

OPEN ACCESS ONLINE JOURNALS ON MICROBIOLOGY ON DOAJ: A STUDY

Vijay Khillare

Librarian

Javahar Navodaya Vidyalaya, Nashik

And

Dr. Khaparde Vaishali

Professor and Head

Dept .of Library & Information Science

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. (MS) India

Email: khapardevaishali@gmail.com

Abstract

The Directory of Open Access Journals (DOAJ) lists open access scientific and scholarly journals, that meet high quality standards by exercising peer-review or editorial quality control and are free to all from the time of publication based on the Budapest open access initiative. Total 48 free online journals were accessed through DOAJ and analyze based on country, language, subject headings, keywords, their accessibility and availability of archives of online journal in “Microbiology”. The data entered and analysed by SPSS. The study showed that India and Turkey were the prolific Country of E-journals on Microbiology on DOAJ. Also showed English is the most common Communication language to spread the knowledge in all over the world which is used by (27) E-journals on Microbiology on DOAJ.

Keyword: Open Access; Online Journals, E-Journals; Microbiology; DOAJ.

Introduction:

The proliferation of free accessible E-journal, the development of subject specific and E-print archives and collections of learning objects provides a very valuable supplement of scientific knowledge of the exiting types of published scientific information (book, Journals, databases etc.) However these valuable collections are difficult to overview and integrate in the library and information services provided by libraries for their user constituency. Open access E-journals as journal that use a funding model that does not charge readers or their institutions for access.

Open Access: “Availability to all”, “Open access to scientific and technological information”. (<http://en.wikipedia.org>).

Open access journals:

Open access journals are scholarly journals that are available online to the reader "without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself." Some are subsidized, and some require payment on behalf of the author. Open access means users have full control of access; read, download, distribute, print, search or link to the full texts of these articles. Open access journals are scholarly journals that are available online to the users "without financial, legal or technical barriers other than those inseparable from gaining access to the internet itself". Open access journals (sometimes called the "gold road to open accesses") are one of the two general methods for providing open access. The other one (sometimes called the "green road") is self archiving in a repository. The publisher of an open access journal is known as an "Open access publisher and the process; "open access publishing."

- Open Access Overview by Peter Suber
- The Budapest Open Access Initiative
- Bethesda Statement on Open Access Publishing
- Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities
- The Open Access Bibliography
- The Open Access Directory - a compendium of OA lists. (<http://en.wikipedia.org>)

How Open Is It? A guide by OASPA.:

The proliferation of free accessible online journal, the development of subject specific and E-print archives and collections of learning objects provides a very valuable supplement of scientific knowledge of the exiting types of published scientific information (book, Journals, databases etc.) However these valuable collections are difficult to overview and integrate in the library and information services provided by libraries for their user constituency. Open access journals as journal that use a funding model that does not charge readers or their institutions for access. (<http://doaj.org>)

Aims and Scope of DOAJ:

The aims of DOAJ are to increase the visibility and ease of use of open access scientific and scholarly journals thereby to promote increased usage and impact. The Directory seeks to be comprehensive, covering all open access scientific and scholarly journals that use a quality control system to guarantee the content. In short, the DOAJ aims to be the "one-stop shop" for users of open access journals. A journal included in the Directory must exercise peer-review or editorial quality control. Journals may report primary results of research or overviews of research results to a scholarly community. A serial must publish at regular intervals, generally more than once a year with each issue numbered or dated consecutively. A journal in DOAJ normally contains articles, stories, or other writings. (Linlin Z, 2014)

The scope of coverage offered by the Directory includes:

- All scientific and scholarly subjects.
- Scientific and scholarly periodicals that publish research or review papers in full text
- Publications from academic, government, commercial and non-profit private organizations.
- Publications that target primarily researchers and scholars
- Journals whose content is substantively re-search papers and available in full text
- All languages.

Microbiology:

Microbiology is the branch of science that deals with microorganisms. Microbiology (from Greek *μῖ κρος*, *mīkros*, "small"; *βίος*, *bios*, "life"; and *-λογία*, *-logia*) is the study of microscopic organisms, either unicellular (single cell), multicellular (cell colony), or acellular (lacking cells). Microbiology encompasses numerous sub-disciplines including virology, mycology, parasitology, and bacteriology (<http://en.wikipedia.org>).

Literature Review:

(Ratnakar, 2007) presents a brief overview of print journals, define OA movement, and explains the reason for existence in current scenario. According to him, OA movement also deals with promoting creation of institutional archives and usage of open source software and digitisation programme. He also highlighted the area of OA journals and open archives and present limitations of OAI movement.

(Ambhore & Khaparde, 2014) they studied "Open Access Online Journals on Genetics: A study in DOAJ" contains 57 journals analyzed based on country wise, Languages, subject Headings. It is observed that U.S. was in 1st rank in publishing 15 e-journals followed by U.K. also showed that English is the most common communication language for scientific community which is used by Online Journals on Genetics. Four e-journals on Generics also published simultaneously in English, French, Germany and Turkish languages.

Objectives of the paper:

1. To enumerate the free E-Journals on Microbiology on DOAJ.
2. To know the country wise distribution of E-journals on Microbiology on DOAJ.
3. To find out the language wise distribution of E-journals on Microbiology on DOAJ.
4. To know the Distributing Subject Headings of E- journals on Microbiology on DOAJ.
5. To know the Distributing Subject Keywords of E- journals on Microbiology on DOAJ.
6. To know the accessibility of archives of last five years of E- journals on Microbiology
7. To know the usefulness and applicability of Microbiology E-journals to other disciplines.

Research Methodology:

DOAJ (Directory of Open Access Journals) website (<http://www.doaj.org>) is browsed for the present paper Microbiology E-journals were searched out and 48 journals were found on DOAJ. Total 48 Microbiology E-journals were analyzed based on country wise, Languages, subject Headings, Subject Keywords and accessibility of Archives of E-journal.

