Bibliometric Analysis of the Journal of Hospital Librarianship

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Article Info	ABSTRACT
	Objective: The *Journal of Hospital Librarianship* is the most influential journal in the field of hospital libraries. **Materials and Methods**: This study, using bibliometric and visualization methods, provides a comprehensive analysis of the *Journal of Hospital Librarianship*. **Results**: The results of the bibliometrics indicated that the citation received by papers was ascending, and the average citation for each document was 1.06. Helen-Ann Brown Epstein with 26 documents, is the most prolific author. About 86 percent of the documents were published by authors from the United States. The LSU Health Sciences Center, with 14 documents, is the most active institution. The article entitled "*Gray literature: Its emerging importance*" is considered the most highly cited article in the journal receiving 79 citations. Visualizing and clustering the important terms in the title and the keywords of the articles using the VOSviewer software suggests that these terms form seven clusters. Hospital library, information need, and hospital librarian were the most important terms in the title of the articles, and hospital libraries, libraries and internet were the most important keywords. In addition, visualizing the abstract of the articles showed that "hospital libraries", "survey research", "health information," and "evidence-based medicine" are the main four clusters of articles. **Conclusion**: The publishing trends in this journal have been accompanied by ups and downs and the United States has been one of the main countries contributed to this journal. The results of this study can be a road map for researchers and editors of this journal.

Introduction

The Journal of Hospital Librarianship is the most important scientific journal for hospital librarians around the world. This journal focuses on the critical and vital issues desired by hospital librarians. It specifically provides the hospital librarians with the research strategies, reported results, and the projects improved in hospital library settings. Besides, discussions about technological challenges and solutions and papers on health care administration are also covered. These papers typically focus on issues such as managed care, healthcare economics, hospital mergers, as well as patient safety, and consumer health information. The *Journal of Hospital Librarianship*, whose academic editor is Carole M. Gilbert, is published quarterly. It is indexed and abstracted in credible databases such as PubMed, Scopus, OCLC, LISA, LISTA, ProQuest, CINAHL, IBZ, TOC Premier, EBSCO host, and more (Informa UK Limited, 2022).

The most important method for analyzing scientific journals is bibliometrics. Bibliometrics was first proposed by Pritchard in 1969 (Şenel & Demir, 2018). Today, bibliometrics has become an important research method (Xu, Yu & Wang, 2019). Bibliometrics has widely been used in the analysis of various medical journals such as *The Journal of Physiology* (Paterson et al., 2013), the *Journal of Bioinformatics and Computational Biology* (Eisenhaber & Sherman, 2014), the *Journal of Pakistan Medical Association* (Ibrahim & Jan, 2015), *Genetics Journal* (Telis et al. 2016), *Journal of School Health* (Zhang, 2017), *Journal of Religion and Health* (Şenel & Demir, 2018), *Journal of Advanced Nursing* (Železnik, Blažun Vošner & Kokol, 2017), and *Journal of Infection and Public Health* (Krauskopf, 2018), and *Sport Management Review* (Gholampour et al., 2019).

Since the *Journal of Hospital Librarianship* is the most influential journal in the field of hospital libraries, it is, therefore, necessary to carry out a comprehensive analysis of the most important journal of hospital librarians. The present study aims to provide a comprehensive overview of this journal. The results of this analysis can be appropriate for journal owners, hospital librarians around the world, and the journal audiences.

Materials and Methods

The present study is a bibliometric study. The data were collected in January 2021, using Scopus Database. With an advanced search in Scopus, 759 documents published in the *Journal of Hospital Librarianship* between 2001 and 2018 were entered into the study. The search strategy was as follows:

SOURCE-ID (4700152734) AND (LIMIT-TO (PUBYEAR,2018) OR LIMIT-TO PUBYEAR,2017) OR LIMIT-TO (PUBYEAR,2016) OR LIMIT-TO (PUBYEAR,2015) OR LIMIT-TO (PUBYEAR,2014) OR LIMIT-TO (PUBYEAR,2013) OR LIMIT-TO (PUBYEAR,2012) OR LIMIT-TO (PUBYEAR,2011) OR LIMIT-TO (PUBYEAR,2010) OR LIMIT-TO (PUBYEAR,2009) OR LIMIT-TO (PUBYEAR,2008) OR LIMIT-TO (PUBYEAR,2007) OR LIMIT-TO (PUBYEAR,2006) OR LIMIT-TO (PUBYEAR,2005) OR LIMIT-TO (PUBYEAR,2004) OR LIMIT-TO (PUBYEAR,2003) OR LIMIT-TO (PUBYEAR,2002) OR LIMIT-TO (PUBYEAR,2001))

The bibliometric analysis and visualization were carried out using Excel and VOSviewer software. In the bibliometric analysis, the frequency distribution of documents, citations, and the average of citations for each document was initially examined. Then, the most prolific authors, institutions, and countries participating in the *Journal of Hospital Librarianship* were identified. In addition, the specifications of 30 highly cited journal articles were extracted. For visualization, the terms in the titles, abstracts, and keywords were utilized. Finally, 1735 terms from the titles, 5582 terms from the abstracts, and 1351 terms from the keywords were extracted. Eventually, according to the visualization rules, the map of the most frequent terms was drawn.

