

## LETTER TO EDITOR

# Low Sensitivity and Specificity of Existing Bibliometric Indices Gives Unrealistic Picture of an Author's Contribution to Science

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Dear Editor,  
just recently an article has been published about values of bibliometric indices of medical and health sciences fellows of the African Academy of Sciences, which in the Discussion section compared average values of indices achieved by members of this, and some other Academies with average values of indices achieved by members of Academy of Medical Sciences of Bosnia & Herzegovina (AMSBiH). The authors concluded that there are great differences between the academies, and AMSBiH was used as an example of an academy with low bibliometric indices of its members (1). Behind this conclusion lies an insinuation that members of AMSBiH contributed less to the medical science than members of other academies. However, is this the truth, or distorted picture due to use of insensitive and insufficiently specific indices and resultant figures?

In order to answer to this question, a study is needed that would go into the depth of scientific contribution of an author, and take into account number of authors per published paper and amount of work an author actually invested in obtaining the results. It is not the same thing if a researcher performed hundreds of in vitro/in vivo experiments or examined hundreds of patients within the framework of a clinical trial, reporting it finally in a publication (primary research), as if some other researcher collected publicly available data from web pages of national institutions involved in healthcare, re-

arranged them, combined, processed or compared with data from other nations (secondary research). As well, there is enormous difference in scientific contribution of an author, if his/her publication has only 2-3 authors, or more than 100 (there are some examples with more than 1000 authors!), but current bibliometric indices (H-index, total number of citations, etc.) do not make a difference, assigning all citations of an article to each of its authors, regardless of their number (2).

Just as an example how far the things may go, let us consider a case of randomly chosen author (the name will remain hidden in order to avoid violating interests of this author) who published together with other collaborators of the Global Burden of Disease Study (3). At Google Scholar profile of that researcher there is a number of publications listed, cited a couple of thousands times, and H-index is high; however, about one-third of the published papers are reports on global burden of certain diseases, that compiled data from many nations within the framework of the Global Burden of Disease Study. Each of these publications has more than 100 authors (some more than 700 authors), they are highly cited, but sum of citations of these publications make 87% of that author's total citations, and they make 82% of publications accounted for his/her H-index! Therefore, because all citations of these publications were assigned to this author, his/her total number of citations and H-index are very high, making unrealistic picture of that

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author's scientific contribution. True contribution is reflected by number of the articles citations divided by the number of authors, which would reduce number of citations of that author for about 10 times.

In the light of the abovementioned facts, low ranking of the AMSBiH among similar academies by values of currently used bibliometric indices does not necessarily reflect its true rank, and true scientific contribution of its members (4-6). There is urgent need to modify currently used bibliometric indices, and make them more sensitive and specific for measuring scientific contribution of an author, academy or nation.

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## REFERENCES

1. Balogun j, Mamuzo E, Okonofua F, Balogun A, Oyeyemi A. Bibliometric profile of the African Academy of Sciences medical and health sciences fellows. *PAMJ*. 2021; 38(60), doi: 10.11604/pamj.2021.38.60.21004.
  2. Ioannidis JP. Measuring co-authorship and networking-adjusted scientific impact. *PLoS One*. 2008; 3(7): e2778.
  3. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*. 2020;396(10258):1204-1222.
  4. Masic I. Evaluation of the Medical Academic Community of Bosnia and Herzegovina Based on Scopus Parameters. *Med Arch*. 2017 Jun; 71(3): 164-168. doi: 10.5455/medarh.2017.71.164-168.
  5. Masic I. Evaluation of Founding Members of the International Academy of Health Sciences Informatics (IAHSI) Based on Google Scholar and Scopus Parameters. *Acta Inform Med*. 2017 Dec; 25(4): 220-224. doi: 10.5455/aim.2017.25.220-224.
  6. Masic I, Begic E. Scientometric Dilemma: Is H-index Adequate for Scientific Validity of Academic's Work? *Acta Inform Med*. 2016 Jul 16; 24(4): 228-232. doi: 10.5455/aim.2016.24.228-232.
1. Balogun j, Mamuzo E, Okonofua F, Balogun A, Oyeyemi A. Bibliometric profile of the African Academy of Sciences medical