

Analysis and Visualisation of Research Trends in Community Maternal Care: A General Review

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Abstract: Maternal care is a very important pillar of a healthy society. Community health measures play a significant role in improving the quality of maternal care and thereby reducing maternal mortality. The bibliometric analysis had been conducted to understand the active authors, organizations, journals, and countries involved in the research domain of “Community maternal care” by using the published articles from “Scopus”. The resources were analyzed using the VOS viewer to develop analysis tables and visualization maps. The most active journals in this research domain were identified as the BMC Pregnancy and Child Birth; and BMC Health Services Research. The most active countries were the United States of America. The leading organizations engaged in the research regarding “Community maternal care” were the Ministry of Health of Uganda and Harvard Medical School of the United States of America. The most active authors were Von Dadelszen P. and Fotso J.-C.

Keywords: Community maternal care, Bibliometric analysis, VOS viewer, Health

1. INTRODUCTION

The branch of medicine dealing with health care issues of the community as a whole is being called Community medicine, it is often considered preventive and social medicine (PSM). Community medicine is not a new branch of medicine but a new orientation or approach for better communities and better society¹. This branch of knowledge focuses on families, workplaces, and the community as a whole, other than individual patients.

Maternal care is a very important pillar of a healthy society. Community health measures play a significant role in improving the quality of maternal care and thereby reducing maternal mortality. Community-based concepts are suitable for improving maternal and newborn health². This study focuses on consolidating literature regarding community maternal care by identifying the leading authors, countries, journals, and organizations engaged in research regarding community maternal care. The first section is the introduction, followed by the discussion of the methodology by which the research was conducted. The third section deals with results. The fourth section deals with the discussion and conclusion.

1.1 Research Objectives

- a) To consolidate the literature regarding the “Community maternal care”
- b) To find out the trends related to research in the “Community maternal care”

The following research questions are framed for conducting bibliometric analysis systematically.

1.2 Research Questions

- a) Who are the active researchers working on “Community maternal care”?
- b) Which are the main organizations and countries working on “Community maternal care”?
- c) Which are the main journals related to “Community maternal care”?

2. RESEARCH METHODOLOGY

This bibliometric analysis had drawn resources only from the Scopus. For the article selection, the Boolean used was TITLE-ABS (COMMUNITY MEDICINE MATERNAL CARE) on 29/12/2020. All the tables in this paper were created by using Microsoft Excel and VOS Viewer. Grammarly was used for spelling and grammar checks. Mendeley was used for article review and citation. This paper had been inspired by bibliometric analysis in its presentation style, analysis, and methodology from the works.³⁻⁷

3. RESULTS

This first round of search produced an outcome of 342 documents, in nine languages, out of which 323 documents were in English. The classification of document categories is shown in Figure 1. For improving the quality of the analysis, we had selected only the peer-reviewed articles and all other documents had not been considered. Thus after using filters “Article” and “English” the second round search produced an outcome of 268 English articles (both open access and others) and had been used to conduct bibliometric analysis and visualization using VOS Viewer. The English research articles in this domain since 1971 had been shown in Figure 2.

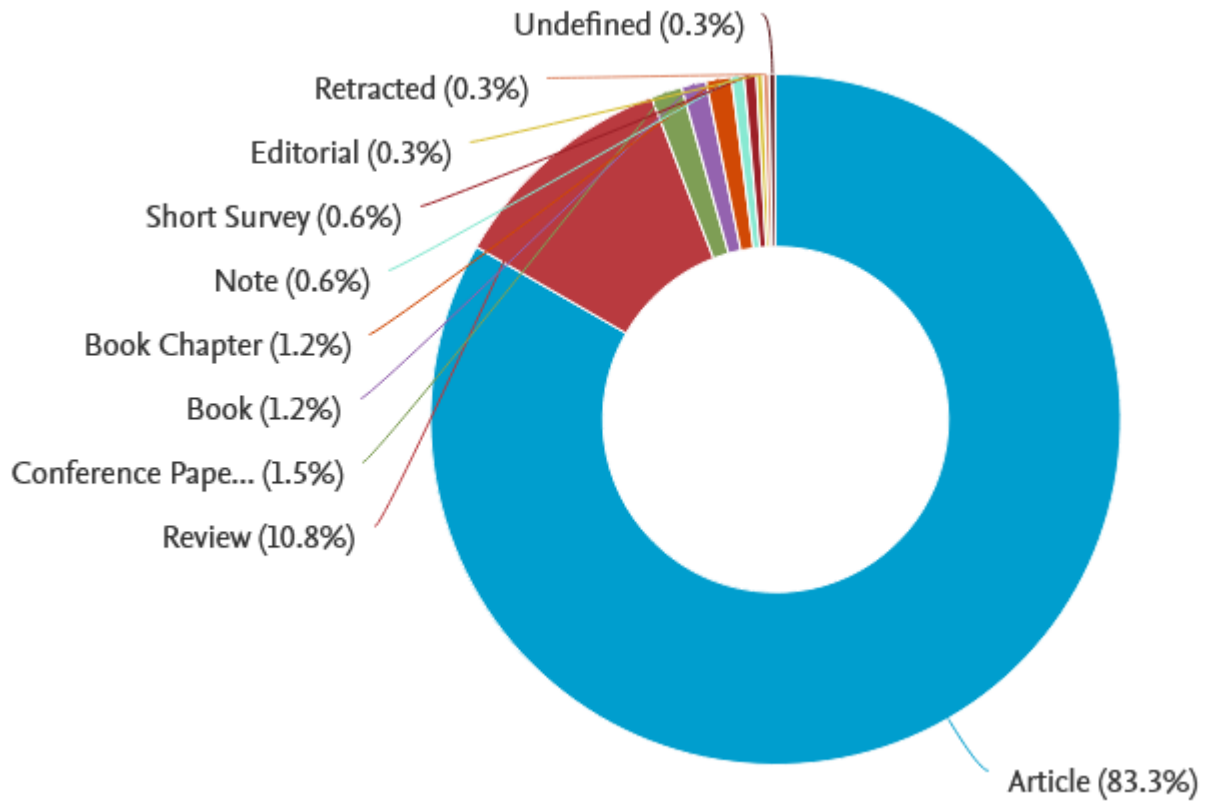


Figure 1: Classification of the documents on “Community maternal care”, Source: www.scopus.com

