How Evaluation Expert's Teams of Pubmed Central (PMC) and SCOPUS Indexed Databases Making Quality Assessment of the Journals – a Case of International Journal on Biomedicine and Healthcare (IJBH) Journal

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Background: Scientific researchers in the field of biomedicine have the role of interacting through published articles in scientific journals or presentations at scientific and professional conferences because, in this way, they can affect the practices that can make people healthier and more satisfied with the outcomes of health care systems. For this reason, scientists, especially young ones, are encouraged after completing the project and finalizing their research investigation to publish scientific work outcomes in professional and scientific journals. **Objective:** The aim of this article is to present the current tools available in scientometry for evaluating the scientific validity of published articles and explain the purpose; it also describes the role of the important indexed database in disseminating knowledge through biomedical journals. **Methods:** The author searched the most influential online databases, analyzed deposited papers on scientometrics, and used a descriptive method to review important facts about scientometrics experiences in scientific and academic practice. **Results and Discussion:** Bibliometric methods are used for quantitative analysis of written materials. Citation provides guidelines for scientific work because it stimulates scientists to deal with the most current research areas and organizes scientific articles at the world level or shapes and directs them. Citation is influenced by: article quality, understanding of the article, language in which the article is written, loyalty to a group of researchers, article type, etc. Some indicators used in evaluating scientific work are Impact factor (IF); Citation of the article; Journal citations; Number and order of authors, etc. Impact Factor is the number of citations of articles published in the journal during the previous two years divided by the total number of articles published in the journal during the same period. The factor of influence depends on the quality of the journal, the language in which it was printed, the area it covers, and the journal distribution system. **Conclusion:** In this article, we pointed out that h-Index and Google Scholar indexes present valuable measures to determine scientific excellence. Although the h-Index is a better measure than a citation impact factor (IF), it is still based on the opinions of other authors. Since research in medicine can affect the improvement of clinical and public health practices, it is necessary to conduct them. Only quality research with exact results offers the scientific community new information about the examined problem and the researcher's personal satisfaction, the possibility of communicating and conducting scientific dialogue with other members of the academic community, and opening opportunities to receive critical reviews of those who have insight into the research.

Keywords: Scientometry, scientific publications, citation, IF, h-Index, Google Scholar index.

Editorial, Received: June 20 2023, Accepted: July 15 2023, doi: 10.5455/ijbh.2023.11.78-106, Int J Biomed Healthc. 2023; 11(1, suppl. 1): 78-106

1. BACKGROUND

Health care is, perhaps, a unique example of the relationship between medical data and the very different levels of information complexity (1). Scientists and researchers spend a significant part of their working hours collecting and studying the sources of scientific information. For a more rational and efficient appliance of biomedical scientific and professional information, it was necessary to develop and perfect methods and techniques to retrieve and process the sources (2, 3).

Unlike other types of information in medicine, scientific information poses some characteristics that result from regularities in the development of the science and require rather specific approaches in their processing and use (4-6). The significance of the information is international, and they preserve it for many years. They can only merge into knowledge databases. Knowledge is the key to implementation, and research is its most potent tool. According to this, the purpose is to rapidly apply existing knowledge, discover why the existing information is insufficient, and collect new scientific and research data. Scientific researchers in the field of biomedicine have the role to interact through published articles in scientific journals or presentations at scientific and professional conferences because, in this way, they can affect the practices that can make people healthier and more satisfied with the outcomes of health care systems. For this reason, scientists, especially young ones, are encouraged to complete the project and finalize their research investigation to publish scientific work outcomes in professional and scientific journals (1, 3).

Science is a massively parallel human endeavor to explain and predict the nature of the physical world. In science, knowledge is acquired cumulatively and collaboratively - and the principal mode for sharing this knowledge is the institution of scholarly publishing (1-5). In science, ideas are built upon ideas, models upon models, and verifications upon prior verifications. This cumulative process of construction leaves behind it a latticework of citations, from which the geography of scientific thought can be reconstructed, and the paths along which intellectual activity has proceeded can be retraced (7, 8).

Actual knowledge is gained through scientific research (6-25). The highest level of expertise is the ability to investigate scientific problems. Fundamental components of scientific writing are accuracy, integrity, clarity, conciseness, and honesty (1, 4). Good scientific writing must be characterized by clear expression, conciseness, accuracy of what is being reported, and perhaps most importantly, honesty (1, 2). Academic honesty means that the work scientist submits, in whatever form, is original. Data from citation indexes can be analyzed to determine the popularity and impact of specific articles, authors, and publications. Using citation analysis to gauge the importance of one's work, for example, is a significant part of the tenure review process (7-9).

Information scientists also use citation analysis to quantitatively assess the core journal titles and watershed publications in particular disciplines, interrelationships between authors from different institutions and schools of thought, and related data about the sociology of academia (5). The number of citations to that article over time is also a vital measure of the productivity and impact of that scholar (1, 9-13). Citation is influenced by: article quality, understanding of the article, language in which the article is written, loyalty to a group of researchers, article type, etc. Some indicators used in evaluating scientific work are Impact factor (IF); Citation of the article; Journal citations; Number and order of authors, etc. Impact Factor is the number of citations of articles published in the journal during the previous two years divided by the total number of articles published in the journal during the same period (14-20).

2. OBJECTIVE

The aim of this article is to present the current tools available in scientometry for evaluating the scientific validity of published articles and explain the purpose and describe the role of critical indexed databases in disseminating knowledge through biomedical journals.

3. MATERIAL AND METHODS

The author of this article searched the most influential on-line databases and analyzed deposited papers on the topic of scientometrics, and used a descriptive method of reviewing important facts about experiences with scientometrics in the scientific and academic practice, including their personal experience as Editor of several indexed scientific journals internationally recognized during past 30 years and organized over 100 scientific conferences, thirty of them within science editing field (15-50).

4. RESULTS AND DISCUSSION

Scientific research is the only way and method to increase proper knowledge in all spheres of science and academic institutions (1, 2). The ability to study a scientific problem is the highest level of knowledge. Medical, and in a broader sense biomedical scientific research, is a systematic research of current and vital health problems related to defined aspects of the population's physical, mental, or social well-being of local, regional, or global character. The current global issue of the COVID-19 virus pandemic shows the importance of such an approach in solving an extremely important public health problem whose consequences are almost catastrophic and affect other sectors necessary for the life and work of the population globally. On the other hand, works that include clinical and public health research belong to the research category at the level of a limited part of the population living with appropriate

risks for specific diseases and conditions related to characteristic age and risk groups.

The research process itself can be fascinating for researchers because it is not only the results of the work that are important but also the research itself, then involvement in a health or social problem, research of the unknown and revealing questions to previously asked, insufficiently clear and scientifically answered questions. It is crucial that the research project, which is implemented and approved by the appropriate experts and institutions, contains identical elements as previously written and published articles (1, 5, 6).

Whether the research is conducted by a student, postgraduate, or university professor, each study must contain defined steps, namely: identifying the problems to be researched, collecting data, analyzing the evidence gathered and reaching a conclusion, and presenting them publicly at conferences or publishing them in appropriate scientific or professional journals or other types of publications. The fact that today conducted, several scientific research in the field of medicine, it is necessary to define the steps by which it is carried out to make it universal and to have scientific value.

This paper describes the research methods, study design, how one should be written, and why it is essential to publicize the same. Particular emphasis is placed on scientometrics as the science that evaluates scientific papers and their citation in the selected sample of journals and the role of index databases in disseminating knowledge, especially within biomedicine fields. The paper also answers why scientific research should be carried out and what kind of satisfaction they provide the researcher.

4.1. PURPOSE AND PROCESS OF MEDICAL RESEARCH

Researchers in medical research examine biological, socioeconomic, and environmental factors in which we live and work, which affect health and contribute to illness, disability, or death. Research at the level of the population (so-called global character, as it is currently being done) has defined its goals, among which dominate (1-3):

- Identification and classification of a new clinical identity,
- Detection of risk factors for disease,
- Developing and testing new protocols for preventing or treating diseases, clinical or public health.

The researcher's idea that he will get rich or become famous after writing a scientific article is almost a utopia. In general, a long period passes in practice, which can be measured in years until the initial idea of the research leads to the final result, which ends with specific conclusions and recommendations for application in practice. This was best demonstrated in the current COVID-19 infection, the results of which–from diagnosis to treatment with drugs and vaccines still do not give the results that experts assumed at the beginning of the pandemic in late 2019. There is still no published serious EBM study we can rely on and compare our hypotheses and conduct adequate research of our own, including numerous scientific and research renowned institutions worldwide. Even after the publication of a large number of articles on this clinical relevance in serious scientific journals, and hundreds of thousands of them are stored in world scientific databases, only a relatively small number of articles lead to a current change in health status or clinical practice. (8) Regardless of what has been said, researchers can, in principle, enjoy the fruits of their work through:

- Acquisition of new skills;
- Satisfying one's curiosity;
- Ability to publish the results of their research in appropriate scientific publications.

The most critical satisfaction for any scientist should be the realization that the result of research in a certain way in the future will affect at least one person to be healthier, which should be fundamental to the completion of research in practice at universities or specialized scientific laboratories and institutes (1).

4.2. DOCUMENTATION, SCIENTIFIC AND PROFESSIONAL INFORMATION

The entire field of documentation is very significant for everyday work in healthcare because the system for healthcare protection is based on the storage, collecting, and processing of data (8).

Significance of documentation, scientific and professional information

As an essential part of Health/Medical informatics, medical documentation is complex and specific. It represents a "group of documents which must be separated from documents used to prove the right for healthcare protection and from the scientific and professional medical documents" (11). Managing documents" within healthcare organizations is a very complex and challenging problem. The notion of managing the documents includes all the pro- cesses of manipulation of the papers: "their creation, usage, distribution, updating and maintenance" (8).

As carriers of scientific and professional information, documents are numerous and heterogeneous. Some authors claim that documents are the "sources" of scientific and research information, which is, in essence, wrong because the "sources" can only be men as scientists and researchers who, by their work, contribute to gaining more information about a particular subject (8). The documents appear as scientific and research literature, published in graphic records, mainly on paper. In contrast, in the information centers, the documents are stored on micro films, magnetic media, and video disks (14, Scientific information is logical information received in the process of realization, which adequately reflects the laws of the objective world (17). Unlike other types of information in medicine, scientific information possesses some characteristics which result from regularities in the development of the sci-

ence and require rather specific approaches in their processing and use. The significance of the information is international, and they preserve it for many years. They can only merge into knowledge data bases. Knowledge is the key to implementation, and research is its strongest tool. According to this, the purpose is to rapidly apply existing knowledge, discover why the existing information is insufficient, and collect new scientific and research information (1, 8).

4.3. TYPES OF PUBLICATIONS

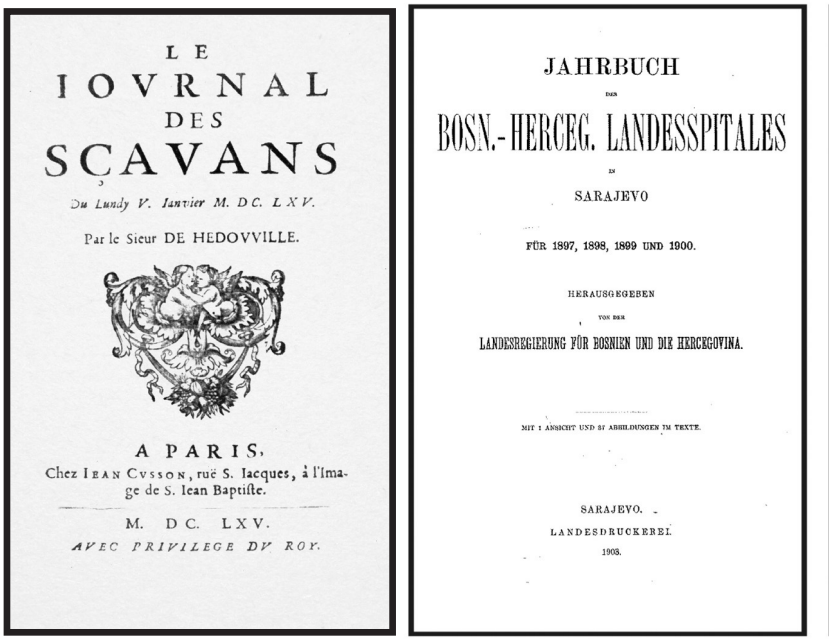
The majority of authors divide publications into two large groups:

Primary and secondary publications (5, 8).

Some also include tertiary publications and reference works.

The primary publications

The primary publications are divided into a) Periodic publications, the most important one being journals, and b) Monographs (publications with monograph features), such as school books, news- papers, atlases, journal supplements, specialist works, masters' theses, work proceed- ings, congress announcements, reports on researches and so on.


LE
IOVRNAL
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SCAVANS
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Par le Sieur DE HEDOVVILLE.
A PARIS,
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DES
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FÜR 1897, 1898, 1899 UND 1900.
HERAUSGEGEBEN
VON DER
LANDESREGIERUNG FÜR BOSNIEN UND DIE HERCEGOVINA.
MIT 1 ANSICHT UND 87 ABBILDUNGEN IM TEXTE.
SARAJEVO.
LANDESDRUCKEREI.
1903.

Figrue 1. Cover page of the first published medical journal in the world - appeared in 1664 in Paris under the name "Journal de scavan" (a), and cover page of the first published journal in Bosnia and Herzegovina in 1897 under the name "Annual of Bosnian-Herzegovinian Land hospital", today University Clinical Center of Sarajevo, established in July 1st 1894 (b)

4.4. SCIENTIFIC AND ACADEMIC JOURNALS

The history of scientific journals began in 1665 when the French „Journal des scavans" and the English „Philosophical Transactions of the Royal Society"periodically published research results. In Bosnia and Herzegovina the first official medical journal was "Godisnjak Zemaljske bolnice u Sarajevu/ Annual of Landesspitales in Sarajevo," established in 1897. The oldest medical journal included in the most influential indexed database Medline was "Medicinski Arhiv/Medical Archives/Archive de Medicine," established in 1947 (the first Editor-in-Chief was academician Vladimir Cavka) (Figure 1). The first Medical informatics journal in Balcan countries was "Acta Informatica Medica", established in Sarajevo in 1993 (the first Editor-in-Chief was academician Izet Masic) (1).

Over the last few decades, scientific activity has been intensified by the advancement of Information and Communication Technologies (ICT), which have provided scientists and researchers with easier and better innovative opportunities to engage in science in various new areas. ICTs enable the application of creative industry ideas, including combining text, image, and sound.