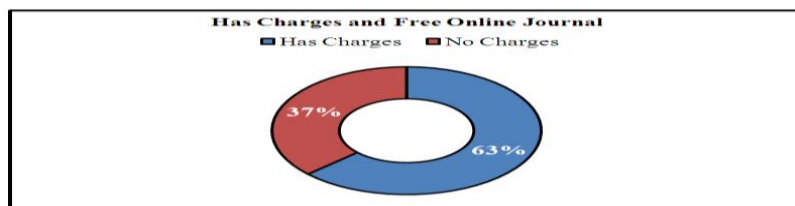
Limitation of the study:

The study is limited to Microbiology E-journals which is listed on Directory of Open Access Journals for the present paper DOAJ data is accessible till 03/09/2014. It is not possible to show all the online journals access so access of only one e-journal full text article is shown at last as a screen snapshot.

Analysis and Interpretations:

Total 48 Microbiology E-journals were analyzed based on Country wise, Language wise, Subject heading and accessibility of Archives of E-journals. Data entry and analysed by helping of SPSS and presented in the form of Tables and Charts.

Fig No. 1 Has Charges and Free Online Journals on Microbiology on DOAJ



Total 130 E-journals of Microbiology available on DOAJ. Has Charges 82 (63%) and Free 48 (37%).

Tables No. 1 List of Free E-Journals on Microbiology on DOAJ

Sr. No	Title of E-Journal	URL	ISSN No.	Publisher
			EISSN No.	
1	Acta Agriculturae Slovenica	http://aas.bf.uni-lj.si/index-en.htm	1581-9175, 1854-1941	University of Ljubljana
2	Acta Protozoologica	http://www.eko.uj.edu.pl/ap/index.php?option=com_frontpage&Itemid=1	0065-1583, 1689-0027	Jagiellonian University
3	Acta Scientiarum : Biological Sciences	http://periodicos.uem.br/ojs/index.php/ActaSciBiolSci/index	1679-9283, 1807-863X	Eduem - Editora da Universidade Estadual de Maringa
4	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza	http://www.gbm.bio.uaic.ro/index.php/gbm	1582-3571	Alexandru Ioan Cuza University of Iasi

	din Iasi, Sectiunea II A : Genetica si Biol			
5	Annals : Food Science and Technology	http://www.afst.valahia.ro	2065-2828	Valahia University Press
6	Annals of Mechnikov's Institute	http://www.imiamn.org.ua/journal.htm	1993-4327	Annals of Mechnikov's Institute
7	Annals of Tropical Medicine and Public Health	http://www.atmph.org	1755-6783, 0974-6005	Medknow Publications
8	BIO Web of Conferences	http://www.bio-conferences.org	2117-4458	EDP Sciences
9	Biodiversity Science	http://www.biodiversity-science.net/EN/volumn/home.shtml	1005-0094	Science Press
10	Bistua : Revista de la Facultad de Ciencias Básicas	http://www.redalyc.org/revista.oa?id=903	0120-4211	Universidad de Pamplona
11	Botanical Studies	http://ejournal.sinica.edu.tw/bbas/	1817-406X	Academia Sinica
12	Brazilian Journal of Microbiology	http://www.scielo.br/bjm	1517-8382, 1678-4405	Sociedade Brasileira de Microbiologia
13	Cell Journal	http://celljournal.org/	2228-5806, 2228-5814	Royan Institute (ACECR), Tehran
14	Clinical Cancer Investigation Journal	http://www.cci-j-online.org	2278-1668, 2278-0513	Wolters Kluwer Health and Medknow Publications
15	Czech Journal of Food Sciences	http://www.agriculturejournals.cz/web/cjfs.htm	1212-1800, 1805-9317	Czech Academy of Agricultural Sciences
16	EurAsian Journal of Biosciences	http://www.ejobios.com/	1307-9867	Foundation for Environmental Protection and Research
17	Evolution Medicine and Public Health	http://emph.oxfordjournals.org/	2050-6201	Oxford University Press
18	Indian Journal of Pathology and Microbiology	http://www.ijpmonline.org/	0377-4929, 0974-5130	Medknow Publications
19	International Journal of Applied Biology and Pharmaceutical Technology	http://www.ijabpt.com	0976-4550	International Journal of Applied Biology and Pharmaceutical Technology
20	International Microbiology	http://www.im.microbios.org/	1139-6709, 1618-1905	Viguera Editores, S.L.
21	Iranian Biomedical Journal	http://ibj.pasteur.ac.ir/	1028-852X, 2008-823X	Pasteur Institute of Iran
22	Iranian Journal of Applied Animal Science	http://www.ijas.ir	2251-628X, 2251-631X	Islamic Azad University
23	Iranian Journal of Basic Medical Sciences	http://www.mums.ac.ir/basic_medical/en/index	2008-3866, 2008-3874	Mashhad University of Medical Sciences

