A Bibliometric Analysis of Ukrainian Research Articles on SARS-COV-2 (COVID-19) in Compliance with the Standards of Current Research Information Systems

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Abstract : These days in Ukraine, Open Science dramatically develops for the sake of scientists of all branches, providing an opportunity to take a more close look on the studies by foreign scientists, as well as to deliver their own scientific data to national and international journals. However, when it comes to the generalization of data on science activities by Ukrainian scientists, these data are often integrated into E-systems that operate inconsistent and barely related information sources. In order to resolve these issues, developed countries productively use E-systems, designed to store and manage research data, such as Current Research Information Systems that enable combining uncompiled data obtained from different sources. An algorithm for selecting SARS-CoV-2 research articles was designed, by means of which we collected the set of papers published by Ukrainian scientists and uploaded by August 1, 2020. Resulting metadata (document type, open access status, citation count, h-index, most cited documents, international research funding, author counts, the bibliographic relationship of journals) were taken from Scopus and Web of Science databases. The study also considered the info from COVID-19/SARS-CoV-2-related documents published from December 2019 to September 2020, directly from documents published by authors depending on territorial affiliation to Ukraine. These databases are enabled to get the necessary information for bibliometric analysis and necessary details: copyright, which may not be available in other databases (e.g., Science Direct). Search criteria and results for each online database were considered according to the WHO classification of the virus and the disease caused by this virus and represented (Table 1). First, we identified 89 research papers that provided us with the final data set after consolidation and removing duplication; however, only 56 papers were used for the analysis. The total number of documents by results from the WoS database came out at 21641 documents (48 affiliated to Ukraine among them) in the Scopus database came out at 32478 documents (41 affiliated to Ukraine among them). According to the publication activity of Ukrainian scientists, the following areas prevailed: Education, educational research (9 documents, 20.58%); Social Sciences, interdisciplinary (6 documents, 11.76%) and Economics (4 documents, 8.82%). The highest publication activity by institution types was reported in the Ministry of Education and Science of Ukraine (its percent of published scientific papers equals 36% or 7 documents), Danylo Halytsky Lviv National Medical University goes next (5 documents, 15%) and P. L. Shupyk National Medical Academy of Postgraduate Education (4 documents, 12%). Basically, research activities by Ukrainian scientists were funded by 5 entities: Belgian Development Cooperation, the National Institutes of Health (NIH, U.S.), The United States Department of Health & Human Services, grant from the Whitney and Betty MacMillan Center for International and Area Studies at Yale, a grant from the Yale Women Faculty Forum. Based on the results of the analysis, we obtained a set of published articles and preprints to be assessed on the variety of features in upcoming studies, including citation count, most cited documents, a bibliographic relationship of journals, reference linking. Further research on the development of the national scientific E-database continues using brand new analytical methods.

Keywords : content analysis, COVID-19, scientometrics, text mining

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