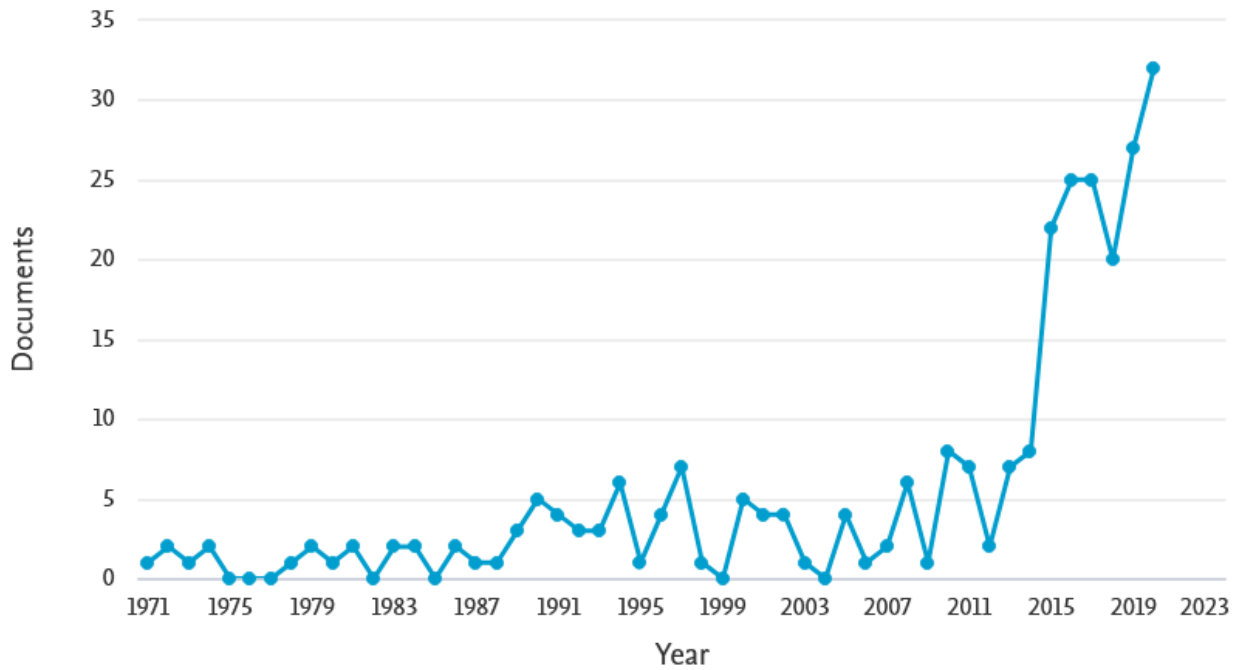


Figure 2: Period wise publication of English articles, Source: WWW.scopus.com

3.1 Who are the leading authors on “Community maternal care”?

Co-authorship analysis and citation analysis had been used to spot out the leading authors on Community maternal care. The results of co-authorship analysis and citation analysis using VoS viewer are shown in figure 3 and figure 4 respectively.

For a better presentation of the co-authorship analysis and citation analysis, the parameters used were the minimum number of documents of an author as two and the minimum number of citations of authors as one. This combination plotted the map of 47 authors, in 23 clusters.

The overlay visualization map of co-authorship analysis plotted in Figure 3, points out the major researchers with their strong co-authorship linkages and clusters involved.

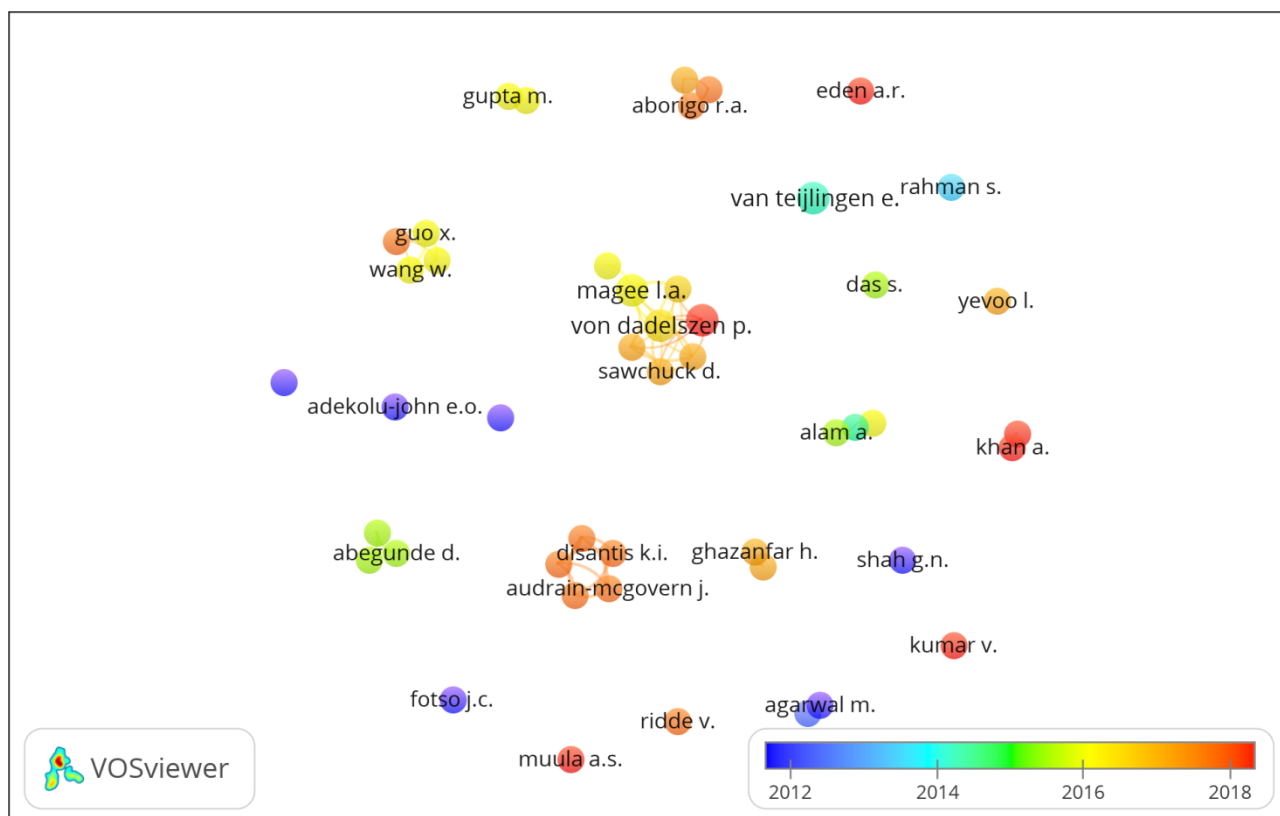


Figure 3: Co-authorship analysis on basis of authors

The overlay visualization map of citation analysis plotted in Figure 4, points out the major researchers with high citations and clusters involved.

