42	33	62
Silva, Emmanuel J.N.L.	2,482	43	58	21
Walton, Richard E.	2,413	44	54	26
Shi, Songtao	2,406	45	7	Not in the first 100
Kim, Hyeon-Cheol	2,393	46	62	15
Versiani, Marco A.	2,369	47	52	28
Bramante, Clovis Monteiro	2,368	48	40	44
Schäfer, Edgar	2,337	49	40	45
Hong, Chan-Ui	2,290	50	9	Not in the first 100
Ferraz, Caio Cezar Randi	2,272	51	34	59
Paqué, Frank	2,222	52	25	Not in the first 100
Schwartz, Scott A.	2,195	53	18	Not in the first 100
Kim, Euseong	2,192	54	55	24
Kettering, James D.	2,187	55	18	Not in the first 100
Ling, Junqi	2,180	56	32	70
Hartwell, Gary R.	2,170	57	53	27
Spangberg, Larz S.W.	2,148	58	45	34
Tanomaru-Filho, Mário	2,120	59	35	52
Sjögren, Ulf	2,109	60	6	Not in the first 100
Wu, Min-Kai	2,091	61	23	Not in the first 100
Alves, Flávio R.F.	2,047	62	44	37
Parashos, Peter	1,953	63	22	Not in the first 100
Rotstein, Ilan	1,931	64	35	53
Estrela, Carlos	1,926	65	45	35
Schindler, William G.	1,913	66	33	63
Ferrari, Marco	1,884	67	29	83
Jung, Il-Young	1,863	68	28	89
Berutti, Elio	1,848	69	26	Not in the first 100
da Silva, Léa Assed Bezerra	1,843	70	35	54
Fouad, Ashraf F.	1,830	71	46	31
Luca, Testarelli	1,815	72	19	Not in the first 100
He, Jianing	1,813	73	34	60
Setzer, Frank C.	1,783	74	35	55
Sedgley, Christine	1,780	75	28	90
Shemesh, Hagay	1,777	76	25	Not in the first 100
Eleazer, Paul D.	1,760	77	42	39
Zaia, Alexandre Augusto	1,742	78	29	84
Zhou, Xuedong	1,728	79	38	48
Tronstad, Leif	1,709	80	17	Not in the first 100
Kum, Kee-Yeon	1,695	81	41	42
Peng, Bin	1,693	82	33	64
Wang, Zhejun	1,670	83	26	Not in the first 100
Glickman, Gerald N.	1,663	84	35	56
Peters, Donald D.	1,658	85	28	91
von Arx, Thomas	1,639	86	29	85
Palamara, Joseph E.A.	1,635	87	11	Not in the first 100
Sonoyama, Wataru	1,627	88	3	Not in the first 100
Brantley, William A.	1,608	89	19	Not in the first 100
Karabucak, Bekir	1,602	90	33	65
Kulild, James C.	1,596	91	45	36
Fan, Bing	1,591	92	20	Not in the first 100
Camilleri, Josette	1,589	93	26	Not in the first 100
Basrani, Bettina	1,582	94	30	79
McClanahan, Scott B.	1,576	95	36	50
Zhou, Huimin	1,571	96	13	Not in the first 100
Marshall, J. Gordon	1,561	97	30	80

Bowles, Walter	1,557	98	29	86
Beeson, Thomas J.	1,556	99	11	Not in the first 100
Wang, Song-Lin	1,547	100	3	Not in the first 100

The list of the most productive authors is also shown in Table 3. Over the past 50 years, a total of 16,185 authors have contributed to publications in the JOE. Notably, only three authors have published more than 100 articles, and 29 authors have published at least 50 publications. A total of 548 authors have contributed to 10 or more publications, while 11,147 authors have only one publication. According to this analysis, the three most productive authors were the same as above but in a different order: Siqueira Jr. with 162 articles, Torabinejad with 115 articles, and Pashley with 107 articles.

Since Table 3 is arranged based on citation counts, some authors with numerous publications but relatively fewer citations may not appear in the table. Therefore, their contributions are also highlighted below by listing their names and the number of articles: Melissa Drum (59 articles), Frederico C. Martinho (40 articles), Anita Aminoshariae (37 articles), Dingming Huang (36 articles), Hakan Arslan and Takashi Okiji (each with 35 articles), Ali Nosrat (34 articles), Kamran Safavi, Chengfei Zhang, and Patricia A. Tordik (each with 33 articles), Ronald Ordinola-Zapata, Amir Azarpazhooh, and Hideaki Suda (each with 32 articles), Kyung-San Min, WooCheol Lee, and Andre K. Mickel (each with 31 articles), Timothy Svec (30 articles), Samuel Seltzer and James D. Johnson (each with 29 articles), Frederick R. Liewehr, Carlos Eduardo da Silveira Bueno, Seung-Ho Baek, Fernando Durán-Sindreu, Hiroshi Nakamura, Jung-Hong Ha, and Sara Fowler (each with 28 articles), and James H. Simon and Timothy Kirkpatrick (each with 27 articles).