Results

Frequency distribution of documents, citations, and the average of the citation for each document

As shown in Table 1, a total of 759 documents are indexed in Scopus. These documents received 805 citations. The average number of citations for each document is 1.6. During the year 2001, the highest number of documents (54 documents), and in 2011, 2013, and 2014, the lowest number of documents (38 documents) were published. The highest number of citations received was in 2017 and 2018, and the lowest number of citations received was in 2001. Despite the fact that the publication rate of the documents in the journal is almost identical and about 40 documents are annually published, the citation trend is ascending. This is a good sign for the journal and it proves that the number of users is increasing day by day.

Table 1. The documents published based on the year

Years	Documents	Citations	Citation per document
2001	54	0	0.00
2002	43	5	0.12
2003	44	4	0.09
2004	43	9	0.21
2005	41	9	0.22
2006	46	21	0.46
2007	45	15	0.33
2008	43	17	0.40
2009	45	29	0.64
2010	42	43	1.02
2011	38	46	1.21
2012	40	63	1.58
2013	38	73	1.92
2014	38	63	1.66
2015	40	100	2.50
2016	40	82	2.05
2017	39	113	2.90
2018	40	113	2.83
Total	759	805	1.06

As it was noted, a total of 759 the *Journal of Hospital Librarianship* documents were indexed in Scopus. Therefore, the analysis of this study was conducted based on 759 journal documents. The types of documents are presented in Figure 1. According to Figure 1, the most common type of indexed document in Scopus is *Article*. It should be noted that in each issue of the journal, several book reviews are also published that they are not indexed in Scopus. Therefore, their analysis was not possible in this study.
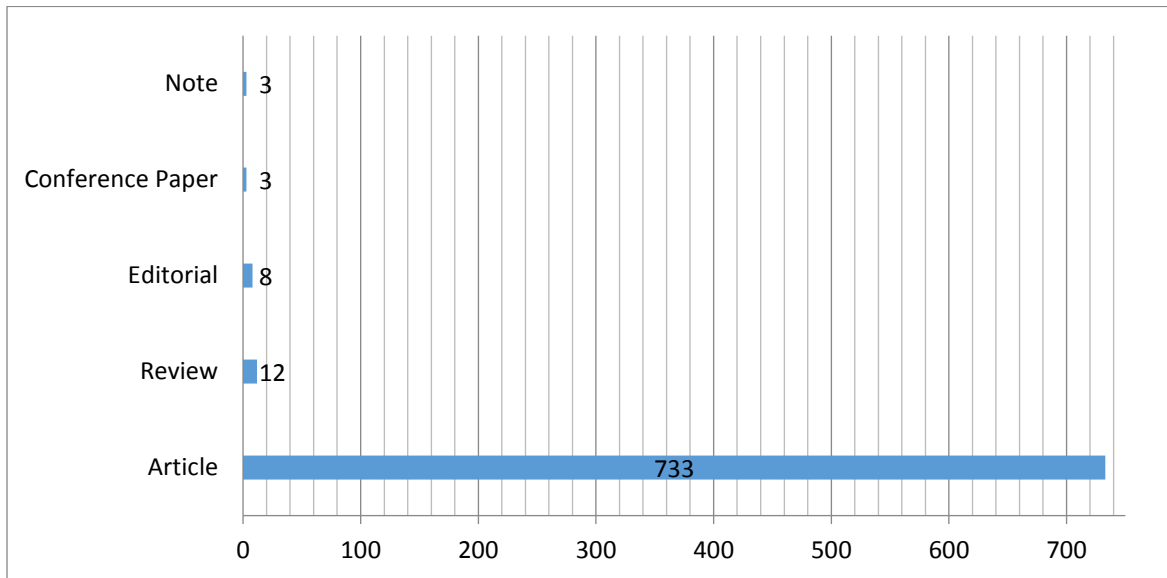