24	ISRN Virology	http://www.hindawi.com/isrn/virology/	2090-8814	Hindawi Publishing Corporation
25	Japanese Journal of Medical Mycology	http://www.jsmm.org/magazine/magazine.html	0916-4804	Japanese Journal of Medical Mycology
26	Journal of Biomedical Research	http://www.jbr-pub.org	1674-8301	Editorial Department of Journal of Biomedical Research
27	Journal of Cell and Molecular Biology	http://jcmb.halic.edu.tr/	1303-3646, 1306-0961	Halic University
28	Journal of Culture Collections	http://www.bioline.org.br/cc	1310-8360	National Bank for Industrial Microorganisms and Cell Cultures Bulgaria
29	Journal of Global Infectious Diseases	http://www.jgid.org/	0974-777X, 0974-8245	Medknow Publications
30	Journal of Microbiology and Biology Education	http://jmbe.asm.org/index.php/jmbe	1935-7877, 1935-7885	American Society for Microbiology
31	Journal of Microbiology and Infectious Diseases	http://www.jmidonline.org/	2146-3158, 2146-9369	Association of Health Investigations
32	Journal of Microbiology, Biotechnology and Food Sciences	http://www.jmbfs.org	1338-5178	Slovak University of Agriculture
33	Journal of Phytology	http://journal-phytology.com/index	2075-6240	SILAE, Italy
34	Journal of the Faculty of Veterinary Medicine	http://vfdergi.yyu.edu.tr/	1017-8422, 1308-3651	Yuzuncu Yil University
35	Jundishapur Journal of Microbiology	http://jjmicrobiol.com/	2008-3645, 2008-4161	Ahvaz Jundishapur University of Medical Sciences
36	Jurnal Biologi el-Hayah	http://ejournal.uin-malang.ac.id/index.php/bio	2086-0064	UIN Press
37	Kasmera	http://revistas.luz.edu.ve/index.php/km	0075-5222	Universidad del Zulia
38	Klimik Journal	http://www.klimikdergisi.org/	1301-143X, 1309-1484	AVES Yayincilik
39	Memórias do Instituto Oswaldo Cruz	http://www.scielo.br/scielo.php?pid=0074-0276&script=sci_serial	0074-0276, 1678-8060	Instituto Oswaldo Cruz, Ministério da Saúde
40	Microbiology Research	http://www.pagepress.org/journals/index.php/mr	2036-7473, 2036-7481	PAGEPress Publications
41	Parasitología latinoamericana	http://www.scielo.cl/scielo.php?script=sci_serial&pid=0717-7712&lng=en&ndrm=iso	0717-7704, 0717-7712	Sociedad Chilena de Parasitología
42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	http://www.remise.ma/	2028-0351	Université Mohammed Premier
43	Revista Argentina de	http://www.scielo.org.ar/scielo.php/scri	0325-7541,	Asociación Argentina

	Microbiología	pt_sci_serial/pid_0325-7541/Ing_en/nrm_iso	1851-7617	de Microbiología
44	Revista de Salud Animal	http://scielo.sld.cu/scielo.php?script=sci_serialandpid=0253-570Xandlng=esandnrm=iso	0253-570X, 2224-4700	Centro Nacional de Sanidad Agropecuaria
45	The Microbes	http://www.themicrobes.net	2321-3728	The Microbes
46	Tropical Life Sciences Research	http://www.tlsr.usm.my/	1985-3718, 2180-4249	Universiti Sains Malaysia Press
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	http://www.turkhijyen.org/eng/jvi.aspx	0377-9777, 1308-2523	Refik Saydam Hifzissihha Merkezi Başkanlığı
48	VacciMonitor	http://www.finlay.sld.cu/vaccimonitor.htm	1025-028X, 1025-0298	Finlay Ediciones

Table No. 1 Enumerate the free online journals on Microbiology along with their URL so that any user can browse the E-journals directly by entering the URL in its address bar.

Table: 2 Country wise Distribution of E-Journals on Microbiology

Sr. No.	Title of E-Journal	Place of Publication
1	Acta Agriculturae Slovenica	Slovenia
2	Acta Protozoologica	Poland
3	Acta Scientiarum : Biological Sciences	Brazil
4	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza din Iasi, Sectiunea II A : Genetica si Biologie Moleculara	Romania
5	Annals : Food Science & Technology	Romania
6	Annals of Mechnikov's Institute	Ukraine
7	Annals of Tropical Medicine & Public Health	India
8	BIO Web of Conferences	France
9	Biodiversity Science	China
10	Bistua : Revista de la Facultad de Ciencias Básicas	Colombia
11	Botanical Studies	Taiwan, Province of China
12	Brazilian Journal of Microbiology	Brazil
13	Cell Journal	Iran, Islamic Republic of
14	Clinical Cancer Investigation Journal	India
15	Czech Journal of Food Sciences	Czech Republic
16	EurAsian Journal of Biosciences	Turkey
17	Evolution Medicine & Public Health	United Kingdom
18	Indian Journal of Pathology & Microbiology	India
19	International Journal of Applied Biology & Pharmaceutical Technology	India
20	International Microbiology	Spain
21	Iranian Biomedical Journal	Iran, Islamic Republic of
22	Iranian Journal of Applied Animal Science	Iran, Islamic Republic of
23	Iranian Journal of Basic Medical Sciences	Iran, Islamic Republic of
24	ISRN Virology	Egypt
25	Japanese Journal of Medical Mycology	Japan
26	Journal of Biomedical Research	China
27	Journal of Cell & Molecular Biology	Turkey

28	Journal of Culture Collections	Bulgaria
29	Journal of Global Infectious Diseases	India
30	Journal of Microbiology & Biology Education	United States
31	Journal of Microbiology & Infectious Diseases	Turkey
32	Journal of Microbiology, Biotechnology & Food Sciences	Slovakia
33	Journal of Phytology	Italy
34	Journal of the Faculty of Veterinary Medicine	Turkey
35	Jundishapur Journal of Microbiology	Iran, Islamic Republic of
36	Jurnal Biologi el-Hayah	Indonesia
37	Kasmera	Venezuela, Bolivarian Republic
38	Klimik Journal	Turkey
39	Memórias do Instituto Oswaldo Cruz	Brazil
40	Microbiology Research	Italy
41	Parasitología latinoamericana	Chile
42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	Morocco
43	Revista Argentina de Microbiología	Argentina
44	Revista de Salud Animal	Cuba
45	The Microbes	India
46	Tropical Life Sciences Research	Malaysia
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	Turkey
48	VacciMonitor	Cuba

Table No. 2 Enumerate the free online journals on Microbiology along with their Place of Publication.