Discussion

As the JOE marks its 50th anniversary, this bibliometric analysis provides a comprehensive assessment of its publication trends, scholarly influence, and evolving research priorities over time. By examining patterns in article output, citation dynamics, and authorship characteristics, this study offers insights into the journal's development over time and its role in shaping contemporary endodontic discourse. The findings not only highlight the JOE's historical contributions to the specialty but also identify strategic areas that may inform future editorial priorities and scientific research.

Journal growth and editorial trajectory

The JOE has experienced consistent and substantial growth over its five-decade history. A nearly threefold increase in the number of published articles, combined with the regular release of 12 issues annually, supplemented occasionally with special issues, reflects the journal's expanding role in disseminating endodontic research and its ability to respond to evolving scientific needs. These findings align with previous analyses, such as that by Ordinola-Zapata et al. (23), and support the continued role of the JOE as a platform for clinical and academic discourse in endodontics. This increase in output has also been accompanied by notable growth in scholarly influence, as evidenced by various citation metrics.

Citation trajectory and academic influence

A marked rise in citation counts, especially from the early 2000s onward, signals a growing level of scholarly engagement with JOE publications. The journal's *h*-index of 204 and *g*-index of 293 reflect both the quantity and citation impact of its most cited works. These metrics may reflect the impact of editorial strategies that prioritize highly cited formats such as systematic reviews, clinical guidelines, and comprehensive narrative syntheses.

Characteristics of highly cited publications

An analysis of the 100 most-cited articles provides deeper insight into the types of studies that achieve enduring influence. These articles span the journal's full timeline, from its early years (25, 26) to as recently as 2021 (27), indicating that both foundational and contemporary research have received substantial attention. Foundational topics such as root canal microbiology and instrumentation remain impactful, while emerging areas, such as regenerative endodontics (13 articles), cone-beam computed tomography (eight articles), and even a 2020 publication on COVID-19-related materials (28), demonstrate that timeliness and novelty enhance visibility.

Review articles constitute a substantial proportion of highly cited publications, with 17 narrative reviews and four systematic reviews represented. This highlights their role in synthesizing knowledge and guiding further inquiry. Innovation is also a prominent theme; four of the most-cited articles focus on new materials, techniques, or devices (29-32). Notably, high-impact

articles include not only broad-scope reviews and trials but also localized studies (33, 34), a case report (35), and a case series (36), underscoring that rigorous methodology can yield significant academic influence regardless of study type or scope.

Temporal distribution of high-impact work

While older publications have had more time to accrue citations, a decade-based analysis reveals informative patterns. The majority of highly cited articles (51%) were published between 2005 and 2014, a period marked by rapid technological advances, greater global collaboration, and expanded indexing. The journal's earlier years (1975–1984) account for only 6% of top-cited publications, consistent with its foundational phase. Indeed, the relative scarcity of top-cited articles published between 2015 and 2024 (2%) represents an expected citation lag, the time required for modern literature to be discovered, applied, and cited, rather than an indicator of lower scientific caliber.

Clinically significant contributions

Among the most-cited articles, three stand out for their enduring clinical relevance: Zehnder's 2006 review on root canal irrigants (37) has received 1,337 citations and remains central to disinfection protocols; Sjögren et al.'s 1990 study (38), cited 1,192 times, provides a seminal framework for long-term outcomes; and Torabinejad et al.'s 1995 article (31), with 1,020 citations, introduced MTA, a material that has transformed endodontic therapy. These articles illustrate how clinical utility, conceptual innovation, and methodological clarity drive citation longevity.

Authorship trends and contributor influence

Authorship patterns further reflect the increasing complexity of endodontic research. The overwhelming majority of JOE articles (91.3%) are multi-authored, and nearly one-quarter (23.9%) involve international collaboration. Influential contributors such as Torabinejad, Siqueira Jr., and Pashley demonstrate how sustained research in specialized domains such as biomaterials, microbiology, and dentin biology can yield high-impact work. Their prominence is also evident in professional recognition and academic leadership.

