

Analysis and Visualisation of Research Trends in Community Medicine in India: A General Review

Dr..Punitha P, Associate Professor¹, Dr.Senthil Nathan,Assistant Professor²

Meenakshi Academy of Higher Education and Research
punithap@mmchri.ac.in

Abstract: *Community medicines is a branch of medicine dealing with health issues of the community as a whole The bibliometric analysis had been conducted to understand the active authors, organizations, journals, and countries involved in the research domain of “Community medicine in India”. All published articles related to “Community medicine” from “Scopus”, were analyzed using the VOS viewer to develop analysis tables and visualization maps.This article had set the objective to consolidate the scientific literature regarding the “Community medicine in India”and also to find out the trends related to the same.The most active journals in this research domain were identified asIndian Journal of Community Medicine and the Journal of Ethnopharmacology.The most active country in this research domain in India. The leading organizations engaged in this research domain werethe Indian Council of Medical Research and All India Institute of Medical Sciences of India.The most active authors who had made valuable contributions related to “Community medicine in India” were Kumar A. and Gupta A. This research domain offers a new avenue for researchers regarding future research.*

Keywords: *Community medicine, 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 as the preventive and social medicine (PSM).Community medicine is not a new branch of medicine but a new orientation for a better society¹. Community medicine plays a great role in the public health system in India²by training medicalgraduates in India. This branch of knowledge focuses on families, workplaces, and community as a whole, other than individual patients. Community medicine is multi-disciplinary in nature and focuses on community health, community nutrition, Community psychiatry, epidemiology, primary health care programmes, monitoring and evaluation of health programmes, biostatistics, community work-life balance, community-based trials, etc.

The foundation for community medicine in India was started in 1946, when The Health Survey and Development (Bhore) Committee Report of 1946 recommended three months of

training in preventive and social medicine for medical students^{2, 3}. The main problems associated with community medicine in India are loss of focus on community medicine, by ignoring the primary role of community physician³. 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 medicine in India ”
- b) To find out the trends related to research in the “community medicine in India”

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

1.2 Research Questions

- a) Who are the active researchers working on the “community medicine in India”?
- b) Which are the main organizations and countries working on “community medicine in India”?
- c) Which are the main journals related to “community medicine in India”?

2. RESEARCH METHODOLOGY

This bibliometric analysis had drawn resources only from the Scopus, which is having coverage of more than 69million records. For the article selection, the Boolean used was TITLE (“Community medicine India”) on 28/12/2020. 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.⁴⁻⁸

3. RESULTS

3.1 Results

This first round of search produced an outcome of 1336 documents, in eight languages, out of which 1330 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 1105 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 1937 had been shown in Figure 2.