Table No. 2.1 Analysis of Country wise Distribution of E-Journals on Microbiology

Sr. No.	Country	No. of E-Journals	Rank
1	India	6	1
2	Turkey	6	1
3	Islamic Republic of Iran	5	2
4	Brazil	3	3
5	China	2	4
6	Cuba	2	4
7	Italy	2	4
8	Romania	2	4
9	Argentina	1	5
10	Bulgaria	1	5
11	Chile	1	5
12	Colombia	1	5
13	Czech Republic	1	5
14	Egypt	1	5
15	France	1	5
16	Indonesia	1	5
17	Japan	1	5
18	Malaysia	1	5
19	Morocco	1	5
20	Poland	1	5
21	Slovakia	1	5

22	Slovenia	1	5
23	Spain	1	5
24	Taiwan, Province of China	1	5
25	Ukraine	1	5
26	United Kingdom	1	5
27	United States	1	5
28	Venezuela, Bolivarian Republic of	1	5
Total		48	/

Table No. 2.1 depicts the country wise distribution of E-journals on Microbiology on DOAJ. India & Turkey was in 1st rank due to publication of 6 e-journals followed by Iran, Islamic Republic of from United States followed by India and Iran, Islamic Republic of i.e. 5 E-journals.

Table No. 3 Language wise Distribution of E-Journals on Microbiology

Sr. No.	Title of the E- Journals	Language
1	Acta Agriculturae Slovenica	Slovenian, English
2	Acta Protozoologica	English
3	Acta Scientiarum : Biological Sciences	Portuguese, English
4	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza din Iasi, Sectiunea II A : Genetica si Biologie Moleculara	English, French
5	Annals : Food Science & Technology	English
6	Annals of Mechnikov's Institute	Ukrainian, Russian, English
7	Annals of Tropical Medicine & Public Health	English
8	BIO Web of Conferences	English
9	Biodiversity Science	Chinese, English
10	Bistua : Revista de la Facultad de Ciencias Básicas	Spanish, English
11	Botanical Studies	English
12	Brazilian Journal of Microbiology	English, Portuguese
13	Cell Journal	Persian, English
14	Clinical Cancer Investigation Journal	English
15	Czech Journal of Food Sciences	English
16	EurAsian Journal of Biosciences	English
17	Evolution Medicine & Public Health	Not available
18	Indian Journal of Pathology & Microbiology	English
19	International Journal of Applied Biology & Pharmaceutical Technology	English
20	International Microbiology	English
21	Iranian Biomedical Journal	English
22	Iranian Journal of Applied Animal Science	English
23	Iranian Journal of Basic Medical Sciences	English
24	ISRN Virology	English
25	Japanese Journal of Medical Mycology	English, Japanese
26	Journal of Biomedical Research	English
27	Journal of Cell & Molecular Biology	English
28	Journal of Culture Collections	English
29	Journal of Global Infectious Diseases	English
30	Journal of Microbiology & Biology Education	English

31	Journal of Microbiology & Infectious Diseases	English
32	Journal of Microbiology, Biotechnology & Food Sciences	English
33	Journal of Phytology	English
34	Journal of the Faculty of Veterinary Medicine	Turkish
35	Jundishapur Journal of Microbiology	English
36	Jurnal Biologi el-Hayah	Indonesian
37	Kasmera	Spanish, English
38	Klimik Journal	Turkish, English
39	Memórias do Instituto Oswaldo Cruz	English, Spanish, Portuguese
40	Microbiology Research	English
41	Parasitología latinoamericana	English, Spanish
42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	English
43	Revista Argentina de Microbiología	Spanish, English
44	Revista de Salud Animal	Spanish, English
45	The Microbes	English
46	Tropical Life Sciences Research	English, Bahasa Malaysia
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	Turkish, English
48	VacciMonitor	Spanish

Table No. 3 Enumerate the free online journals on Microbiology along with their Languages of Publication.

Table No. 3.1 Analysis of Language wise Distribution of E-Journals on Microbiology

Sr. No.	Languages	No. of E journals	Rank
1	English	27	1
2	Spanish, English	4	2
3	Turkish, English	2	3
4	Chinese, English	1	4
5	English, Bahasa Malaysia	1	4
6	English, French	1	4
7	English, Japanese	1	4
8	English, Portuguese	1	4
9	English, Spanish	1	4
10	English, Spanish, Portuguese	1	4
11	Indonesian	1	4
12	NA	1	4
13	Persian, English	1	4
14	Portuguese, English	1	4
15	Slovenian, English	1	4
16	Spanish	1	4
17	Turkish	1	4
18	Ukrainian, Russian, English	1	4
Total		48	

Table No. 3.1 gives the information about the publication language of the E-journals on Microbiology. English (27) is the most common Communication language to spread the knowledge in all over the world. Out of 48 Microbiology e-journals is published in other Languages namely Spanish, Turkish, Chinese, French, Japanese, Portuguese, Indonesian, Persian, Slovenian, Ukrainian, & Russian.

