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Editorial

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On presenting Evidence and unboxing science

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The first question we faced as we gathered to discuss the possibility of launching Evidence (then just called the new journal on evidence-based medicine, still no caps) was why (and if) we did need another medical journal in a highly competitive environment already full of those. Douglas Altman stated that we needed "less research, better research and research done for the right reasons" in his famous 1994 article "The Scandal of Poor Medical Research"[1]. Adding to that, the predictive value of research in general probably lies below 50%[2], due to imprecision (low sample size), methodological bias (low quality of research design) and allegiance bias (conclusions being crafted in a manner that reconciles best with the investigator's or researcher's perspectives and preferences), not to mention P-hacking[3], withholding datasets and publication bias, that is, publishing only or mostly papers that disprove the null hypothesis.

So, yes, it is a very complex situation but, then again, so is the scientific endeavour: full of variables, probabilities, informed guesses and very little certainty, which does not mean that we should give up on science and on the beauty of complexity and multifactoriality to help understand phenomena. Little certainty is perfectly fine and whatever evidence gathered – guaranteed it should be sound – is precious. And we should have a forum to discuss those issues openly and freely, apart from commercial pressures and industry sponsorship. That's why we decided upon having Evidence.

The first purpose of the Journal of Evidence-based Healthcare is not just to provide more original research. We already have a lot of that too. Every nine years the scientific output doubles[4]. Our aim is to promote the idea that, as consumers of science, we should be highly critical of the quality of information we are consuming. Scientific fake news is more dangerous than general fake news – both are based on assumptions that oversimplify phenomena, biases, or outright lies for personal gain. Scientific fake news seem more valid when it comes in the form of an original article, published in a scientific journal. One of the purposes of science in modern society is to inform policy and decision-making, which will then generally impact society as a whole (scientists included). And science has always been about doubting one's own assumptions and trying to prove oneself wrong before we may reach some consensus. So, this is a call to not take evidence in a published paper at face value, but to keep the conversation going.

Evidence is all about that.

Therefore, our scope includes articles of critical appraisal of scientific literature, meta-science

systematic reviews (describing scientific field's behavior), high quality articles with negative findings (which usually receive no attention or less than low quality articles with positive findings) and thought experiments.

Our second purpose is to popularize the scientific culture among health professionals and society. Concept articles will be welcome to provide knowledge regarding not only scientific methodology but also how to translate scientific concepts into clinical decision. Insofar, as it has been stated before, by Ioannidis, and we concur, that research usefullness and projected social benefits should come before results[5]. We could also rephrase that to: projected social impact should come before impact factor - which measures no impact altogether anyway[6]. And to attain that, we must look into sound evidence.

Finally, original articles to validate tools for evidence-based decision making, such as diagnostic, prognostic and information regarding efficacy/ effectiveness and share-decision making are also welcome to be submitted for publication.

We invite you to familiarize yourself with the 17 editorial sections and their associated editors.

More than a journal, we hope Evidence to be a community of people to promote the scientific culture among the public, differentiating science from pseudoscience. Our approach will be one of treating science informally (albeit rigorously), with the conviction that our conversation is about everyday life and should not be restricted to the academe because it has the power to inform how to better live[7], and that should be a shared commodity not a privilege[8-9]. We are as of now unboxing science.

In our first issue

In this first issue, we gathered experts in the field to write about scientific integrity, evidence-based medicine and appraise original studies. We ended up with a collection of articles which deserves to be highlighted.

In a series of three articles on scientific integrity, Lucas Helal (University of Rio Grande do Sul) wrote about statistician Douglas Altman's legacy, Bob Kaplan (Stanford University, USA) described the immense reduction in the proportion of positive NIH trials after the obligation to publish protocols a priori and Doris Hennes-Bruns (Ulm University, Germany) showed the heterogeneity in recommendations among surgical guidelines in Europe. Following this innovative approach, cognitive bias of medical thinking was discussed by Marcia Noya (BAHIANA - School of Medicine and Public Health), applying Kahneman's psychological concepts to the medical field. As examples of deep critical appraisal of evidence, Robson Brandão unmasked the real meaning of positive cardiovascular findings of empagliflozin for diabetic patients and Rodrigo Biondi (Heart Institute - Distrito Federal) analyzed the pseudo-negative trial of prophylactic omeprazole in critical patients. Reinforcing important concepts of evidence-based medicine, Luis Fontes (Petropolis School of Medicine) and Raquel Riera (São Paulo School of Medicine) explained how not to be misled by composite end-points in clinical trials. About the current state of evidence-based medicine as a non-traditional way of thinking, Diego Rabelo and Bruno Góes presented their perceptions on the awakening of this approach for the physiotherapist. Finally, Felipe Reis originally explored the impact of teaching evidence-based medicine and Roberto Maciel evaluated how adequate are reports of parameters of massage on clinical trials for this procedure.

Therefore, the first issue of our journal was carefully built to illustrates our purpose to unbox evidence-based medicine and constitutes the first step in building a motivated network of thinkers about medical rationality. We thank our authors and invite our readers to read and reply with letters to the editor and to interact with our team of editors and authors on the social media.

References

1. Altman DG. The scandal of poor medical research. BMJ. 1994;308:283. doi: 10.1136/bmj.308.6924.283

2. Ioannidis JPA. Why Most Published Research Findings Are False. PLoS Med. 2005;2(8):e124. doi: 10.1371/journal.pmed.0020124

3. Colquhoun D. The problem with p-values [Internet]. 2016. Available at https://aeon.co/essays/it-s-time-for-science-to-abandon-the-term-statistically-significant

4. Bornmann L, Mutz R. Growth rates of modern science: A bibliometric analysis based on the number of publications and cited references. J Assoc Inf Sci Technol. 2015;66(11):2215-2222. doi: 10.1002/asi.23329

5. Ioannidis JPA. Why Most Clinical Research Is Not Useful. PLoS Med 2016 Jun; 13(6): e1002049. doi: 10.1371/journal.pmed.1002049

6. Guédon JC. In Oldenburg's Long Shadow - librarians, research scientists, publishers, and the control of scientific publishing. Washington, DC: Association of Research Libraries; 2001.

7. Pinto AV. Ciência e Existência: Problemas Filosóficos da Pesquisa Científica. Rio de Janeiro: Paz e Terra; 1969. p. 537

8. Merton RK. Ensaios de sociologia da ciência. São Paulo: Editora 34, 2013. p. 303

9. Meadows AJ. A comunicação científica. Brasília: Briquet de Lemos; 1998. p. 268