The journal is a primary communication medium, especially in natural, technical, and biomedical sciences. The most important role of scientific journals is publishing and disseminating scientific articles. The source of scientific and technical information can only be a human – a scientist or an expert whose scientific and professional work creates knowledge about a field (1, 8). The primary publication is a document that contains a text with basic information in the original form prepared by the author. Biomedical journals can be divided into four groups according to the issue they cover: narrowly specialized journals (processing material from the immediate area), general biomedical journals (intended for a wide range of users), classical journals (training a problem from only one biomedical field) and primary scientific journals (professional literature and the main source of scientific information).

Journals are one of the most critical products and sources of information for scientific research and are an essential link for the success of development in science. Scientific journals in printed and electronic form have become necessary to increase and distribute scientific knowledge. Their quality is enhanced by developing and adhering to quality and scientific standards, publishing articles prepared according to the rules of relevant associations that bring together editors and experts in Science Editing, and following Guidelines and templates in the acceptance process for publication, strictly applying review rules and revision process. The careers of many university professors and researchers in academic institutions depend on the positive results of evaluating published articles.

The top category is a scientific journal – a periodic (weekly, monthly, bimonthly, quarterly, semi-annually) whose purpose is to improve science by publishing new research. Most journals are narrowly specialized in science, although some journals publish articles from all fields of science.

Articles in scientific journals present the latest re-

search and results in the field covered by the journal. Articles published in these journals are often incomprehensible to anyone except researchers in the area surrounding the journal's scope. Most journals today, which include some of the bibliographic, index, and citation databases (WoS, Medline, PubMed Central, Scopus, Embase, Hinari, etc.), are published in electronic form, and almost all have an electronic way of reporting and managing obsolete articles by the DBMS system (7).

There are considerable variations in articles between scientific fields and journals because there are biomedical, mathematical articles, natural and social sciences and articles from computer sciences that are sometimes quite long. Some scientific journals publish online articles electronically, using modern Information and Communication Technologies (ICT).

Review articles do not cover specific research but gather the results of many other articles with a particular topic into a cumulative text on the state of the field of science in question. Review reports provide information on the subject and allow scientific information to be sent to the original research. Recently, Cross-Sectional studies have been intensively published as forms that mainly cover analytical studies based on cross-sections and research analyzes published on given topics and stored in known index bibliographic databases in complete form (PubMed Central, etc.). Scientific journals include so-called „short communications", which are brief descriptions of necessary current research, and „research notes", which describe recent research findings, such as, for example, „Scholarly articles, " which have an educational character and are longer in content (7, 8).

Some journals are published exclusively in electronic form to save money, and electronic publishing is increasingly taking over the rating from printed ones. Many publishers immediately publish an electronic version of the journal, as there is no need for a delay as in an article journal, which is often late with the publication, one of the main features of the printed edition that is increasingly neglected.

They are part of the current periodic group and have a continuous numeration of annual files (volume, book number, page number), enabling the user to retrieve and edit the information far more accessible. Usually, articles from different authors can be found in one journal edition. Sometimes, a journal can contain the works of just one author (shortened thesis) or articles on the same subject but from different authors.

Contents, structure and distribution of biomedical journals

Biomedical journals can be divided into four groups (8)

- Narrowly specialized journals;
- General medical journals;
- Classic journals;
- Primary scientific journals.

NARROWLY SPECIALIZED JOURNALS

Oriented towards one segment of medicine. It possesses archive features, and it is carefully prepared. Strictly reviewed and of high scientific value. Most are issued on a quarter-of-a-month basis, and some every month.

GENERAL BIOMEDICAL JOURNALS

Intended for a wider circle of users mainly interested in problems concerning biomedicine and natural sciences. Such are, for example, "Lancet", "Science", "Nature", "Public Health," and others. These journals are published rather frequently.

CLASSIC JOURNALS

Concern the issues from just one biomedical field. They are published once a month and are considered the forerunners of the first journals. Such is "The American Journal of Epidemiology",

PRIMARY SCIENTIFIC JOURNALS

Are a part of the scientific literature and the primary source of information. They are serial publications in which, for the first time, "the original research results and reviewed scientific articles" are published.

Primary scientific journals have two essential attributes: a) significance and b) value. The best measure of the significance of a journal is the ECHO factor, "which shows how much the published articles from a journal are cited" and tells us how much the journal is used and how important it is for scientists. The IMPACT factor shows "how much a scientific article in a journal is cited on average (8), and it is very similar to the echo factor, which shows how many articles are cited in a journal. Both were established in ISI in Philadelphia by Eugene Garfield in 1959.

Secondary publications

The primary task was to monitor the rate of appearance and development of prior publications. The common characteristics of secondary publications are that these publications point to the information provided by the primary publication (give the description and content) and facilitate the choice of proper prior publication.

The secondary publications are divided into the following groups :

- index journals;
- index–abstract journals;
- the general and special bibliographies,
- library catalogs (alphabetic, author, research, subject).

Index journals

In the biomedical area, there are a significant number of index journals. The two most famous "Index Medicus and Current Contents" are among them. Index Medicus is the oldest secondary biomedical publication, founded in 1879 by the John Billings Show, the first director of the National Library of Medicine (8).

Current Contents is a relatively recent index journal that quickly gained a great reputation.

The first journal of this kind was printed long ago in

1830 - Excerpta Medica or journal abstracts ("Abstract Journal ") is an indexed–abstract journal with the highest reputation, attracting most biomedical users. Undoubtedly, the abstract–indexed journals used today, even in a certain sense, determine the fate of primary publications. So, thanks to the abstract of articles published in these journals, searching and reading of journals in which these articles were published can be improved. This category of publications belongs to other species-specific literature, encyclopedia, manuals, dictionaries, lexicons, directories, guides, statistical reviews, calendars, etc.

Indexed–Citation Journals

The most famous indexed – Journal is Citation's Science Citation Index (SCI), issued by the Institute for Scientific Information (ISI) since 1964. Science Citation Index (SCI) is a list of scientific texts from all over the world ((6). Each scientific paper has information about the author, the title, the subject, etc. All this information is taken from more than four thousand scientific journals. A bibliography, a list of books or other documents, usually brings the primary data essential for establishing the identity of the characteristics of the document reference units (13). The bibliography is, therefore, a printed list of works composed according to specific rules and classified for the scientific and practical objectives ". There are many divisions of bibliography, "general or special" (covering only certain areas of science), "international" (includes editions from several countries),"national" (includes editions from one country), "retrospective" (chronologically provides information for a certain period), "current" (constantly informed on the course of publishing activities), etc.

4.5. SOURCES OF THE SCIENTIFIC AND PROFESSIONAL INFORMATION

The source of scientific or professional information is scientists or researchers who create knowledge about something through their scientific or professional work. As information carriers, the documents that represent their materialized form are completed. Documents, in principle, cannot be affiliated with the source of information, although in practice, it often seems. The data is, in practice, usually provided in the following ways: oral, personal statements, the conversation, either by phone, either directly with the author, correspondence, listening to lectures, participation in various professional conferences, etc.

A very current and productive mode of communication and information production is *"working on scientific projects"*, where one team member coordinates systematic monitoring of recent events in a scientific field. Project Coordinator communicates with other members of research teams, chat, makes personal contacts, search modern literature, and provides information to other team members at periodic meetings. About the regularity of the layout of relevant documents says Bradford's Law: "Journals in a field can be divided into three parts, each with about one-third of all articles (6, 8):

1) a core of a few journals,
2) a second zone with more journals, and
3) a third zone with the bulk of journals.

Citing and stating professional and scientific literature

The scientific document provides permanent accessibility and verifiability of published results. Therefore, when published, scientific documents are subject to strict criteria regarding their form and content. The authors of scientific papers must adhere to ethical, moral, and legal obligations to quote all the sources of the information they used when writing (drafting) scientific documents and mention them in a specific publication. A group of publishers of several leading biomedical journals that publish in English met in Vancouver (British Columbia) in 1978 and decided to determine unique technical rules for publishing documents (articles) in their journals. The official use of this preposition was introduced in about 300 international journals and published as: "Uniform requirements for Manuscripts Submitted to Biomedical Journals".

Processing of the scientific and research documents

An Original paper may describe instrumental developments, innovative applications, and/or problem-solving strategies with a multidisciplinary approach (8).

- The processing of documents can be:
- Bibliographic processing, and
- Semantic processing-indexing.

Bibliographic processing

The bibliographic processing of documents defines their identity by describing some unique line to use scientific and professional literature. Bibliographical processing produces data representing a document's 'ID card' (name of author, title of article, publisher, place of issuance, years of publication). Scientists and researchers engaged in scientific work and research in medicine tag the documents they use according to the "bibliographic rules.

Semantic processing – indexing

The process of identifying key concepts and their names is called indexing. The term "depth of indexing" – refers to the average number of keywords per document (on average,10-15 keywords per document). Semantic processing – indexing, in addition to professional staff (indexers), is performed by the authors of documents themselves.

Indexing according to the title

Clear and informative titles are suitable for indexing and can be implemented quickly, efficiently, and cheaply. *"Indexing according to title" is an easy job that can be done by technical staff that comply with mandatory instructions*. Specifically, certain words are taken from the title as keywords, presenting a document (usually all the words except those that do not have a specific meaning – prepositions, conjunctions, pronouns, etc.). These keywords are arranged to be alphabetic.

Language for indexing

Today we use particular languages – the so-called "artificial languages for indexing" with appropriate vocabulary and grammar, which are believed that its system of characters and rules is relatively poor compared to the wealth of natural language. Languages for indexing consist of standard keywords that clearly indicate the specific terms. In fact, if there are more synonyms and words with approximately the same meaning, only one is used for indexing.

Thesaurus

Thesaurus is the "software package for the processing of text information.

Without the use of a thesaurus can get into a situation where the terms do not match, which prevents the user from coming to the relevant scientific document, as the document in the database is located under different index terms. Specific subject areas can be analyzed, and the search for information can be displayed in four ways. According to the English author Forbes Gibb, these subjects are following "models":

- the object seen by the author (6);
- the object seen by the language of the indexing;
- the object seen by the research who gets indexed it;
- the object seen by the user.

4.6. BIOMEDICAL SCIENTIFIC INFORMATION SYSTEM (BMSIS)

In the world of biomedicine, many essential and most frequently cited monographs and journals are published. According to Dačić, in the field of Biomedicine today, about 20,000 journals are issued, while the number of published monographs is around 200,000 yearly (without research projects). Such bases of biomedical scientific information provide information in one of the following forms (6, 8):

- bibliographic database;
- bibliographic–abstract database;
- factographic database;
- knowledge bases (research systems).

Bibliographic database on the end of biomedicine

The progressive expansion of biomedical documents, information, and technological advances require an even better selection of data and information retrieval to achieve better scientific information application. According to the source of data that database contains, the databases are divided into secondary or tertiary non-conventional information sources. Still, usually, conventional records can be found that are secondary publications. Such publications include Biological Abstracts, Chemical Abstracts, Index Medicus, Science Citation Index, Current Contents, EBSCO, Index Copernicus, etc. (8).

The essential components online of systems

Recently, the database can offer more and more bibliographic data, including the abstract that can now be found in more than 80% of articles. Many such databases are commercialized. Some offer free access to abstracts and a few full-text articles, while others can be used only after an appropriate fee is applied. It is possible to buy and download full-text articles.

This represents a real industrial branch with the following components: (1, 7):

- suppliers or the producing of the bases;
- sellers or the operates;
- carriers;
- mediators;
- database users

Description of the most significant biomedical on-line database in the world

The most significant producers of the database are DIALOG (Palo Alto, CA, USA), SDC ("System Development Corporation"), BRS ("Bibliographic Retrieval Service"), ESA- IRS ("European Space Agency-Information Retrieval Service"), DATA-STAR, PER- GAMON INFOLINE, DIMDI, and so on (7).

DIALOG Information Service contains Excerpta Medica, MEDLINE, and other bases.

DATA-STAR in Basel possesses and processes Excerpta Medica, MEDLINE, and other bases.

The greatest biomedical HOST is DIMDI, "Deutsches Institute fur Mediziniche Dokumentation und Information. In Köln, they were founded in 1969 with the task to collect, arrange and preserve information about the national and international literature and other information from the field of medicine and other related fields. DIMDI also offers information to the users in the form of retrospective and current retrieval and online services. The oldest database in biomedicine–MEDLARS ("Medical Literature Analysis and Retrieval System"), formed in 1964 and 1970, became the first world online database under the name MEDLINE.

Almost all the great HOSTs use the following widely applied bases: "CA SEARCH, EMBASE, Health Planning and Administration, MEDLINE and SCISEARCH, and we will describe them shortly (1, 7, 8).

Embase

EMBASE is a biomedical and pharmacological bibliographic database that provides access to the most up-to-date citations and abstracts from biomedical and drug literature via EMBASE and Medline.

It contains over 19 million indexed records from 7,000+ peer-reviewed journals, covering 1947 to date, with more than 600,000 additions annually.

This is one of the most critical world sources of literature for the fields of medicine and related disciplines. Over 65% of references contain the abstract.

Every reference classifies and indexes the specialists in the field of medicine.

Medline

The time availability: from 1949 to the present with some older material (OLDMEDLINE).The basis scope: 6 million references to journal articles in life sciences with a concentration on biomedicine; Citations from approximately 5,200 worldwide journals in 37 lan-

guages; 60 languages for older journals.MEDLINE is the most significant database in the field of biomedicine. The core subject is medicine, and PubMed covers areas related to medicine, such as nursing and other allied health disciplines. It also provides complete coverage of the related biomedical sciences, such as biochemistry and cell biology. MEDLINE uses NLM thesaurus MeSH (Medical Subject Headings).

Criteria for the making of a decision about the use of a bibliographic database

To search bibliographic criteria, some parameters should be followed:

- "Database scope"
- "Content of database "
- "Surroundings of database "
- "Information needs of users "
- "number of the potential user"
- "hardware and software resources"

The Bibliographic database

The Bibliographic database is a set of digitized data on one subject. It consists of uniform records, regularly updated and organized for quick and easy access and retrieval of relevant information. Because of its systematic organization, visibility, and high relevance to the processed data, online databases are an essential source of reliable in- formation. There are three conditions needed to search the database:

- the base URL (Universal Resources Locator)-The address on the Internet where there is a database;
- know about the way of inquiry;
- know the access code (password)

The database is used for different purposes

- Bibliographic databases – to gain insight into the scientific area,
- Citation database – to gain insight into the scientific area and monitor the reflections of a particular scientist or author within the scientific field

Search strategy for MEDLINE:

Thesaurus-search, Text word-search;

- Defining keywords;
- MeSH terms: For example, Lymphoma, Non-Hodgkin;
- Text words: Keywords that are not included in the MeSH thesaurus;
- Boolean operators: AND, OR, NOT, and select the Limit.

Current Contents (CC) – bibliographic database covering all areas of science.