Table No. 4 Distributions of Subject Headings of E-journals on Microbiology

Sr. No.	Title the E- Journals	Subject Headings
1	Acta Agriculturae Slovenica	Agriculture (General), Agriculture
2	Acta Protozoologica	Infectious & parasitic diseases, Internal medicine, Medicine, Microbiology, Science
3	Acta Scientiarum : Biological Sciences	Biology (General), Science
4	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza din Iasi, Sectiunea II A : Genetica si Biologie Moleculara	Genetics, Biology (General), Science
5	Annals : Food Science & Technology	Nutrition. Foods & food supply, Home economics, Technology
6	Annals of Mechnikov's Institute	Medicine (General), Medicine
7	Annals of Tropical Medicine & Public Health	Arctic medicine. Tropical medicine, Special situations & conditions, Internal medicine, Medicine
8	BIO Web of Conferences	Biology (General), Science
9	Biodiversity Science	Biology (General), Science
10	Bistua : Revista de la Facultad de Ciencias Básicas	Science (General), Science
11	Botanical Studies	Botany, Science
12	Brazilian Journal of Microbiology	Microbiology, Science
13	Cell Journal	Microbiology, Science
14	Clinical Cancer Investigation Journal	Neoplasms. Tumors. Oncology. Including cancer & carcinogens, Internal medicine, Medicine
15	Czech Journal of Food Sciences	Food processing & manufacture, Chemical technology, Technology, Agriculture (General), Agriculture
16	EurAsian Journal of Biosciences	Biology (General), Science
17	Evolution Medicine & Public Health	General Works
18	Indian Journal of Pathology & Microbiology	Pathology, Medicine, Microbiology, Science
19	International Journal of Applied Biology & Pharmaceutical Technology	Therapeutics. Pharmacology, Medicine
20	International Microbiology	Microbiology, Science
21	Iranian Biomedical Journal	Biology (General), Science, Medicine (General), Medicine
22	Iranian Journal of Applied Animal Science	Animal culture, Agriculture
23	Iranian Journal of Basic Medical Sciences	Medicine (General), Medicine
24	ISRN Virology	Medicine (General), Medicine
25	Japanese Journal of Medical Mycology	(General), Medicine, Microbiology, Science
26	Journal of Biomedical Research	Medicine (General), Medicine
27	Journal of Cell & Molecular Biology	Cytology, Biology (General), Science
28	Journal of Culture Collections	Microbiology, Science
29	Journal of Global Infectious Diseases	Infectious & parasitic diseases, Internal medicine,

		Medicine
30	Journal of Microbiology & Biology Education	Microbiology, Science
31	Journal of Microbiology & Infectious Diseases	Microbiology, Science, Infectious & parasitic diseases, Internal medicine, Medicine
32	Journal of Microbiology, Biotechnology & Food Sciences	Biotechnology, Chemical technology, Technology, Nutrition. Foods & food supply, Home
33	Journal of Phytology	Botany, Science
34	Journal of the Faculty of Veterinary Medicine	Veterinary medicine, Animal culture, Agriculture
35	Jundishapur Journal of Microbiology	Microbiology, Science
36	Jurnal Biologi el-Hayah	Biology (General), Science
37	Kasmera	Arctic medicine. Tropical medicine, Special situations & conditions, Internal medicine, Medicine,
38	Klimik Journal	Medicine (General), Medicine
39	Memórias do Instituto Oswaldo Cruz	Microbiology, Science, Arctic medicine. Tropical medicine, Special situations & conditions, Internal medicine, Medicine
40	Microbiology Research	Microbiology, Science
41	Parasitología latinoamericana	Microbiology, Science
42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	Microbiology, Science
43	Revista Argentina de Microbiología	Microbiology, Science
44	Revista de Salud Animal	Animal culture, Agriculture
45	The Microbes	Microbiology, Science
46	Tropical Life Sciences Research	Biology (General), Science
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	Biology (General), Science, Public aspects of medicine, Medicine
48	VacciMonitor	Microbiology, Science, Therapeutics. Pharmacology, Medicine

Table No. 4 Enumerate the free online journals on Microbiology along with their Subject Heading of Publications.

Table No. 4.1 Analysis of Subject Headings of E-journals on Microbiology

Sr. No.	Subject Headings	No. of E-journal
1	Microbiology, Science	11
2	Biology (General), Science	6
3	Medicine (General), Medicine	5
4	Animal culture, Agriculture	2
5	Botany, Science	2
6	(General), Medicine, Microbiology, Science	1
7	Agriculture (General), Agriculture	1
8	Arctic medicine. Tropical medicine, Special situations & conditions, Internal medicine, Medicine	1
9	Arctic medicine. Tropical medicine, Special situations & conditions, Internal medicine, Medicine,	1
10	Biology (General), Science, Medicine (General), Medicine	1
11	Biology (General), Science, Public aspects of medicine, Medicine	1
12	Biotechnology, Chemical technology, Technology, Nutrition. Foods &	1

	food supply, Home	
13	Cytology, Biology (General), Science	1
14	Food processing & manufacture, Chemical technology, Technology, Agriculture (General), Agriculture	1
15	General Works	1
16	Genetics, Biology (General), Science	1
17	Infectious & parasitic diseases, Internal medicine, Medicine	1
18	Infectious & parasitic diseases, Internal medicine, Medicine, Microbiology, Science	1
19	Microbiology, Science, Arctic medicine. Tropical medicine, Special situations & conditions, Intern	1
20	Microbiology, Science, Infectious & parasitic diseases, Internal medicine, Medicine	1
21	Microbiology, Science, Therapeutics. Pharmacology, Medicine	1
22	Neoplasms. Tumors. Oncology. Including cancer & carcinogens, Internal medicine, Medicine	1
23	Nutrition. Foods & food supply, Home economics, Technology	1
24	Pathology, Medicine, Microbiology, Science	1
25	Science (General), Science	1
26	Therapeutics. Pharmacology, Medicine	1
27	Veterinary medicine, Animal culture, Agriculture	1
Total		48

Table No. 4.1 shows the interdisciplinary scope of the online-journals of Microbiology. They are multidisciplinary by nature. And also Microbiology E-journals can be used in Medicine, Animal culture, Agriculture, Botany and Science.

