2021

Bibliometric analysis of the Health Information and Libraries Journal (2005-2021): With Special Reference to Web of Science Core Collection Database

Jignesh Amin Dr.
Indian Institute of Management, Ahmedabad, jignesh.i.amin@gmail.com

Yogesh Parekh Dr.
I/C Librarian, Gujarat University Library, yogeshparekh34@yahoo.com

Pragnesh Parekh
Rashtriya Raksha University, pragnesh.rsu@gmail.com

Bibliometric analysis of the Health Information and Libraries Journal (2005-2021): With Special Reference to Web of Science Core Collection Database

Jignesh Amin *	Pragnesh Parekh	Yogesh Parekh
Sr. Library Professional, Indian Institute of Management Ahmedabad.	Research Scholar, DLIS, Gujarat University, Ahmedabad and Assistant Librarian, Rashtriya Raksha University, Gandhinagar.	I/c Librarian, Gujarat University, Navrangpura, Ahmedabad.
jignesh.i.amin@gmail.com	pragnesh.rsu@gmail.com	yogeshparekh34@yahoo.com

Abstract:

The present bibliometric study of the Health Information and Libraries Journal was conducted using Web of Science SCIE. Total 727 documents were retrieved, including 481 articles, seven early access articles, three proceedings papers, 25 bibliography and related items, ten book reviews, eight article corrections, 130 editorial materials, and 63 reviews. The outcome parameters were the number of publications, citations, top countries, authors, organizations/institutions, and citation analysis, impact factor, most frequent author keywords were presented as visualisation map, etc.

Keywords: Bibliometrics; HILJ; Health Information and Libraries Journal; HILJ Analysis

About Journal: It is a European journal of international and interdisciplinary interest to practitioners, researchers, and students in the library and health sectors. Its objectives include promoting debate about new health information developments with an emphasis on communicating evidence-based information both in the management and support of healthcare services.

Introduction:

Scientific journals are the most important networks of scientific diffusion and social institutionalization of science in most fields of knowledge. Usually, 'peer review' has been the foremost procedure to determine the excellence of scientific work, but since the 1990s, quantitative assessment measures, such as bibliometrics, have gained growing importance. The dissemination of research findings that may be appropriate and effective for other researchers. This method requires robust knowledge and entails the publication of the study in a scientific journal. Through bibliometrics, aby researcher can gain information about numerous parameters of research output like the number of researchers, researchers' country of origin and affiliations, funding information, research design, subject, focus of the research, and citation indexes to quantify the uptake of the research. These methods may be used for plotting the scientific productivity of journals, scientific information, information on institutions, countries, authorship pattern, collaboration in research, and overall research growth. Because of these extraordinary features, the use of bibliometric techniques is rapidly growing across all fields.

This study aims to evaluate the scientific publication production of the Health Information & Libraries Journal in 2005-2021. The Health Information & Libraries Journal (HILJ, ISSN: 1471-1842) is an international, peer-reviewed, biomedical journal of the Health Libraries Group published by Wiley since 1984. It is abstracted by MEDLINE/PubMed and indexed in the Web of Science (2005 to present) and Scopus database.

Methods

This study is based on a bibliometric analysis of documents published in the *Health Information and Libraries Journal*. Although several citations & indexing databases may be used to perform bibliometric analyses, in this study, we have used the Web of Science SCIE database to retrieve the required data. The source title "Health Information & Libraries Journal" was searched using the simple search query, it generated 727 documents including 481 articles, 7 early access articles, 3 proceedings paper, 25 bibliography and related items, 10 book reviews, 8 article corrections, 130 editorial materials, and 63 reviews. All the data were retrieved and analysed on April 25, 2021.

Web of Science (SCIE) >> Search Term "Health Information & Libraries Journal" >> Result "727 Documents" >> Analysis in Excel & RStudio

The bibliometric indicators obtained and presented in this study included:

1) types of documents encountered in the retrieved literature.

2) annual growth pattern (total number of documents published during the study period)

3) total number of citations

4) ten most active authors.

5) ten most active institutions.

6) ten most active countries.

7) top 10 most cited papers.

The raw data were imported from the Web of Science SCIE and analysed in Microsoft Excel and further refined in RStudio.

Moreover, the most frequent keywords used by authors have presented as visualization maps i.e., Word Cloud, TreeMap, and Trending topics. The current study also used density visualizations maps to analyse co-occurrence networks, thematic maps, thematic evolution, and factorial analysis.