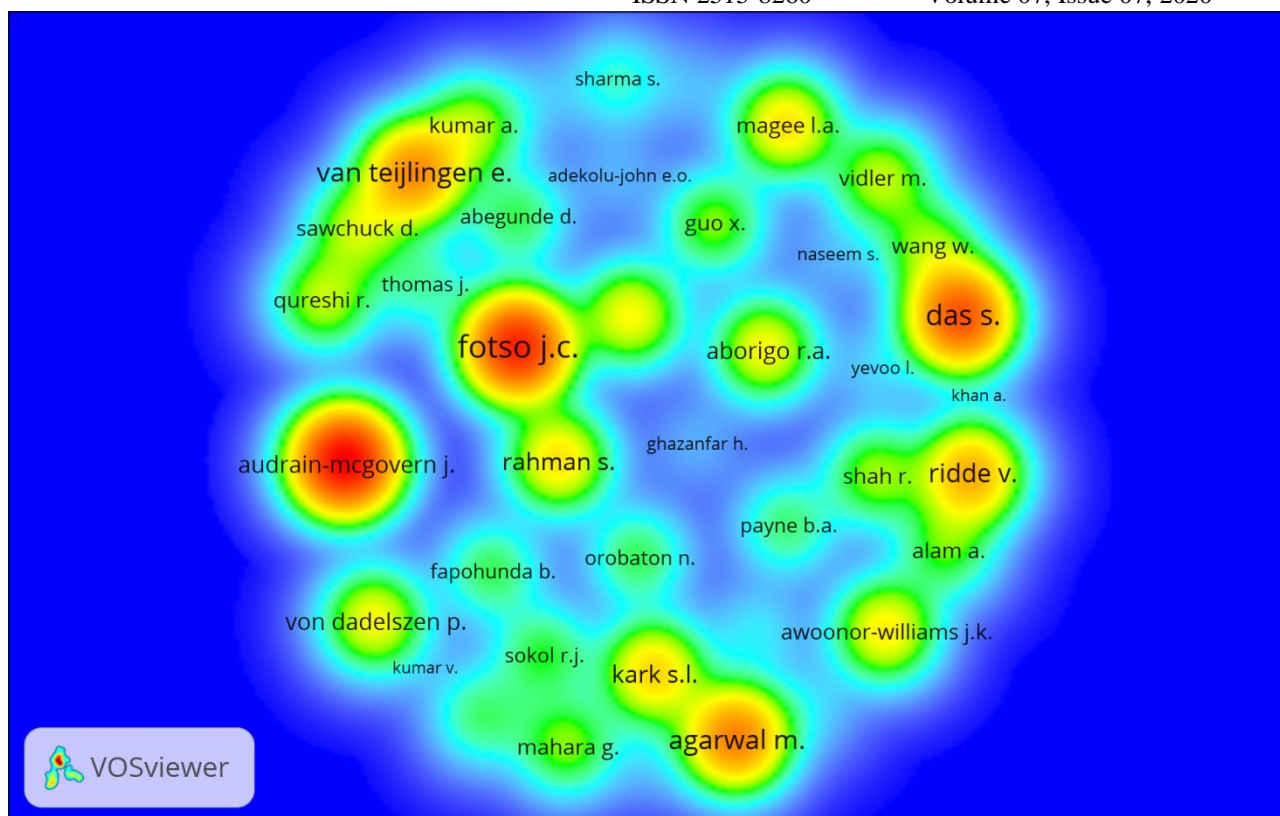


Figure 4: Citation analysis based on authors.

The highlights of top authors had been shown in table 1, by pointing out leading authors in the parameters of documents, citations, average citations, and co-authorship links.

Table 1: Highlights of most active authors

Description	Authors	Documents	Citations	Average citations per documents	Link strength
Author with the highest publication and co-authorship links	Von Dadelszen P.	3	22	7.33	39
Author with the highest citation and average citations	Fotso J.-C.	2	81	40.5	0

In Co-occurrence analysis, we had used all keyword analyses, by keeping the minimum number of occurrences of a keyword as 25. This combination plotted the map of 44 thresholds, in four clusters. The overlay visualization of co-occurrence analysis of keywords has been shown in Figure 4.