Table No. 5 Distributions of Subject Keywords of Online Journals on Microbiology

Sr. No.	Title of the E-journals	Subject Keywords
01	Acta Agriculturae Slovenica	nutrition, genetics, microbiology, economics, dairying, statistics, rural population, animal culture, plant , culture
02	Acta Protozoologica	protistology, cell biology, ecology, genetics, parasitology, physiology, photobiology, phylogeny, ultrastructure
03	Acta Scientiarum : Biological Sciences	botany, limnology, microbiology
04	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza din Iasi, Sectiunea II A : Genetica si Biologie Moleculara	molecular genetics, molecular biology, microbiology, animal physiology
05	Annals : Food Science & Technology	food engineering, food microbiology, biotechnology, agricultural sciences, environmental protection
06	Annals of Mechnikov's Institute	microbiology, immunology, epidemiology, pharmacology
07	Annals of Tropical Medicine & Public Health	tropical diseases, infectious diseases, public health, parasitology, microbiology, virology, immunology, epidemiology
08	BIO Web of Conferences	botany, zoology, genetics, microbiology, physiology
09	Biodiversity Science	conservation biology, botany, zoology, microbiology, ecology
10	Bistua : Revista de la Facultad de Ciencias Básicas	biology, chemistry, mathematics, geology, food, microbiology

11	Botanical Studies	molecular biology, ecology, biochemistry, physiology, microbiology, taxonomy
12	Brazilian Journal of Microbiology	biological sciences
13	Cell Journal	molecular science, cellular science, cell culture, HIV
14	Clinical Cancer Investigation Journal	oncology, microbiology
15	Czech Journal of Food Sciences	chemistry, biochemistry, microbiology, nutrition, food economy
16	EurAsian Journal of Biosciences	botany, ecology, microbiology
17	Evolution Medicine & Public Health	evolutionary biology, pathology, microbiology
18	Indian Journal of Pathology & Microbiology	morbid anatomy, surgical pathology, clinical pathology, diagnostic cytopathology, gynecologic cytology, aspiration cytology, hematology, immuno-hematology, medical microbiology
19	International Journal of Applied Biology & Pharmaceutical Technology	pharmaceutical technology, biology, microbiology, biochemistry
20	International Microbiology	microbiology, microorganisms, microbial biology, microbial applications
21	Iranian Biomedical Journal	biochemistry, genetics, immunology, cell biology, developmental biology, microbiology, molecular biology, pharmacology, physiology
22	Iranian Journal of Applied Animal Science	animal breeding, animal biotechnology, animal microbiology, sustainable livestock management
23	Iranian Journal of Basic Medical Sciences	medical sciences, anatomical sciences, biochemistry, genetics, immunology, microbiology
24	ISRN Virology	virus, microbiology
25	Japanese Journal of Medical Mycology	medical mycology, veterinary mycology
26	Journal of Biomedical Research	biochemistry, biophysics, genetics, immunology, microbiology, molecular biology
27	Journal of Cell & Molecular Biology	cell biology, molecular biology, genetics, microbiology, medicine, agriculture
28	Journal of Culture Collections	microorganisms, microbiology
29	Journal of Global Infectious Diseases	infectious diseases, public health, microbiology, bacteriology, virology, mycology, parasitology, clinical trials, clinical investigations
30	Journal of Microbiology & Biology Education	microbiology, biology education research, scholarly teaching, pedagogy
31	Journal of Microbiology & Infectious Diseases	microbiology, virology, parasitology, communicable diseases
32	Journal of Microbiology, Biotechnology & Food Sciences	chemical technology, biotechnology, food sciences, microbiology
33	Journal of Phytology	plant science research, microbiology, biology
34	Journal of the Faculty of Veterinary Medicine	animals, zoonosis, microbiology, alternative veterinary medicine
35	Jundishapur Journal of Microbiology	infectious diseases, bacteria, fungi, applied microbiology
36	Jurnal Biologi el-Hayah	biotechnology, medicine, botany, microbiology
37	Kasmera	tropical medicine, microbiology
38	Klimik Journal	clinical microbiology, infectious diseases
39	Memórias do Instituto Oswaldo Cruz	biological sciences, health sciences
40	Microbiology Research	molecular biology, cellular biology, virology, parasitology, mycology, bacteriology
41	Parasitología latinoamericana	biological sciences

42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	microbial ecology, applied microbiology, industrial microbiology
43	Revista Argentina de Microbiología	Microbiology
44	Revista de Salud Animal	veterinary medicine, molecular biology, microbiology
45	The Microbes	biotechnology, environmental sciences, life sciences
46	Tropical Life Sciences Research	life sciences, tropical biology, microbiology, biotechnology, tropical plants, environment
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	microbiology, toxicology, biochemistry, food safety, environmental health, hygiene, public health
48	VacciMonitor	vaccines, vaccination, immunology, adjuvants, molecular biology, epidemiology

Table No. 5.1 Analysis Subject Keywords of Online Journals on Microbiology

Sr. No.	Subject Keywords	No. of E-journal
1	biological sciences	2
2	animal breeding, animal biotechnology, animal microbiology, sustainable livestock management	1
3	animals, zoonosis, microbiology, alternative veterinary medicine	1
4	biochemistry, biophysics, genetics, immunology, microbiology, molecular biology	1
5	biochemistry, genetics, immunology, cell biology, developmental biology, microbiology, molecular biology, pharmacology, physiology	1
6	biological sciences, health sciences	1
7	biology, chemistry, mathematics, geology, food, microbiology	1
8	biotechnology, environmental sciences, life sciences	1
9	biotechnology, medicine, botany, microbiology	1
10	botany, ecology, microbiology	1
11	botany, limnology, microbiology	1
12	botany, zoology, genetics, microbiology, physiology	1
13	cell biology, molecular biology, genetics, microbiology, medicine, agriculture	1
14	chemical technology, biotechnology, food sciences, microbiology	1
15	chemistry, biochemistry, microbiology, nutrition, food economy	1
16	clinical microbiology, infectious diseases	1
17	conservation biology, botany, zoology, microbiology, ecology	1
18	evolutionary biology, pathology, microbiology	1
19	food engineering, food microbiology, biotechnology, agricultural sciences, environmental protection	1
20	infectious diseases, bacteria, fungi, applied microbiology	1
21	infectious diseases, public health, microbiology, bacteriology, virology, mycology, parasitology, clinical trials, clinical investigations	1
22	life sciences, tropical biology, microbiology, biotechnology, tropical plants, environment	1
23	medical mycology, veterinary mycology	1
24	medical sciences, anatomical sciences, biochemistry, genetics, immunology, microbiology	1
25	microbial ecology, applied microbiology, industrial microbiology	1
26	Microbiology	1
27	microbiology, biology education research, scholarly teaching, pedagogy	1
28	microbiology, immunology, epidemiology, pharmacology	1
29	microbiology, microorganisms, microbial biology, microbial applications	1

