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Valdebenito Isler, Iván
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Scientific production and the h-index: how do we deal with this?

Our Latin-American countries are characterised by investing very little in research (e.g. Chile spends just 0.36% of its GDP which is far from the average 2.6% invested by the Organisation for Economic Co-operation and Development (OECD) countries), research unfortunately being financed by state resources. Those of us having worked for many years as teachers and researchers in the academic field with the limited resources available have often felt overwhelmed by scientometry (the study and valuation of scientific production by quantitative means). This enables the quality of our intellectual and/or scientific production to be evaluated via the quality of the journals in which we publish our material regarding their impact factors (IF) and quartiles (Q), the amount of researchers who read our publications and how many times they cite our results. This results in the h-index (an important indicator of a researcher's productivity and impact regarding her/his scientific work).

Such index is undoubtedly a good tool for measuring a researcher's scientific productivity. However, as it only identifies the amount of times a particular piece of work has been cited (assuming that this has been for its good/strong contribution to that field), then if certain work has been cited several times regarding its erroneous conclusions then the author/researcher's h-index will increase due to such errors. After having been engaged in the field of research for 35 years now, I have seen many of my contemporaries finally becoming overwhelmed by the demands of scientific production and others, much younger, finding it difficult to enter this world controlled by scientometrics. The question concerns how to overcome the demands of scientific production imposed on us by our universities or research centres regarding scientometry and its indicators?

The advice I would give to young researchers recently embarking on this significant, beautiful and, at times, stressful activity, as Dean of the Natural Resources Faculty, is that they must learn to work as a team and in a multidisciplinary manner. I wish to share the same advice with the readers of this important journal, hoping that it will be useful for more than just one of them. I think that researchers who believe that the research they are involved in is more important than anything else could be and that they can do it alone will be devoured by scientometrics due to low h-index indicators.

Researchers' success today is associated with their attitude towards teamwork. Successful researchers are those who manage/make the effort to become involved with colleagues from different professions and/or postgraduates from other institutions, thereby complementing their results with other variables and/or techniques enabling them to provide greater support for their results and conclusions. This, in turn, enables them to selectively submit their work by opting to send it for consideration for publication to (indexed) journals having higher impact factors and better quartiles.

For example, spermatologists working in fish farming (pisiculture) will want to know whether their fishes' sperms have flagellar activity and fertilising capability because these are the most important sperm functions for a fish farmer and material related to this will be attractive for journals specialising in aquiculture. Nonetheless, if their observations are complemented by material regarding biophysical parameters, such as sperm speed, using computer-assisted sperm analysis (CASA) systems and flow cytometry for determining parameters regarding plasmatic membrane integrity, mitochondrial membrane potential and oxidative stress production, this will make their material more attractive for new journals (having greater impact factor and better quartile) who may wish to publish their work. If molecular indicators such as DNA fragmentation, ATP production and consumption, phospholipid translocation, etc., are added this will further increase their options for being becoming published in better journals. It is evident that the aforementioned spermatologists/gametologists cannot use and determine all these techniques; however, they can interpret their results thereby providing greater support for their conclusions.

I thus invite young researchers reading this editorial to look beyond their immediate surroundings and seek out those colleagues working most closely in their chosen field/ on pertinent topics; what does it matter if they happen to be working in other institutions or other countries?... Today, more than ever, we know that it is a small world ¡¡¡¡ for telling interested colleagues about one's research and how they can complement it. When it comes to publishing, there will have to be discussion about who is to be cited as first author and/or corresponding author ..... (in one's first multidisciplinary article) ¡¡¡¡ and in the best journal ...

Dr Iván Valdebenito Isler,
Dean of the Natural Resources Faculty,
Temuco Catholic University, Chile
Email: ivisler@uct.cl