

# Navigating the Future of Dentistry: Embracing Research, Digital Innovations, and Global Equity

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**Abstract:** The realm of dentistry is experiencing transformative shifts due to advancements in research and technology, influencing educational approaches and clinical practices globally. This editorial emphasizes the imperative integration of research into dental education, advocating for a scientifically driven and evidence-based dental profession. A highlighted scoping review reveals that evidence-based dentistry (EBD) education encompasses crucial skills such as problem formulation and critical appraisal, urging the adoption of varied teaching strategies to enhance learning outcomes. Furthermore, the editorial underscores the revolutionary impact of digital advancements like artificial intelligence and augmented reality on dental research and practice, which promise to elevate patient care and healthcare efficiency. Additionally, it addresses the global disparities in dental caries prevalence, advocating for equitable oral health strategies worldwide. The Brazilian Dental Journal (BDJ) is presented as a pivotal platform for disseminating dental research, inviting authors globally to contribute and partake in shaping the future of dentistry. This call to action aims to foster international collaboration and collective efforts to advance dental health and science.

**Keywords:** Evidence-Based Dentistry; Digital Innovations; Global Dental Health.

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Dear authors,

The global landscape of dentistry is undergoing significant transformations, with research and technological advancements driving change and shaping the future of the field. To illustrate, recent findings highlight the critical role of integrating research into dental education, emphasizing that such integration is essential for ensuring that dentistry remains a scientifically driven health profession and for fostering evidence-based practice in clinical settings [1]. The integration of research into dental education is essential for the advancement of evidence-based practices in the dental field. A scoping review identified that evidence-based dentistry (EBD) education typically includes four basic skills: problem formulation, literature searching, critical appraisal, and research methodology. The study found that a combination of traditional teaching strategies and assessment methods, such as courses and questionnaires, are commonly used, although other methods like journal clubs and workshops are less frequently employed [2].

Another study emphasized the importance of incorporating evidence-based decision-making (EBDM) into dental education, proposing a model that includes thorough assessment and development of teaching and learning strategies. This model aims to inform faculty about necessary curricular changes and skill development training to prepare students for patient care using the best available evidence [3]. These findings underscore the critical role of integrating research and evidence-based methodologies into dental educa-

tion to ensure that dental professionals are equipped with the knowledge and skills necessary to deliver high-quality, informed patient care. By embracing these educational frameworks, dental schools can prepare students to be successful in a rapidly evolving healthcare environment, ensuring that dentistry remains a scientifically driven and evidence-based profession.

In the digital era, dental research is experiencing a revolution. Rapid prototyping, augmented and virtual reality, artificial intelligence, and personalized medicine are among the top trends that are expected to significantly impact dental research and practice. These innovations offer the potential to enhance patient-centered outcomes and improve the overall quality of dental healthcare [4]. For instance, AI in dentistry is expanding beyond traditional boundaries, now being used for tasks such as identifying normal and abnormal structures, diagnosing diseases, and predicting treatment outcomes. This utilization of AI in dentistry represents a substantial leap forward, promising to enhance patient care and revolutionize the field [5].

Furthermore, the integration of various digital technologies, including the Internet of Medical Things (IoMT), big data, and augmented reality, is transforming dental care. These technologies allow for more streamlined workflows, reduced costs, and improved personalized oral healthcare, thus significantly influencing modern dental practices [6]. In this context, the dental community is encouraged to adapt and integrate these technological advances into their practices and research to leverage the full potential of digital innovations in enhancing dental care and patient outcomes.

The globalization of dental health challenges, particularly dental caries, is a pressing concern. Studies have shown varying trends of dental caries between high-income and middle-to-low-income countries, reflecting the broader impact of socioeconomic factors on oral health. This underscores the importance of addressing global inequalities and the need for comprehensive strategies to improve oral health outcomes worldwide. A study highlighted the global burden and inequality of dental caries from 1990 to 2019, underscoring the importance of addressing these disparities to improve overall oral health [7].

Another study focused on the effect of globalization on global dental caries trends, providing insights into how economic factors influence dental health across various countries [8]. These studies emphasize the necessity of comprehensive strategies that not only focus on treatment but also on prevention and education to tackle the underlying causes of dental caries globally. Addressing these challenges requires a multifaceted approach that includes improving access to dental care, enhancing education and awareness about oral health, and implementing preventive measures across all socioeconomic strata worldwide. By acknowledging and tackling these disparities, the global community can work towards more equitable oral health outcomes for people regardless of their economic status.

In this context, the Brazilian Dental Journal (BDJ) emerges as a vital platform for disseminating research and sharing knowledge within the global dental community. By contributing to the BDJ, researchers can be at the forefront of these exciting developments, contributing to the body of knowledge that shapes the future of dentistry. Therefore, authors around the world are invited to contribute to the BDJ, sharing their research and insights, and joining a community dedicated to advancing the field of dentistry. By publishing in the BDJ, researchers can reach an international audience, fostering global collaboration and contributing to the collective effort to improve dental health and healthcare delivery across the globe.

The BDJ's emergence in the international scientific landscape of dentistry is a testament to its commitment to excellence and its role in advancing dental science. Authors are encouraged to seize the opportunity to publish their work in the BDJ, joining a community dedicated to the enhancement of dental health through science. As the BDJ continues to expand its international presence, it invites authors from around the globe to contribute their research, offering a stage for their findings to be recognized and utilized by peers. This call to publish in the BDJ is not just an invitation to share knowledge—it's a call to be part of a movement that shapes the future of dentistry, influencing practices and outcomes worldwide.

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