Figure 1. The types of documents

The most prolific authors, institutions, and countries

A total of 159 authors contributed to the publication of the 759 documents published in the *Journal of Hospital Librarianship*. Diagram 2 shows the most prolific authors of the *Journal of Hospital Librarianship*. In Figure 2, the authors who have published 6 or more than 6 documents are introduced. Helen-Ann Brown Epstein with 26 documents, is the most prolific author of this journal. Sheila Hayes with 12 documents, Mary Pat Harnegie with 10 documents, and Christine Marton with 9 documents are ranked second, third, and forth authors.
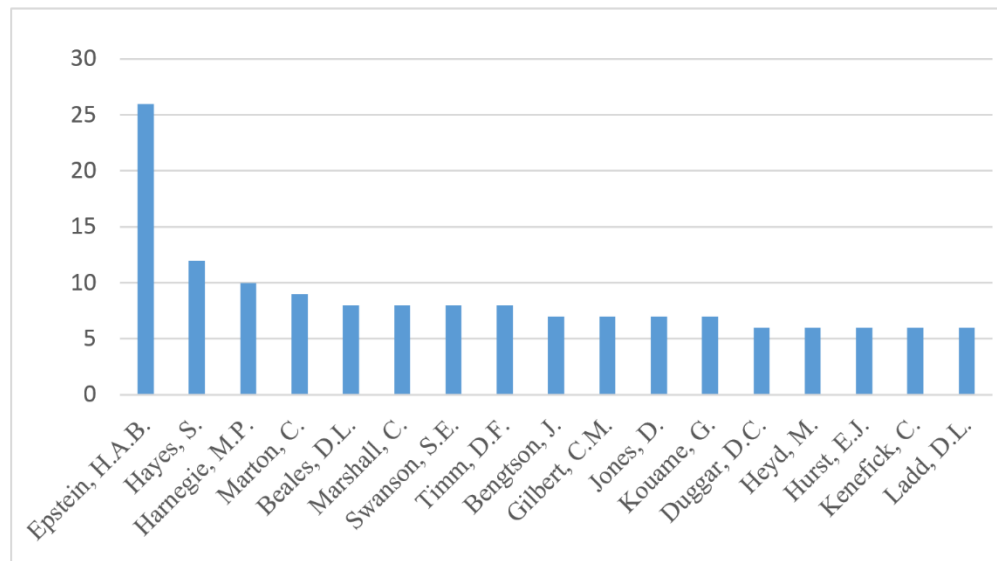
Figure 2. The most prolific authors

Figure 3 shows the names of the most prolific institutions/universities. In this diagram, as in Figure 2, only institutions/universities with at least 5 documents are presented. As shown in the figure, the first rank has been dedicated to the LSU Health Sciences Center. This center participated in the publication of 14 papers. The University of Washington is ranked second with 12 documents. The third rank is dedicated to Easton Hospital, which has published 11 documents.
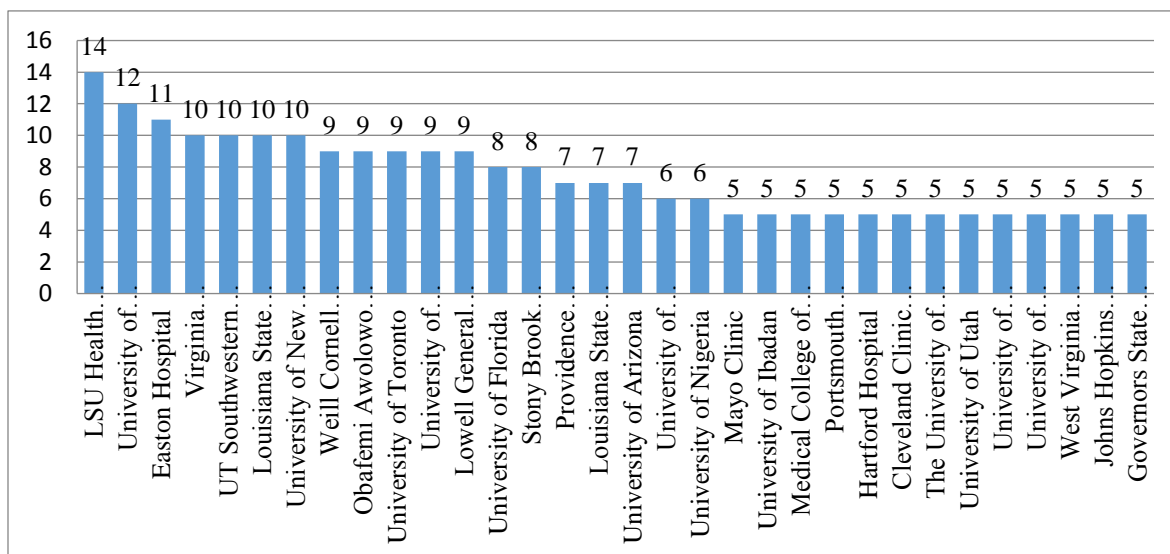

Figure 3. The most prolific institutions/universities

Table 2 lists the most active countries. Authors from 19 countries have contributed to the publication of documents published in the *Journal of Hospital Librarianship*. About 86 percent of the documents were published by authors from the United States of America. These authors had

published 650 documents. Authors from Canada with 28 (3.69%) and Nigeria with 26 (3.43%) documents rank second and third.

Table 2. The most prolific countries

Rank	Country/Territory	No. of documents	% of 759
1	United States	650	85.64%
2	Canada	28	3.69%
3	Nigeria	26	3.43%
4	Australia	11	1.45%
5	United Kingdom	9	1.19%
6	Greece	6	0.79%
7	Pakistan	3	0.40%
8	Zambia	3	0.40%
9	Iran	2	0.26%
10	Sierra Leone	2	0.26%
11	Taiwan	2	0.26%
12	Antigua and Barbuda	1	0.13%
13	India	1	0.13%
14	Ireland	1	0.13%
15	Malaysia	1	0.13%
16	Netherlands	1	0.13%
17	Russian Federation	1	0.13%
18	Serbia	1	0.13%
19	Slovenia	1	0.13%
20	Undefined	17	2.24%

The most highly cited articles

Table 3 shows the specifications of 30 highly cited articles published in the *Journal of Hospital Librarianship*. These articles received five and more than five citations. The paper entitled "*Gray literature: Its emerging importance*" written by Cleo Pappas and Irene Williams, which received 79 citations, is considered the most highly cited article in the journal. The article entitled "*Managing mobile devices in hospitals: A literature review of BYOD policies and usage*" conducted by Jennifer E. Moyer with 29 citations is the third highly cited article. The article entitled "*Evolutions in telemedicine: From smoke signals to mobile health solutions*" by Emily J. Hurst with 20 citations is ranked second.