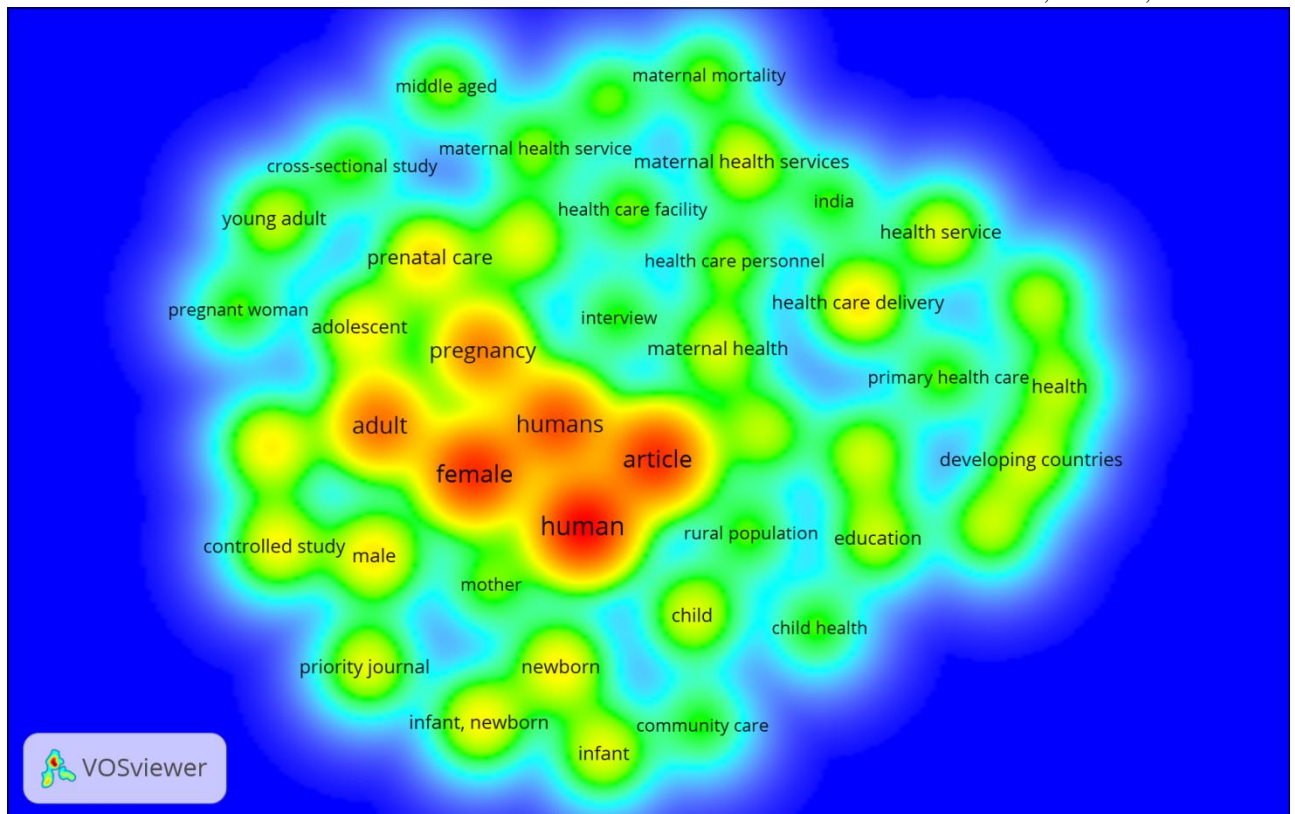


Figure 5: Co-occurrence analysis on basis of all keywords

3.2 Which are the top organizations and countries researching “Community maternal care”?

The most leading organizations engaged in research on “Community maternal care” had been found out by the citation analysis, link analysis, and basis of publication. The parameters used are the minimum number of documents of an organization as two and the minimum number of citations of organizations as one. This combination plotted the map of 11 organizations, in eight clusters.

The result of the link analysis is in figure 6, citation analysis in figure 7, and volume analysis in figure 8.