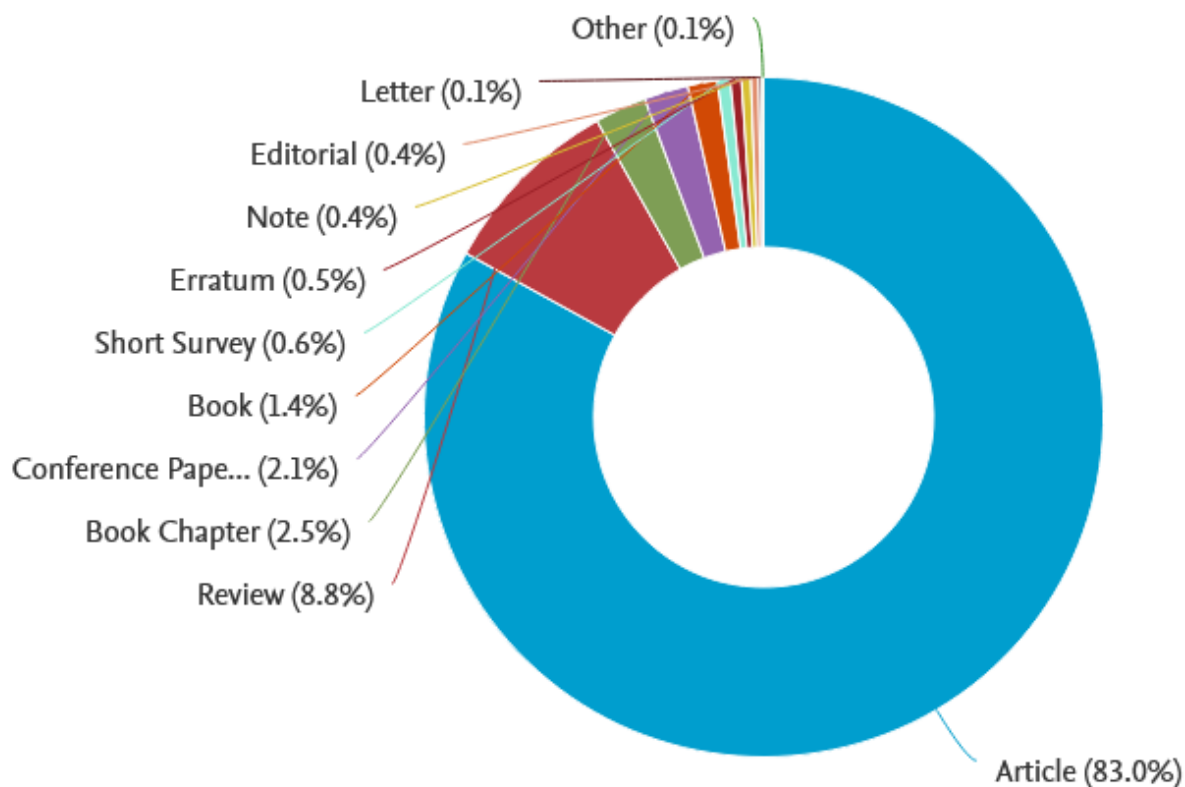


Figure 1: Classification of the documents on “community medicine”, Source: www.scopus.com