Table 3. Thirty highly cited articles in the Journal of Hospital Librarianship

Title	First Author	Year	Cited by	Rank
Grey literature: Its emerging importance	Pappas C.	2011	79	1
Managing mobile devices in hospitals: A literature review of BYOD policies and usage	Moyer J.E.	2013	29	2
Evolutions in Telemedicine: From smoke signals to mobile health solutions	Hurst, E.J.	2016	20	3
A survey of registered nurses' readiness for evidence-based practice: A multidisciplinary project	Beke-Harrigan H.	2008	16	4
Books on prescription: Bibliotherapy in the United Kingdom	Brewster, L.	2009	16	4
3D Printing in Healthcare: Emerging Applications	Hurst, E.J.	2015	15	5

Title	First Author	Year	Cited by	Rank
Information needs and barriers to accessing electronic information: Hospital-based physicians compared to primary care physicians	Davies, K.	2011	15	5
Bibliographic-based identification of hot future research topics: An opportunity for hospital librarianship	Kokol, P.	2018	14	6
Charting consumer health teaching kids about healthy lifestyles through stories and games: Partnering with public libraries to reach local children	Woodson, D.E.	2011	14	6
Virtual meeting fatigue	Epstein, H.-A.B.	2020	13	7
A novel tool for health literacy: using comic books to combat childhood obesity	Tarver, T.	2016	13	7
Access to and dissemination of health information in africa: The patient and the public	Anasi, S.N.I.	2012	13	7
Usage of social media by medical and dental students at nishtar medical college, multan, Pakistan	Javed, M.W.	2015	12	8
Public libraries participating in community health initiatives	Malachowski, M.	2014	11	9
The impact of hospital libraries on patient care and clinical decision-making: a survey of teaching hospitals	Naeem, S.B.	2013	11	9
Before disaster strikes: essentials of formulating a library emergency management plan	Beales, D.L.	2003	11	9
WikiProject medicine: Creating credibility in consumer health	James, R.	2016	10	10
A review of recent research on internet access, use, and online health information seeking	Cyrus, J.W.	2014	10	10
The informationist: Ten years later	Polger, M.A.	2010	10	10
Playing with a Bad Deck: The Caveats of card sorting as a web site redesign tool	Brucker, J.	2010	10	10
Navigating the doctoral journey	Mays, T.L.	2009	10	10
Use of computers and the Internet in a Nigerian teaching hospital	Ajuwon, G.A.	2004	10	10
Bibliotherapy for hospital patienst	McMillen, P.S.	2004	10	10
Barriers to knowledge sharing among medical students in Pakistan	Rafique, G.M.	2019	9	11
Proving your worth / adding to your value	Joseph, C.B.	2014	9	11
How women with mental health conditions evaluate the quality of information on mental health web sites: A qualitative approach	Marton, C.	2010	9	11
Health information literacy: A road map for poverty alleviation in the developing countries	Ogunsola, L.A.	2009	9	11
Nurses' information needs: Nurses' and hospital librarians' perspective	Dee, C.R.	2005	9	11
Web conferencing and collaboration tools and trends	Hurst, E.J.	2020	8	12
The effect of contextual factors on health information–seeking behavior of Isfahan diabetic patients	Zare-Farashbandi, F.	2016	8	12

Visualization of the terminology extracted from the titles

Visualizing and clustering the important terminology of the titles were carried out using VOSviewer software (see Figure 4). Out of the 1735, terms extracted from the titles, those that were repeated more than 5 times were entered into the map. In visualization, frequent terms are clustered based on their co-occurrence. As shown in Figure 4, these terms comprise seven clusters. The first cluster is marked in red. The most important keyword of this cluster is 'hospital library' with 39 repetitions.