Current Contents/Clinical Medicine (CLINO) – covers more than 1429 leading international journals and a number of books on clinical medicine. *Current Contents/Life Sciences (LIFE)* – contains bibliographic information from 1407 leading international journals and a number of books on bio-science, including areas such as biochemistry, biophysics, pharmacology, physiology, and toxicology. Online data has been available since 1993.

Evidenced Based Medicine Reviews **(EBMR)** – Maintained by Ovid Technologies and the American College of Physicians and Cochrane Collaboration since 1991 to date, this database is complete (full) text, primarily intended for doctors and researchers with a comprehensive insight into clinical research.

SCOPUS – Citation/bibliography, multi-disciplinary database, includes works from 15,000 journals, 535 open-access journals, over 200 million quality web sources, and 12.7 million patents.

Bibliographic database for all areas of science with more than 20 million papers

from over 9000 journals. In addition to the usual bibliographic information, including

references/quotes that to users:

- Provide access to information about works by the author quoted (Cited Ref- erences);
- Allows you to view authors who have studied a certain type of research for a longer
- period (Related References).

Web of Science Citation Database combines citation databases that produce the

Institute for Scientific Information (ISI) – Thomson:

- Science Citation Index–SCIE;
- Social Science Citation Index–SSCI;
- Arts & Humanities Citation Index–AHCI (11, 15, 16);
- Journal Citation Reports – maintained by Thomson Scientific from 2005 until

today.

EBSCO Information Services is the world's largest service. Among the EBSCOhost databases available are:

- Academic Search Complete;
- Business Source Complete;
- MasterFILE Premier;
- Newspaper Source;
- Regional Business News;
- Health Source: Nursing/Academic Edition;
- MEDLINE;
- ERIC;
- Health Source – Consumer Edition;
- Library Information Science&Technology Abstracts;
- Green FILE;

HINARI base – The Health InterWork Access to Research Initiative was established in 2002 with about 1500 medical journals from 6 major publishers. Offers free access or a very good price for a large number of biomedical journals and journals related to social sciences in developing countries.

FreeMedical Journals– Directory of journals with free, complete articles in the field of medicine, covering more languages. It contains 1481 journals. A search can be done via the search box or via the link for the category of journals.

BioMed Central is an independent publishing company that provides direct free access to peer-reviewed scientific work on biomedical research. Manufacturer:

BioMed Central, publications are free and constantly available online from the moment of publishing. BioMed Central covers about 170 journals in the field of biomedical research.

Core Biomedical Collection (CBC)

Includes works published in 15 journals in biomedicine and offers very advanced search capabilities. Within hypertext view, the document provided high-quality navigation and references/citations in the reference list of links to the bibliographic records in the Medline database or the full text in other databases.

USER REQUESTS in biomedicine are different and multidisciplinary, referring to the numerous research and diagnostic-therapeutic-preventive problems of basic and clinical medicine. The answer to a precise but complex request means educated and trained librarians–informatics. For a librarian-quality computer technician performed a search, it is necessary to establish an adequate search strategy, which implies that the search request must:

- specify and differentiate,
- narrowed or expanded, in consultation with the user,
- specify keywords, descriptors,
- select database/s,
- specify Boolean operators,
- specify limits, choose the right tools

Research systems for the information retrieval

The information retrieval, in essence, makes the procedure composed of four following intellectual components:

- defining the structure of the informational questionnaire;
- choice of keys for the retrieval;
- comparison of the keys for the retrieval with the contents of the database and evaluation of the system response

The research systems for information retrieval ensure these functions:

- the creation of the correct model requires interaction with the user; the creation of the used model applying the corresponding knowledge bases about the users, their informational needs, habits, and similar;
- enables the choice and application of different retrieval strategies;
- the concrete retrieval with the use of the knowledge documents, terms for the retrieval, and their semantic relations;
- the evaluation of the results of retrieval;
- the management and the control of the systemic abilities during the duration of the retrieval procedure over the planned and agenda information at the table of the research system.

4.7. THE EVALUATION OF SCIENTIFIC WORK

The evaluation of the scientific work of each scientist indirectly determines its reputation in the scientific community of authors and co-authors in these publications, especially journals, is determined through the so-called Impact Factor. American researcher Eugene Garfield first mentioned the idea of the Impact Factor in an article published in the journal Science in 1955, which was the basis for the 1961 publication of the Science Citation Index (SCI). Later, the idea of impact factors was invented jointly by Garfield and Irving Sher in the early 1960s (4).

The bibliometric index Impact Factor is extracted from publications entitled Journal Citation Reports (JCR), founded by the publisher Thomson Reuters, the H-index (4, 11). This index is calculated based on the list of publications sorted in ascending order based on how many times that publication was cited. The value of this index is equal to the number of documents (N) on the list with N or more citations. The quality of published results of scientific work largely depends on the sources of knowledge used in the preparations, which means that they should be considered to serve the purpose and relevance of the information used (8).

The ranking of journals in terms of their quantitative contribution to scientific research was established by SCImago Journal. This network-based portal publishes indicators for ranking journals and countries in different parts of the world. This instrument for measuring scientific competitiveness at the global level was developed based on information sources contained in the Scopus database (1, 7).

Bibliographic instruments for the exchange of scientific knowledge

Intending to communicate with scientists and researchers, often at present, with colleagues with whom they share common professional interests, specialized databases such as ResearcherID (www.researcherID.com), Scholaruniverse (www.scholaruniverse.com) and others are available, and a few important platforms: ResearchGate, Academia.edu, a and Google Scholar (4, 6, 8). They all have advantages and disadvantages, and owners and experts continually work on their improvements (11). ResearcherID is an information tool that, through unique identification numbers, allows authors to view a list of their papers and track the path of their citations. In this way, possible collaborators can be found, including the determination of the H-index. The Marquis publishing house, based in Beverly Heights, New Jersey, has published biographical literature of various profiles, including those related to academics, for decades. Details of their biographical products are available at: (www.marquiswhoswho.com). For the historical perspective of scientific biography, there is a Dictionary of Scientific Biography (New York: Scribner, 1970-1980), EndNote, RefWorks, Zotero, Citationmachine (http://cita tionmachine.net) and others (3). A great role has also ORCID ID, which is some "Scientist's Identification Card" were we can find personal facts about a scientist and his published works.

Scientific competitiveness and status of scientists

Science and technology have a crucial role in modern

society and research development. Suppose they are based on ethical principles (3). In that case, they can certainly answer many questions that man faces in modern times, especially dealing with the consequences of economic development, climate change, or even famine that has been hitting some parts of the world lately, as in Africa. The importance of scientists' social and financial status for their work in basic research should not be underestimated. This issue is especially important in Bosnia and Herzegovina, whose investment in science and the status of scientists is minimal (measured by European standards) and has been reduced to pure survival.

The declarative commitment to building a knowledge-based society, occasionally placed in official circles, has not been accompanied by a more serious effort to turn it into practice. Therefore, it is a modest view of science and scientific institutions in the domestic field of Bosnia and Herzegovina, especially in the Federation of Bosnia and Herzegovina, which can be read and reviewed in the relevant documents published on the federal government's website (www.fbihvlada.gov.ba). These documents are linked to two less frequently mentioned documents: the European Charter for Researchers: The Code of Conduct for Researchers, issued in 2005 by the European Union's Directorate-General for Human Resources and Mobility, and the UNESCO Recommendation on the Status of Researchers—researcher from 1974 (1). In the European Charter for Researchers, in addition to creating a favorable working environment for scientists and their professional status, special attention is paid to the freedom of scientific research that scientists must have in their activities.

The Charter's Freedom of Research states, "Researchers should focus their research for the benefit of humanity and for expanding the boundaries of scientific knowledge while enjoying freedom of thought and expression and freedom of methods to solve scientific issues. Ethical standards". (1, 7).

4.8. SCIENTOMETRICS AND BIBLIOMETRICS - AN OVERVIEW

In the scientific literature, several definitions of Scientometrics are described (11-20). Scientometrics is part of Scientology (the science of science) that analyzes published scientific papers and their citation in indexed scientific journals (1). Scientometrics is the study of measuring features and characteristics of science and scientific research. Scientometrics is the science of measuring and analyzing science. Finally, one of the most cited definitions is written by Hess (1977), and he said: Scientometrics can be defined as the "quantitative study of science, communication in science, and science policy" (9-14).

In practice, Scientometrics is often done using Bibliometrics, which measures the impact of scientific publications (5, 16). Bibliometrics is a set of methods to analyze scientific and technological literature quantitatively. Alan Pritchard coined the term in a paper published in 1969 titled "Statistical Bibliography or Bibliometrics? He defined the term as "the application of mathematics and statistical methods to books and other media of communication" (16). Historically bibliometric methods have been used to trace relationships among academic journal citations.

While bibliometric methods are often used in library and information science, bibliometrics has wide applications in other areas (15). Many research fields use bibliometric methods to explore the impact of their field, the impact of a set of researchers, or the effect of a particular paper (11).

Scientometric procedures are increasingly used to analyze developments and trends in science and technology. Modern scientometrics is mainly based on the work of Derek J. de Solla Price (1922-1983) and Eugene Garfield (1925-2017) (26, 27). Price worked as Professor at Universities in London, Cambridge, and Yale, and he established "Scientometrics Price's model," for wich he received Award "John Desmond Bernal Prize" (1981). The quantitative study of science, Scientometrics, and its application to science policy, became the principal focus of Price's work from the 1960s onwards. In 1963 his best-known book "Little Science, Big Science" was published (26). Early that year, he met Eugene Garfield, founder of the Science Citation Index (SCI), and formed a lasting collaboration. SCI would provide most of the data for his quantitative work, allowing studies of the number of scientific publications and those publications' impact and duration.

In 1965, Price gave the first Science of Science Foundation lecture, entitled "The Scientific Foundations of Science Policy, " at the Royal Institution in London (10). He argued that as "science grew exponentially, it presented new challenges to policy-makers" and that they could be helped by the kind of Scientometric work he was carrying out and promoting. Exponential growth cannot continue indefinitely, and the slowing of growth rates will correspond to pressing issues around the allocation of resources. He also emphasized the critical importance of communication, referring to the "invisible college", a network of scientific communication outside formal channels. The lecture was reviewed at length in the journal Nature (10). Since 1984, the "Derek de Solla Price Memorial Medal" has been awarded by the International Society for Scientometrics and Informetrics to scientists with outstanding contributions to the fields of quantitative studies of science.

Eugene Garfield has been striving for mathematical representation and developed several factors that allow scientific publications' assessment value and importance, including the most important impact factor (IF) and the h-Index (11). Garfield was the founder of the Institute for Scientific Information (ISI), which was located in Philadelphia, Pennsylvania. He founded the ISI in 1960 and developed an indexing system for science literature based on the analysis of citations used

within a given work. Works earn an "impact factor," a measure of citations to other science journals that indicates their importance in the field. The more citations in reputable journals, the higher the impact factor. The ISI sold subscriptions to their publication, the Science Citation Index, and over time grew to include the Social Sciences Citation Index (SSCI) and the Arts and Humanities Citation Index (A&HCI). These databases now form the foundation of the Web of Knowledge (WoK) online research tool. He is responsible for many innovative bibliographic products, including Current Contents (CC), the Science Citation Index (SCI), other citation databases, the Journal Citation Reports (JCR), and Index Chemicus (IC) (27). He is the founding editor and publisher of "The Scientist" journal, a news magazine for life scientists. In 2007, he launched HistCite, a bibliometric analysis and visualization software package. Following ideas inspired by Vannevar Bush's famous 1945 article "As We May Think", Garfield developed a comprehensive citation index showing the propagation of scientific thinking; he started the Institute for Scientific Information (ISI) in 1955. The creation of the Science Citation Index (SCI) made it possible to calculate the impact factor (IF), which measures the importance of scientific journals. It led to the unexpected discovery that a few journals like Nature and Science were core for all of hard science. The same pattern does not happen with the humanities or the social sciences. Garfield's work led to the development several Information Retrieval algorithms, like HITS and Pagerank. Both use structured citations between websites through hyper-links (4, 10).

Figure 2. Editors-and-Chiefs of IJBH Journal from 2013 to 2023, academicians: Jana Zvarova, Izet Masic and Muharem Zildzic (from left to right)

In practice, Scientometrics is often done using Bibliometrics, a measurement of the impact of (scientific) publications. In practice, much of the work under this header involves various types of citation analysis, which looks at how scholars cite one another in publications. This data can show quite a bit about networks of scholars and scholarly communication, links between scholars, and the development of areas of knowledge over time. In the context of this toolkit, bibliometrics is also a fundamental way of measuring scholarly publications' impact.

Suppose an article is published in a journal with a high impact factor, partly determined by the number of citations to articles within a particular journal. In that case, this raises the publishing profile of the author.

4.9. EVALUATION OF ARTICLES IN ACADEMIC JOURNALS

Indexing, citing references, and citations derived as terms from index publications used in the Index Medicus, Science Citation Index, and Current Contents, the most recent „bibliographic databases" in history (1, 4). Citation indices allow users to search from a known article to more recent publications that cite the known item.

The h-Index is an index that attempts to measure both the productivity and impact of the published work of a scientist or scholar. The h-Index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications. The index can also be applied to the productivity and impact of a group of scientists, such as a department, university, or country, as well as a scholarly journal.

The h-Index was suggested by Jorge E. Hirsch 2005, a physicist at UCSD, as a tool for determining theoretical physicists' relative quality and is sometimes called the Hirsch index or Hirsch number. (1, 4, 11)

The h-Iindex is based on distributing citations from a researcher's publications. Hirsch writes: "A scientist has index h if h of his/her Np papers have at least h citations each, and the other (Np − h) papers have no more than h-citations each."

In other words, a scholar with an index of h has published h papers, each of which has been cited in other papers at least h times. Thus, the h-Index reflects both the number of publications and the number of citations per publication. The index is designed to improve simple measures such as the total number of citations or publications. The index works properly only for comparing scientists working in the same field; citation conventions differ widely among different areas.

The h-Index serves as an alternative to more traditional journal impact factor metrics in the evaluation of the impact of the work of a particular researcher. Because only the most highly cited articles contribute to the h-Index, its determination is relatively simple.

Hirsch has demonstrated that h has high predictive value for whether a scientist has won honors like National Academy membership or the Nobel Prize.

The h-Index grows as citations accumulate; thus, it depends on the 'academic age' of a researcher.

Weaknesses of the h-index:

• Critics of the metric suggest it is limited in the following ways:

• It counts as a highly-cited paper regardless of why it's being referenced- e.g., for negative reasons:

• It doesn't account for variations in the average number of publications and citations in various fields

(some traditionally publish and cite less than others);

• It ignores the number and position of authors on a paper;

• It limits authors by the total number of publications, so shorter careers are at a disadvantage;

• It has relatively low resolution in that many scientists end up in the same range since it gets increasingly difficult to increase the h-index the higher it gets (an h-index of 100 corresponds to a minimum of 10,000 citations);

• It, like all metrics, is based on data from the past and may not be a valid predictor of future performance. However, in a follow-up publication, Jorge Hirsch demonstrated that the h-index is better at predicting future scientific achievement than other indicators (total papers, total citations, citations per paper).