Meanwhile, it is also difficult to measure the quality of the publications directly; the total number of citations received, the average number of citations received per document, percentage of highly cited papers, h-index, impact factor, and Scimago Journal & Country Rank were used as an alternative measure of the publication quality. The h-index values for researchers, institutions and countries were obtained directly from the Web of Science database

and the impact factor was taken from the publishers' website. At the same time, the SJR data has been taken from the Scimago Journal & Country Rank website.

Results

Out of the total, 727 documents have been identified, and most of the papers published in the journal were original articles (481; 66.16%) while the least were the editorial materials (130; 17.88%). Other documents type can be presented in Table 1.

Document Types	**Frequency**	**Percentage**
Articles	481	66.16
Early access Articles	7	0.96
Proceeding's paper	3	0.41
bibliography and related items	25	3.44
Book review	10	1.38
Article correction	8	1.10
Editorial material	130	17.88
Reviews	63	8.67
Total	**727**	**100.00**

Table 1: Documents published in HILJ from 2005-2021

On average, 45 documents were published during the year, with a range from 5 to 78. The lowest (5; 0.70) number of documents were recorded for 2021, while the highest was for 2005 (78; 10.86). The research found that none of the documents has been published in the year 2009. The peak number of publications has been observed on two occasions, where 68 (9.47) documents were published in 2008, and 64 (8.91) in 2006. Other year-wise publications can be seen in Table 2.

Year	**Articles**	**Percentage**	**TC per Article**	**TC per Year**
2005	78	10.86	9.47	0.59
2006	64	8.91	6.97	0.46
2007	55	7.66	25.25	1.80
2008	68	9.47	8.76	0.67
2009	0	0.00	0.00	0.00
2010	49	6.82	12.35	1.12
2011	47	6.55	9.83	0.98
2012	39	5.43	9.26	1.03
2013	38	5.29	8.89	1.11
2014	39	5.43	5.38	0.77
2015	37	5.15	7.05	1.18
2016	38	5.29	3.53	0.71
2017	40	5.57	6.10	1.53

2018	35	4.87	3.66	1.22
2019	34	4.74	2.88	1.44
2020	52	7.24	1.31	1.31
2021	5	0.70	1.00	0.00

Table 2: Annual Production in HILJ from 2005-2021

The total number of citations received by the documents included in the analysis was 5780, with an average of 6.91 citations per document. The most contributions came from the United Kingdom (525; 72.21%) with received 3636 citations during the year, followed by the USA (157; 21.60%) that received 683 citations, Canada (72; 9.90%) that received 345 citations and so on. The detailed contribution from the top 10 countries has been presented in Table-3.

Country	**Documents**	**Avg.**	**TC**	**AAC**
United Kingdom	525	72.21	3636	11.09
USA	157	21.60	683	11.38
Canada	72	9.90	345	10.46
Australia	50	6.88	179	8.14
Iran	47	6.46	91	6.07
Nigeria	34	4.68	44	4.40
Belgium	24	3.30	25	4.17
Finland	24	3.30	61	6.78
China	23	3.16	71	4.73
Italy	23	3.16	37	4.11

Table 3: Top 10 countries published in HILJ from 2005-2021

The top 10 prolific authors in the Journal of the Health Information & Libraries Journal have presented in Table-3. The top 10 authors publish more than seven documents that contributed to the study. The highest number of publications by an author was 38 (5.23) and the lowest number of documents amongst the top ten authors was 7 (0.96). The details of the top 10 authors can see in Table-3.

Author	**Documents**	**Avg./Doc**	**TC**	**Citation/Doc**	**h index**
M J Grant	38	5.23	97	2.55%	4
A Booth	36	4.95	401	1.11%	9
J Murphy	27	3.71	60	2.22%	5
H Spring	18	2.48	76	4.22%	5
A Marshall	12	1.65	17	1.41%	2
A Sutton	9	1.24	148	1.64%	4
G Walton	9	1.24	260	2.88%	2
S Golder	8	1.10	142	1.77%	5
C Urquhart	8	1.10	86	1.07%	4
C E Adams	7	0.96	88	1.25%	4

Table 4: Top 10 prolific authors publishing in HILJ from 2005-2021

The top 10 highly cited documents have shown in Table-5. The paper titled " The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education" received the highest (460) number of citations published in 2007, followed by "Second Life: an overview of the potential of 3-D virtual worlds in medical and health education" received 331 citation also published in 2007. It has been noted that the three highly cited papers were published in 2007, each two research papers have published in 2005 and 2010 and each one paper are published in 2006, 2008 and 2013. The details of the top 10 highly cited documents can see in Table-5. Figure-1 shows the top 10 papers distributed in 8 clusters and 50 authors keywords.

