WHERE ARE ROMANIAN BIOMEDICAL JOURNALS NOW AND WHAT DOES THE FUTURE HOLD FOR THEM? A SCIENTOMETRIC ANALYSIS

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Abstract

Background and aim. There is a competition between scientific journals in order to achieve leadership in their scientific field. There are several Romanian biomedical journals which are published in English and a smaller number in Romanian. We need a periodical analysis of their visibility and ranking according to scientometric measures.

Methods. We searched all biomedical journals indexed on international data bases: Web of Science, PubMed, Scopus, Embase, Google Scholar. We analyzed their evaluation factors.

Results. Several journals from Romania in the biomedical field are indexed in international databases. Their scientometric indexes are not high. The best journal was acquired by an international publisher and is no longer listed for Romania.

Conclusions. There are several Romanian biomedical journals indexed in international databases that deserve periodical analysis. There is a need to improve their ranking.

Keywords: biomedical journals, Romania, scientometrics

Introduction

There is a large and increasing number of biomedical journals published worldwide. Publishing is a mandatory action of any scientist and is very important for the progress of the humanity. Academics and investigators working in the field of health sciences need to get impact, visibility, authority and recognition thanks to their papers. Therefore scientometry emerged as a science to evaluate the importance of scientific publications (1). Romania is an emerging country trying to increase the impact of its research including the biomedical field. In this county there are a number of biomedical journals, accredited by the Ministry of Education and Research (2). Therefore national scientific publications need to be periodically evaluated in order to assess the place and impact of biomedical research of that nation and to formulate perspective of progress.

The aim of this paper was to evaluate the current state of the Romanian biomedical journals and to assess the future perspectives.

Methods

We looked for the Romanian biomedical journals indexed in the main international databases: Web of Science, PubMed, Scopus, Embase, Google Scholar. We assessed and compared there rankings, analyzing the factors responsible for the present scientometric factors. The analysis was carried out in October 2017.

Results

There are several biomedical journals indexed on Web of Science (WoS) by ISI, formerly under as Thomson Reuters and now Clarivate Analytics. They are displayed on table I.

Unfortunately they do not have high impact factors (IF).

A large number of journals are indexed on PubMed. They are listed in Table II.

Among these 15 biomedical journals, the majority have been included in Index Medicus before 1990 and are in PubMed via Medline. The newer ones have been included via PubMed Central.

Scopus, the other large database that provides
science indicators, indexes the following biomedical journals from Romania (Table III).

As it may be seen, SCOPUS indexes a higher number of Romanian biomedical journal, increasing their visibility on this data base.

EMBASE is also accommodating a large number of biomedical journals from Romania (see Table IV).

There is a large array of fields covered by EMBASE, Romanian medical journal being quite well represented in this database.

One can see that our journal, Clujul Medical, although not in Web of Science (yet?), is included in several important databases for health sciences. Its coverage is shown in table V.

Google Scholar has also in its database a large number of biomedical journals. Given the easier access to indexation on Google Scholar, we did not analyze their impact on this data base.

### Table I. Romanian biomedical journals indexed on WoS.

| Rank | Full Journal Title                                           | Total Cites | Journal Impact Factor /2016 |
|------|--------------------------------------------------------------|-------------|-----------------------------|
| 1    | Journal of Gastrointestinal and Liver Diseases               | 1,193       | 1.891                       |
| 5    | Medical Ultrasonography                                     | 371         | 1.167                       |
| 6    | FARMACIA                                                    | 644         | 1.162                       |
| 10   | Romanian Journal of Morphology and Embryology               | 872         | 0.811                       |
| 11   | Digest Journal of Nanomaterials and Biostructures           | 1,192       | 0.756                       |
| 28   | Notulae Botanicae Horti Agrobotanici Cluj-Napoca            | 465         | 0.451                       |
| 32   | Optoelectronics and Advanced Materials-Rapid Communications | 827         | 0.412                       |
| 34   | JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS           | 2,107       | 0.383                       |
| 36   | Romanian Biotechnological Letters                           | 452         | 0.381                       |
| 44   | REVUE ROUMAINE DE CHIMIE                                    | 685         | 0.25                        |
| 45   | Acta Endocrinologica-Bucharest                              | 81          | 0.235                       |
| 49   | Studia Universitatis Babes-Bolyai Chemia                    | 103         | 0.148                       |
| 50   | Romanian Journal of Legal Medicine                          | 68          | 0.144                       |
| 51   | Revista Romana de Medicina de Laborator                     | 42          | 0.143                       |