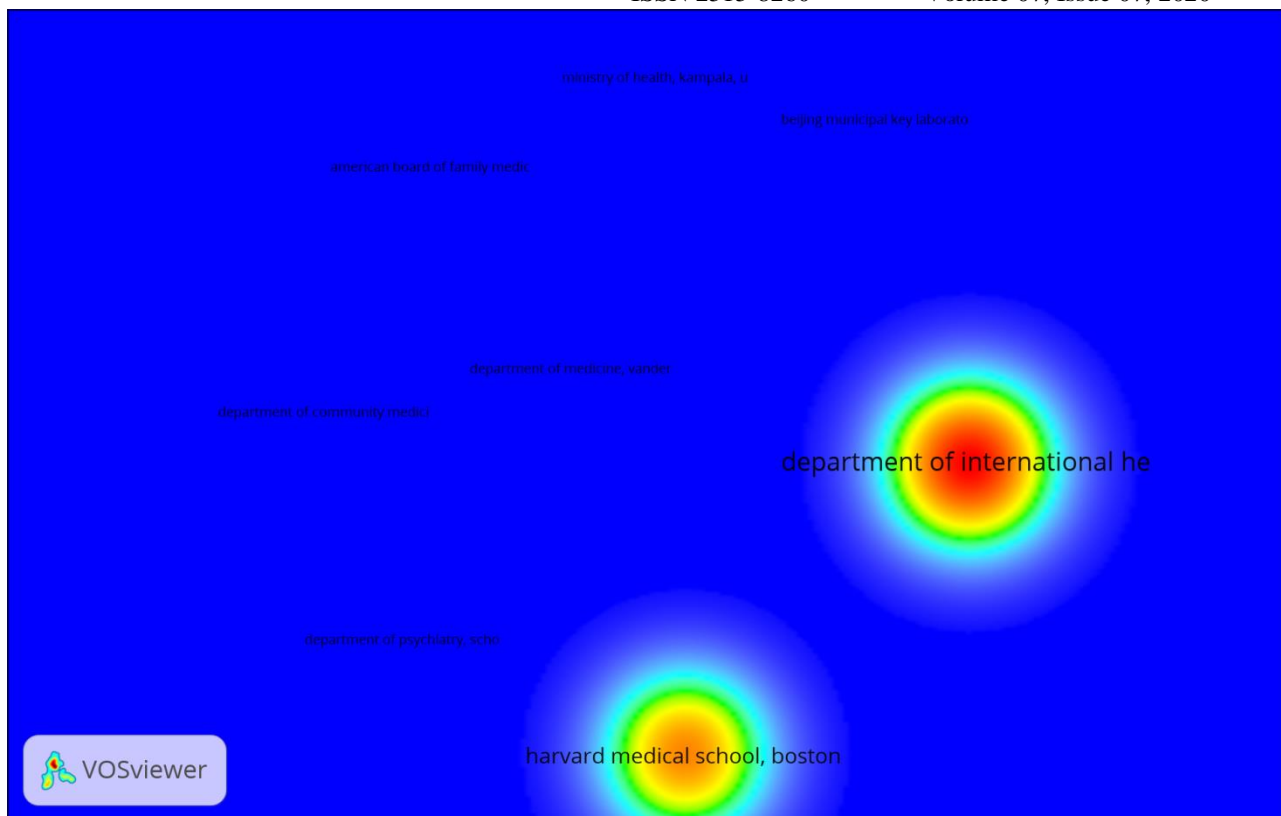


Figure 6: Leading organizations based on links

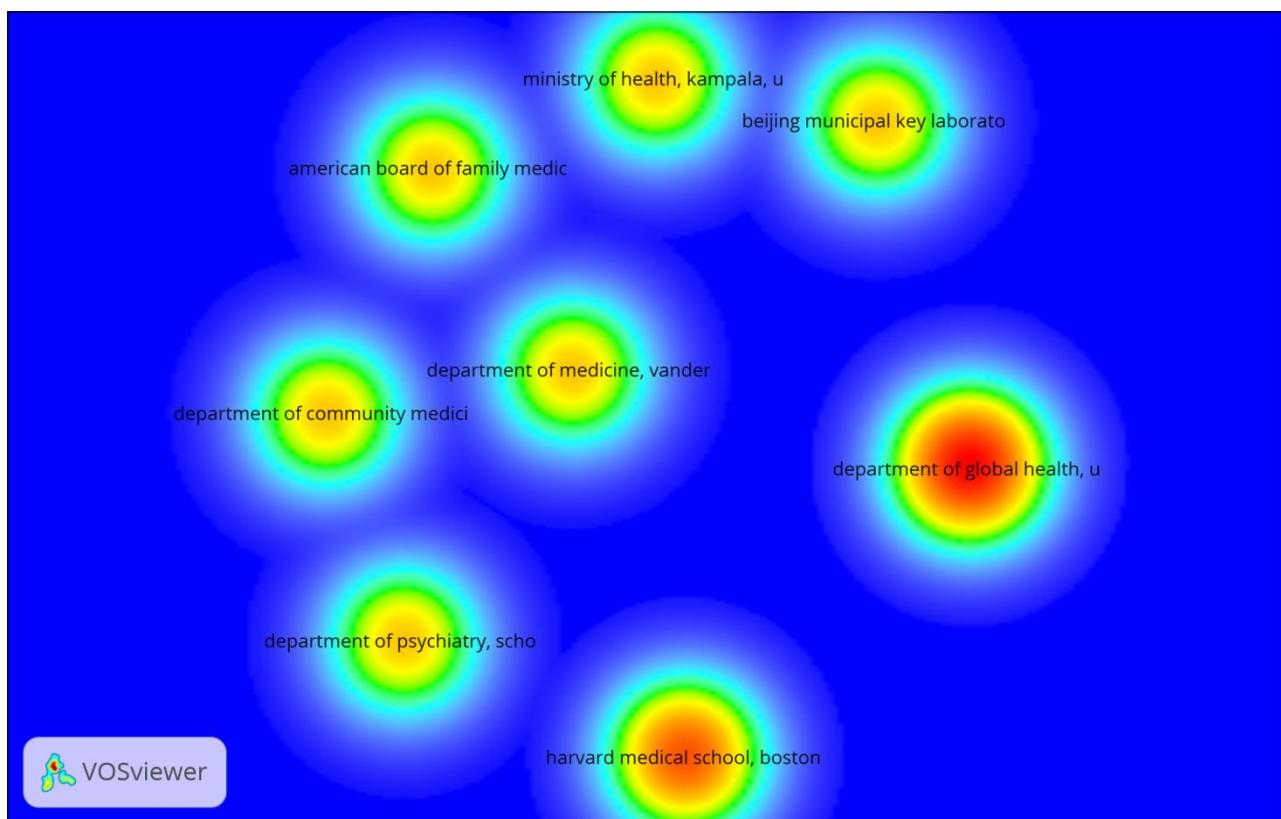


Figure 7 Leading organizations based on documents

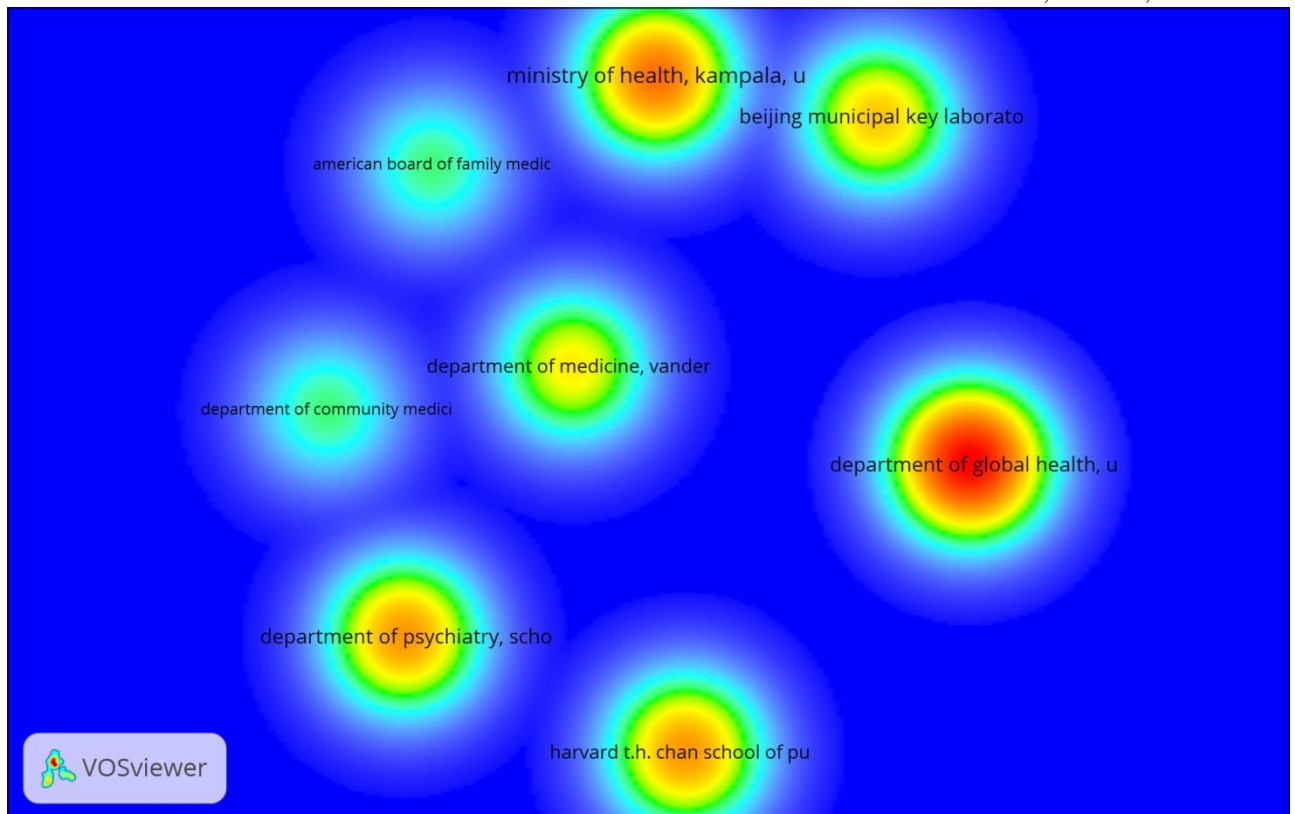


Figure 8 Leading organizations based on citations

Co-authorship analysis and citation analysis of the countries engaged in the research on “Community maternal care” had been shown in Figure 9 and Figure 10. Volume analysis is shown in figure 11. For a better presentation of the analysis, the parameters used were the minimum number of documents of an author as three and the minimum number of citations of authors as one. This combination plotted the map of 27 countries, 21 clusters.