S.N.	Article Title	Author	Year	TC	TC per Year
1	The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education	Maged N. Kamel Boulos and Steve Wheeler	2007	460	30.67
2	Second Life: an overview of the potential of 3-D virtual worlds in medical and health education	Maged N. Kamel Boulos; Lee Hetherington and Steve Wheeler	2007	331	22.07
3	Effective e-learning for health professionals and students—barriers and their solutions. A systematic review of the literature - findings from the HeXL project	Sue Childs Elizabeth Blenkinsopp; Amanda Hall and Graham Walton	2005	198	11.65
4	The information-seeking behaviour of doctors: a review of the evidence	Karen Davies	2007	183	12.20
5	Literature searching for social science systematic reviews: consideration of a range of search techniques	Diana Papaioannou; Anthea Sutton; Christopher Carroll; Andrew Booth Ruth Wong	2010	110	9.17
6	Internet-based information-seeking behaviour amongst doctors and nurses: a short review of the literature	Paula Younger	2010	97	8.08
7	The attitudes of health care staff to information technology: a comprehensive review of the research literature	Rod Ward; Christine Stevens; Philip Brentnall and Jason Briddon	2008	97	6.93
8	The value and impact of information provided through library services for patient care: a systematic review	Alison L. Weightman and Jane Williamson	2005	95	5.59

9	Information needs and information-seeking behaviour analysis of primary care physicians and nurses: a literature review	Martina A. Clarke; Jeffery L. Belden; Richelle J. Koopman; Linsey M. Steege; Joi L. Moore; Shannon M. Canfield and Min S. Kim	2013	89	9.89
10	Developing efficient search strategies to identify reports of adverse effects in medline and embase	Su Golder; Heather M. McIntosh; Steve Duffy and Julie Glanville	2006	68	4.25