In the second cluster that is green, 'information need' with 12 repetitions is the most common keyword. The third cluster is blue. The 'hospital librarian', which has 33 occurrences, is the most effective term in this cluster. The fourth cluster is yellow. 'Resources' with 11 repetitions is the most important keyword. Purple is assigned to the fifth cluster. 'Medical librarian', with 15 repetitions, is the most effective term in this cluster. The color of the sixth one is light blue. 'Health

care' is the most frequent term in this cluster and has 6 occurrences. In the last cluster, which is orange, 'medical library' with 17 frequencies is the most effective term.
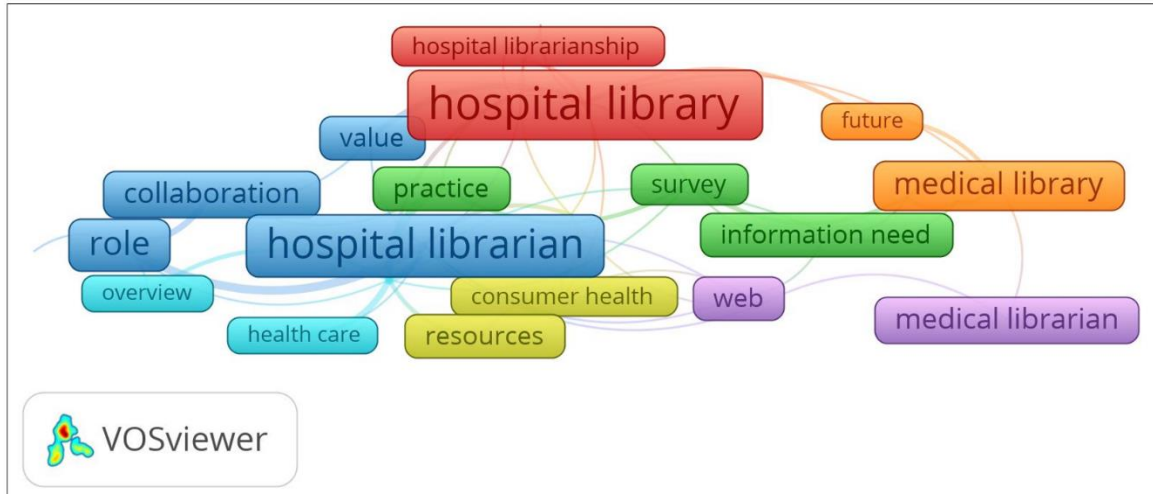

Figure 4. The co-occurrence map of the extracted terminology from the articles

Visualization of the extracted terminology from the abstracts

Using the VOSviewer software, 5582 terms were extracted from the abstracts. Then, keywords frequency was examined and 50 frequent keywords were entered into the map. The results of the visualization show that the most frequent terms extracted from the abstracts are in four clusters. The first cluster is red, the second green, the third blue, and the fourth yellow. The most important terms extracted from the abstracts that are more effective in their own cluster are 'hospital librarian' in the first cluster, 'study' in the second one, 'health information' in the third one, and 'evidence' in the fourth one. Based on the important terms in clusters, the first cluster can be named "Hospital Libraries Studies". "Survey research" is an appropriate name for the second cluster. The third one is "Health Information Studies". For the fourth cluster, "Evidence-based Medicine" can be selected.
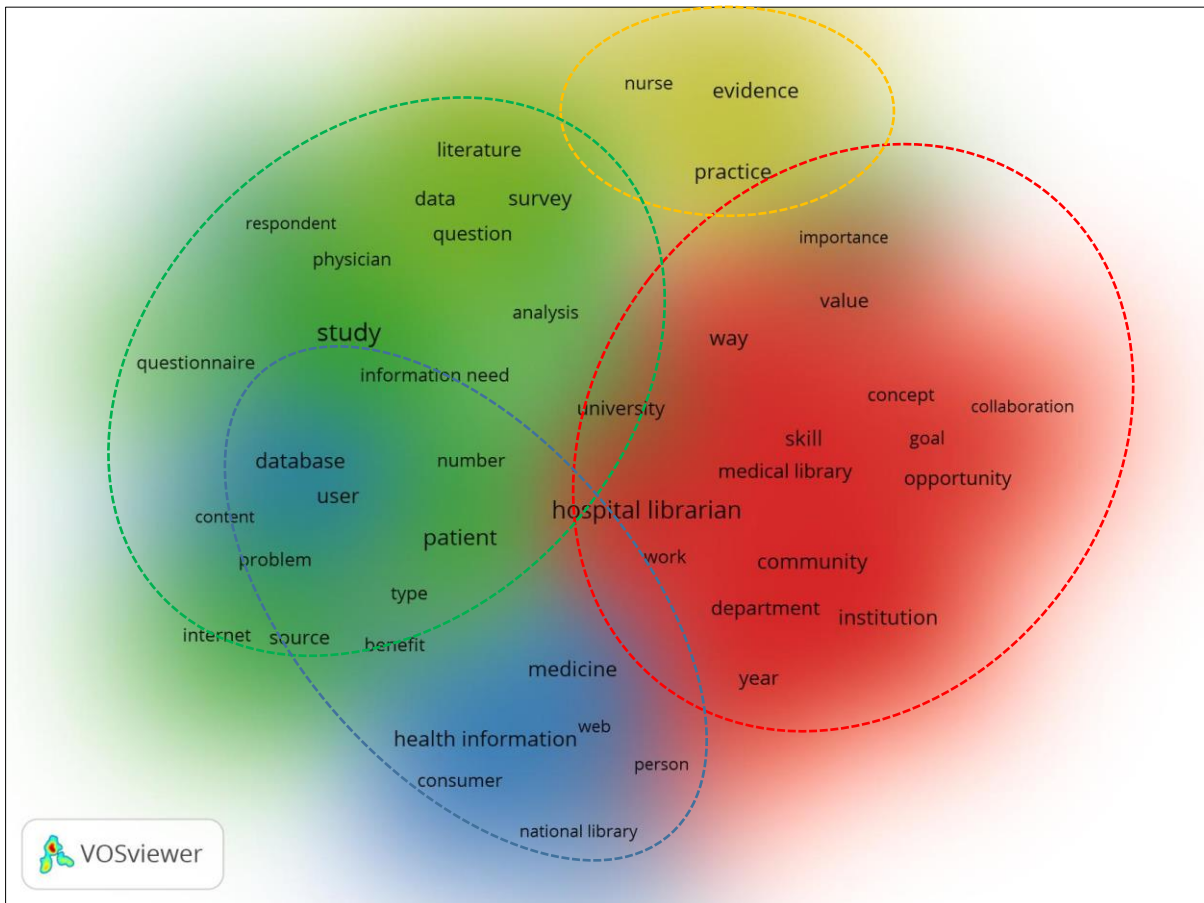
Figure 5. The co-occurrence map of the terminology extracted from the articles.