Some authors have received substantial numbers of citations despite relatively modest publication counts. For instance, Thomas Pitt Ford ranks 134th by publication volume but 8th in citations, while Wataru Sonoyama ranks 1,905th in output yet 88th in citations. These examples validate the use of the *h*-index (18), which

accounts for both production output and citation impact to provide a more balanced assessment of scholarly influence.

Thematic shifts and emerging priorities

The themes represented among the most-cited articles reflect several evolving research priorities within the field. MTA-related research dominates (18 articles), reaffirming its pivotal clinical role. Meanwhile, increased attention to regenerative endodontics and CBCT reflects a shift toward biologically based therapies and precision diagnostics. In contrast, the reduced presence of instrumentation studies and case reports among top-cited works suggests a broader pivot toward outcomes-driven and evidence-based research models.

Comparative positioning among endodontic journals

To contextualize the JOE's performance, a comparative analysis of peer-reviewed endodontic journals reveals key insights (Table 4). Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Dental Traumatology were included due to their former titles, which historically incorporated the terms endodontics/endodontology.

The International Endodontic Journal, launched in 1967, leads the field with a 2023 IF of 4.2 and shares structural similarities with the JOE, including monthly publication and a hybrid access model. Regionally focused, fully open-access journals such as the Iranian Endodontic Journal, Saudi Endodontic Journal, and European Endodontic Journal enhance research visibility in developing academic markets.

Methodological framework and future directions

To maintain a balanced distribution of content across part one, part two, and part three of this series, detailed methodological procedures—such as the rationale for selecting Scopus as the primary database, the use of CSV file formatting, the implementation of VOSviewer™ for visualization, and document exclusion criteria—have been described in part two. These methodological choices were made to ensure the reliability, reproducibility, and analytical depth of the study.

This bibliometric analysis underscores the value of such approaches in uncovering long-term patterns in publication volume, citation dynamics, and authorship evolution. Future research may expand on these findings through comparative analyses with other dental and medical journals to assess interdisciplinary dynamics. Additionally, the integration of altmetrics and

machine learning may improve real-time monitoring of research topics and assessment of broader societal impact. Longitudinal studies examining editorial policies and their influence on research quality could also offer strategic insights for journal improvement and governance.

These findings lay the foundation for the scientometric analysis in part two, which examines co-authorship

networks, keyword clusters, and emerging research trends through advanced content-mapping techniques. Together, the bibliometric and scientometric analyses provide a comprehensive view of the journal's structural and intellectual evolution, and highlight its contributions to the development of the field over the past five decades.

Table 4. Overview of peer-reviewed endodontic journals, ordered by establishment year

Journal Title	Publisher/Founder	Frequency of Publication	Language	Open Access Model	2025 IF*	Establishment Year
Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology	Elsevier	Monthly	English	Hybrid	2.4	1948**
International Endodontic Journal	Wiley	Monthly	English	Hybrid	6.4	1967**
Australian Endodontic Journal	Wiley	Quarterly	English	Hybrid	1.7	1974
Journal of Endodontics	Elsevier	Monthly	English, with bilingual title & abstract in 1985	Hybrid	3.9	1975
Restorative Dentistry & Endodontics	Korean Academy of Conservative Dentistry	Quarterly	English, with some historical use of Korean	Fully Open Access	1.5	1975**
Endodoncia	Spanish Association of Endodontics	Quarterly	Spanish and English	Not Open Access	-	1983
Dental Traumatology	Wiley	Quarterly	English	Hybrid	4.8	1985**
Giornale Italiano di Endodonzia	Italian Society of Endodontics	Quarterly	English, with some historical use of Italian	Fully Open Access	0.7	1987
Endodontie	Quintessence Publishing	Quarterly	German	Not Open Access	-	1993
Thai Endodontic Journal (ENDOSARN)	Thai Endodontic Association	Biannually	Thai and English	Fully Open Access	-	1995**
Journal of Conservative Dentistry and Endodontics	Wolters Kluwer – Medknow	Monthly	English	Fully Open Access	-	1998**
Endodontic Topics	Wiley	Biannually	English	Hybrid	-	2002 (Ceased in 2016)
Iranian Endodontic Journal	Iranian Center for Endodontic Research	Quarterly	English	Fully Open Access	-	2006
Endodontic Society of the Philippines Journal	Endodontic Society of the Philippines	Annually	English	Fully Open Access	-	2007
Endodontija Today	LLC "Endo Press"	Quarterly	Russian and English	Fully Open Access	-	2010
Saudi Endodontic Journal	Saudi Endodontic Society	Quarterly	English	Fully Open Access	-	2011
European Endodontic Journal	European Endodontic Society	Quarterly	English	Fully Open Access	2.0	2016
Turkish Endodontic Journal	Turkish Endodontic Society	Quarterly	English	Fully Open Access	-	2016

IP Indian Journal of Conservative and Endodontics	Khyati Education and Research Foundation	Quarterly	English	Fully Open Access	-	2016
Journal of Operative Dentistry & Endodontics	JAYPEE	Biannually	English	Fully Open Access	-	2016

* According to the 2026 Web of Science Journal Citation Reports.

