

Editorial: Universitas Odontologica in the Digital Era *

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ABSTRACT

Over the past three decades, scientific publishing has undergone a profound transformation thanks to digitalization and the adoption of open access, particularly the diamond-type model. This approach, widely promoted in Latin America, has democratized access to knowledge by eliminating costs for authors and readers. Universitas Odontologica has adapted to these global trends by implementing digital strategies, reinforcing its commitment to quality, equity, and international visibility. In addition, the journal has fostered regional research, consolidating itself as an academic benchmark. Artificial intelligence (AI) represents the next challenge for scientific publishing, offering opportunities to optimize editorial processes, such as the review of manuscripts and the selection of emerging topics. However, it poses ethical and methodological challenges that require a balance between technology and academic integrity. Universitas Odontologica considers AI a complementary tool that, together with human judgment, can strengthen its mission of promoting dental research in regions with limited resources. This editorial highlights the journal's achievements and future opportunities in the context of an ever-evolving scientific ecosystem.

Keywords: artificial intelligence; dentistry; diamond open access; editorial processes; ethics; research; quality; scientific publication

RESUMEN

En las últimas tres décadas, la publicación científica ha experimentado una transformación profunda gracias a la digitalización y la adopción del acceso abierto, particularmente el modelo tipo diamante. Este enfoque, ampliamente promovido en América Latina, ha democratizado el acceso al conocimiento al eliminar costos para autores y lectores. *Universitas Odontologica* se ha adaptado a estas tendencias globales mediante la implementación de estrategias digitales, reforzando su compromiso con la calidad, la equidad y la visibilidad internacional. Además, la revista ha fomentado la investigación regional, consolidándose como un referente académico. La inteligencia artificial (IA) representa el próximo desafío para la publicación científica, ofreciendo oportunidades para optimizar procesos editoriales, como la revisión de manuscritos y la selección de temas emergentes. No obstante, plantea retos éticos y metodológicos que exigen un equilibrio entre tecnología e integridad académica. *Universitas Odontologica* considera la IA una herramienta complementaria que, junto con el juicio humano, puede fortalecer su misión de impulsar la investigación odontológica en regiones con recursos limitados. Este editorial destaca los logros de la revista y las oportunidades futuras en el contexto de un ecosistema científico en constante evolución.

Palabras clave: acceso abierto diamante; calidad; ética; inteligencia artificial; investigación; odontología; procesos editoriales; publicación científica

RESUMO

Nas últimas três décadas, a publicação científica passou por uma profunda transformação graças à digitalização e à adoção do acesso aberto, particularmente o modelo diamante. Essa abordagem, amplamente promovida na América Latina, democratizou o acesso ao conhecimento ao eliminar custos para autores e leitores. A Universitas Odontologica se adaptou a essas tendências globais implementando estratégias digitais, reforçando seu compromisso com qualidade, equidade e visibilidade internacional. Além disso, o periódico tem fomentado a pesquisa regional, consolidando-se como referência acadêmica. A inteligência artificial (IA) representa o próximo desafio para a publicação científica, oferecendo oportunidades para otimizar processos editoriais, como revisão de manuscritos e seleção de tópicos emergentes. No entanto, isso traz desafios éticos e metodológicos que exigem um equilíbrio entre tecnologia e integridade acadêmica. A Universitas Odontologica vê a IA como uma ferramenta complementar que, juntamente com o julgamento humano, pode fortalecer sua missão de promover a pesquisa odontológica em regiões com recursos limitados. Este editorial destaca as conquistas e oportunidades futuras do periódico no contexto de um ecossistema científico em constante evolução.

Palavras-chave: acesso aberto diamante; ética; inteligência artificial; investigação; odontologia; processos editoriais; publicação científica; qualidade

TRANSFORMATIONS IN THE PUBLICATION OF SCIENTIFIC JOURNALS

Over the past three decades, scientific publishing has undergone a profound transformation, driven by the advent and consolidation of digital platforms for editorial management, such as the *Open Journal System*, and full-text journal repositories like *SciELO*. This has compelled university presses, commercial publishers, and others to adapt to progressive changes. Likewise, professionals and academics have had to learn how to access journals on computers and smartphones, as it is no longer easy to obtain printed copies for their personal libraries. Peer-reviewed scientific journals, traditional bastions of academic knowledge, have progressively migrated from print formats to digital ecosystems, fostering global distribution and democratizing access to knowledge. This shift has been fueled by the growing adoption of open access, a modality that removes economic and geographical barriers for readers and researchers (1-3).