Table-5: Top 10 Highly Cited Papers Published HILJ from 2005-2021

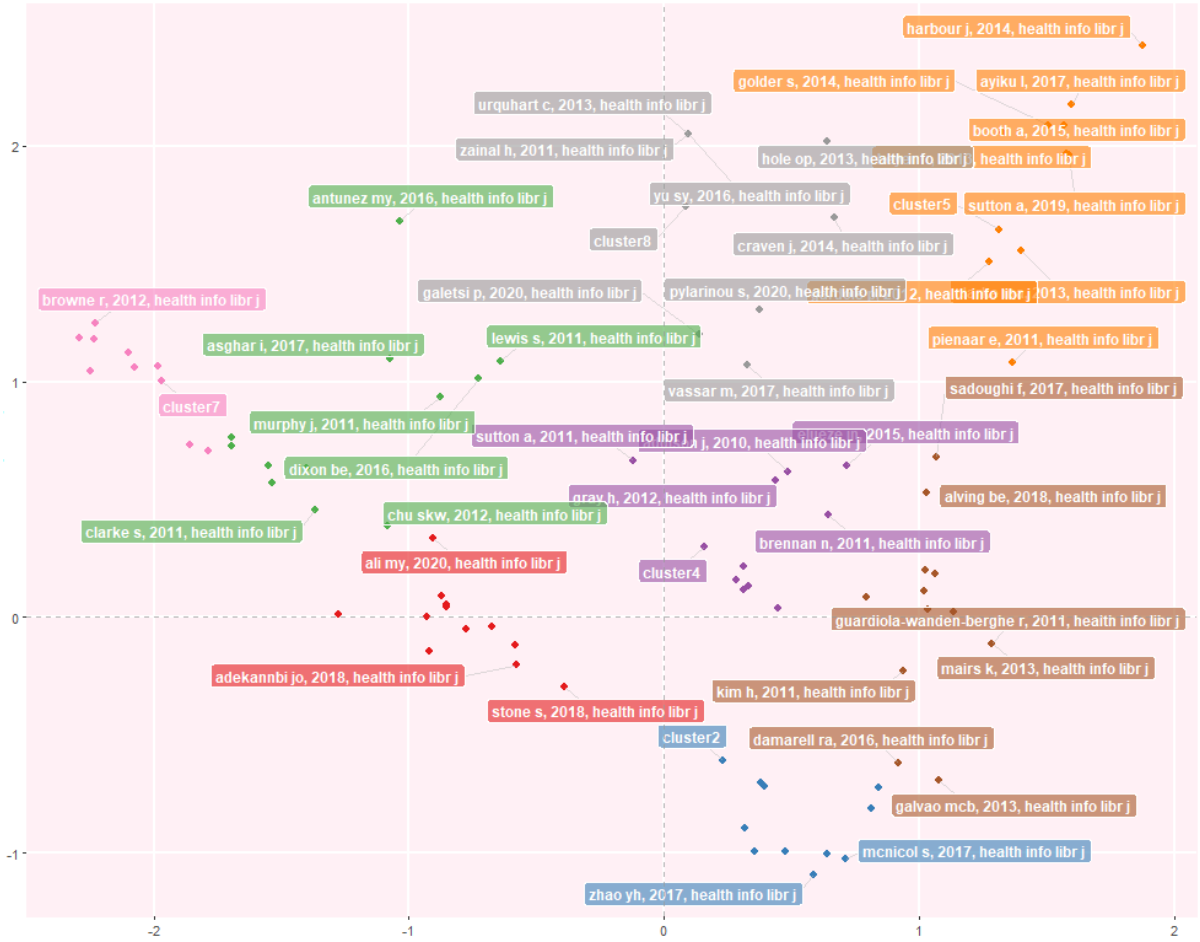

Figure-1: Top 10 Highly Cited Papers Published HILJ from 2005-2021

The intensity visualisation map of co-occurrence of author keywords in 642 recently published documents included 191 average clusters of 51 appropriate keywords. In this map, the main keywords were 'librarianship', 'libraries', 'health science', 'education and training', 'information literacy', etc. The detailed visualisation map of co-occurrence of author keywords can see in Figure-2. Another trending topic can see in Figure-3 and 4.

