COMMENT

Letters to the editor

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Clinical research

Preprint Citation Index

Sir, preprints are original manuscripts that authors post to Open Access servers before formal peer-review process.[1] I write this to inform readers of a recently launched Preprint Citation Index by Clarivate on its Web of Science platform, which will allow researchers to swiftly locate and integrate preprints into their workflows, improving productivity. The Preprint Citation Index covers several preprint repositories, including arXiv, bioRxiv, ChemRxiv, medRxiv, and Preprints.org, with additional repositories to be added over time. The scope of medRxiv encompasses all aspects of healthcare, including dentistry and oral medicine.[2]

Due to the increasing use of preprints in recent years, they are becoming an important tool within the scientific domain for accessing cutting-edge research. The COVID-19 pandemic has highlighted the advantages of preprints for rapid dissemination of information and promoting transparency in clinical research. However, it has also revealed the risks of disseminating false information through preprints. Preprints should be interpreted with caution, as the paper that currently lacks scientific scrutiny by an expert editorial panel and external peer-review process can be potentially incorrect. If preprints are not credible, especially in biomedical research, treatment strategies based on flawed studies or low quality of evidence can harm patients.[1]

Recent technological advancements, like ChatGPT, have been the subject of numerous preprints posted to various platforms. These papers have helped identify both the threats and opportunities posed by AI bots, highlighting the importance of preprints in keeping the scientific community informed about new developments and their potential impact on society.[3] While preprints offer many benefits, it is critical to maintain quality control. By ensuring that preprints are accurate and trustworthy, researchers can continue to use them as a valuable tool for advancing knowledge and informing policy decisions.[1,3]

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AI's other challenges

Sir, recent correspondence demonstrated that the ubiquitous artificial intelligence (AI) chatbot ChatGPT can be used to create submissions journals and pass written exams in the health professions.[1]

ChatGPT's success in passing exams has re-energised long-standing conversations about authentic assessment in health professional education;[2] its authorship capabilities should similarly invite us to re-examine long-standing issues within academic publishing. AI bots, like ChatGPT, can only produce text based on the texts they have to learn from; as evidenced by examples producing racist, misogynistic and vaccine-hesitant texts, depending on the data available to learn from.[3] This implies that the more extensive and stereotypical the language learning set for AI bots, the easier it is for them to emulate this genre.

Published clinical research is a vast corpus, increasing in size every year, whilst at the same time displaying characteristics that limit its utility and relevance. It is this context, rather than the potential for plagiarism, that AI should force us to confront. AI can produce texts that emulate what it learns from, but it cannot think, and it cannot innovate. It cannot develop new experimental methods, and it cannot imagine experimental results that differ from what it has previously seen. In academic publishing, including in dentistry, all AI can do is echo the prevailing publication bias. If publications produced with the aid of AI are a concern, then the best way to address this is to prioritise the publication of more diverse, controversial, and innovative methodologies and results.

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Artificial intelligence

AI-powered neural implants

Sir, neural implants powered by artificial intelligence (AI) have the potential to revolutionise communication and improve quality of life for individuals, particularly those suffering from Alzheimer's disease. Recent research indicates that AI-powered Brain Machine Interfaces (BMIs) can effectively identify and track the progression of Alzheimer's, leading to earlier diagnosis and intervention.[1] This early identification may slow the disease's progression, improving patient outcomes.

Moreover, AI-driven neural implants offer the ability to detect and monitor