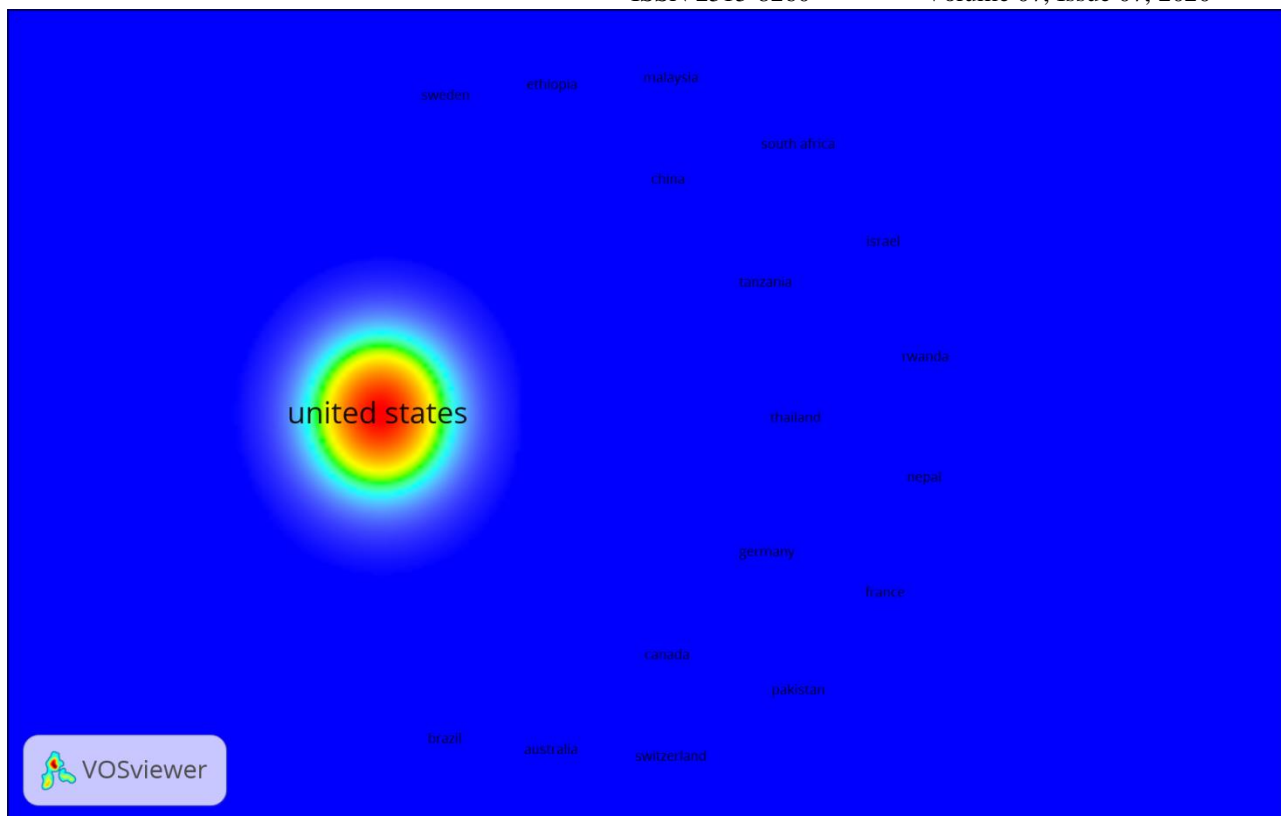


Figure 9: Co-authorship analysis on basis of countries

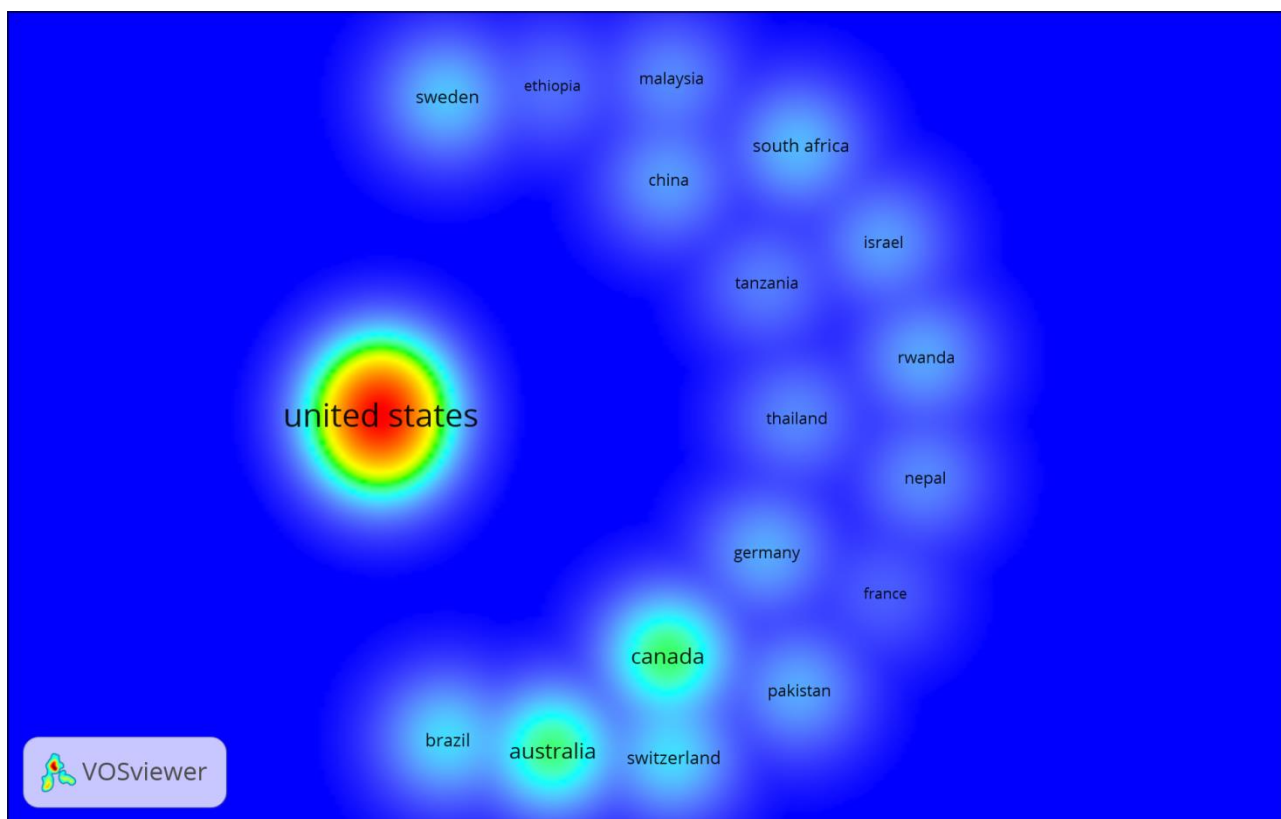


Figure 10: Citation analysis on basis of countries

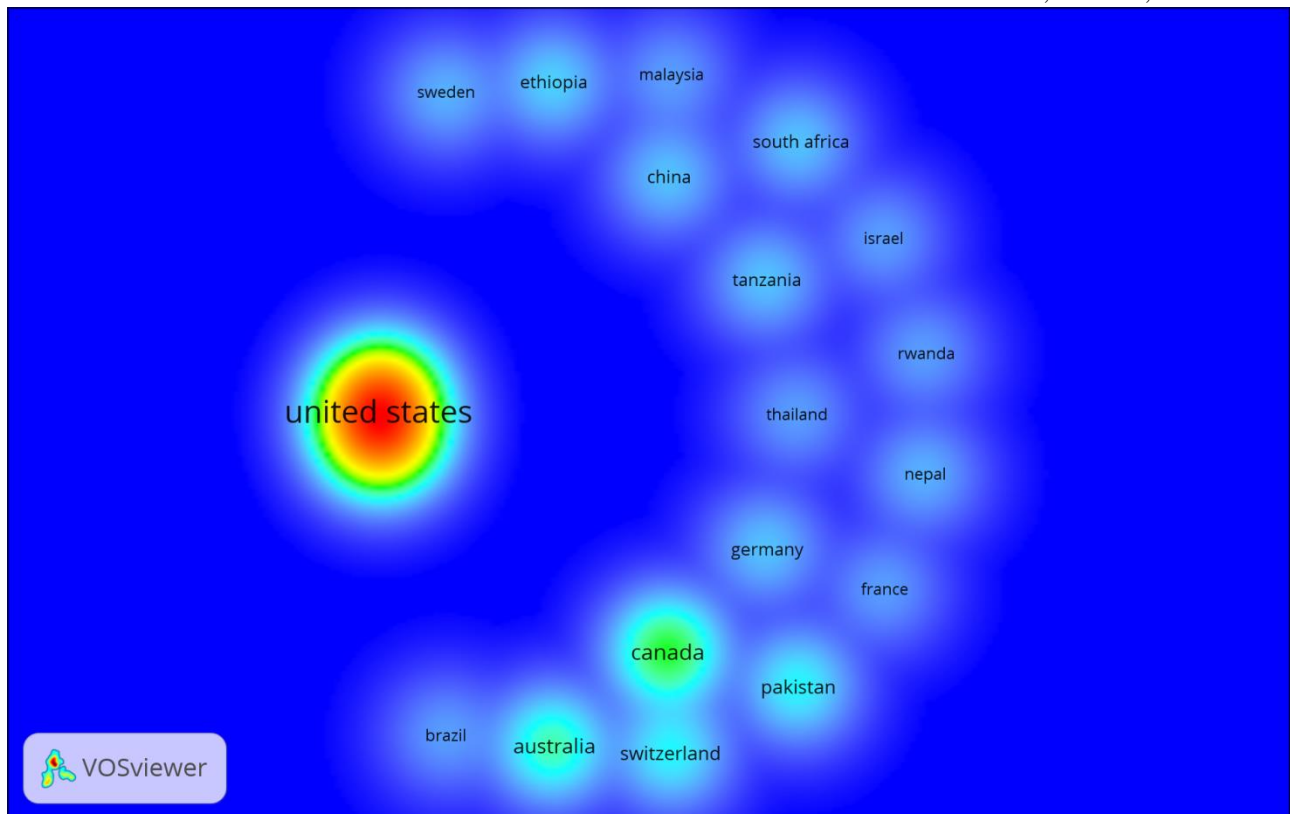


Figure 11: Leading countries in the publication of documents

3.3 Which are the leading journals on “Community maternal care”?

Link analysis and citation analysis were used to identify the most active journal in this research domain. We have also used publication volume to identify the leading journals in this research domain. We have taken the parameters of the minimum number of documents of a journal as one and the minimum number of citations of a journal as one for the link analysis and citation analysis. The citation analysis of top journals relating to “Community maternal care” had been shown in Figure 12. Link analysis is shown in Figure 13 and analysis of journals based on publication volume in Figure 14.

