The Brazilian Dental Journal (BDJ) was officially launched in 1990, stimulated by the courage and boldness of researchers dedicated to teaching and research in dentistry. The journal was conceived in a worldwide coverage and universal language to allow publication of the results of Brazilian studies, which otherwise would not be accessible to the scientific dental community. In the year we celebrate the thirtieth anniversary of BDJ, this article presents a brief overview of Brazilian dental research and a bibliometric analysis of the articles published in this journal as a contribution to our readers and fellow researchers. The purpose was to identify the most frequent categories of study, the most published areas of dentistry and BDJ's top 50 most-cited articles in the Scopus and Google Scholar databases. A search was performed on all BDJ online issues published from 1990 to 2019. In this period, BDJ published 1,710 articles. Based on their distribution by category of study, 557 articles were in the basic research/dental materials area, 527 in the basic research/biology area and 280 in the clinical research area. Eight articles were cited more than 100 times in the Scopus database and 266 times in the Google Scholar database. Endodontics was the most published area. This overview of BDJ production over those 30 years allows establishing a profile of the characteristics, impact and trends of the published studies, as well as the journal's contribution to the top 50 most-cited articles in the Scopus and Google Scholar databases.

The Contribution of the Brazilian Dental Journal to the Brazilian Scientific Research over 30 Years

Carlos Estrela1, Jesus Djalma Pécora1, Manoel Damião Sousa-Neto2

1Department of Stomatologic Sciences, School of Dentistry, UFG - Universidade Federal de Goiás, Goiânia, GO, Brazil
2Department of Restorative Dentistry, School of Dentistry of Ribeirão Preto, USP – Universidade de São Paulo, Ribeirão Preto, SP, Brazil

Correspondence: Prof. Dr. Carlos Estrela, Praça Universitária s/n, Setor Universitário, 74605–220 Goiânia, GO, Brazil. Tel: +55-62-3209-6254. e-mail: estrela3@terra.com.br

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Introduction

In 1990, the wish to spread the outcomes of high-quality Brazilian dental research in a universal language (English) inspired a group of professors (JDP, PCS, GMC and MDSN) to found the Brazilian Dental Journal (BDJ). In its essence, BDJ was conceived for Brazilian researchers, professors and clinicians to have the findings of theirs studies and clinical cases disclosed to the scientific community in Brazil and overseas.

The achievements were gradually emerging as the newborn journal consolidated, nonetheless permeated by countless temptations to give in to the struggle and challenges of self-maintenance. BDJ has become a bimonthly publication, with a diversified and experienced editorial board and a panel of peer-reviewers and contributors from different countries, institutions and areas of expertise.

While maintaining its original mission of spreading the Brazilian dental research to the world, BDJ has widen its scope years ago and also publishes articles from foreign authors. Currently, the journal is supported by National Council for Scientific and Technological Development (CNPq), and the articles are indexed or summarized by PubMed-Medline, SCOPUS, Google-scholar, SciELO, LILACS, Bibliografia Brasileira de Odontologia (BBO), Portal de Revistas da USP, Directory of Open Access Journals, DEDALUS and ERL.

In the year of celebration of BDJ’s thirtieth anniversary, this article presents a brief overview of the Brazilian dental research and a bibliometric analysis of the article published in this journal as a contribution to our readers and fellow researchers. The purpose was to identify the most frequent category of study (systematic review, narrative review, clinical research, basic research / biology, basic research / technology, basic research / dental materials, case report and others); the most cited thematic areas (cariology, dental materials, endodontics, implantology, oral and maxillofacial surgery, oral radiology, oral pathology, restorative dentistry, pediatric dentistry, prosthetic dentistry, public health, periodontology, orthodontics, temporomandibular disorder and others) and BDJ’s top 50 most-cited articles in the Scopus and Google Scholar databases.

Dental Research

Every minute, the volume of information increases in geometric progression, imposing changes to the individuals and the incorporation of innovative and challenging behaviors. Human knowledge has been built since the
creation of the world and mankind has witnessed countless changes. Thus, regardless of the area of expertise, research (knowledge) is responsible for feeding human evolution and constitutes immunity to ignorance. As far as health and clinical approaches are concerned, the search for real and primary problems is particularly crucial and all decisions must be made based on research of high scientific value (1).

The logic of research includes having clear objectives towards the improvement of life quality for the population, increase of country's economic power and the generation of jobs. Research is an instrument for science and technology - the first is the acquisition of real knowledge and the second provides the means for its acquisition, hence they cannot be set apart. It should be held in mind, although implicitly, that innovation is a reference, a goal. Teachers must build their clinical practice based on research, transmit and reinforce it to their students over the years, doing so within the correct assumption of the rational learning logic, in which both teachers and students feed on the learning process (1).