30	microbiology, toxicology, biochemistry, food safety, environmental health, hygiene, public health	1
31	microbiology, virology, parasitology, communicable diseases	1
32	microorganisms, microbiology	1
33	molecular biology, cellular biology, virology, parasitology, mycology, bacteriology	1
34	molecular biology, ecology, biochemistry, physiology, microbiology, taxonomy	1
35	molecular genetics, molecular biology, microbiology, animal physiology	1
36	molecular science, cellular science, cell culture, HIV	1
37	morbidity anatomy, surgical pathology, clinical pathology, diagnostic cytopathology, gynecologic cytology, aspiration cytology, hematology, immuno-hematology, medical microbiology	1
38	nutrition, genetics, microbiology, economics, dairying, statistics, rural population, animal culture, plant, culture	1
39	oncology, microbiology	1
40	pharmaceutical technology, biology, microbiology, biochemistry	1
41	plant science research, microbiology, biology	1
42	protistology, cell biology, ecology, genetics, parasitology, physiology, photobiology, phylogeny, ultrastructure	1
43	tropical diseases, infectious diseases, public health, parasitology, microbiology, virology, immunology, epidemiology	1
44	tropical medicine, microbiology	1
45	vaccines, vaccination, immunology, adjuvants, molecular biology, epidemiology	1
46	veterinary medicine, molecular biology, microbiology	1
47	virus, microbiology	1
Total		48

Table No. 5 and No.5.1 intended to make for searching accordingly to Subject Keywords in online Journals on Microbiology. Table indicates the useful keywords for searching in each online journal on Microbiology so that user would not waste their time by browsing broad Keywords.

Table No. 6 Accessibility of archives of E-journals on Microbiology

No	Title of E-journal	2014	2013	2012	2011	2010
1	Acta Agriculturae Slovenica	V 103 (1)	NA	NA	NA	-
2	Acta Protozoologica	V 53 (1-3)	V 52 (1-4)	V 51 (1-4)	V 50 (1)	-
3	Acta Scientiarum: Biological Sciences	V 36 (3)	-	-	-	-
4	Analele Stiintifice Ale Universitatii Alexandru Ioan Cuza din Iasi, Sectiunea II A: Genetica si Biologie Moleculara	-	-	-	-	-
5	Annals: Food Science & Technology	V 15 (1)	V 14 (1-2)	V 13 (1-2)	V 12 (1-2)	V 11 (1-2)
6	Annals of Mechnikov's Institute	V 2014 (1)	V 2013 (1-4)	V 2012 (1-4)	V 2011 (1-4)	V 2010 (1-4)
7	Annals of Tropical Medicine & Public Health	-	V 6 (1-6)	V 5 (1-6)	V 6 (1-2)	V 6 (1-2)
8	BIO Web of Conferences	V 2 (1-2)	V 1 (1)	-	-	-
9	Biodiversity Science	V 22 (1-3)	V 21 (1-6)	V 20 (1-6)	V 19 (1-6)	V 18 (1-6)