** Journals that have undergone name changes over time.

Conclusions

Over the past five decades, the JOE has published 8,753 scientific articles and received 390,265 citations, reflecting its extensive publication output and scholarly impact. This bibliometric analysis identified steady growth in publication volume, with a peak during the 2010–2015 period and sustained citation activity into the 2020s. The journal's *h*-index (204) and *g*-index (293) provide quantitative measures of its citation performance. Highly cited topics—such as root canal disinfection, regenerative endodontics, and biomaterials—reflect changes in clinical and research priorities over time. Contributions from the United States, Brazil, and China were most frequent, indicating a broad international authorship base. These findings provide a historical and quantitative framework for understanding the journal's publication and citation trends and serve as a foundation for the scientometric and editorial analyses presented in parts two and three.

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The thesis will be archived under embargo in the West Virginia University institutional repository and the ProQuest database, in accordance with the prior publication policies of the *Journal of Endodontics*.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contributions

H.J. conceptualized and designed the study. H.J.B., M.A.B., and R.C.W. contributed to the methodology. H.J.B. contributed to software and data curation. H.J.B. and R.C.W. performed the formal analysis and investigation. H.J.B. contributed to the original draft preparation. S.O.D., M.A.B., S.B.W., and R.C.W. contributed to the review and editing of the manuscript. S.O.D. supervised the study. All authors approved the final version of the manuscript.

Ethical considerations

This study was conducted in strict adherence to publication ethics guidelines and was formally approved as Non-Human Subject Research (NHSR) by the Institutional Review Board (IRB) / Ethics Committee of West Virginia University, Morgantown, WV, USA (Certificate #0887).

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Supplementary Table S1. Past presidents of the AAE