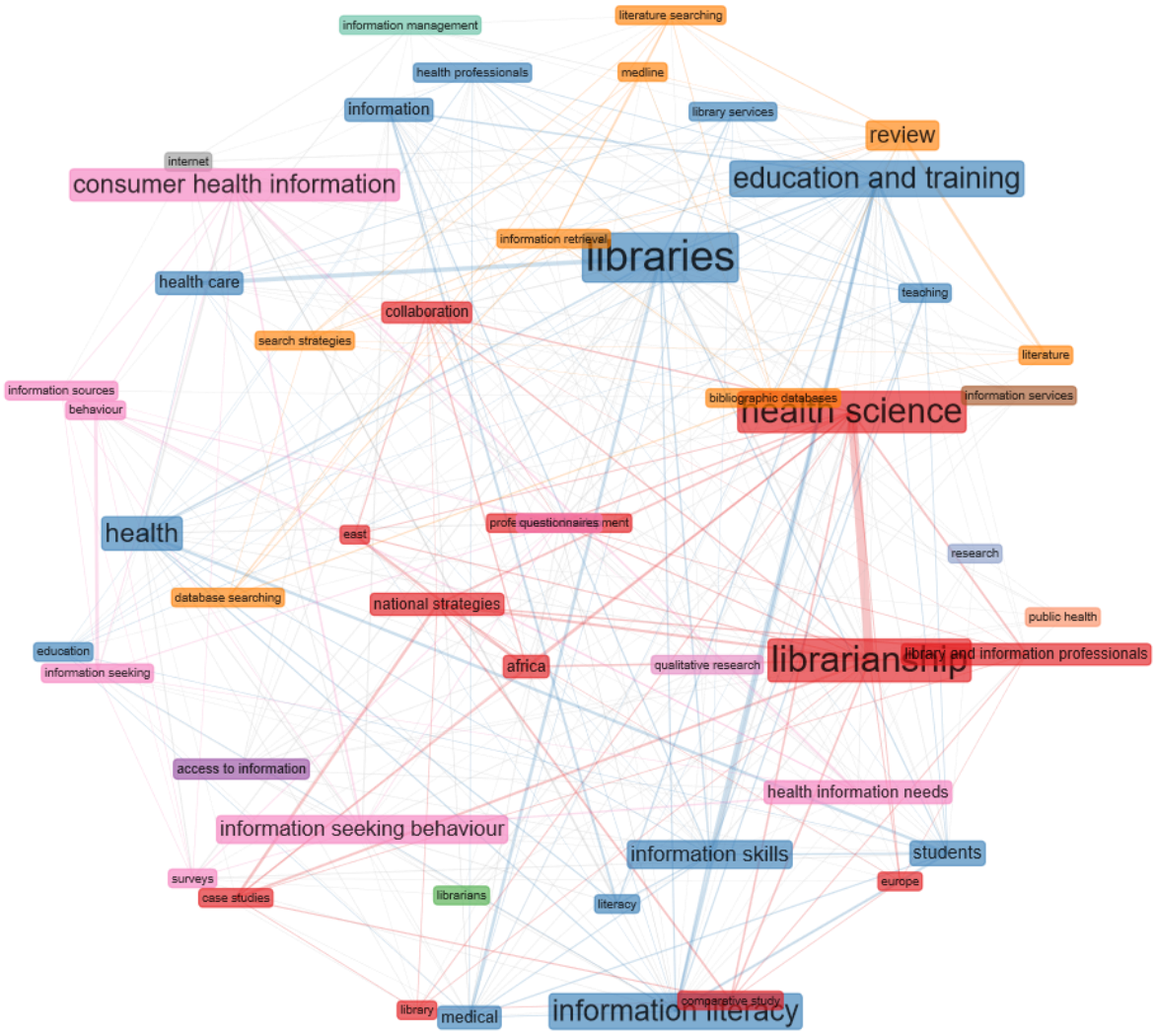

Figure-2: Density visualisation map of co-occurrence of author keywords

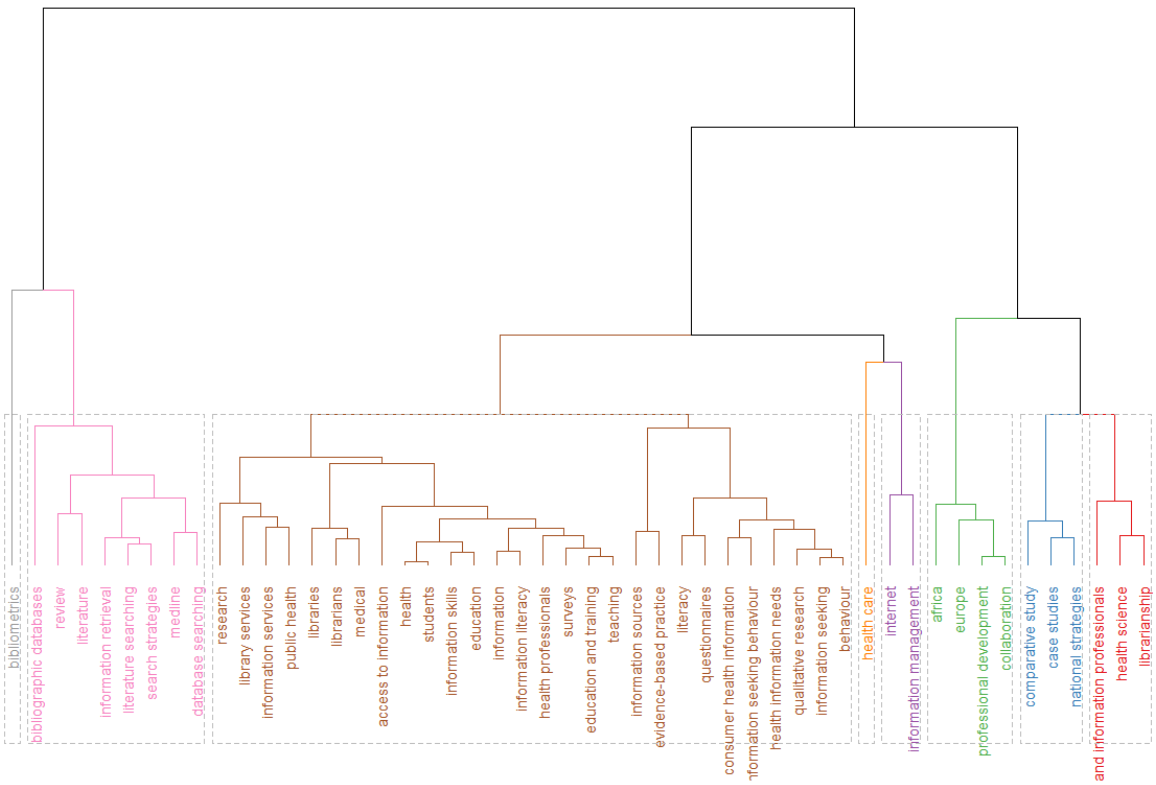

Figure-3: Visualisation map of trending topic dendrogram

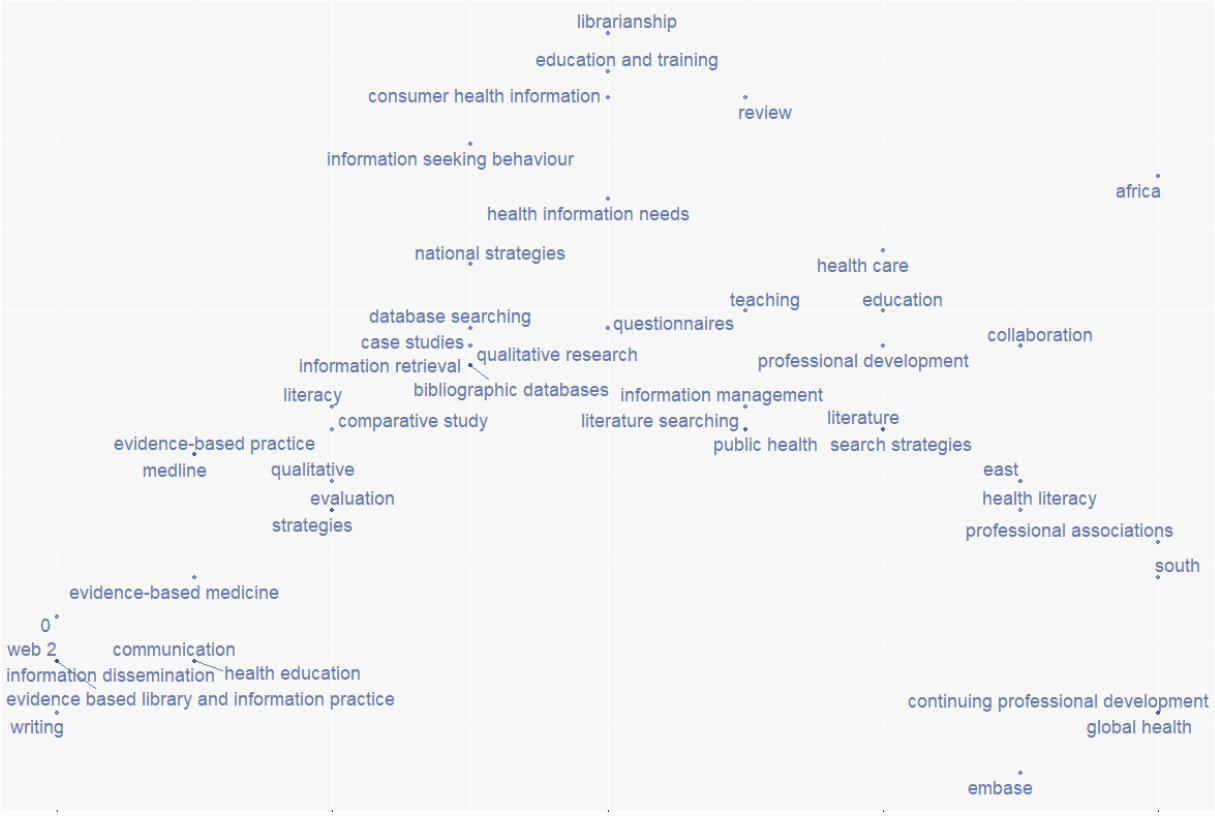

Figure-4: Visualisation map of the trending topic

The impact factor of the HILJ has increased over the period, starting from 0.222 in 2000 to 1.672 in 2019. Similarly, The Scientific Journal Rankings (SJR) of the HILJ has 0.52 in 2019. That can be seen in Figure-5.