Visualizing the keywords of the articles

One of the important sections in articles is keywords. To visualize the keywords, 1351 unique keywords were extracted from the articles and entered into the VOSviewer software. In visualization, a threshold should be considered; therefore, the threshold of 5 was considered, and the keywords that had been repeated more than 5 times were used in the visualization. The keyword map is presented in Figure 6. As shown in Figure 6, the keyword map is made up of 7 clusters, as well as the terminology map extracted from the titles. Each cluster is marked with a single color. The first cluster is red, the second green, the third blue, the fourth yellow, the fifth purple, the sixth orange, and the seventh light blue. The most important keywords in each cluster are as follows: in the first cluster, 'hospital libraries', in the second cluster, 'libraries', in the third one, 'internet', in the fourth one, 'consumer health', in the fifth one, 'evidence-based medicine', in the sixth one, 'information services', and in the seventh one, 'document delivery', and 'interlibrary loan'. The lines between the keywords indicate the co-occurrence of the keywords. The more these lines are thicker, the more likely the two keywords come together.
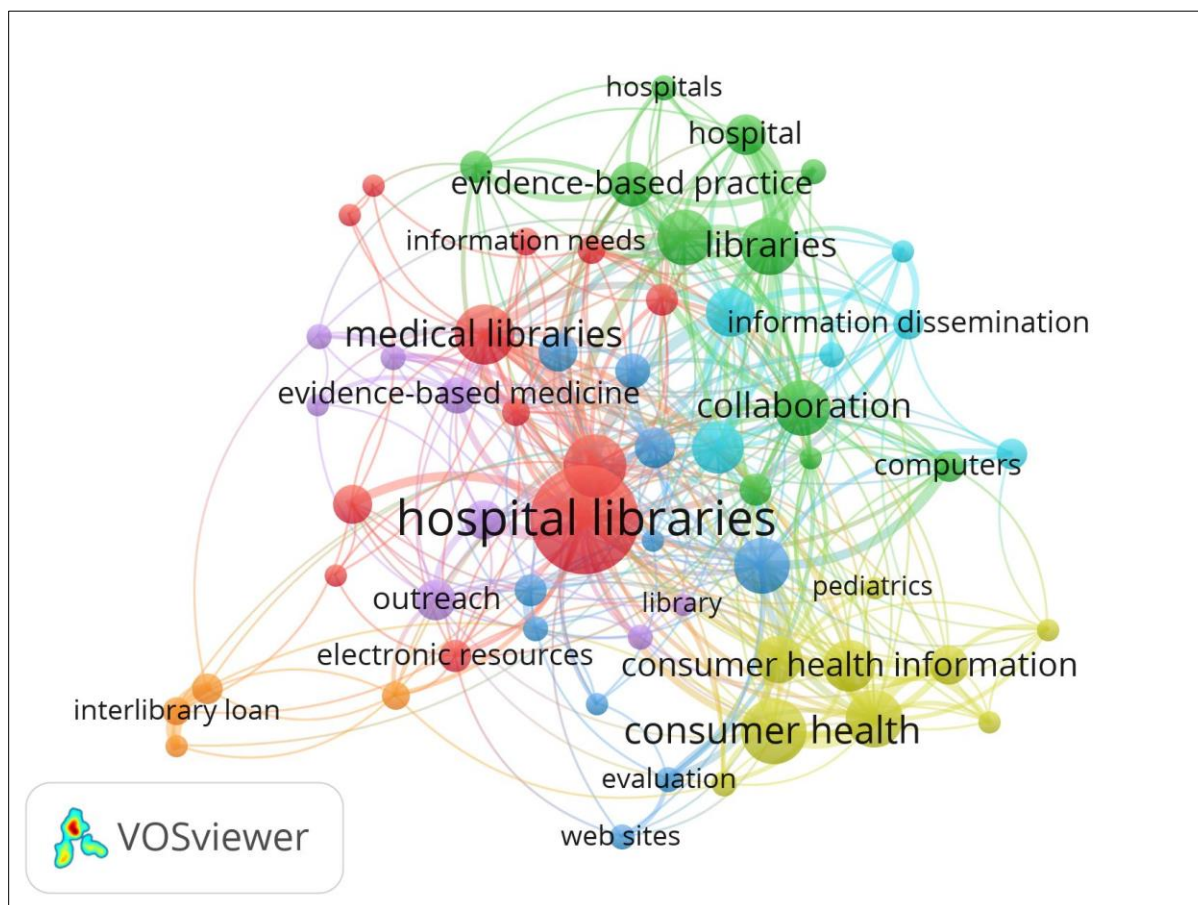
Figure 6. The co-occurrence map of the keywords of the articles

