



The “Migraines” epidemic: Exposing the challenges of artificial intelligence in scientific writing

Cephalalgia

2025, Vol. 45(8) 1

© International Headache Society 2025

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/03331024251365833

journals.sagepub.com/home/cep



As Editor-in-Chief of *Cephalalgia*, I have noticed an increasing number of manuscript submissions that use the term “migraines”. This usage is scientifically inaccurate. Migraine is a disease-singular, well-defined and not to be pluralized or treated as a vague symptom. While this may seem like a minor linguistic issue, it signals a broader and more concerning trend: the uncritical reliance on automated writing tools, which often introduce imprecise or inappropriate terminology and concepts into scientific texts.

A growing number of such tools are now available, with ChatGPT being the most widely known among them. Automated writing tools often generate text that is grammatically correct and superficially polished but lacks precision, scientific depth and meaningful content. Increasingly, we see text that “sounds nice” yet conveys little information. Sentences are filled with generic phrasing, imprecise descriptions or inflated language, without offering clear reasoning, robust data or genuine scientific insight. Such writing not only diminishes manuscript quality, but also hinders scientific progress by weakening conceptual rigor and diluting key scientific messages.

While writing assistant tools can be valuable for enhancing language clarity and consistency, they also carry significant risks, especially when used without adequate scientific oversight. These tools are not designed to provide the rigor and precision required in data presentation and discussion in scientific writing. Consequently, they may introduce errors, such as using “migraines” instead of migraine, distort meaning or produce vague, overly general text that lacks scientific substance.

If used at all, their role should be strictly limited to improving clarity and style especially for non-native English speakers, not generating content. We strongly urge authors to take full responsibility not only for the scientific integrity of their manuscripts, but also for the linguistic integrity. The text should be authored by the researchers themselves, with any use of writing tools followed by a careful and critical review to identify and correct inaccuracies, ambiguities or stylistic issues inadvertently introduced. Every sentence, and indeed every word, must reflect the standards of precision and scientific rigor expected in our field.

Cephalalgia is not opposed to technological progress; indeed, we embrace innovation and are committed to

evolving alongside the tools shaping modern scientific communication. However, progress must never come at the expense of quality. As natural language models become increasingly integrated into the writing process, we must collectively reflect on how to ensure their ethical and responsible use and avoid potential harms to the field. Our goal is to understand how these tools can support, rather than compromise, scientific accuracy and integrity. Embracing innovation must go hand in hand with preserving the values that underpin rigorous, meaningful and trustworthy research. We invite all authors, reviewers and readers to join us in safeguarding the quality and credibility of headache research by promoting thoughtful, accurate and human-dominated scientific writing. Editors and reviewers share the responsibility of remaining vigilant for signs of automated drafting that may compromise clarity, coherence or validity. They should flag such concerns, at minimum, in their confidential reports. Upholding the integrity of scientific communication is a collective task that demands our careful attention. At *Cephalalgia*, we remain committed to maintaining the highest standards in both content and language.


Declaration of conflicting interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Simona Sacco  <https://orcid.org/0000-0003-0651-1939>

Simona Sacco 

Department of Applied Clinical Sciences and Biotechnology, University of L'Aquila, L'Aquila, Italy

Corresponding author:

Simona Sacco, Department of Applied Clinical Sciences and Biotechnology, University of L'Aquila, L'Aquila 67100, Italy.

Email: simona.sacco@univaq.it

