

## Impact-Factor-Based Medicine – Do Citations Matter More Than Evidence?

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The article by Gautret, *et al.* [1] published in *Int. J. Antimicrob. Agents (IJAA)* was criticized for its “fully irresponsible” flawed methodology [2] and received a statement of concern from its publisher. Yet, the publishing journal unconvincingly explained that they would not retract the paper but instead publish commentaries to supposedly foster a so-called “robust public scientific debate” [3] about the manuscript. By doing so, the journal actively supports the publication of low-quality science which has devastating effects. We have clearly observed that the controversy around this manuscript had a negative impact on our students (and their scientific education) and co-citizens by dramatically reducing their trust in science. This letter argues that IJAA is involved in spreading unreliable data for personal or institutional gain through the following.

Artificially increasing the impact factor of the journal: The impact factor positively counts any citation, even when the citation indicates how bad the article is. Debate about the manuscripts through commentaries will therefore artificially boost the journal's impact factor. We therefore encourage fellow scientists to cite the expression of concern from Retraction Watch [1] or the manuscript's review [2] to circumvent this issue. Diverting funding towards poor-quality science: The article is allowing the authors' institution to receive public money, through the French “SIGAPS” system [4]: each article earns points, depending on the impact factor of the journal and the number of authors. These points eventually determine money allocations for hospitals. The discussed article will bring tens of thousands of euros to the authors' institution for the next four years. By not retracting the article, IJAA, whose Editor in Chief is French, working in France, and therefore aware of that system, actively participates to this.

Promoting the use of a potentially dangerous therapy that has not been properly evaluated: The article by Gautret, *et al.* based on biased and misleading statistics, prompted many physicians to prescribe hydroxychloroquine and azithromycin [2] for outpatients at a low-risk of severe COVID-19 but who could suffer from adverse events of this combination [5].

We want, with this letter, to express our concerns to the broader scientific community of a risk to turn scientific publication into a corrupt use of researchers' talents for personal or financial gain, through the aforementioned mechanisms. In times of pandemic, we need, more than ever, to show that medical practice is guided by evidence, not by bibliometrics or funding schemes.

### References

1. Marcus AA (2020) Hydroxychloroquine-COVID-19 study did not meet publishing society's “expected standard.” Retraction Watch.
2. Rosendaal FR (2020) Review of: “Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial”. *Int J Antimicrob Agents*.
3. Voss A, Coombs G, Unal S, Saginur R, Hsueh PR (2020) Publishing in face of COVID-19 pandemic. *Int J Antimicrob Agents* 56: 106081.
4. System of Interrogation of Gement and Analysis of Publications Scientifiques (2020) Examples of results obtained, France.
5. FDA (2020) FDA cautions against use of hydroxychloroquine or chloroquine for COVID-19 outside of the hospital setting or a clinical trial due to risk of heart rhythm problems.