### Table II. Romanian biomedical journals indexed on PubMed.

|   |                                                   |               |                        |
|---|---------------------------------------------------|---------------|------------------------|
| 1 | Bacteriolgia, virusologia, parazitologia, epidemiologia (Bucharest, Romania: 1990) | MEDLINE       |                        |
| 2 | Chirurgia (Bucharest, Romania: 1990)               | MEDLINE       |                        |
| 3 | Clujul Medical (1957) (Cluj, Romania)             | Not MEDLINE   |                        |
| 4 | Current health sciences journal (Craiova 2013)     | Not MEDLINE   |                        |
| 5 | Europe's Journal of Psychology (Bucharest)        | Not MEDLINE   |                        |
| 6 | Germs (National Institute of Infectious Diseases Matei Bals) | Not MEDLINE |                        |
| 7 | Journal of Gastrointestinal and Liver Diseases (Romanian Society of Gastroenterology and Hepatology) | MEDLINE |                        |
| 8 | Journal of medicine and life (Universitatea de Medicină și Farmacie "Carol Davila"—Bucureşti) | MEDLINE |                        |
| 9 | Medical Ultrasonography (Romanian Society of Ultrasonography in Medicine and Biologie) | MEDLINE |                        |
| 10| Medicina (Romanian Physician College)              | Not MEDLINE   |                        |
| 11| Pneumologia (Romanian Society of Pneumology)      | MEDLINE       |                        |
| 12| Revista Medico-Chirurgicala a Societatii de Medici si Naturalisti din Iasi | MEDLINE |                        |
| 13| Romanian Journal of Morphology and Embryology      | MEDLINE       |                        |
| 14| Romanian Journal of Ophthalmology (Romanian Society of Ophthalmology) | MEDLINE |                        |
| 15| Roumanian Archives of Microbiology and Immunology (Institute Ion Cantacuzino) | MEDLINE |                        |
### Table III. Romanian biomedical journals indexed in Scopus.

| TITLE                                                        | SJR / SCIMAGO JOURNAL RANK |
|--------------------------------------------------------------|-----------------------------|
| Journal of Gastrointestinal and Liver Diseases               | 0.522                       |
| GERMS                                                        | 0.414                       |
| Medical Ultrasonography                                      | 0.379                       |
| Journal of medicine and life                                 | 0.284                       |
| Romanian Journal of Morphology and Embryology                | 0.276                       |
| Farmacia                                                     | 0.261                       |
| Romanian journal of internal medicine = Revue roumaine de medecine interne | 0.244                       |
| Chirurgia                                                    | 0.230                       |
| AACL Bioflux                                                 | 0.228                       |
| Revista Medico-Chirurgicala a Societatii de Medici si Naturalisti din Iasi | 0.198                       |
| **Clujul Medical**                                           | **0.190**                   |
| Studia Universitatis Vasile Goldis Arad, Seria Stiintele Vietii | 0.179                       |
| Romanian Journal of Legal Medicine                           | 0.167                       |
| Roumanian Archives of Microbiology and Immunology            | 0.166                       |
| Biharean Biologist                                           | 0.147                       |
| Gineco.eu                                                    | 0.145                       |
| Pneumologia                                                  | 0.145                       |
| Revista Romana de Medicina de Laborator                     | 0.143                       |
| Acta Endocrinologica                                         | 0.127                       |
| Romanian Journal of Neurology/ Revista Romana de Neurologie  | 0.124                       |
| Otorinolaringologia                                          | 0.121                       |
| Romanian journal of ophthalmology                           | 0.116                       |
| Romanian Journal of Anaesthesia and Intensive Care           | 0.114                       |
| Human and Veterinary Medicine                                | 0.112                       |
| Annals of the Romanian Society for Cell Biology              | 0.105                       |
| Journal of Translational Medicine and Research               | 0.105                       |
| Revista Romana de Bioetica                                   | 0.105                       |
| Therapeutics, Pharmacology and Clinical Toxicology           | 0.101                       |
| Analele Universitatii din Oradea, Fascicula Biologie         | -                           |