Open access, however, has evolved with different models. While the gold open access model requires authors to cover high publication costs, the diamond model offers a more inclusive alternative by not charging readers or authors. In this context, *Made in Latin America: Open Access, scholarly journals, and regional innovations* (4) highlights the crucial role of regional innovations in promoting equitable open access, especially in this region. This model has enabled researchers from developing countries to actively participate in the generation and dissemination of knowledge without the economic constraints associated with commercial models prevalent in other contexts, even though the circulation of periodicals has turned into a loose market of publications (5).

These changes have gone hand in hand with advancements in research evaluation policies, funding, and support mechanisms (3,6,7). Such changes promote, among other things, the professionalization of educators and researchers through doctoral studies, the measurement and reward of productivity via publications in indexed journals, and the pursuit of indexation of regional and local journals in prestigious international bibliographic systems such as Medline, Science Citation Index, Scopus, and SciELO (8-10). These trends are often framed as part of what is known as academic capitalism, which employs indicators tied to internationalization and privileges prestige in an unequal global environment (11,12).

In this sense, the impact of electronic publishing extends beyond accessibility. Tools such as Digital Object Identifiers (DOI), indexed databases, and impact metrics have redefined how the influence and quality of academic works are measured. However, this landscape has also brought new challenges, such as the proliferation of predatory journals, the professionalization of editors and editorial processes, and the need for robust ethical criteria to ensure editorial quality (6,7,13,14).

UNIVERSITAS ODONTOLOGICA AND NEW TRENDS

As part of this dynamic environment, *Universitas Odontologica* has demonstrated its ability to adapt and lead. Since its transition to a digital platform, the journal has adopted strategies that reinforce its commitment to quality and inclusive access. The adoption of the diamond open access model reflects the journal's vision as a space committed to equity and the dissemination of knowledge, aligning with the needs of Latin American researchers and those in other resource-limited regions (4). It has also achieved an interesting degree of internationalization or exogamy through the creation of international networks of authors, reviewers, and advisors (14-16).

In previous editorials, the journal's editorial team has emphasized its role in promoting dental knowledge in the Ibero-American region, highlighting the importance of transparency and rigor in peer review processes and fostering a research culture within the dental profession. These values have guided the evolution of *Universitas Odontologica*, positioning it as a benchmark in academia and an example of how a journal can transform without losing its essence or ethical standards (17-23).

Furthermore, the incorporation of indexing technologies and metrics for impact and consultation has expanded the visibility of published articles, supported by strong campaigns through academic, professional, and social networks. However, the journal has not lost sight of the importance of maintaining a critical perspective on global trends, promoting a balance between technological innovation and respect for fundamental academic principles. This aspect remains of utmost importance in pursuing the elusive goal of international indexing, essential for achieving prestige beyond physical borders (15-18).

CHALLENGES AND OPPORTUNITIES WITH ARTIFICIAL INTELLIGENCE

In recent times, humanity has been shaken by sudden global events such as the COVID-19 pandemic. Now, we face a massive new phenomenon. The advent of artificial intelligence (AI) represents a new chapter in the evolution of scientific publishing. AI-powered tools are transforming processes such as manuscript review, literature search, and plagiarism detection. These innovations present opportunities to optimize editorial efficiency and enhance the quality of published articles (24-26).

We are exploring AI-driven alternatives to improve and streamline processes such as manuscript evaluation and the preparation of accepted articles for publication. Both stages have always been time-intensive due to the work required with authors to achieve high-quality publications that contribute real and significant knowledge to dentistry and society. Dental research in Latin America requires further development to transcend its predominantly technical nature, and it has often been the role of journals like *Universitas Odontologica* to support and drive this progress. In this regard, one of our recent achievements has been the publication of a dossier featuring works primarily from research incubators within dental schools that are members of the Colombian Association of Dental Schools (20,24-26).

For *Universitas Odontologica*, AI offers opportunities to strengthen its role as a catalyst for knowledge. For example, it could be used to identify emerging trends in dentistry, facilitating the selection of high-impact topics for future editions. This is promoted through our 10 sections organized by application areas rather than dental specialties. However, it also poses ethical and methodological challenges, such as ensuring fairness in automated processes and avoiding biases in content selection (24-26).

Ultimately, the main challenge lies in balancing the adoption of emerging technologies with the ethical commitment and inclusive approach that characterize the journal. AI should be seen as a complementary tool, not a substitute for the expertise and human judgment that have defined *Universitas Odontologica* throughout its history (18,24-26). AI is in full evolution, with more possibilities emerging that can contribute to our work and the achievement of our goals. We remain attentive and expectant of new advances to review and consider their application in our processes and products.

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