10	Bistua: Revista de la Facultad de Ciencias Básicas	-	-	V 10 (1-2)	V 9 (1-2)	V 8 (1-2)
11	Botanical Studies	V 55 (1-4)	V 54 (1-4)	V 53 (1-4)	V 52 (1-4)	V 51 (1-4)
12	Brazilian Journal of Microbiology	V 45 (1)	V 44 (1-4)	V 43 (1-4)	V 42 (1-4)	V 41 (1-4)
13	Cell Journal	V 16 (1-3)	V 15-14 (1-5)	V 14-13 (1-5)	V 13-12 (1-7)	V 11-10 (1-5)
14	Clinical Cancer Investigation Journal	V 3 (1-5)	V 2 (1-4)	V 1 (1-4)	-	-
15	Czech Journal of Food Sciences	V 32 (1-4)	V 31 (1-6)	V 30 (1-6)	V 29 (1-7)	V 28 (1-6)
16	EurAsian Journal of Biosciences	-	V 1 (1-7)	-	-	-
17	Evolution Medicine & Public Health	V 2014 (1)	V 2013 (1)	-	-	-
18	Indian Journal of Pathology & Microbiology	V 57 (1-3)	V.56 (1-4)	V.55 (1-4)	V.54 (1-4)	V.53 (1-4)
19	International Journal of Applied Biology & Pharmaceutical Technology	V 5 (1-3)	V 4 (1-3)	V 3 (1-3)	V 2 (1-3)	V 1 (1-3)
20	International Microbiology	V 17 (1)	V 16 (1-4)	V 15 (1-3)	V 14 (1-4)	V 13 (1-3)
21	Iranian Biomedical Journal	V 18 (1-4)	V 17 (1-4)	V 16 (1-4)	V 15 (1-4)	V 14 (1-4)
22	Iranian Journal of Applied Animal Science	V 4 (1-4)	V 3 (1-4)	V 2 (1-4)	V 1 (1-4)	NA
23	Iranian Journal of Basic Medical Sciences	-	-	-	V 12 (48-50)	V 13 (45-47)
24	ISRN Virology	-	-	-	-	-
25	Japanese Journal of Medical Mycology	V 55 (1-2)	V 54 (1-4)	V 53 (1-4)	V 52 (1-4)	V 51 (1-4)
26	Journal of Biomedical Research	V 2014 (1-4)	V 2013 (1-6)	V 2012 (1-6)	V 2011 (1-6)	V 2010 (1-6)
27	Journal of Cell & Molecular Biology	-	-	V 10 (1-2)	V 9 (1-2)	V 8 (1-2)
28	Journal of Culture Collections	-	-	-	-	-
29	Journal of Global Infectious Diseases	V 6 (1-3)	V 5 (1-4)	V 4 (1-4)	V 3 (1-4)	V 3 (1-3)
30	Journal of Microbiology & Biology Education	V 8 (1)	V 7 (1-4)	V 6 (1-4)	V 5 (1-4)	V 4 (1-3)
31	Journal of Microbiology & Infectious Diseases	V 4 (1)	V 3 (1-4)	V 2 (1-4)	V 1 (1-3)	-
32	Journal of Microbiology, Biotechnology & Food Sciences	V 4 (1)	V 3 (1-6)	V 2 (1-2)	V 1 (1-6)	-
33	Journal of Phytology	-	-	-	-	-
34	Journal of the Faculty of Veterinary Medicine	V 25 (1-3)	V 24 (1-3)	V 23 (1-3)	V 22 (1-3)	V 21 (1-3)
35	Jundishapur Journal of Microbiology	V 7 (1-9)	V 6 (1-10)	V 5 (1-4)	V 4 (1-5)	V 3 (1-4)
36	Jurnal Biologi el-Hayah	-	-	V 2-3 (1-2)	V 1 (4)	V 1 (2)
37	Kamera	-	-	-	-	-
38	Klimik Journal	-	V 26 (1-2)	V 25 (1-3)	V 24 (1-3)	V 23 (1-3)
39	Memórias do Instituto Oswaldo Cruz	V 109 (1-5)	V 108 (1-8)	V 107 (1-8)	V 106 (1-8)	V 105 (1-8)

40	Microbiology Research	V 5 (1)	V 4 (1)	V 3 (1-2)	V 2 (1-2)	V 1 (1)
41	Parasitología latinoamericana	V 63 (1-4)	V 62 (1-4)	V 61 (1-4)	V 60 (1-4)	V 59 (1-4)
42	REMISE : Revue de Microbiologie Industrielle Sanitaire et Environnementale	V 8 (1)	V 7 (1-2)	V 7 (1-2)	V 6 (1-2)	V 6 (1-2)
43	Revista Argentina de Microbiología	V 46 (1-2)	V 45 (1-4)	V 44 (1-4)	V 43 (1-4)	V 42 (1-4)
44	Revista de Salud Animal	V 36 (1-2)	V 35 (1-3)	V 34 (1-3)	V 33 (1-3)	V 32 (1-3)
45	The Microbes	-	-	-	-	-
46	Tropical Life Sciences Research	V 24 (1-2)	V 23 (1-2)	V 22 (1-2)	V 21 (1-2)	V 20 (1-2)
47	Türk Hijyen ve Deneysel Biyoloji Dergisi	V 71 (1-2)	V 70 (1-4)	V 69 (1-4)	V 68 (1-5)	V 67 (1-4)
48	VacciMonitor	V 23 (1-2)	V 22 (1-3)	-	V 20 (1-4)	-

Findings:

1. It is observed that India & Turkey was in 1st rank due to publication of 6 e-journals followed by Islamic Republic of Iran of i.e. 5 E-journals.
2. English is the most common Communication language to spread the knowledge in all over the world which is used by (27) on microbiology.
3. Microbiology e-journals are interdisciplinary by Nature. So Microbiology e-journals can also be useful for Biochemistry Botany, Science, Medicine

Conclusion:

In the present study, we have systematically selected and examined all 48 e-journals of Microbiology on DOAJ; analyzed based on Country, Language, Subject heading and accessibility of Archives. DOAJ is comprehensive and covers open access scientific and scholarly journals that use an appropriate quality control system, and it will not be limited to particular languages or subject areas. DOAJ is to increase the visibility and ease of use of open access scientific and scholarly journals there by promoter their increased usage and impact. Research scholars, scientists, Professionals should browse the DOAJ site and access the free online journals on their subject areas It is also suggested that scientists and Research scholars should publish their research work in online open access journals for wider visibility of their research work and for greater impact factor and citation index.

References:

- Ambhore, S. and Khaparde V S (2014). Open Access Online Journal on Genetics: A study. *Excel Journal of Engineering Technology & Management Science*, 1 (6). 59-72.
- Dehua, H., Biyun H., & Wenqi. Z. (2012). Open Access Journals in China: The Current Situation and Development Strategies. *Serials Review*. 38. 86–92.
- How Open Is It? A guide by OASPA. Retrieved October 3, 2014, from <http://doaj.org>
- <http://en.wikipedia.org>

- Kotti, T. (2013). Directory of Open Access Journals: A Bibliometric Study of Library and Information Science. *Collaborative Librarianship*, 5 (4). 246-255.
- Linlin, Z. (2014). Riding the Wave of Open Access: Providing Library Research Support for Scholarly Publishing Literacy. *Australian Academic & Research Libraries*, 45 (1). 3-18.
- Open access. Retrieved September 25, 2014, from <http://en.wikipedia.org>.
- Ratnakar, A. (2007). Open access journals: A myth or reality. *Library Herald*. 45(1). 12- 19
- Thomas, J. (2013). The Continued Movement for Open Access to Peer-Reviewed Literature. *Perspectives*, 156 (3). 423-433.