4.10. STANFORD BIBLIOMETRIC LIST AS INDEX FOR MEASURING SCIENTIST'S SCIENTIFIC VALUE

On December 4th, 2021, in Sarajevo, Bosnia and Herzegovina held Symposium titled "Scientometry, Citation, Plagiarism, and Predatory in Science Publishing" (16, 29). Symposium was based on interpretations of the bibliometric Stanford list published in October 2020 in the journal PLOS Biology, which raises the question about the credibility of the data in the media and that the Stanford list may have been misinterpreted. Participants of the Symposium concluded that "the data must be analyzed more seriously and possibly argued for their accuracy and credibility" (16).

The original title of the paper with the Stanford list is: "Updated science-wide author databases of standardized citation indicators", published by Elsevier (Amsterdam, the Netherlands), by John P. A. Ioannidis, Kevin W. Boyack and Jeroen Baas, professors at the University of Stanford in California (USA) (30, 31). The authors of the study state that the influence of world scientist citations is often misinterpreted, and to achieve maximum objectivity, they created a publicly available database with more than 190,000 leading scientists in the world. Using the principles of artificial intelligence that deal with algorithm design, the authors correlated several parameters that, in their opinion, are important for the objective evaluation of each scientist. They especially emphasized distinguishing between the number of citations and their impact. The available database contains standardized information on citations, h-index, hm-index, citations of articles in different positions of authors/co-authors in the analyzed article, and a summary indicator of the impact of citations. Scientists are classified into 22 scientific fields and 176 scientific branches. For all scientists who have published at least five articles, percentages specific to the scientific field are given. Collective data for each author/co-author were analyzed and updated from the beginning of the career until the end of 2020. The selection is based on the first 190,000 according to the c-score (with and without self-citations) or on the percentage range of 2% of the most cited. The methodology used to prepare the list of scientists with the greatest impact on citations was published in the scientific journal PLOS Biology in 2021 (30) (Figure 2).

Speaking about the Stanford list circulating in the scientific community, "we have agreed that it is necessary to suggest that scientometric analysis with the method used by authors from Stanford University in the USA should take into account several very important variables" (some of the conclusions at SWEP 2021, Sarajevo, 2021) (30, 31):

a) Each author's contribution, when there are co-authors of the article, so the number of citations from the total number of authors should be divided by each co-author individually, and not for each co-author to receive a citation as if they were the first, Only after these corrections it would be realistic, but then half of the authors would drop out of the existing list (16, 29).;

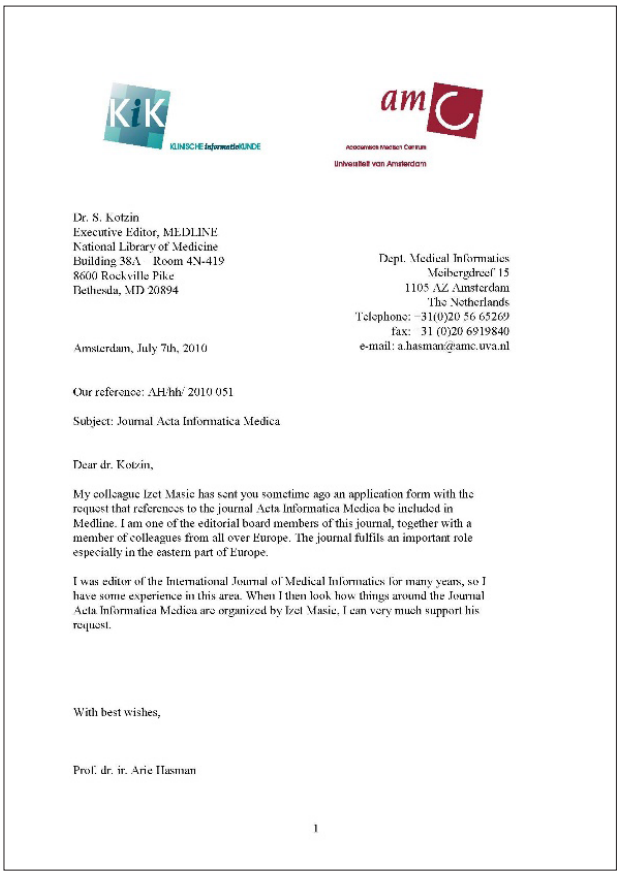
b) It is necessary to take into account the evaluation of the quality of the content published in the research results in the paper published and stored in the index databases.

c) Authors of Stanford list looked at the number of citations according to SCOPUS, and half of our citations are missing (almost twice as many on ResearchGate). By random sampling control, we found that many well-known scientists from the Balkans are not on the list– whether it is up to SCOPUS and the articles deposited in its database or whether some journals were omitted by mistake should be explored.

d) Some of our colleagues who deal with the problems of scientometry as a team believe that the ranking that was made and applied for publishing Stafford's list of the most cited scientists is global and based only on the analysis of published articles deposited in one of the world's databases, SCOPUS, dangerous to science in general.

This list emphasizes the formal part and the citation, no matter what caused it. Especially ignorant or insufficiently versed in the essence of such „meta-analyzes", mainly close to a tiny circle of scientists who understand this problem (and almost 3 percent of authors who have published articles and are not close to this list), and who, especially journalists, or those more or less vicious, who seek exclusivity in this, will inevitably misuse the data in the list without delving into its essence and the accuracy/inaccuracy of the data, and it is inevitable that there is. Because the list includes some well-known names in a very high position, and the content of their contribution to science is more than modest (16).

Recently published data in the scientometric list published by a group of authors from Stanford University in the USA, and based on the analyzed citation data of authors whose works are stored in the bibliographic database SCOPUS, aroused the interest of the BiH public, because among the most critical 2% are academics from Bosnia and Herzegovina (24, 25). To better understand



KiK
KLINISCHE InformatieKUNDE

amc
Academisch Medisch Centrum
Universiteit van Amsterdam

Dr. S. Kotzin
Executive Editor, MEDLINE
National Library of Medicine
Building 38A Room 4N-419
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1105 AZ Amsterdam
The Netherlands
Telephone: +31(0)20 56 65269
fax: 31 (0)20 6919840
e-mail: a.hasman@amc.uva.nl

Amsterdam, July 7th, 2010

Our reference: AH/hh/ 2010 051

Subject: Journal Acta Informatica Medica

Dear dr. Kotzin,

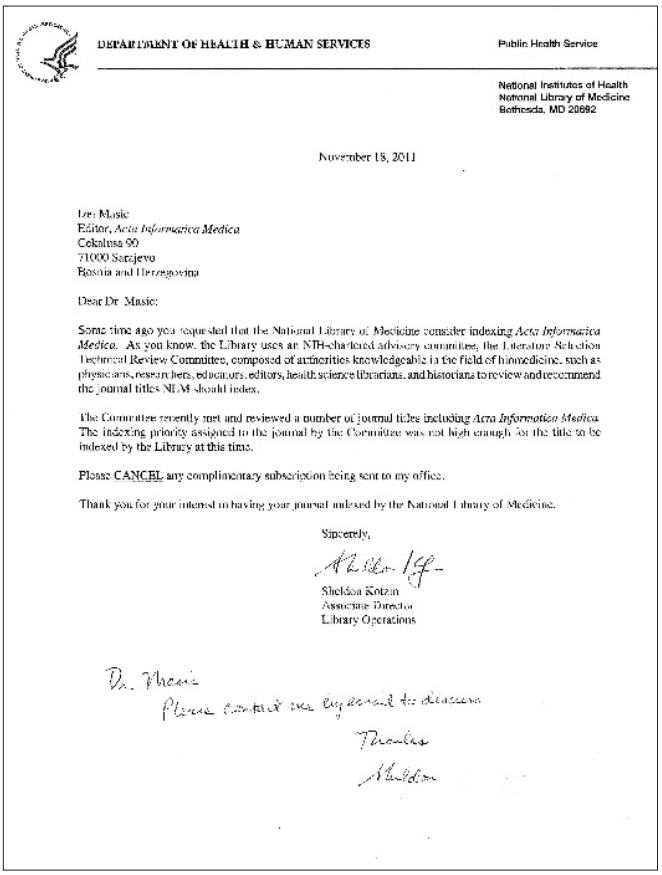
My colleague Izet Masic has sent you sometime ago an application form with the request that references to the journal Acta Informatica Medica be included in Medline. I am one of the editorial board members of this journal, together with a member of colleagues from all over Europe. The journal fulfils an important role especially in the eastern part of Europe.

I was editor of the International Journal of Medical Informatics for many years, so I have some experience in this area. When I then look how things around the Journal Acta Informatica Medica are organized by Izet Masic, I can very much support his request.

With best wishes,

Prof. dr. ir. Arie Hasman

1



DEPARTMENT OF HEALTH & HUMAN SERVICES — Public Health Service

National Institutes of Health
National Library of Medicine
Bethesda, MD 20892

November 18, 2011

Izet Masic
Editor, *Acta Informatica Medica*
Cekalusa 90
71000 Sarajevo
Bosnia and Herzegovina

Dear Dr. Masic:

Some time ago you requested that the National Library of Medicine consider indexing *Acta Informatica Medica*. As you know, the Library uses an NIH-chartered advisory committee, the Literature Selection Technical Review Committee, composed of authorities knowledgeable in the field of biomedicine, such as physicians, researchers, educators, editors, health science librarians, and historians to review and recommend the journal titles NLM should index.

The Committee recently met and reviewed a number of journal titles including *Acta Informatica Medica*. The indexing priority assigned to the journal by the Committee was not high enough for the title to be indexed by the Library at this time.

Please CANCEL any complimentary subscription being sent to my office.

Thank you for your interest in having your journal indexed by the National Library of Medicine.

Sincerely,

Sheldon Kotzin
Associate Director
Library Operations

Dr. Masic
Please contact me by email to discuss
Thanks
Sheldon

Figure 3. Communication's letters with Sheldon Kotzin in Medline Index Database

what and who it is about, it is necessary to briefly inform the scientific community of the following (16, 29).

Most scientific are cited by inertia because every scientist has a set of articles that the author cites whenever they write about a topic. Some articles are cited so that the author raises the citation index, a third because a reviewer or editor requires it of a journal. And finally, perhaps only every fifth or tenth article is cited because it should have been cited. These are the articles whose data the author uses directly or touches on the problems and solutions presented.

All persons listed as authors of the article must meet the following conditions: that they have significantly contributed to the planning and production of the article or analysis and interpretation of results and that they have participated in writing and correcting the article, and that they agree with the final version of the text. Persons who have not actively participated in the preparation of the article cannot be authors. The editor has the right to ask the author to explain the contribution of each of the co-authors, signing the relevant documents required when uploading the article to the journal's website. The contribution of one author is 1, and if several authors wrote the article, their contribution is 1/n. The contribution of each subsequent author is half less than the previous one. The authors' agreement determines the order of the authors.

Unfortunately, all of the above has been significantly neglected in the last few years, especially since the introduction of the Bologna concept of education, which disrupted the entire education system from primary schools to colleges and universities with a tendency to produce „troopers" for degrees. One of the accompanying consequences is the „forcible" publication of articles, books, and monographs (textbooks) needed to promote candidates for academic titles. This has seriously impaired the quality of education in the world, especially in the countries of the former Yugoslavia and especially in Bosnia and Herzegovina (16).

But who and why are responsible for that? It is a serious question and a matter for discussion with another topic. But science and conditions for scientists to do research and investigations in our country are in great crisis. No one is interested in the real state of affairs in such a chaotic state, locally and globally, where everyone hunts in the dark, including science and scientists, because the value system has reached the bottom, especially regarding honesty, ethics, and morality. It is not disputed that we have scientists with a high scientific rating in BiH, and our experts in other countries, where they are employed in scientific institutions and who are published, are high on lists like the one currently being promoted.

No one is interested in the real state of affairs in such a chaotic state, locally and globally, where everyone hunts in the dark, including science and scientists, because the value system has reached the bottom, especially regarding honesty, ethics, and morality.

Izet Masic

From: Kotzin, Sheldon (NIH/NLM) [E] [kotzins@mail.nlm.nih.gov]
Sent: Friday, December 16, 2011 21:04
To: 'Prof. dr. Izet Masic'
Subject: RE: question for result of reviewing of AIM journal

Dr. Masic

I am proposing, with your agreement, a collateral review. Instead of asking the advisory committee to review your journal again, I would ask experts (usually 3) in the field of medical informatics to review your journal using the same guidelines used by our advisory committee. This review could start in a few months and generally takes about 3 months to complete. The decision of the collateral review would have the same meaning as an advisory committee review. If the score is higher than 3.75 it is indexing; if lower, it is not indexed.
Please let me know if you are interested or if you have questions. Thanks.
Best wishes.

Sheldon Kotzin
National Library of Medicine

-----Original Message-----
From: Prof. dr. Izet Masic [mailto:imasic@lol.ba]
Sent: Wednesday, December 14, 2011 12:10 PM
To: Kotzin, Sheldon (NIH/NLM) [E]
Subject: FW: question for result of reviewing of AIM journal

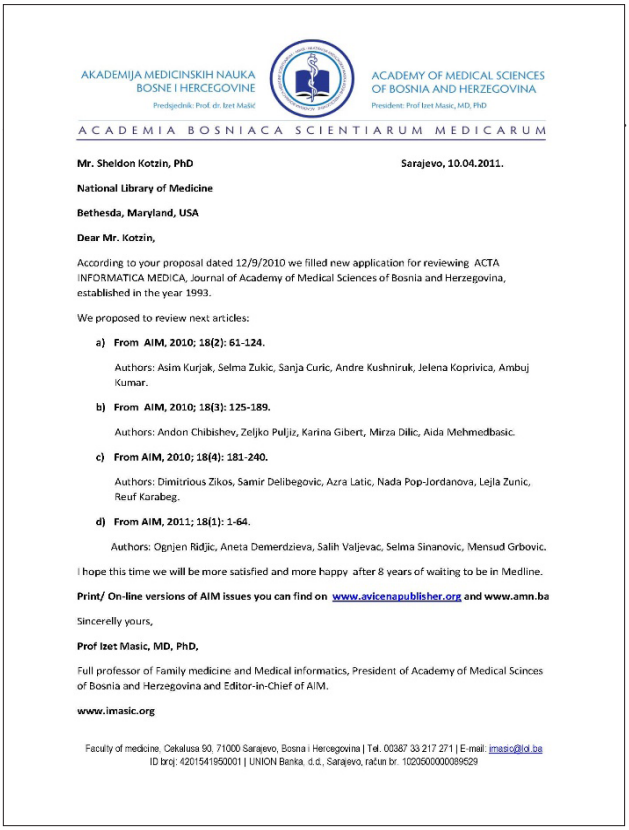
Figure 4. Communication's letters with Sheldon Kotzin in Medline Index Database

It is not disputed that we have scientists with a high scientific rating in BiH, and our experts in other countries, where they are employed in scientific institutions and who are published, are high on lists like the one currently being promoted. In the future, we should find ways to evaluate the content–e.g., if someone did 200 experiments and showed something about an unresolved issue (whether the result is positive or negative). That work must be valued more than if someone published a secondary or tertiary publication, where he only listed and commented a little on the primary data that other people collected.