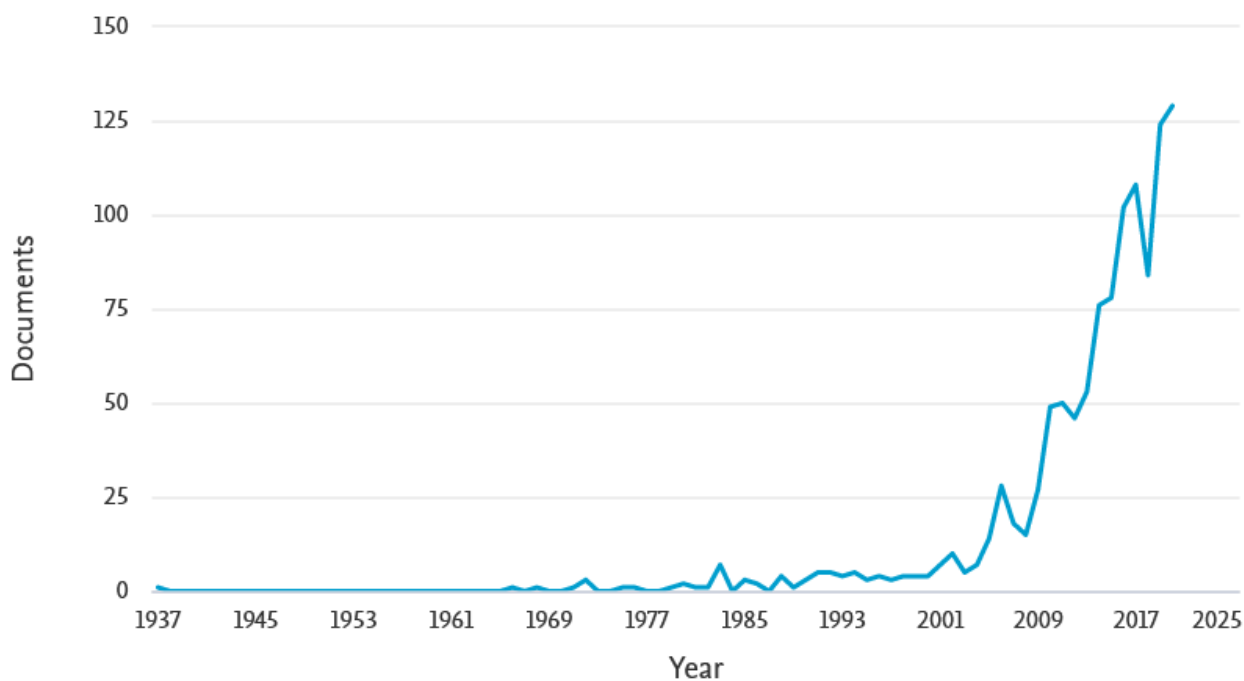


Figure 2: Period wise publication of English articles, Source: WWW.scopus.com

3.1 Who are the leading authors on “Community medicine in India”?

Co-authorship analysis and citation analysis had been used to spot out the leading authors on community medicine. 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 six and the minimum number of citations of authors as one. This combination plotted the map of 33 authors, in 11 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.