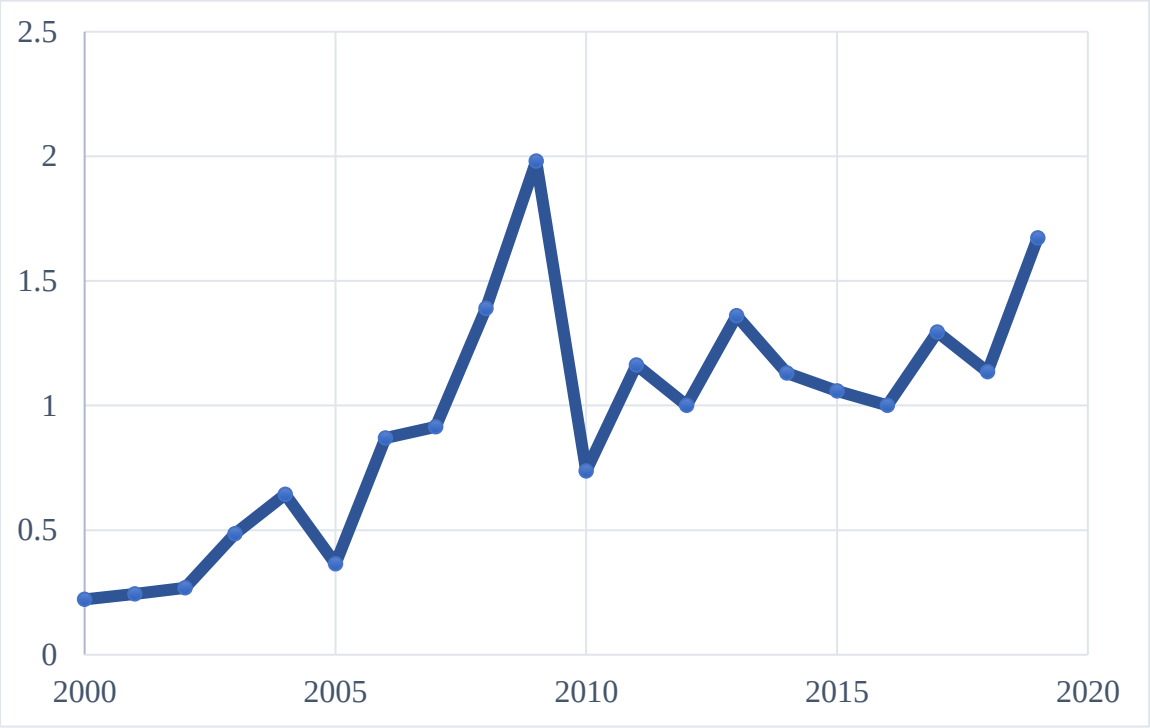

Figure-5: Impact factor (IF) of HILJ from 2000 to 2019.

1100+ institutes/organizations researchers published the documents in HILJ during the study period. York St John University (Faculty of Health and Life Science) is the most productive organisation with eight research papers, followed by University College London (Centre for Health Informatics and Multi-professional Education) with five documents, and so on. Here noted that most of the organisations have situated in England. Other top-10 organizations/institutes list can be seen in Table 5.

No.	Institutes	Department	Place	Articles
1	York St John University	Faculty of Health and Life Science	England	8
2	University College London	Centre for Health Informatics and Multiprofessional Education	England	5
3	Loughborough University	Department of Computer and Information Science	England	5
4	The University of Sheffield	School of Health and Related Research	England	5
5	University of York	Centre for Reviews and Dissemination	England	4

6	Aberystwyth University	Department of Information Studies	Wales	3
7	Barnsley Hospital	NHS Foundation Trust	England	3
8	Health Education England		Manchester	3
9	University of Brighton		England	3
10	University of Dundee		Scotland	3

Table-5: Top 10 Organizations/Institutes published HILJ from 2005-2021

Discussion:

This study was a comprehensive bibliometric analysis of published papers in HILJ over 17 years i.e., 2005 to 2021 using the Web of Science, Science Citation Index Expanded (SCIE) database. Additionally, interpretation of the findings of the current study potentially provides an indirect indication as to the impact and performance of the HILJ. Overall, the number of papers in the HILJ has significantly increased year by year. A total of 727 documents has been covered in this study, including 481 articles, seven early access articles, three proceedings paper, 25 bibliography and related items, ten book review, eight article correction, 130 editorial materials, and 63 reviews.

The findings suggest that the HILJ has broader local and foreign research community coverage in terms of publications and citations. In this research, 'original articles' accounted for more than half of the scientific production. Similarly, most of the published papers came from the United Kingdom, followed by the USA. However, there is a potential weakness in Web of Science SCIE that the researchers' affiliations have not correctly represented. For example, some publications did not have the name of the author's city and in some cases, it showed duplicate organisation. In context to the citation analysis, the highest contributing countries, institutional affiliations, and journals that cited the publications of the HILJ belonged to England. However, the HILJ had coverage of several countries across the globe. In terms of the most common author keywords on the density visualisation map, the terms included 'librarianship', 'libraries', 'health science', 'education and training', 'information literacy', etc. This research has some limitations in that none of the bibliometric studies is 100% correct and seamless; it only provides a polaroid of the current situation based on specific keywords used in the WoS database. The electronic database has its particular limitations. For example, different spelling of the name of the author, different institutional affiliations, system updates, and missing data are some communal problems. Web of Science SCIE has been used to retrieve the required data for the current study because:

1) Is more significant than other indexing databases in the science citation index and 100% inclusive of Medline.
2) It has multidisciplinary and multi-lingual coverage, which may be helpful for citation analysis.
3) SCIE is a unique robust bibliometric analysis of the retrieved literature.

Finally, the current research was limited to one journal from the country and used the WoS SCIE database. There may be different findings if other indexing databases, like Scopus, Dimension, Google Scholar, etc.

Conclusion

The HILJ has gained worldwide recognition and is an increasingly growing international journal. There is a visible growth in terms of publications per year, number of citations, and impact factor of the journal. It has expected that these features of the journal will grow further in the future. The keyword analysis suggests that the journal publishes the full spectrum of health research.