Only then would the Stanford list be more complete and of better quality? In that case, perhaps half of the authors from that list would be dropped out, especially if the numbers of citations as the first author or as a co-author were singled out". The list is primarily misleading because many publications have been excluded, and the number of citations for each author was not divided by the number of authors per article. Only after these corrections would be realistic, but half of the authors would drop out of the existing list (3). The authors who created the Stanford scientometric list of the most cited authors from articles stored in the SCOPUS bibliographic database methodologically considered whether someone was the first, last, or only author, and the like, and did so in great detail. Unfortunately, they did not view the number of authors per article. Then, they looked at the number of citations according to SCOPUS, and half of our citations are missing there (there are almost twice as many on ResearchGate).

Also, criteria for assessment of the scientific status of somebody who built-up scientific or academic career, besides the mentioned indexes in this text, must take into account also authorship of a textbook(s), books, monographs, etc.; the proof of organized congresses or scientific conferences or chaired of scientific sessions at conferences, etc.; editing of scientific indexed journals recognized internationally, membership in scientific associations at international or national levels, some special awards at the international level, etc. These criteria should be necessary for the quality assessment of scientific bio sketches of scientists. Current academies and academicians can propose it with the consultation of scientific bodies and experts at universities in one country, selected regions, or worldwide.

If the authors of the Stanford bibliometric list eventually take into account mentioned comments from experts in Science Editing (Editors-and-Chiefs of a few indexed biomedical journals) concluded at SWEP 2021 Conference in Sarajevo (16, 29), only then would the Stanford list be more complete and of



AKADEMIJA MEDICINSKIH NAUKA BOSNE I HERCEGOVINE
Predsjednik: Prof. dr. Izet Mašić

ACADEMY OF MEDICAL SCIENCES OF BOSNIA AND HERZEGOVINA
President: Prof Izet Masic, MD, PhD

ACADEMIA BOSNIACA SCIENTIARUM MEDICARUM

Mr. Sheldon Kotzin, PhD **Sarajevo, 10.04.2011.**

National Library of Medicine

Bethesda, Maryland, USA

Dear Mr. Kotzin,

According to your proposal dated 12/9/2010 we filled new application for reviewing ACTA INFORMATICA MEDICA, Journal of Academy of Medical Sciences of Bosnia and Herzegovina, established in the year 1993.

We proposed to review next articles:

a) **From AIM, 2010; 18(2): 61-124.**
Authors: Asim Kurjak, Selma Zukic, Sanja Curic, Andre Kushniruk, Jelena Koprivica, Ambuj Kumar.

b) **From AIM, 2010; 18(3): 125-189.**
Authors: Andon Chibishev, Zeljko Puljiz, Karina Gibert, Mirza Dilic, Aida Mehmedbasic.

c) **From AIM, 2010; 18(4): 181-240.**
Authors: Dimitrious Zikos, Samir Delibegovic, Azra Latic, Nada Pop-Jordanova, Lejla Zunic, Reuf Karabeg.

d) **From AIM, 2011; 18(1): 1-64.**
Authors: Ognjen Ridjic, Aneta Demerdzieva, Salih Valjevac, Selma Sinanovic, Mensud Grbovic.

I hope this time we will be more satisfied and more happy after 8 years of waiting to be in Medline.

Print/ On-line versions of AIM issues you can find on www.avicenapublisher.org and www.amn.ba

Sincerelly yours,

Prof Izet Masic, MD, PhD,

Full professor of Family medicine and Medical informatics, President of Academy of Medical Scinces of Bosnia and Herzegovina and Editor-in-Chief of AIM.

www.imasic.org

Faculty of medicine, Cekalusa 90, 71000 Sarajevo, Bosna i Hercegovina | Tel. 00387 33 217 271 | E-mail: imasic@lol.ba
ID broj: 4201541950001 | UNION Banka, d.d., Sarajevo, račun br. 1020500000089529

Figure 4a. Communication's letters with Sheldon Kotzin in Medline Index Database

pienty sat.

Scopus and its experts need to consider it in the future, including my proposals to improve the method and how to make quality assessments of journals included in the database and published papers.

4.11. ORCID ID AS SCIENTIST'S "DIGITAL CURRICULUM VITAE"

ORCID (Open Researcher and Contributor ID) is a nonproprietary alphanumeric code to identify scientific and other academic authors (35) uniquely. This addresses the problem that a particular author's contri-

Bosnian top-cited scientists among the 2% in the world

Posted on October 25, 2022 by Admin

Recently Stanford University published the world's top 2% most influential scientists from all fields in 2021 and during their whole career. Eleven scientists from Bosnia were on the list of the most influential scientists in 2021, and seven on the list of most influential during his career. Scientists are classified into 22 scientific fields and 176 sub-fields.

Bosnian scientists among the 2% most influential in the world in 2021

The institutions where the most influential scientists in Bosnia are engaged are the following: International University of Sarajevo, University of East Sarajevo, Academy of Sciences and Arts of Bosnia and Herzegovina, Academy of Medical Sciences of Bosnia and Herzegovina, Sarajevo School of Science and Technology.

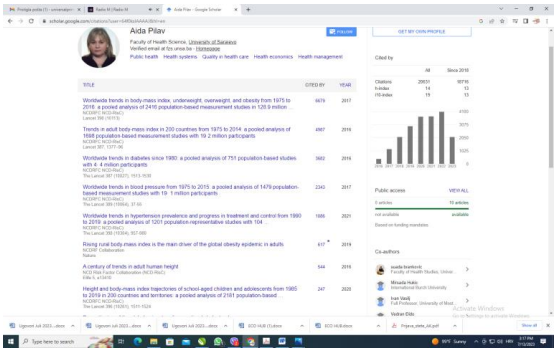
The national ranking list with the position on the world list (with and without self-citations) is shown in the table below. Dejan Milošević (UNSA), Željko Stević (UIS) and Benjamin Duraković (IUS) are listed as top three scientist ranked in Bosnia.

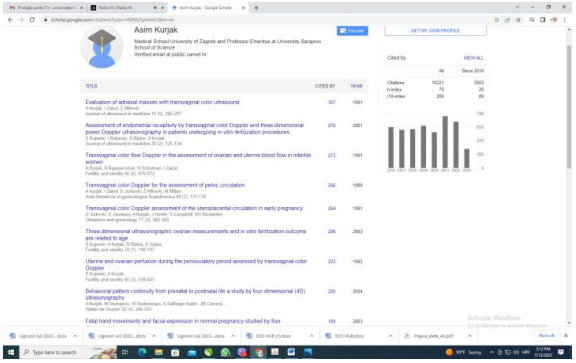
National rank	Name	World rank (without self-citations)	World rank
1	Dejan B. Milošević	50,837	28,660
2	Željko Stević	120,488	97,422
3	Benjamin Durković	133,189	124,876
4	Mirjana Maksimovic	153,059	174,128
5	Mevludin Glavic	156,776	167,392
6	Almir Badnjevic	226,752	224,849
7	Izet Masic	237,497	242,581
8	Asif Šabanović	274,351	296,017
9	Enver Zerem	300,572	288,822
10	Asim Kurjak	394,693	168,282
11	Osman Sinanovic	524,935	478,499

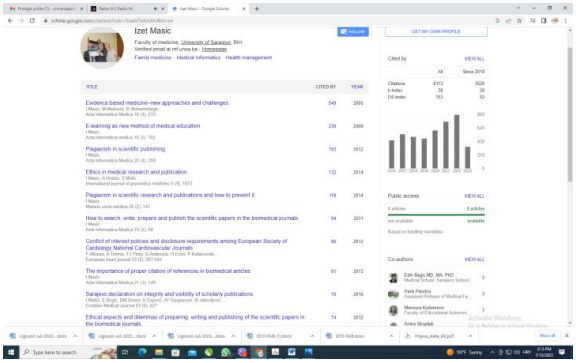
There were seven scientists from Bosnia in the list of the most influential scientist during their entire career. The institutions where the most influential scientists in Bosnia are engaged are the following: University of Sarajevo, International University of Sarajevo, Sarajevo School of Science and Technology, Academy of Sciences and Arts of Bosnia and Herzegovina, Academy of Medical Sciences of Bosnia and Herzegovina.

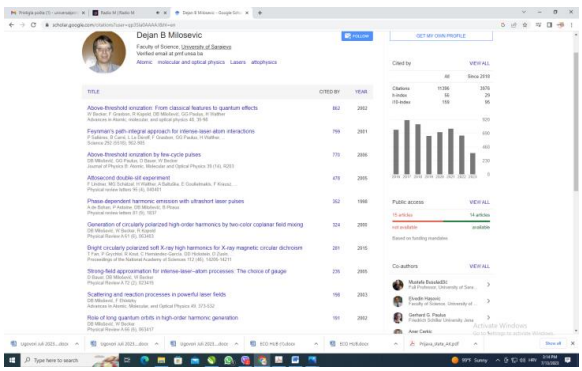
1. **Asim Kurjak -16,215 citations, h-Index 69, i10-Index 280,** as the first author has 5 papers with 1223 citations
2. **Dejan M. Milosevic** – 11,395 citations, h-Index 56, i10-Index 159, as the first author has 4 papers with 1483 citations
3. **Izet Masic** – 6,113 citations, h-Index 38, i10-Index, **as the first author has 9 papers with 1559 citations**
4. **Zeljko Stevic** – 5,854 citations, h-Index 40, i10-Index 86, as the first author has 4 papers with 1136 citations
5. **Asaf Sabanovic** – 5,792 citations, h-Index 34, i10-Index 98, as the first author has 5 papers with 1359 citations
6. **Mevludin Glavic** – 4,239 citations, h-Index 34, i10-Index 76, as the first author has 5 papers with 889 citations
7. **Enver Zerem** – 3,216 citations, h-Index 25, i10-Index 52, as the first author has 6 papers with 1010 citations
8. **Osman Sinanovic** – 2,719 citations, h-Index 23, i10-Index 50, as the first author has 3 papers with 282 citations
9. Mirjana Maksimovic – 2,399 citations, h-Index 23, i10-Index 38, as first author 5 papers with 596 citations
10. **Almir Badnjevic** – 2,343 citations, h-Index 27, i10-Index 53, as the first author has 3 papers with 277 citations
11. **Izudin Dzafic** – 2,090 citations, h-Index 27, i10-Index 53, as the first author has 6 papers with 479 citations
12. **Benjamin Durakovic** – 1,062 citations, h-Index 16, i10-Index 22, as first author has 9 papers with 780 citations

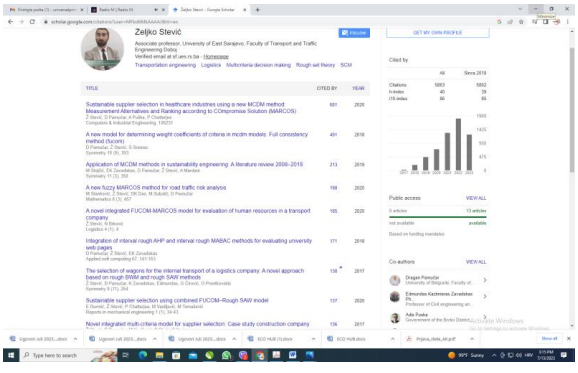
Table 1. Top 12 scientists in Bosnia and Herzegovina within 2 % most cited authors at Stanford bibliometric list of Scopus indexed database in 2022. Data source: Google Scholar on 10th July 2023, top ten cited articles (Figures 5-17)