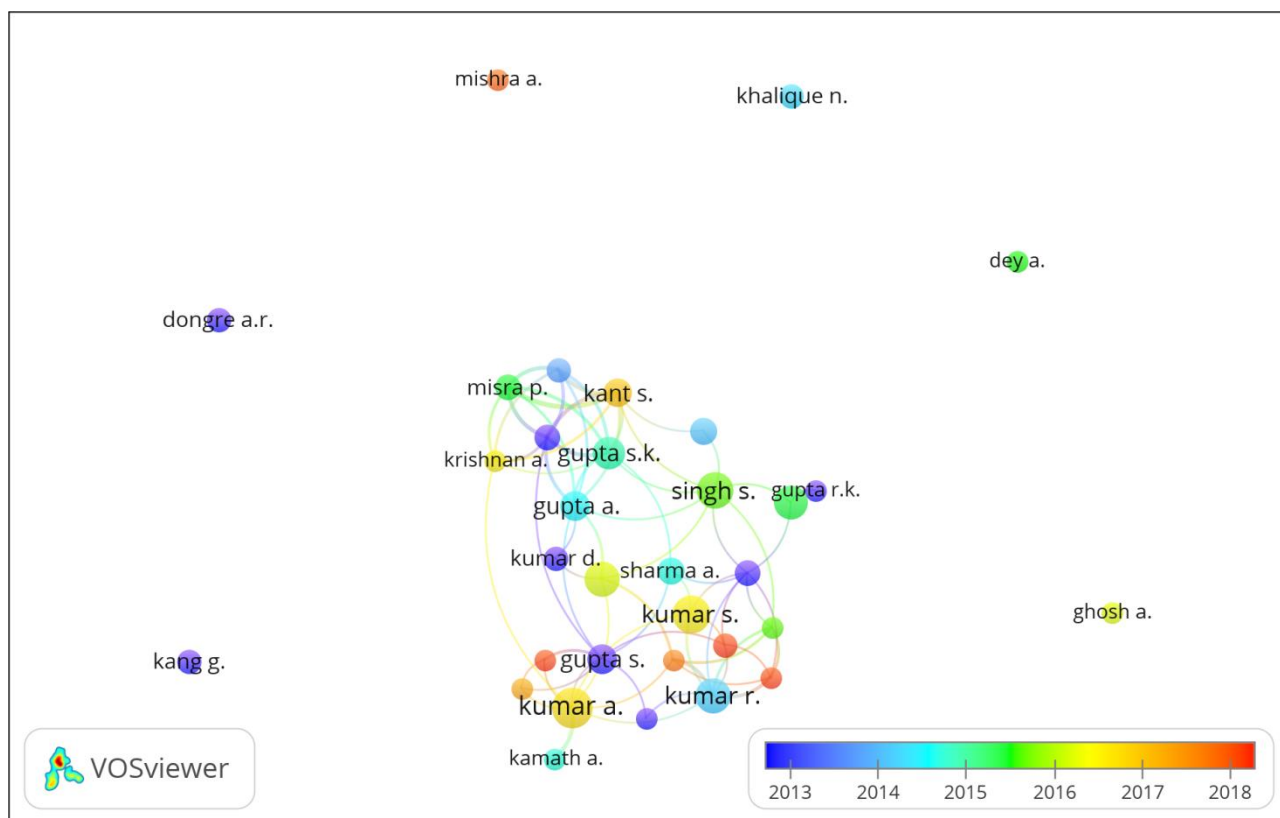


Figure 3: Co-authorship analysis on basis of authors

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

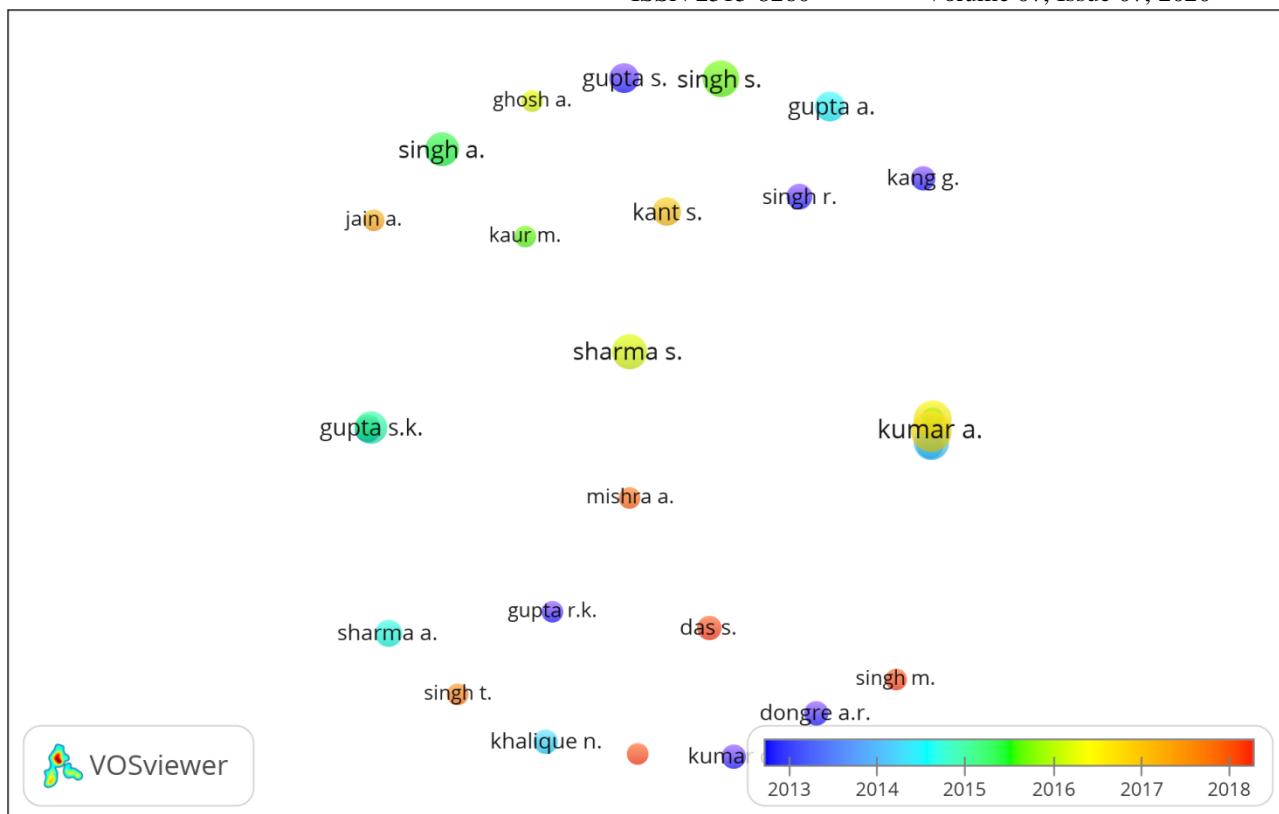


Figure 4: Citation analysis based on authors.

In Co-occurrence analysis, we had used all keyword analyses, by keeping the minimum number of occurrences of a keyword as 50. This combination plotted the map of 32 thresholds, in four clusters. The overlay visualization of co-occurrence analysis of keywords has been shown in Figure 5.