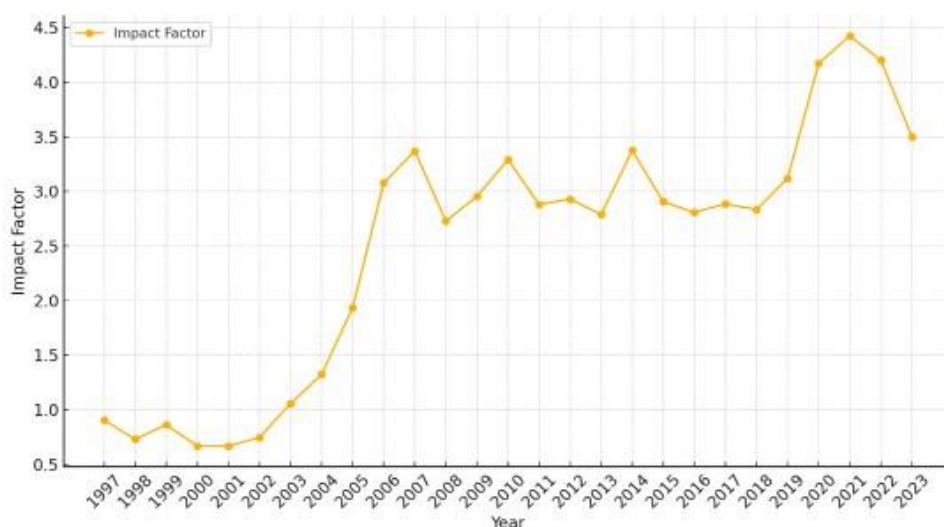
President Name	Year	President Name	Year
W. Clyde Davis	1943-1944	Herbert Schilder	1985-1986
Ralph F. Sommer	1944-1945	Michael A. Heuer	1986-1987
Robert G. Kesel	1945-1946	Charles J. Cunningham	1987-1988
E.G. Van Valey	1946-1947	Joseph D. Maggio	1988-1989
Maynard K. Hine	1947-1948	Gerald C. Dietz Sr.	1989-1990
Louis I. Grossman	1948-1949	James C. McGraw	1990-1991
Elmer A. Jasper	1949-1950	Joseph I. Tenca	1991-1992
Raymond L. Girardot	1950-1951	Stuart B. Fountain	1992-1993
George C. Sharp	1951-1952	Eric J. Hovland	1993-1994
F. Darl Ostrander	1952-1953	Richard C. Burns	1994-1995
Laurence A. Lucas	1953-1954	Philip W. Cohen	1995-1996
N. Weir Burkman	1954-1955	Jerome V. Pisano	1996-1997
Harry J. Healey	1955-1956	Denis E. Simon III	1997-1998
John R. Pear	1956-1957	Carl W. Newton	1998-1999
George C. Hare	1957-1958	Harmon R. Katz	1999-2000
George G. Stewart	1958-1959	James L. Gutmann	2000-2001
J. Henry Kaiser	1959-1960	Jeffrey W. Hutter	2001-2002
Paul P. Sherwood	1960-1961	Samuel O. Dorn	2002-2003
Glenn R. Brooks	1961-1962	Mahmoud Torabinejad	2003-2004
Vincent B. Milas	1962-1963	Sandra Madison	2004-2005
James H. Sherard Jr.	1963-1964	Marc Balson	2005-2006
Jacob B. Freedland	1964-1965	John S. Olmsted	2006-2007
Henry S. Schmidt	1965-1966	Shepard S. Goldstein	2007-2008
John I. Ingle	1966-1967	Louis E. Rossman	2008-2009
Edwin C. Van Valey	1967-1968	Gerald N. Glickman	2009-2010
Samuel S. Patterson	1968-1969	Clara M. Spatafore	2010-2011
Warren J. Hedman	1969-1970	William T. Johnson	2011-2012
John F. Bucher	1970-1971	James C. Kulild	2012-2013
Dudley H. Glick	1971-1972	Gary R. Hartwell	2013-2014
I.B. Bender	1972-1973	Robert S. Roda	2014-2015
Charles A. Scott Jr.	1973-1974	Terryl A. Propper	2015-2016
Alfred L. Frank	1974-1975	Linda G. Levin	2016-2017
Robert A. Uchin	1975-1976	Garry L. Myers	2017-2018
Frank B. Trice	1976-1977	Patrick E. Taylor	2018-2019
George A. Zurkow	1977-1978	Keith V. Krell	2019-2020
Harry Blechman	1978-1979	Alan H. Gluskin	2020-2021
Paul E. Zeigler	1979-1980	Alan S. Law	2021-2022
Edward M. Osetek	1980-1981	Stefan I. Zweig	2022-2023
Henry J. van Hassel	1981-1982	Craig S. Hirschberg	2023-2024
Noah Chivian	1982-1983	Natasha M. Flake	2024-2025
Stephen F. Schwartz	1984-1985	Steven J. Katz	2025-2026

Supplementary Table S2. List of the JOE supplementary issues published over the past 50 years

Title of the Supplementary Issue	Publication Year
An annotated glossary of terms used in endodontics	1981
In memory of Dr. Louis I. Grossman	1982
Proceedings of the Joint Symposium Sponsored by the American Academy of Pediatric Dentistry (AAPD) and the AAE, Chicago, Illinois	2008
Endodontic Study Guide	
Proceedings of a Joint Symposium of the AAE and the AAPD, Scottsdale, Arizona	2013
Presentations from the International Association for Dental Research (IADR) Pulp Biology and Regeneration Group Satellite Meeting, San Francisco, California	2014
Proceedings of the Pulp Biology and Regeneration Group Satellite Meeting: Dental Regenerative Medicine and Functional Dental Longevity	2017
Papers from the 2018 Meeting of the World Congress on Dental Traumatology, San Diego, California	2019
Pulp Biology and Regeneration Group Satellite Meeting: Bridging Basic and Translational Research in Pulp Biology: Developing Technologies for Regenerating Vital Dental Tissues, Portland, Oregon	2020

Supplementary Table S3. Country-level contributions to the 100 most-cited articles in the JOE

Country	Count
United States	62
Brazil	11
United Kingdom and China	Each 9
Canada, Iran, and South Korea	Each 7
Sweden	6
Switzerland	5
Australia and Japan	Each 4
Italy and Norway	Each 3
Turkey, Thailand, Singapore, and Germany	Each 2
Netherlands, India, Argentina, Denmark, Belgium, Israel, Poland, and Hong Kong	Each 1

**Supplementary Figure S1.** Displaying the changes in the JOE's IF from 1997 to 2023.