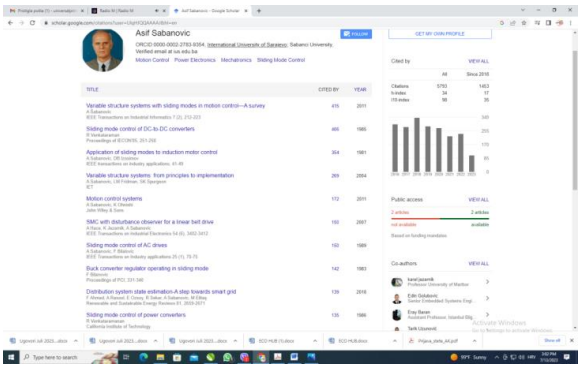


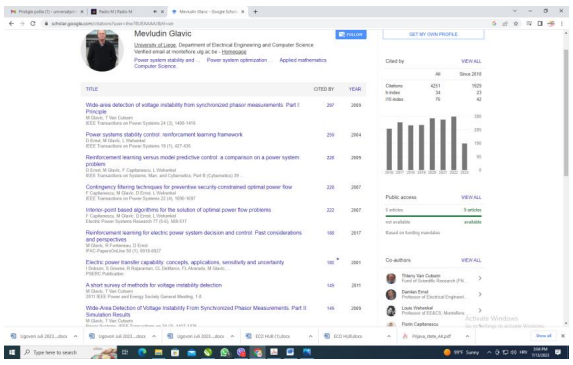


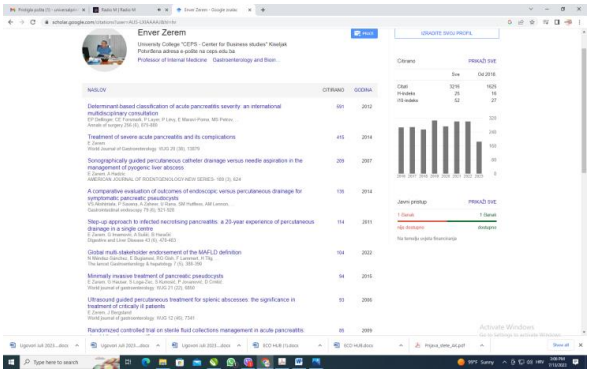


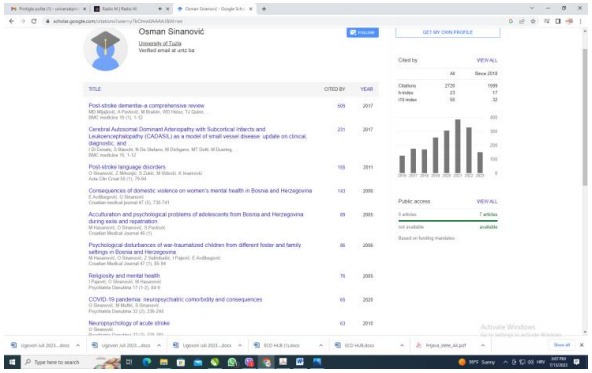


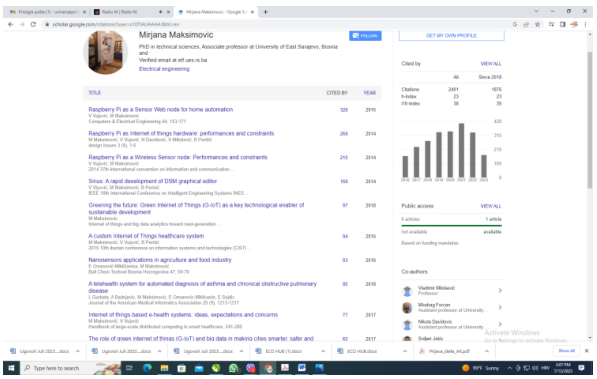


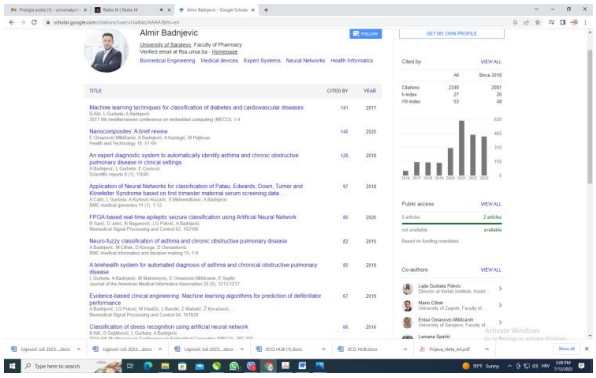


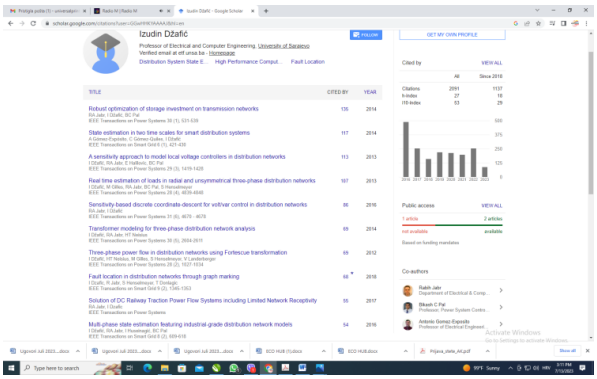












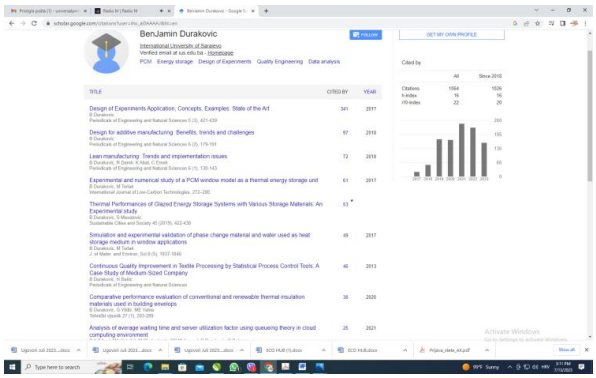


Table 1. Top 12 scientists in Bosnia and Herzegovina within 2 % most cited authors at Stanford bibliometric list of Scopus indexed database in 2022. Data source: Google Scholar on 10th July 2023, top ten cited articles (Figures 5-17)

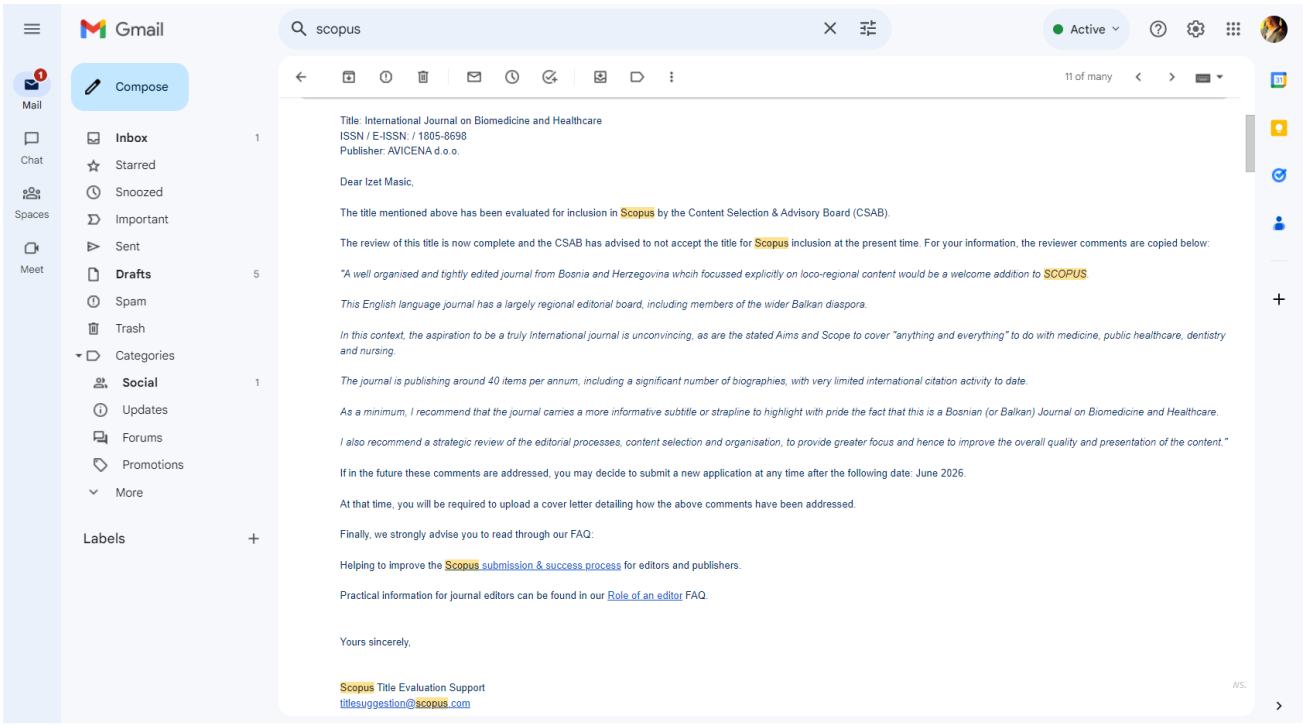


Figure 18. Communication's letters with PubMed Central Evaluation Team

butions to the scientific literature or publications in the humanities can be hard to recognize as most personal names are not unique. They can change (such as with marriage), have cultural differences in name order, use inconsistent first-name abbreviations, and employ different writing systems. It provides a persistent identity for humans, similar to that created for content-related entities on digital networks by digital object identifiers (DOIs) (35).

The aim of ORCID is to aid "the transition from science to e-Science, wherein scholarly publications can be mined to spot links and ideas hidden in the ever-growing volume of scholarly literature".

Another suggested use is to provide each researcher with "a constantly updated 'digital curriculum vitae' providing a picture of his or her contributions to science going far beyond the simple publication list." (35). The idea is that other organizations will use the open-access ORCID database to build their services.

The ORCID organization offers an open and independent registry intended to be the de facto standard for contributor identification in research and academic publishing. On 16 October 2012, ORCID launched its registry services and issued user identifiers (5).

ORCID was first organized as the "Open Researcher Contributor Identification Initiative" (9). A prototype was developed on software adapted from that used by Thomson Reuters for its ResearcherID system (35). The registry is now an independent nonprofit organization, ORCID, Inc., incorporated in August 2010. Its executive Director, Laure Haak, was appointed in April 2012. ORCID is freely usable and interoperable with other ID systems. ORCID launched its registry services and issued user identifiers on 16 October 2012. Formally, ORCID IDs are specified as URIs. However, some Editor-and-Chiefs of published journals use the short form, e.g., "ORCID: 0000-0002-9080-5456". It has been noted in an editorial in Nature that ORCID, in addition to tagging the contributions that scientists make to papers, "could also be assigned to data sets they helped to generate, comments on their colleagues' blog posts or unpublished draft papers, edits of Wikipedia entries and much else besides" (35).

5. A CASE OF PMC AND SCOPUS EVALUATION OF AMNUBIH JOURNALS

Official journals of the Academy of Medical Sciences of Bosnia and Herzegovina are Medical Archives (established in 1947), Materia Socio-Medica (established in 1878), Acta Informatica Medica (established in 1993), indexed in PubMed, PubMed Central Scopus, Bibliomed, etc. and International Journal on Biomedicine and Healthcare (established in 2013), indexed in Bibliomed database.

In South-Eastern European countries, there are currently "active '' 18 biomedical journals stored in indexed databases (13). Meta-analysis of the Masic and Jankovic published in a few scientific journals tries to present the quality of provided research investigations in Balcan countries and compare its quality with other developed countries that sponsored scientific research much more than in former Yugoslav countries (3, 8). The existence of scientific journals in our countries is difficult, especially with the reason that governments and appropriate their institutions responsible for science activities, including also, scientific academies, don't provide financial budgets to help continual print of the journals, and journals exist only with funding by

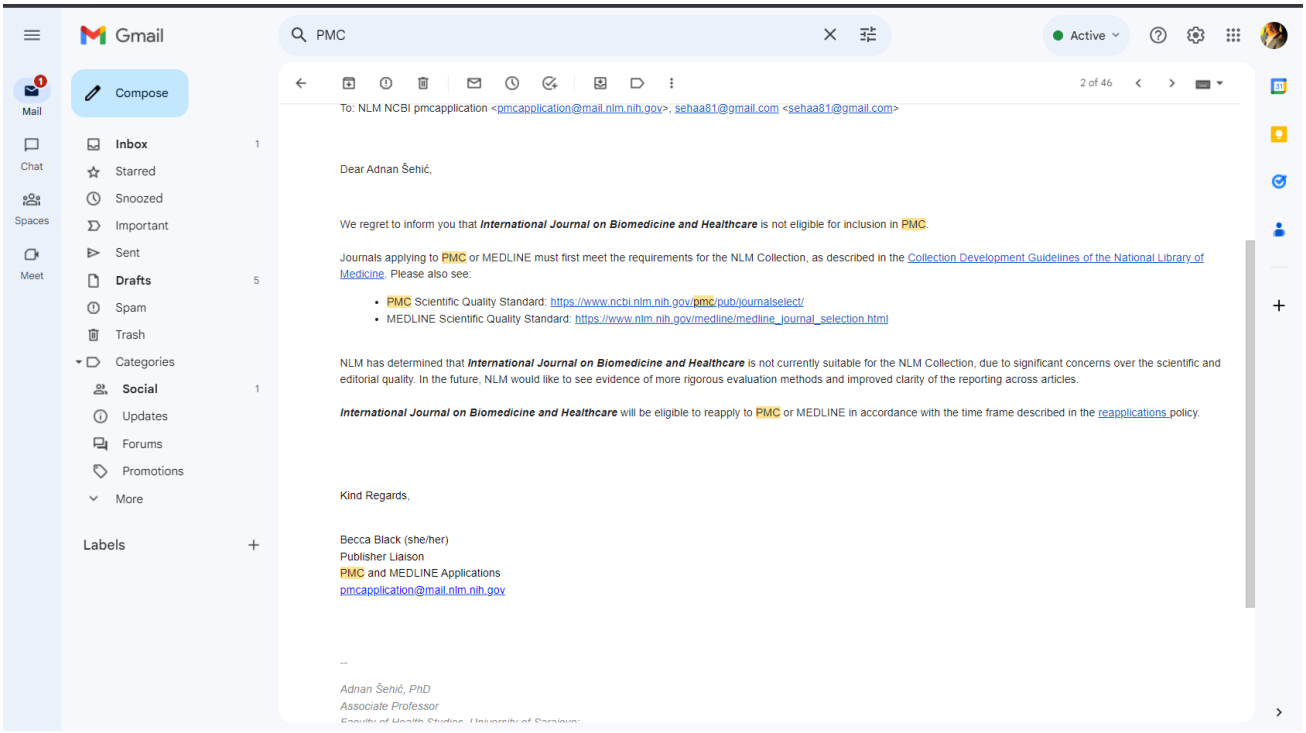


Figure 19. Communication's letters with Scopus Evaluation Team

publication fees, which authors paid for their published papers.

One of for journals which are supported by the Academy of Medical Sciences of Bosnia and Herzegovina (AMNuBiH) is the International Journal on Biomedicine and Healthcare (IJBH–www.ijbh.org), an online journal established by Professor Jana Zvarova in the year 2013, published submissions in English and/or Czech languages (14, 15). The journal aims to inform the readers about the latest developments in biomedicine and healthcare, focusing on multidisciplinary approaches, new methods, results, and innovations. It publishes original articles, review articles, case reports, short communications, etc., reporting about advances in biomedicine and healthcare, also conference submissions, case studies, and articles that explore how science, education, and policy are shaping the world and vice versa, editorial commentary, opinions from experts, information on projects, new equipment, and innovations.

The first issue of IJBH, in the year 2013, was edited by Jana Zvarova (14) (Figure 2), Professor and Director of the EuroMISE Center at Prague University as Editor-in-Chief and her associates: Anna Chlenker, Libor Seidl, Pavel Smrcka and Marie Tomeckova, all of them from the Czech Republic, as members of Editorial Board. Anna Schlenke and Marie Zitkova have done graphic design. The Marketing Manager was Karel Zvara. The last issue of the 5th volume of the International Journal on Biomedicine and Healthcare was printed in December 2017. Editorial Board members were contained by: Editor-in-chief: Arie Hasman (Amsterdam, The Netherlands), and members of the Editorial Board: Edward Hammond (USA), Reinhold Haux (Germany), Jochen Moehr (Canada), Ioana Moisil (Romania), Pirkko Nykänen (Finland), František Och (Czech Republic), Libor Seidl (Czech Republic), Jose Ignacio Serrano (Spain), Anna Schlenker (Czech Republic), Pavel Smrčka (Czech Republic), Marie Tomečková (Czech Republic), Arnošt Veselý (Czech Republic). Publisher of the December issue 2017 of the International Journal on Biomedicine and Healthcare, as the official journal of the EuroMISE Mentor Association–EMA (www.euromise.net), has been EuroMISE s.r.o., Prague, arranged and managed by Karel Zvara.