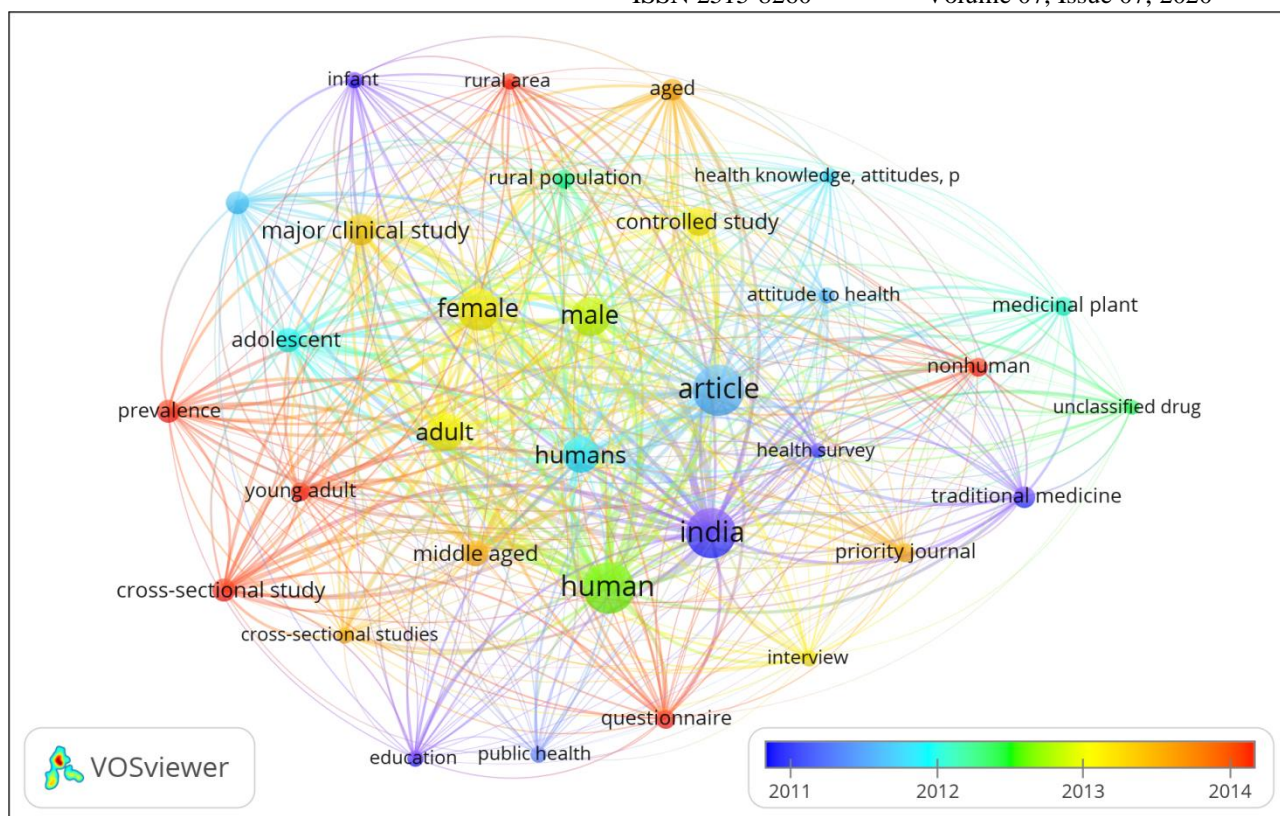


Figure 5: Co-occurrence analysis on basis of all keywords

3.2 Which are the top organizations and countries researching “Community medicine in India”?

The most leading organizations engaged in research on “community medicine in India” had been found out by the citation analysis, the parameters used are the minimum number of documents of an organization as one and the minimum number of citations of organizations as one. This combination plotted the map of 126 organizations, in 59 clusters.

The top research organization in the research regarding “community medicine” with the highest number of publications and citations is shown in table 1.