Discussion and Conclusion

The aim of this study was to conduct a bibliometric analysis of the *Journal of Hospital Librarianship*. Bibliometrics is the use of mathematical and statistical methods to explain the state of publications (Lundberg, 2008). Today, bibliometrics has become a truly extraordinary interdisciplinary research domain (Glänzel, 2003) and it is used for various analyses such as the development trend of journals. Compared to other information carriers, scientific journals have more audiences due to the rapid dissemination of information (Saberi, 2022). These journals play an important role in transferring current scientific information (Mohseni, 2022). The growing spread of the number of scientific journals on the one hand, and the widespread acceptance, use, and dependence of the scientific community on them on the other hand, has made the evaluation of scientific journals an important and essential issue (Mirhaghjoo Langroodi, 2013). Therefore, it is necessary to review the process of publication of journals using the latest techniques and software of bibliometrics.

In this study, the development of the *Journal of Hospital Librarianship* was studied. The results of the bibliometric analysis showed that a total of 759 journal documents have been indexed in Scopus. These documents received 805 citations, and the average of the citation was 1.06 for each document. The trend of the citations received was ascending. This is a good sign for the journal, and it indicates that the number of users is increasing day by day. According to Lundberg (2006), the number of citations to articles in a journal reflects the impact of the paper on scientific assemblies (Lundberg, 2008). Fortunately, the *Journal of Hospital Librarianship* has had a significant impact on the scientific community of hospital librarians and has become the most influential journal in this field. The results of studying the most prolific authors, institutions, and countries showed that Helen-Ann Brown Epstein, with 26 documents, is the most prolific author of this journal. LSU Health Sciences Center has been also ranked the most influential institution. This center participated in the publication of 14 papers. It is worth noting that 650 documents (86%) belonged to authors from the United States. The active and influential presence of American authors in various studies such as (Ivanović, & Ho, 2016; Elango, & Ho, 2017; Bauer et al., 2016; Moral-Muñoz et al., 2016; Saberi & Ekhtiyari, 2019) has been confirmed. Analyzing the highly cited articles suggests that "*Gray literature: Its emerging importance*" written by Cleo Pappas and Irene Williams with 79 citations received is the most highly cited article. After analyzing the bibliometrics, visualization of the title, abstract, and keywords of the articles was carried out to highlight the important concepts of the journal. According to the visualization results, hospital library, information need, and hospital librarian were the most important terms in the titles, and hospital libraries, libraries, and internet were the most important keywords of the articles. Visualization of the abstracts indicated that "hospital libraries", "survey research", "health information" and "evidence-based medicine" were the four main clusters of the articles. The *Journal of Hospital Librarianship* is the most important scientific journal for hospital librarians around the world. This journal focuses on critical and vital issues desired by hospital librarians. The results of the visualization clearly showed this concentration. Finally, it is hoped that the results of this study, which presents a comprehensive picture of the most important hospital librarianship in the world, are useful for all hospital librarians, journal audiences, and bibliometric researchers.

Author Contributions

Conceptualization, H. V., M. K. S., F. P., and A. O.; methodology, H. V., M. K. S., F. P., and A. O.; software, H. V., M. K. S., F. P., and A. O.; validation, H. V., M. K. S., F. P., and A. O.; formal analysis, H. V., M. K. S., F. P., and A. O.; investigation, H. V., M. K. S., F. P., and A. O.; resources, H. V., M. K. S., F. P., and A. O.; data curation, H. V., M. K. S., F. P., and A. O.; writing—original draft preparation, H. V., M. K. S., F. P., and A. O.; writing—review and editing, H. V., M. K. S., F. P., and A. O.; visualization, H. V., M. K. S., F. P., and A. O.;

supervision, H. V., M. K. S., F. P., and A. O.; project administration, H. V., M. K. S., F. P., and A. O. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

Not applicable.

Ethical considerations

This study has been ethically approved by the Ethics Committee of Hamadan University of Medical Sciences with code number: IR.UMSHA.REC.1401.284.

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Conflict of interest

The authors declare no conflict of interest.