During the past period from 2013 until 2017, EuroMISE Mentor Association (EMA) published ten issues of IJBH. In this period, EMA published 252 articles, including 70 original (short or full) articles, 11 Opinion articles, 10 Editorials, 2 Reviews, 17 other articles, and 142 Abstracts. After 2017, when Jana Zvarova passed away, IJBH stopped publishing in Prague, and both journals–EJBI and IJBH, moved from Prague to another place–EJBI in London (Pulsus continued to publish EJBI) and IJBH to Sarajevo (Avicena continued to publish IJBH) (4).

Until this year, Avicena Publisher printed 11 issues of IJBH journal–in 2018-14, in 2019–20, in 2020–24, in 2021–45, in 2022-47 and 1 supplement, and in 2023-11 papers and one supplement. Most are original papers (38,4 %) and reviews (34,6 %). The authors of published articles are primarily from South-Eastern countries (Bosnia and Herzegovina, Serbia, Croatia, North Macedonia) and other countries (Greece, Libanon, India, Poland, USA, Norway, etc). The idea of Professor Jana Zvarova stated that both journals founded by her need to be internationally recognized fully exist.

EMA supported IJBH during past years, and we need

to thank all members of EMA, distinguished professors from the Czech Republic, Europe and the USA, and Canada: Jana Zvarova, František Och, Arnošt Veselý, Ioana Moisil, Jan Rauch, Marie Tomečková, José Ignacio Serrano, Karel Zvára, Bernard Richards, Bernd Blobel, Pirkko Nykänen, Jochen Moehr, Reinhold Haux, Jan H. v Bemmel, Edward William Hammond, Rolf Engelbrecht, Diane Whitehouse, Francesco Pinciroli, John Mantas, Arie Hasman and Izet Masic (16-21).

Current Editorial Board of IJBH are distinguish biomedical experts, professors and academicians in Europe and World, some of them are former members of EMA and great friends of the founder Professor Jana Zvarova: Prof. Kenan Arnautovic (University of Memphis, USA); Prof. Georges Aoun (Lebanese University, Beirut, Lebanon; Prof. Jan H. van Bemmel (University of Rotterdam, The Netherlands); Prof. Jacob Bergsland (University of Oslo, Norway); Prof. Mirza Biscevic (University of Sarajevo, B&H); Prof. Alma Biscevic (University of Rijeka, Croatia); Prof. Tarik Catic (University of Sarajevo, B&H); Prof. Benjamin Djulbegovic (University City of Hope, USA); Prof. Doncho Donev (Skopje, North Macedonia); Nguyen Minh Duc, MD (Pham Ngoc University of Medicine, Ho Chi Minh City, Vietnam; Prof. Evangelos Fradelos (Larissa, Thessaly, Greece); Prof. Lidia Georgieva (University of Sofia, Bulgaria); Prof. Vjekoslav Gerc (University of Sarajevo, B&H); Prof. Ilija Gligorov (University of Skopje, North Macedonia; Prof. Braco Hajdarevic (Mostar, B&H); Prof. Edward Hammond (WAAS, Washington, USA); Prof. Arie Hasman (University of Amsterdam, The Netherlands); Prof. Reinhold Haux (University of Heidelberg, Germany); Prof. Zlatko Hrgovic (University of Frankfurt, Germany); Prof. Izet Hozo (University of Split, Croatia); Ass. Prof. Dzenan Jahic (University of Sarajevo, B&H), Prof. Slobodan M. Jankovic (University of Kragujevac, Serbia); Prof. Reuf Karabeg (University of Sarajevo, B&H); Prof. Karmela Krleza-Jeric (Toronto, Canada); Prof. Roya Kelishadi (Isfahan Iran); Anant Kumar (Ranchi, Jharkhand, India); Prof. Asim Kurjak (University of Zagreb, Croatia); Prof. Faina Linkov (Pittsburgh, USA); Prof. Snjezana Milicevic (University of Banja Luka, B&H); Prof. Emir Mujanovic (University of Tuzla, B&H); Prof. Pirkko Nykänen (University of Kuopio, Finland); Prof. Naser Ramadani (University of Prishtina, Kosovo); Prof. Enver Roshi (University of Tirana, Albania); Prof. Mustafa Sefic (University of Sarajevo, B&H); Prof. Osman Sinanovic (University of Tuzla, B&H); Prof. Istvan Szillard (Pecsl, Hungary); Prof. Sylwia Ufnalska (Poznan, Poland); Prof. Elena Varavikova (Moscow, Russia); Prof. Muharem Zildzic (University of Zenica, B&H).

Application of IJBH into PMC and Scopus databases

In April 2023, as President of the Academy of Medical Sciences of Bosnia and Herzegovina, who is the official owner of IJBH and Former Editor-in-Chief of IJBH, I sent an application for accepting IJBH into PMC and Scopus databases. Both rejected its application with superficially strange comments and unusual reasons and explanations.

The letters from the staff of PMC and Scopus who presented themselves as Evaluation Expert Teams who evaluated the quality of the contents of the IJBH journal are in Figures 22 and 23. My answers to them were the next:

"On behalf of the Academy of Medical Sciences of Bosnia and Herzegovina, as President, and to which the journals Medical Archives, Materia Socio-Medica, Acta Informatica Medica and International Journal of Biomedicine and HealthCare belongs as official journals, in the next part of this Editorial I will describe how I expressed my resignation and comments.

WHY?

I am the fully responsible person to write my opinion about rules, ways, and methods of managing processes which responsible people (I am not sure they are?) in PMC and Scopus (similar is the case in WoS Clarivate) are doing - superficially, untransparently, without serious providing a quality assessment of aplicated journals for evaluation and eventually accept it to its database for indexing.

I am talking about it because I have great experience in editing scientific and academic journals in my scientific and academic career. This person edited eight journals and more than 15,000 submitted papers to be published in. Also, I am an author and co-author of more than 100 books (including the book Science Editing in Biomedicine and Humanities) and 1000 published papers in internationally recognized indexed journals. Maybe, I am one of the most influential authors of more than 50 papers within the Science Editing field and Scientometrics (see list of references at the end of this article (numbers at the list 20-50). Last 20 years, I communicated with many important people in Medline (Sheldon Kotzin, see Figures 2-4) regarding the evaluation process and accepting journals I edited as Editor-in-Chief. Finally, my statement results from my knowledge and experience as a member of 6 World, European and Bosnian academies, where it is not easy to be elected. It allows me to comment on the advantages and disadvantages of deciding which journal need or must be included in index databases like WoS, PubMed, Scopus, etc.

Finally, I am a person who is the first author of the Sarajevo Declaration on visibility and integrity of Scholarly publishing, Guidelines of Scientific Editing, BOMRAD Form for preparation of scientific articles, and Chairman of 5 Special Topic Conferences about Science editing - some of them internationally recognized, where its experiences in this field were presented by more than 30 editors of the scientific journals from Europe and worl (see also papers in the list of cited references).

Regarding the ethics and inclusion of COPE and other statements in our Instructions for authors and Impressum of the journal, I was one of the most influential people who, as a member of the Council of European As-

sociation of Science Editors, tried and insisted on following more substantial cases of unethical (with experts in COPE) behaviors. I have written over 30 articles about plagiarism and cases of unethical behavior. One of the organized SWEP – Seminars was about Writing, Editing, and Publishing in Sarajevo, titled "Ethical Dilemmas in Science Editing". I have written several books about Ethics and Health Ethics (and Data Protection). Also, I chaired many sessions on these topics at world and European Conferences. I am the first author of the "Sarajevo Declaration on Integrity and Visibility of Scholarly Journals" (Croat Med J. 2016; 57: 527-529), accepted as a rule in more than 30 journals. Also, our Editors described in the cover letter, attached to the Application form, what they improved during last year, recommended by your reviewers.

I concluded that reviewers of PMC and Scopus were not severe with their "quality assessment," and they performed their job very insufficiently or poorly. Comments and recommendations in attached reviews are very similar as in previous (that was more general, it was not specific and oriented on the subject and content of the journals)".

It is exciting how PMC and Scopus reviewers have made SERIOUS mistakes and, for example, without checking and analyzing contents of papers sent from us (requested by Evaluation Team) end expressed its opinion without describing by which variables they assessed the quality of the published paper's contents.

In the attached abstracts in this Editorial, readers can see and check authors' names and their scientific indices in the essential bibliometric lists, like Stanford et al. Almost all abstracts of papers here in supplement of IJBH are academic authors, and many of them are editors of scientific journals; how can papers be published if they are not good? They keep their academic status and scientific renome. I am not sure they allow to lose it by publishing bad or false science papers that will be readable worldwide ***(see references 51-115 from abstract's collection from published IJBH issues from 2013-2023).***

CASE 1.

———— Forwarded message ————-

From: **NLM NCBI pmcapplication** <pmcapplication@mail.nlm.nih.gov>

Date: Mon, 3 Jul 2023 at 17:58

Subject: ***[PMC Application] Initial Application Screening Results for NJA-37953 (International Journal on Biomedicine and Healthcare)***

To: NLM NCBI pmcapplication <pmcapplication@mail.nlm.nih.gov>, sehaa81@gmail.com <sehaa81@gmail.com>

Dear Adnan Šehić,

We regret to inform you that **International Journal on Biomedicine and Healthcare** *is not eligible for inclusion in PMC.*

Journals applying to PMC or MEDLINE must first meet the requirements for the NLM Collection, as described in the Collection Development Guidelines of the National Library of Medicine. Please also see:

PMC Scientific Quality Standard: https://www.ncbi.nlm.nih.gov/pmc/pub/journalselect/

MEDLINE Scientific Quality Standard: https://www.nlm.nih.gov/medline/medline_journal_selection.html

NLM has determined that **International Journal on Biomedicine and Healthcare** *is unsuitable for the NLM Collection due to significant concerns over the scientific and editorial quality. In the future, NLM would like to see evidence of more rigorous evaluation methods and improved clarity of the reporting across articles.*

International Journal on Biomedicine and Healthcare *will be eligible to reapply to PMC or MEDLINE in accordance with the time frame described in the reapplications policy.*

Kind Regards,
Becca Black (she/her)
Publisher Liaison
PMC and MEDLINE Applications
pmcapplication@mail.nlm.nih.gov

CASE 2.

Title: International Journal on Biomedicine and Healthcare

ISSN / E-ISSN: / 1805-8698

Publisher: AVICENA d.o.o.

Dear AVICENA d.o.o.,

The title mentioned above has been evaluated for inclusion in Scopus by the Content Selection & Advisory Board (CSAB).

The review of this title is complete, and the CSAB has advised not to accept the title for Scopus inclusion. For your information, the reviewer comments are copied below:

"A well-organized and tightly edited journal from Bosnia and Herzegovina which focussed explicitly on loco-regional content would be a welcome addition to SCOPUS.

This English-language journal has a primarily regional editorial board, including members of the wider Balkan diaspora.

In this context, the aspiration to be a genuinely International journal is unconvincing, as are the stated Aims and Scope to cover "anything and everything" concerning medicine, public healthcare, dentistry, and nursing.

The journal publishes around 40 items annually, including many biographies, with minimal international citation activity.

At a minimum, I recommend that the journal carries a more informative subtitle or strapline to highlight with pride that this is a Bosnian (or Balkan) Journal on Biomedicine and Healthcare.

I also recommend a strategic review of the editorial processes, content selection, and organization to provide greater focus and improve the overall quality and presentation of the content."

Figure 20. Cover pages of the official journals of Academy of Medical Sciences of Bosnia and Herzegovina

If in the future these comments are addressed, you may decide to submit a new application at any time after the following date: June 2026.

At that time, you will be required to upload a cover letter detailing how the above comments have been addressed.

Finally, we strongly advise you to read through our FAQ:

Helping to improve the Scopus submission & success process for editors and publishers.

Our Role of an Editor FAQ contains practical information for journal editors.

Yours sincerely,

Scopus Title Evaluation Support

titlesuggestion@scopus.com

Statements from Scopus Evaluation Team

a) "A well-organized and tightly edited journal from Bosnia and Herzegovina which focussed explicitly on loco-regional content would be a welcome addition to SCOPUS.

b) This English-language journal has a primarily regional editorial board, including members of the wider Balkan diaspora.

c) In this context, the aspiration to be a genuinely International journal is unconvincing, as are the stated Aims and Scope to cover "anything and everything" concerning medicine, public healthcare, dentistry, and nursing.

d) The journal publishes around 40 items per annum, including a significant number of biographies, with very limited international citation activity to date.

e) At a minimum, I recommend that the journal carries a more informative subtitle or strapline to highlight with pride that this is a Bosnian (or Balkan) Journal on Biomedicine and Healthcare.

f) I also recommend a strategic review of the editorial processes, content selection, and organization to provide greater focus and improve the overall quality and presentation of the content."

Answers and comments of the Editors of the IJBH journal

It is not true that International Journal on Biomedicine and Healthcare (IJBH www.ijbh.org) is explicitly focused on local-regional content. My associates created a BULLETIN in which all issues of printed editions from 2013 to 2023 are listed/scanned, with the listed articles and their authors and co-authors and their affiliations. It can be seen that there are over 500 published articles and the same number of authors and co-authors from more than 50 countries all over the world. This Bulletin is scheduled for publication as the following supplement to the IJBH journal on its 10th anniversary.

I ASK THE EVALUATORS to review the BULLETIN and determine these stated facts (attached PDF of Bulletin).

It is also not true that IJBH mainly has a Regional Editorial Board. The current Editorial Board consists of respected scientists from 22 countries, of whom 26 are academics (World Academy of Arts and Sciences (Mašić, Kurjak, Sefić), European Academy of Sciences and Arts (Mašić, Kurjak, Donev), International Academy of Health Sciences Informatics (Mašić, Hammond, Hasman, Haux, Nikanen), Academy of Sciences and Arts of Bosnia and Herzegovina (Kurjak, Arnautović), Academy of Medical Sciences of BiH (Mašić, Djulbegović, Bergsland, Sinanović, Sefić, Miličević, Zildžić, Arnautović, Hozo, Janković, Donev, Hasukić, Hrgović, Grujić, Gerc), International Academy of Sciences and Arts in BiH (Kurjak, Sinanović, Hasukić, Mašić), Bosnian Academy of Sciences and Arts (Mašić, Bergsland) and 16 of them are in 2022 Stanford is listed in the top 2 percent of the most cited in the world (see attached in Bulletin page 35).

The most represented scientists are indeed from Bosnia and Herzegovina (13). Still, they are all famous names in biomedical sciences. Still, other countries also dominate–the USA (5 scientists), Croatia and Serbia 3 each, The Netherlands, Russia and North Macedonia 2 each, and Canada, Hungary, Albania, Lebanon, Finland, Iran, India, Kosovo, Poland, Germany, Greece, Bulgaria, and Vietnam 1 scientist each. Each of them has an added ORCID ID and you can check their scientific work (the lists of members are below with their ORCID ID).