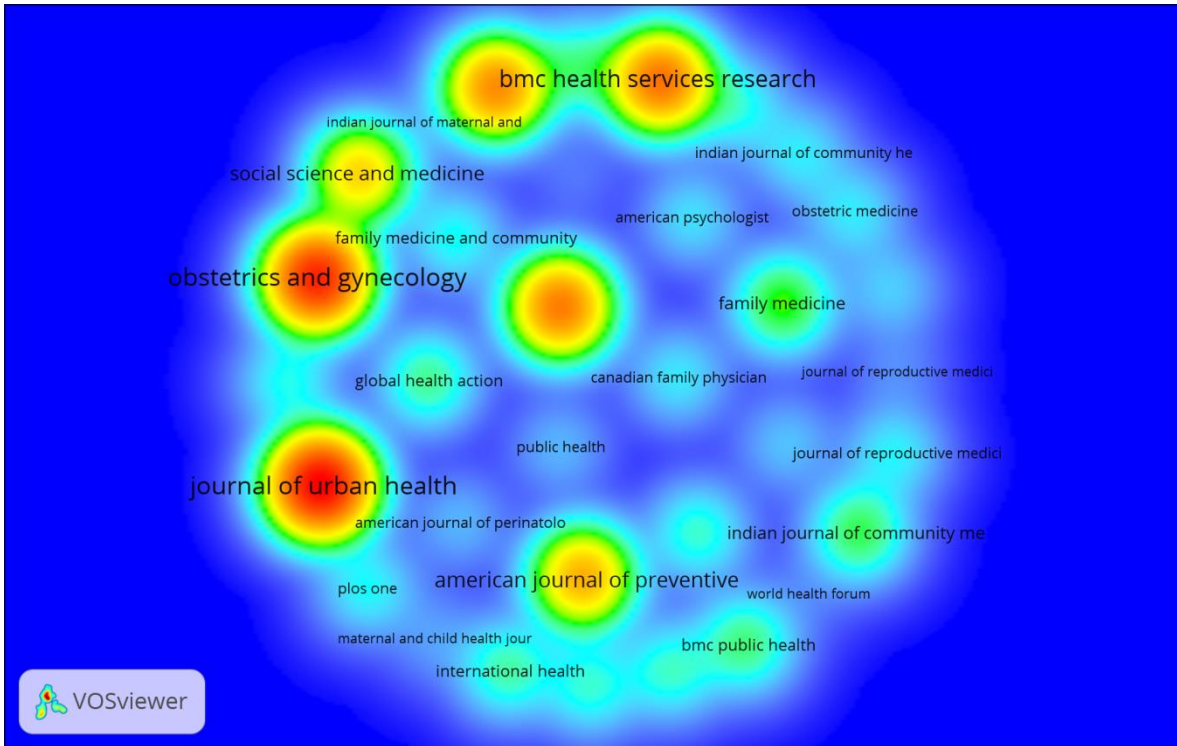


Figure 12: Leading journals based on citation

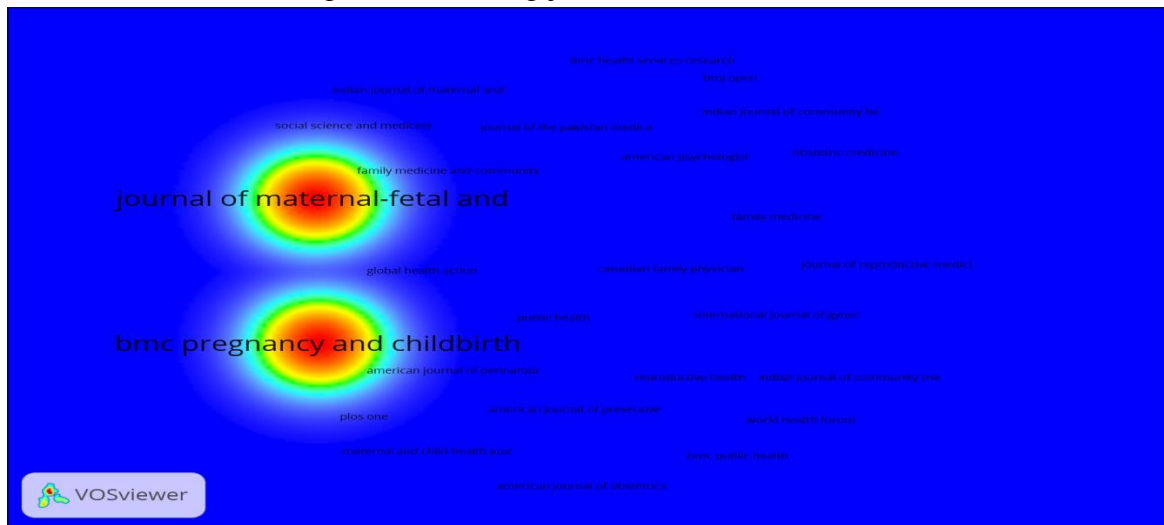


Figure 13: Leading journals based on co-authorship links

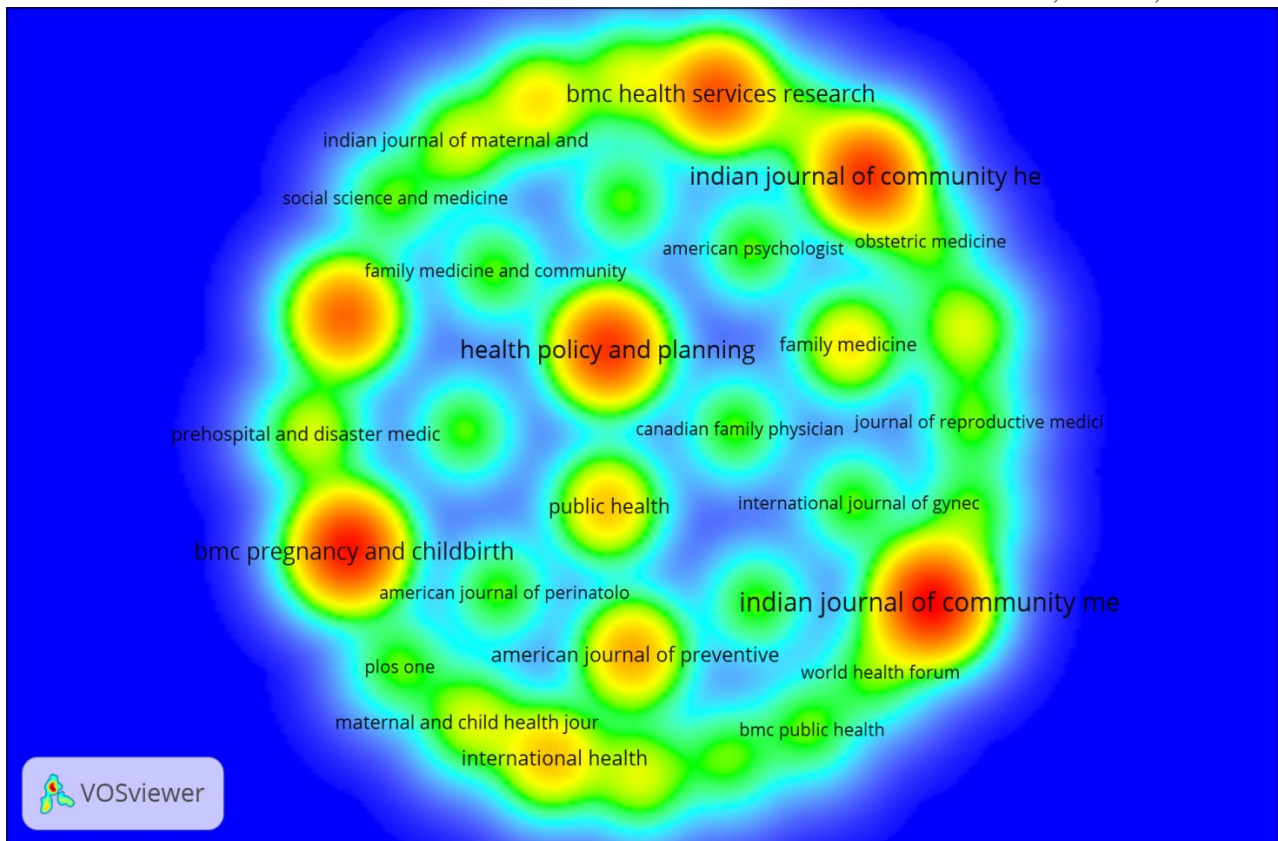


Figure 14: Leading journals based on publication volume

DISCUSSION AND CONCLUSION

Community maternal care is an interesting research domain and the most active journals are the BMC Pregnancy and Child Birth (Leading journal based on volume and co-authorship links) and BMC Health Services Research (Leading journal based on citations). The most active country of the research domain was the United States of America with the leading position in the citation, publication volume, and co-authorship links. The leading organizations engaged in the research regarding “Community maternal care” were the Ministry of Health of Uganda and Harvard Medical School of the United States of America. The most active authors who had made valuable contributions related to “Community maternal care” were Von Dadelszen P. with the highest number of publications and co-authorship links; and Fotso J.-C. with the highest number of citations and average citations. This research domain offers a new avenue for researchers regarding future research. From the above discussion regarding the bibliometric patterns in the research regarding the “Community maternal care”, this research had observed a gradual increase in research interest regarding the “Community maternal care” from the starting of the millennium and the momentum is going on positively. This points out the relevance and potential of this research domain (Refer to Figure 2).

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