The advancement and worldwide respect for the Brazilian dental research has been outstanding in recent years. This is due to the efforts and investment of several institutions and faculty members, who have dedicated themselves and have struggled to provide infrastructure to research laboratories, train workers, researchers and graduate students and publish effective results in high impact journals, with a strong focus on excellence. High-quality dental research is only achieved by highly qualified researchers.

Challenges and difficulties (such as funding, priorities and criteria for resource allocation, structuring appropriate laboratories, training human resources in research, international collaborations with reference centers, encouraging publication in impact journals, among others) have never discouraged the idealists who set the goal of producing dental research at high level in Brazil.

In this sense, the concern with the quality of Brazilian dental research has been a real issue to those who live and experience the unveiling of problems and solutions. However, in order to achieve excellence, it is increasingly necessary to maintain strict methodological criteria and work within the parameters of competence.

In this perspective, to disclose a qualified study on the 30 years of BDJ, a positive reflection includes all the contributions of this scientific communication resource, with national and international impact. This initiative of creating the BDJ also encouraged other Brazilian centers to publish other journals in English and having them indexed in important databases.

BDJ Bibliometric Analysis

The citations of an article represent good indicators of the study, the author(s) and even the journal. The references cited in an article are a source of information for other researchers and serve as criteria for selecting the subject, the journal, the study and the author one wishes to know more about.

Several studies (2-11) have reported the careful and judicious way these scientific recognition indexes, beyond information with specific characteristics, such as the advances achieved over the years. Based on the citations, one can assess the impact of a subject or a journal as well as the scientific production of a university or a country. In addition, these data may support trends, impact of themes and analyses of priorities. Important approaches to the most cited articles in different areas have already been investigated, signaling the scientific impacts, the advances in the different thematic areas, besides an inspiration to solve relevant problems (12-16).

Therefore, a manual search was performed by two evaluators on all articles published online by BDJ from 1990 to 2019. When results differed, a consensus was reached after the article was discussed with a third evaluator. Table 1 presents the 50 most-cited articles in Scopus and Google Scholar databases by the Brazilian Dental Journal. Figures 1 and 2 show the number of articles published in this period by area and category of study. From 1990 until 2019, BDJ published 1,710 scientific articles, distributed in the following areas (Fig. 1): endodontics (365 articles), restorative dentistry (317 articles), oral pathology (200 articles), periodontology (147 articles), prosthetic dentistry (140 articles), pediatric dentistry (95 articles), implantology (88 articles), oral and maxillofacial surgery (77 articles), cariology (75 articles), orthodontics (65 articles), dental materials (47 articles), oral radiology (32 articles), temporomandibular disorders (TMD) (25 articles), public health (18 articles) and others (19 articles).

The categories of study were distributed as follows (Fig. 2): basic research/dental materials (557 articles), basic research/biology (527 articles), clinical research (280 articles), case reports (192 articles), basic research/technology (69 articles), narrative review (31 articles), systematic review (12 articles) and others (41 articles). Most of these categories are used by other journals and have been mentioned in previous studies (17,18). When necessary, they were adjusted to respect the specificities of the BDJ. During the analysis of data, care was taken with studies from interconnected areas in order to avoid duplicity of data in the final counting of areas. Common sense prevailed in the analysis.

Endodontics was the most studied area with 365 published studies. Among categories of study, basic research/dental materials (557 articles) predominated. Eight articles were cited more than 100 times in the Scopus and more than 266 times in the Google Scholar databases.
The citation indicators do not define the scientific merit of a researcher because citation is a complex process involving factors that extrapolate the researcher competence and laboratory quality and infrastructure (19). Nonetheless, citation indicators of (20-69) are important for a reflection on journal’s editorial policy. The guidance, inspiration and critical analysis of future studies are often conceived from a reflection of the current knowledge.

Final Considerations
BDJ published 1,710 articles between its foundation in 1990 and 2019. Based on the distribution of the articles by categories of study, 557 articles were in the basic research/dental materials area, 527 in basic research/biology and 280 in clinical research. Eight articles were cited more than 100 times in the Scopus database and more than 266 times in the Google Scholar database. Endodontics was the most published area. This overview of BDJ production over those 30 years allows establishing a profile of the characteristics, impact and trends of the published studies, as well as the journal’s contribution to the top 50 most-cited articles in the Scopus and Google Scholar databases.
Table 1. The top 50 most-cited papers in Brazilian Dental Journal

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<th>Rank</th>
<th>Articles</th>
<th>Scopus (NC)</th>
<th>Google Scholar</th>
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