References

Bauer, J., Leydesdorff, L., & Bornmann, L. (2016). Highly cited papers in Library and Information Science (LIS): Authors, institutions, and network structures. *Journal of the Association for Information Science and Technology*, *67*(12), 3095-3100. https://doi.org/10.1002/asi.23568

Eisenhaber, F., & Sherman, W. A. (2014). 10 years for the Journal of Bioinformatics and Computational Biology (2003–2013)—A retrospective. *Journal of Bioinformatics and Computational Biology*, *12*(03), 1471001. https://doi.org/10.1142/s0219720014710012

Elango, B., & Ho, Y. S. (2017). A bibliometric analysis of highly cited papers from India in Science Citation Index Expanded. *Current Science*, 112 (8), 1653-1658. https://www.currentscience.ac.in/Volumes/112/08/1653.pdf

Glänzel, W. (2003). Bibliometrics as a research field: A course on theory and application of bibliometric indicators. *Course Handouts*. https://nsdl.niscpr.res.in/xmlui/handle/123456789/968

Gholampour, S., Noruzi, A., Gholampour, B., & Elahi, A. (2019). Research trends and bibliometric analysis of a journal: Sport Management Review. *Webology*, 16(2), 223-241. http://eprints.rclis.org/39680/

Ibrahim, M., & Jan, S. U. (2015). Bibliometric analysis of the Journal of Pakistan Medical Association from 2009 to 2013. *Journal of Pakistan Medical Association*, *65*(9), 978-83. https://pubmed.ncbi.nlm.nih.gov/26338745/

Informa UK Limited (2022). Journal of Hospital Librarianship. https://www.tandfonline.com/toc/whos20/current

Ivanović, D., & Ho, Y. S. (2016). Highly cited articles in the information science and library science category in Social Science Citation Index: A bibliometric analysis. *Journal of Librarianship and Information Science*, *48*(1), 36-46. https://doi.org/10.1177/0961000614537514

Krauskopf, E. (2018). A bibiliometric analysis of the Journal of Infection and Public Health: 2008–2016. *Journal of Infection and Public Health*, *11*(2), 224-229. https://doi.org/10.1016/j.jiph.2017.12.011

Lundberg J. (2006). *Bibliometrics: Publication analysis as a tool for science mapping and research assessment*. Doctoral dissertation, Media Management Centre, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, Stockholm, Sweden. https://openarchive.ki.se/xmlui/bitstream/handle/10616/39489/thesis.pdf

Mirhaghjoo Langroodi, S. (2013). Evaluation scintometric of Quran studies magazine. *Quranic Studies Quarterly*, *4*(16), 141-155. https://qsf.jiroft.iau.ir/article_640661.html

Mohseni, M. (2002). Investigating the external and internal problems of scientific journals in Iran. *Academic Librarianship and Information Research*, *36*(39), 41-71. https://jlib.ut.ac.ir/article_11614.html

Moral-Muñoz, J. A., Cobo, M. J., Chiclana, F., Collop, A., & Herrera-Viedma, E. (2015). Analyzing highly cited papers in intelligent transportation systems. *IEEE Transactions on Intelligent Transportation Systems*, *17*(4), 993-1001. https://doi.org/10.1109/TITS.2015.2494533

Paterson, D. J., Huxley, C., Schnelle, C., & Howells, S. (2013). The Journal of Physiology Annual Report 2012–13. A year of progress. *The Journal of Physiology*, *591*(Pt 3), 593. http://doi.org/10.1113/jphysiol.2012.250829

Saberi, M. K. (2022). Open access journals with a view of journals covered in ISI. *Iranian Journal of Information Processing and Management*, *24*(2), 105-122. https://jipm.irandoc.ac.ir/article_698548.html

Saberi, M. K., & Ekhtiyari, F. (2019). Usage, captures, mentions, social media and citations of LIS highly cited papers: an altmetrics study. *Performance Measurement and Metrics*. *20*(1), 37–47. http://dx.doi.org/10.1108/PMM-10-2018-0025

Şenel, E., & Demir, E. (2018). Bibliometric and scientometric analysis of the articles published in the Journal of Religion and Health between 1975 and 2016. *Journal of Religion and Health*, *57*, 1473-1482. https://doi.org/10.1007/s10943-017-0539-1

Telis, N., Lehmann, B. V., Feldman, M. W., & Pritchard, J. K. (2016). A bibliometric history of the journal GENETICS. *Genetics*, *204*(4), 1337-1342. https://doi.org/10.1534/genetics.116.196964

Xu, Z., Yu, D., & Wang, X. (2019). A bibliometric overview of International Journal of Machine Learning and Cybernetics between 2010 and 2017. *International Journal of Machine Learning and Cybernetics*, *10*, 2375-2387. https://doi.org/10.1007/s13042-018-0875-9

Železnik, D., Blažun Vošner, H., & Kokol, P. (2017). A bibliometric analysis of the Journal of Advanced Nursing, 1976–2015. *Journal of Advanced Nursing*, *73*(10), 2407-2419. https://doi.org/10.1111/jan.13296

Zhang, C. C., Zheng, X., Su, C. H., Huang, H., Yan, F. R., Pan, X. J., Zhao H.N., & Jin, Z. Z. (2017). A bibliometric study of the Journal of School Health: 1965–2014. *Chinese Nursing Research*, *4*(2), 75-83. http://dx.doi.org/10.1016/j.cnre.2017.03.011