### Table IV. Romanian biomedical journals indexed in EMBASE.

| ACTIVE EMBASE JOURNAL TITLES (MAY 2017) | PUBLISHER                                                                 |
|-----------------------------------------|---------------------------------------------------------------------------|
| Archives of the Balkan Medical Union    | Celsius Publishing House                                                  |
| Chirurgia (Romania)                     | Editura Celsius                                                           |
| **Clujul Medical**                      | **Universitatea de Medicina si Farmacie Iuliu Hatieganu**                  |
| Farmacia                               | Romanian Society for Pharmaceutical Sciences                             |
| GERMS                                   | European Academy of HIV/AIDS and Infectious Diseases                      |
| Gineco.eu                              | Versa Puls media Network                                                  |
| Journal of Gastrointestinal and Liver Diseases | Romanian Society of Gastroenterology                                    |
| Medical Ultrasonography                 | Societatea Romana de Ultrasonografie in Medicina si Biologie              |
| Obsterica si Ginecologie                | Romanian Society of Obstetrics and Gynecology                             |
| Pneumologia                            | Romanian Society of Pneumology                                            |
| Romanian Journal of Anaesthesia and Intensive Care | Editura Clasium                                                        |
| Romanian Journal of Internal Medicine   | Editura Academiei Romane                                                 |
| Romanian Journal of Legal Medicine      | Romanian Legal Medicine Society                                           |
| Romanian Journal of Morphology and Embryology  | Editura Academiei Romane                                                 |
| Romanian Journal of Neurology/ Revista Romana de Neurologie | Editura Medicala                                                        |
| Therapeutics, Pharmacology and Clinical Toxicology | Romanian Society of Pharmacology, Therapeutics and Clinical Toxicology |
| Timisoara Medical Journal               | Victor Babes University of Medicine and Pharmacy                           |
Discussion

There is an important number of biomedical journals published in Romania. They are mainly issued by medical universities of by research institutes or scientific societies. All the indexed journals from international databases are in English. They are almost all open access. Most of them publish for free, other have low publication fees, making the submission of papers to these journals attractive. Several international authors submit and publish in Romanian journals.

On the other hand, Romanian authors do not publish only in Romania, but publish in other, often highly ranked international journals, given the need of recognition of visibility of any scientist.

There are also some Romanian biomedical journals published in Romanian (almost all with English abstracts) but given their national circulation, they were not analyzed in this paper. One can observe that most of the biomedical publications of his country have low Impact Factor according to WoS. The explanation is given by the fact that most of the journals are rather “young”, with recent presence on the internet and have therefore inherited a low visibility. But the visibility tends to increase in recent years.

The best Romanian medical journal, Journal of Cellular and Molecular Medicine, has been acquired by an international publisher; therefore it is no longer listed as a Romanian journal. Many other Romanian journals receive offers to be purchased by international publishers and it is to expect that in the future other WoS indexed journals will lose the national character.

Three WoS journals have lost their indexation in the last five years because of loss of scientific interest or because of high rates of self citations.

Journals of medical universities have difficulties in improving their ranking because one of their remits is to publish a number of articles of local importance, which deserve however to be published, and because of the lack of a precise profile. Such journals accept largely papers from their own universities, thus having lower diversity. They also publish epidemiological data or single center studies with local importance. The journals of the scientific societies do better in the perspective of improving their ranking.

Conclusions

There is a substantial number of biomedical journals in Romania that are open access, frequently without publication fee and indexed in the main international databases. However their impact has to be improved.

Acknowledgment

Special thanks go to Ms Ioana Robu, PhD for performing the scientometric research.

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