References:

1. Health Information and Libraries Journal, https://onlinelibrary.wiley.com/journal/14711842, Access on April 27, 2021.
2. Corrales IE, Reyes JJ & Fornaris Y. Bibliometric analysis of the Journal of Oral Research. Period 2012-2015. *Journal of Oral Research*, 2016, **5**(5), 188-193. https://doi.org/10.17126/joralres.2016.042
3. Bornmann, L., & Leydesdorff, L. Scientometrics in a changing research landscape: Bibliometrics has become an integral part of research quality evaluation and has been changing the practice of research. *EMBO Reports*, 2014, **15**(12), 1228–1232. https://doi.org/10.15252/embr.201439608
4. Mayta-Tristán, P., et al. Apreciación de estudiantes de Medicina latinoamericanos sobre la capacitación universitaria en investigación científica. *Revista Médica de Chile*, 2013, **141**(6), 716–722. https://doi.org/10.4067/S0034-98872013000600005
5. Wiles, L., Matricciani, L., Williams, M., & Olds, T. Sixty-Five Years of Physical Therapy: Bibliometric Analysis of Research Publications From 1945 Through 2010. *Physical Therapy*, 2012, **92**(4), 493–506. https://doi.org/10.2522/ptj.20110013
6. Hood, W. W., & Wilson, C. S. The Literature of Bibliometrics, Scientometrics, and Informetrics. *Scientometrics*, 2001, **52**(2), 291–314. https://doi.org/10.1023/A:1017919924342
7. Garg, K.C., & Dabas, B. A citation study of Annals of Library and Information Studies (ALIS) and DESIDOC Journal of Library and Information Technology (DJLIT). *Annals of Library and Information Studies*, 2014, **61**, 212–216.
8. Gupta, B. M., Sharma, L., & Kumar, S. Literature growth and author productivity patterns in Indian Physics. *Information Processing \& Management*, 1998, **34**(1), 121–131. https://doi.org/10.1016/S0306-4573(97)00043-5
9. Amin, J., & Parekh, Y. R. Growth, and productivity of agricultural and biological sciences research in state agriculture universities of Gujarat (India). *Library Philosophy and Practice*, 2020, https://digitalcommons.unl.edu/libphilprac/4542/
10. Memon, A. R. Bibliometric analysis of the Journal of Pakistan Medical Association during the period from 1965 to 2018. *JPMA. The Journal of the Pakistan Medical Association*, 2019, **69**(8), 1150–1158.

11. Železnik, D., Blažun Vošner, H., & Kokol, P. A bibliometric analysis of the Journal of Advanced Nursing, 1976-2015. *Journal of Advanced Nursing*, 2017, **73**(10), 2407–2419. https://doi.org/10.1111/jan.13296
12. Jain, S., et al. Bibliometric analysis of journal of clinical and diagnostic research (dentistry section; 2007-2014). *Journal of Clinical and Diagnostic Research: JCDR*, 2015, **9**(4), ZC47--51. https://doi.org/10.7860/JCDR/2015/11994.5834
13. Chatterjee, S., et al. Bibliometric Study of Three Journals of Orthodontics: A Comparative Analysis of 10 years. *Journal of Indian Orthodontic Society*, 2018, **52**(3), 174–178. https://doi.org/10.4103/jios.jios_103_17
14. Shukla, R., & Verma, M. Library Herald-2008-2017: A Bibliometric Study. *Library Philosophy and Practice*, 2018, https://digitalcommons.unl.edu/libphilprac/1762/
15. Amin, J., & Parekh, Y. R. (2019). Scientometric Analysis of the Research Output of Biochemistry, Genetics and Molecular Biology of Gujarat University, Ahmedabad. *Library Philosophy and Practice (e-Journal)*, 2020, September 1–13. https://digitalcommons.unl.edu/libphilprac/2633/
16. SCI Journals, https://www.scijournal.org/impact-factor-of-health-information-libraries-journal.shtml Access on April 27, 2021.
17. Scimago Journal & Country Rank, https://www.scimagojr.com/journalsearch.php?q=30004&tip=sid&clean=0 Access on April 27, 2021.
18. Amin, J., Parekh, Y., & Patel, P. (2021). Scientometric assessment of Rheumatoid Arthritis (RA) research performance in India during 2002-2021. *Towards Excellence (UGC HRDC Gujarat University) EJournal)*, ***13***(2), 198–212. Retrieved from https://hrdc.gujaratuniversity.ac.in/Uploads/EJournalDetail/30/1046/17.pdf