

The impact factor dictatorship

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Initially proposed by Eugene Garfield as a quality filter for scientific journals, the impact factor gained through the years large implications in the scientific community. What was intended as a tool to help editors and publishers in the positioning of their journals, as well as librarians in the management of their library journal collections, became a widespread metric used to assess individuals and academic institutions performance¹.

While publishing is a need to disseminate scientific work to the community, a way to validate results and to show outcomes to founding entities; scientists became highly dependent of the main vehicle of scholarly communication – the scientific journals. Pressured to guarantee the highest impact factor for their manuscripts, scientists will start their submissions at the top journals and perform successive attempts down the list until their manuscripts are accepted, often significantly changing the structure and contents of the original submissions.

Journal impact factors can however be influenced by several factors besides the scientific relevance and quality of the published manuscripts. Well known examples of these confounders are: 1) the field of publication: it is more probable that publications in biological sciences will be cited than those in social sciences; 2) the type of article: reviews articles tend to be more cited than original papers and these more than clinical cases; 3) the availability at databases namely MEDLINE, EBSCO, Web of Science, Scielo, Lilacs, etc. A good example of the impact of this confounder is what occurred with Acta Reumatológica Portuguesa (ARP). Between the years 2012 and 2013 ARP had to deal with the transition of its website from the informatics technologies company ALERT® to Memória Visual®. This led to a period of instability in the normal circuit of articles and, for several months, to a marked delay in the availability of manuscripts for potential citations at pubmed. This most certainly contributed to the drop in the slowly growing impact factor of ARP, from 0.83 in 2013 to 0.29 in 2014. Considering that the 2014 impact factor, released in mid 2015, reflects the number of citations occurring during the year of 2014, concerning articles published in the previous two years (2012 and 2013) this effect is still expected to be felt in the 2015 impact factor calculations. Not surprisingly, due to the unavailability of articles, the number of times ARP manuscripts were accessed through pubmed (pubmedclicks) decreased from approximately 27.500, in 2011 to 20.000, in 2013; 4) the citable articles: in a mathematic formula both the numerator and de denominator will influence the final result. Due to its lower ability to be cited letters to the Editor, Edito-

rials, abstracts from meetings, are often not considered as source data. Also here, the number of citable articles decreased from 65 in 2010 to 42 and 35 in 2012 and 2013, respectively, probably due to differences in the characteristics of the published Editions during these years. It is therefore important to recognize, while interpreting impact factors, the many variables that can influence its mathematics. Incorrectly this bibliometric is being used as a quick and convenient measure of evaluation and rating, to decide the promotion of universities, the hiring of employees and the attribution of bonuses and awards. At its one scale and field, the Journal Citation Reports (JCR) could be compared to credit rating agencies, such as Moody's, Standard & Poor's or Fitch Ratings, with a profound impact on the public opinion. The importance of the scientific message is largely being replaced by the name of the journal and its respective impact factor. In parallel, several voices of criticism have been raised regarding the misuse of the impact factor and its consequences²⁻³. JCR has therefore implemented new indicators aiming at increasing the truth of this measure, such as the journal impact factor percentile, the normalized eigenfactor and percent articles in citable items. Furthermore, various entities such as the European Association of Science Editors (EASE), the International Council for Science (ICSU) Committee on Freedom and Responsibility in the Conduct of Science (CFRS) and a the German Research Foundation, among others, have produced statements and orientations to rationalize the application of impact factor⁴⁻⁶. These are therefore times to think and rethink the impact of impact factors and to cautiously consider the implications of this measure in science.

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1. Editor-in-Chief Acta Reumatol Port