To calculate the H-indexes of academics Asim Kurjak,

Benjamin Djulbegović, Jacob Bergsland, Jan van Bemell, Arrie Hasman, Kenan Arnautović, Slobodan Janković, Donche Donev (all from other countries outside of Bosnia) would get impressive indicators and all of them are in the 2 percent of the most cited in the Scopus Stanford bibliometric list. Would the world-renowned scientists, the creators of Cohraine, academics Benjamin Djulbegović (who has published works in more than 40 journals and was the most cited scientist in the world in WoS two years ago, the first oncologist and hematologist in the USA), and Sir Ian Chalmers, agree that the entire supplement dedicated to Medical Dramaturgy, which is a unique undertaking in the world, will publish in IJBH recently. This speaks volumes about how much the IJBH journal is valued and appreciated.

https://www.researchgate.net/publication/370750983_How_to_Make_Life_and_Death_Medical_Decisions_On_the_Occasion_of_PlayDrama_as_Health_Care_Protection_Method_of_Decision_Making_Using_by_Patients_with_Pancreatic_Cancer

Suppose you need their letters of recommendation for IJBH. In that case, you will receive them in writing, including letters from academics Ian van Bemmel and Arie Hasman, who are among the founders of this journal (see in the attached Bulletin). Both were presidents of the International Medical Informatics Association (IMIA). They are among the most cited scientists in your country, The Netherlands. Or academics Reinhold Haux (Germany) and Edward Hammond (USA), also former presidents of IMIA and the American Medical Informatics Association (AMIA).

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6697521/

There are no arguments for this and the evaluators behave like charlatans whose opinion and assessment that IJBH covers "all and everything" is unargued and based on false facts (like the qualification "parochial" journals for Medical Archives and Materia Socio-Medica from 2018 about which we argued for five years and it is still going on), because by looking at their scientific contribution, which is reflected in the presence in numerous scientific academies, published scientific works and other publications such as textbooks and monographs, and especially to the members of the Editorial Board are organizers of numerous scientific congresses and Special Topics Conferences (SPC), and a few are former presidents, vice-presidents, general secretaries or members of World and European scientific associations, including numerous Academies of Sciences (Haux, Hasman, van Bemmel, Zvarova, Mašić, Kurjak, Gerc, Grujic, Sinanović).

d) The number of published articles in the past 11 volumes was assessed on a flat basis. The attached Bulletin lists all published articles in 25 issues and two supplements in 11 volumes of IJBH, and the numbers are impressive – 366 published papers (2013 – 85, 2014 – 26, 2015 – 26, 2016 – 32, 2017 – 37, 2018 – 14, 2019–21, 2020 – 21, 2021 – 46, 2022 – 47, 2023 – 11 papers). Even though the members of the Scopus Evaluation Team searched for and took data related to the numbers published for the last five years, and in the previous five years, they did not even take the IJBH numbers into the analysis and evaluation in the period 2013-2017, when the IJBH was published at Charles University in Prague, whose team was led by Academician Jana Zvarova).

Therefore, ten issues of the journal were not taken into account at all in the quality assessment. On the contrary, authors from that period have an impressive number of published articles and citations in Scopus. It is about hundreds of thousands of citations that are easy to find through Google Scholar or the Hirsh index (cited as the benchmarks of science today).

Then, your statement that 40 articles are published annually in the journal is also not true because 46 and 47 articles were published in the last two volumes, which is not a tiny difference. Even more severe journals with a long reputation have fewer than ten articles per issue. Finally, you also mention a considerable number of biobibliographies in the published issues. We must point out that it is desirable to provide due respect to prominent scientists in the world and Europe in this way for their contribution to science, and my own experience motivated me to do that, because the young generations neither know nor have anywhere to find out about their scientific contribution.

Here is an attachment that indicates how much IJBH is cited and read on the most famous scientific platform RESEATCHGATE (in which I have an enviable over 350,000 reads, which few can boast of). For example, the article by my colleague Nabil Naser from Cardiology has over 36,000 readings, etc.

https://www.researchgate.net/publication/350743328_Writing_and_Editing_of_Scientific_Papers_Using_BOMRAD_Structured_Form_and_Proper_Style_of_References_Citation

https://www.researchgate.net/publication/347952029_Muharem_Zildzic_et_al_-The_Importance_of_Nutrition_in_Boosting_Immunity_for_Prevention_and_Treatment_COVID-19

https://www.researchgate.net/profile/Benjamin-Djulbegovic-2

https://www.researchgate.net/publication/350756280_Cardiopulmonary_Resuscitation_CPR

https://www.researchgate.net/publication/367413417_The_False_Science_in_the_Biomedicine_-a_Dilemma

https://www.researchgate.net/publication/347496433_Simplified_Technique_for_Miniscrew_Implant_Placement_Using_Three-dimensional_Surgical_Guide

https://www.researchgate.net/publication/347418320_Application_of_Models_and_Modeling_in_Biomedicine

https://www.researchgate.net/publication/347440135_Sarajevo_Private_Pharmacies_in_the_19th_and_20th_Centuries

https://www.researchgate.net/publication/342613729_Methodological_Errors_in_Clinical_Studies_Published_by_Medical_Journals_of_Ex-Yugoslav_Countries

https://www.researchgate.net/publication/358087523_Pandemic_COVID-19_What_We_Know_and_What_We_Expect_in_2022

This does not have any realistic recommendations or assumptions (and you have already mentioned this nonsense once in the evaluation of Medical Archives and Materia Socio-Medica) in order to achieve a better quality of the journal by this act, because it is not the intention for IJBH to be a Bosnian journal, because in the word "international journal" is used in the name itself, which covers a wide range of at least 50 scientific disciplines that include biomedicine, including the entire health sector/field (Health Care Systems and Protection), which makes it possible for those who are not directly involved in scientific and the academic community with the work they do, they are provided with an occasion and opportunity to publish and share some interesting results in research or their regular professional work with others, if they think they are interesting and can help others to apply them in practice.

We can improve the strategic audit in every respect, but we cannot make greater scientists than they are now. Science has fallen into a major crisis locally, regionally, and globally, especially caused by the consequences of the Corona pandemic, which will continue to follow and torment us for a long time in every scientific aspect. There is less and less real and proper research and the implementation of scientific projects, especially in academic institutions, and the reasons are various. The lack of funding sources dominates among them. Science is minoritized concerning all other sectors of society.

While football players are enormously rewarded with fabulous sums of money for dribbling the ball or putting it in hair, until then, scientists and academic staff receive alms so that they can even feed their families. Unfortunately, they can hardly collect money to finance (publication fees) the costs of preparing and publishing their research results. In particular, scientific staff from underdeveloped countries, including former socialist countries and Bosnia and Herzegovina, are in trouble.

And instead of helping such scientists in various ways, including the possibility of assisting authors from those countries in disseminating scientific information through scientific databases, such as the SCOPUS database, it is being made impossible for them in all kinds of ways, including yours.

The harassment we experienced when it came to three other journals published by AMNuBiH (www.amnbih.org), which Avicena Publisher Sarajevo applied and experienced great inconvenience and humiliation, about which Mensud Kadribasic, B.Sc. in law, wrote to you, General Manager less than a month ago, one gets the impression that among the evaluators there is someone from this area who, out of envy, and perhaps ignorance, and even hatred, sends negative notes to such evaluations, which deserve to be expressed by international institutions that defend the rights citizens of Europe, especially scientists and academic staff. We still haven't finished and circled what and how to implement it to sanction the injustice so far.

Attachments about facts of members of the IJBH journal

Founder and First Editor-in-Chief

Academician Jana Zvarova, PhD, Charles University of Prague, Czech Republic (2013-2017), ORCID ID: http//www.orcid.org/0000-0001-9485-8822. Google scholar Index:

Former Editor-in-Chief

Academician Izet Masic, MD, PhD, University of Sarajevo, Bosnia and Herzegovina (2018-2022), ORCID ID: http://www.orcid.org/0000-0002-9080-5456. Google Scholar Index: 6057 – 39-150.

Current Editor-in-Chief

Academician Muharem Zildzic, MD. PhD, University of Zenica, Bosnia and Herzegovina (2022-), ORCID ID: http://www.orcid.org/0000-0001-5418-2274. Google Scholar Index:

Co-Editor-in-ChiefS:

Academician Jacob Bergsland, MD, PhD, University of Oslo, Norway (2022-), ORCID ID: http//www.orcid.org/0000-0002-3101-4064

Academician Zlatko Hrgovic, MD, PhD, University of Frankfurt, Germany (2022-), ORCID ID: http//www.orcid.org/0000-0001-5504-9256

Statistical Editor: Academician Slobodan M. Jankovic, MD, PhD, University of Health Sciences, Kragujevac, Serbia (2020-), ORCID ID: http//www.orcid.org/0000-0002-1519-8828

Secretary: Professor Adnan Sehic, Faculty of Health Studies, Sarajevo, Bosnia and Herzegovina (2022-), ORCID ID: http//www.orcid.org/0000-0003-2960-3801

Language Editor: Dubravko Vanicek, prof., University Clinical Center, Sarajevo, Bosnia and Herzegovina

Technical Editor: Mirza Hamzic, dipl. oec. , Sarajevo, Bosnia and Herzegovina (2018-)

Members of the Editorial Board:

Academician Prof. Kenan Arnautovic (University of Memphis, USA, http//orcid.org/0000-0003-3745-288X), Google scholat Index:

Prof. Georges Aoun (Lebanese University, Beirut, Lebanon, http//orcid.org/0000-0001-5073-6882),

Prof. Shervin Assari (Ann Arbor, MI, USA, http://orcid.org/0000-0002-5054-6250),

Prof. Momcilo Babic (Belgrade, Serbia, http://orcid.org/0000-0003-2600-3050),

Academician Prof. Marion Ball (University of Texas at Arlington, USA, http//orcid.org/0000-0000-0000-0000),

Academician Prof. Jan H. van Bemmel (University of Roterdam, The Netherlands, http//orcid.org/0000-

Dear Scopus Evaluation Team,

I honestly think that they will not be satisfied with their reputation and official opinions, through which I believe that they will express their views about your way of evaluating scientific and academic journals with rather negative consequences.

The most crucial role and influence of biomedical scientific or professional publications are scientific journals deposited in indexed and abstracted citation databases. In the biomedical informatics and publich health scientific field, there are not many biomedical journals in Europe and the World that are included in the most influential online databases like WoS, PubMed/Medline, Scopus, Embase, Hinari, EBSCO, etc. As chair of the Task Force of EFMI journals from 2008 to 2014, I was responsible for following which countries members of EFMI have scientific or professional journals with the scope of Medical informatics or Public health. I tried, with some of our colleagues, to improve the quality of the journals and help Editors of them to include them in mentioned databases. Regarding that mission, EFMI and IMIA associations had some national biomedical journals as official journals of these associations: Methods of Information in Medicine, International Journal of Medical Informatics, Acta Informatica Medica, European Journal for Biomedical Informatics, Applied Clinical Informatics, EFMI Inside, etc.

The author of this Editorial has an excellent opportunity to continue editing two biomedical journals established at Charles University in Prague by professor Jana Zvarova – European Journal for Biomedical Informatics (EJBI) and International Journal on Biomedicine and Healthcare (IJBH) in 2018 after Jana Zvarova

passed away in 2017. This issue of IJBH, printed on the occasion of the tenth anniversary of existing of the IJBH journal, contains a few essential facts about the history of the journal from 2013 till today and a scientific and professional analysis of the importance the contribution of the journal in spreading biomedical knowledge via IJBH journal, in the past ten years, in the academic community. Official journals of the Academy of Medical Sciences of Bosnia and Herzegovina are Medical Archives, Materia Socio-Medica, Acta Informatica Medica, indexed in PubMed, PubMed Central Scopus, Bibliomed, etc. and International Journal on Biomedicine and Healthcare, indexed in Bibliomed database.

Your superficial and general statements within a reasonable and legal time limit within which we have the right to appeal and to answer our questions and arguments related to your qualifications during the evaluation and making of the decision you submitted to our opinion and change the decision to reapply in June 2025. By then, we will all die in EB (if that is your intention) and what is the point of the journal being accepted in Scopus then? Hundreds of quality works and their authors will be unjustifiably damaged.

We still haven't finished the case of "Medical Archives" and "Materia Socio-Medica" because you used the same scenario then and unnecessarily harassed us and, in that way, caused the dissatisfaction and anger of hundreds of damaged authors who did not get into the Stanford paper you boast about.

As the founder and president of AMNuBiH, I have not yet authorized the General Manager Mensud Kadribašić to suspend the process against you, which you tried to "smooth out" by making an express decision within five days to accept the Materia Socio-Medica journal in Scopus and the Medicinski Arhiv which is in Scopus based on indexing in Medline for 70 years, it just transforms its name into Medical Archives, which PMC officially asked you to do. Medical Archives is the name from the cover of the Medicinski Arhiv journal, only in our language, and is still retained as such in the SCImago Rank.

6. CONCLUSION

*Criteria for assessm*ent of the scientific status of somebody who built-up scientific or academic career, besides the mentioned indexes in this text, must take into account also authorship of the textbook(s), books, monographs, etc.; the proof of organized congresses or scientific conferences or chaired of scientific sessions at conferences, etc.; editing of scientific indexed journals recognized internationally, membership in scientific associations at international or national levels, some special awards at the international level, etc.

Some significant features of the Scopus, ResearchGate, and Google Scholar index databases and platforms are:

- * ReserachGate Index (RGI) is more objective, as it analyzes full articles, their complete contents, their citations and articles in which these contents are cited and by which author, then shows authorships and co-authorships and invites co-authors to accept citations of co-authored articles. Particularly interesting is the data on the number of readings of the stored article (because not every article needs to be cited, but it is a valuable indicator that the article is read), and finally takes into account this data on articles published in journals not indexed in Scopus, which can be of better quality than those stored in Scopus, etc.
- Google Scholar Index (GSI) is less selective and accurate, so usually, a person has attributed quotes or someone else quotes. If a person does not occasionally sort their data and does not delete what is not theirs, then the bibliometric image of that person is not actual (realistic).
- Scopus is too restrictive, and many PubMed (Medline) quotes are not recognized.
- Researchgate is the most accurate and always asks the author to confirm authorship. It allows the author(s) to enter the article that they did not notice (or omit).
- Such a platform is also Academia.edu.

These criteria should be necessary for quality assessment of the scientific curriculum of scientists and their published papers in journals when experts of indexed databases like PMC, Scopus, etc., do reviews during the evaluation of applied journals for potentially including indexed databases.

Current academies and academicians can propose it with the consultation of scientific bodies and experts at universities in one country, selected regions, or worldwide.

- **Author's contribution***: The author was involved in all preparation steps for this article, including final proofreading.*
- **Conflict of interest***: None declared.*
- **Financial support and sponsorship***: Ni*

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