Table 1: Highlights of the most active organization

Organizations	Country	Documents	Citations	Average Citations per document
Indian Council of Medical Research	India	50	576	11.5
All India Institute of Medical Sciences	India	47	362	7.7

Co-authorship analysis and citation analysis of the countries engaged in the research on “community medicine in India” had been shown in Figure 6. For a better presentation of the analysis, the parameters used were the minimum number of documents of an author as one and the minimum number of citations of authors as one. This combination plotted the map of 67 countries, 18 clusters. The overlay visualization map of co-authorship analysis plotted in Figure 6 and citation analysis in Figure 7, points out the main countries with their strong co-authorship linkages and citations.

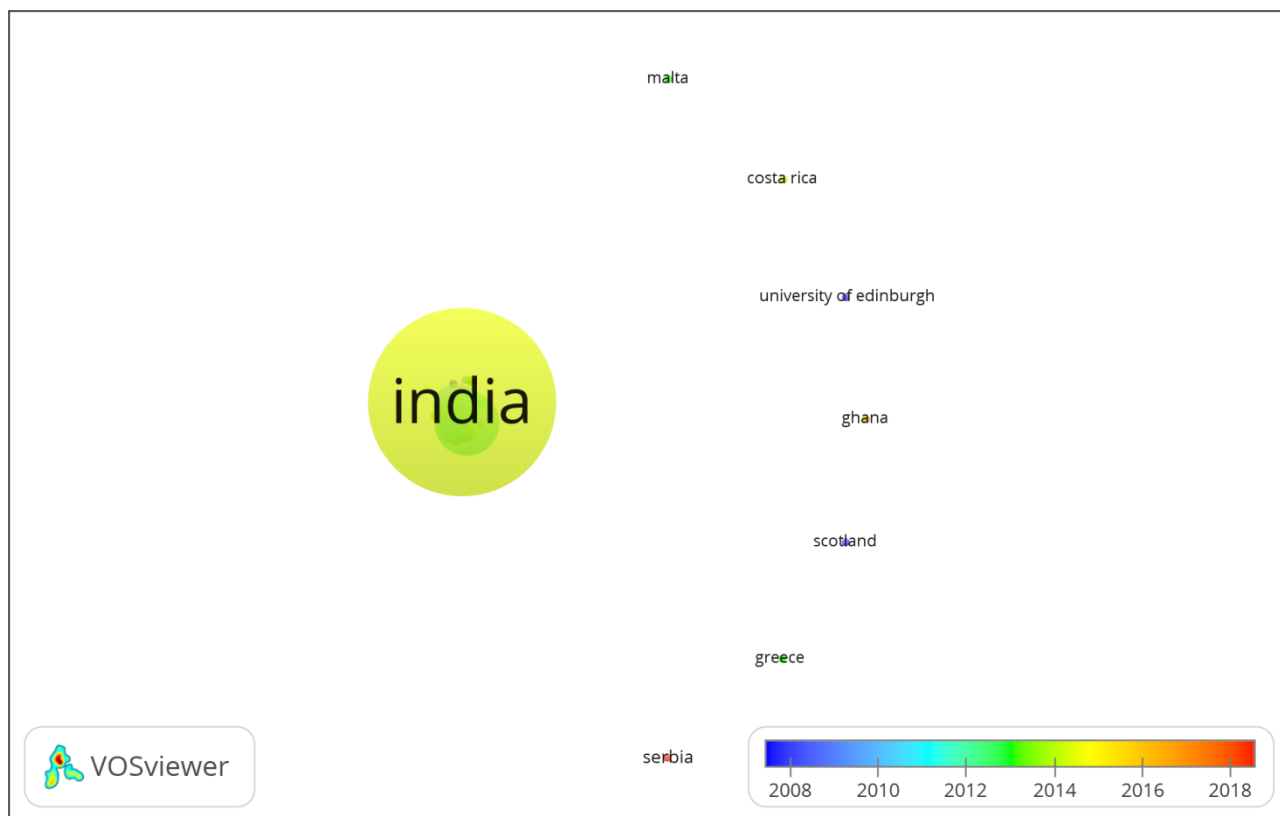


Figure 6: Co-authorship analysis on basis of countries

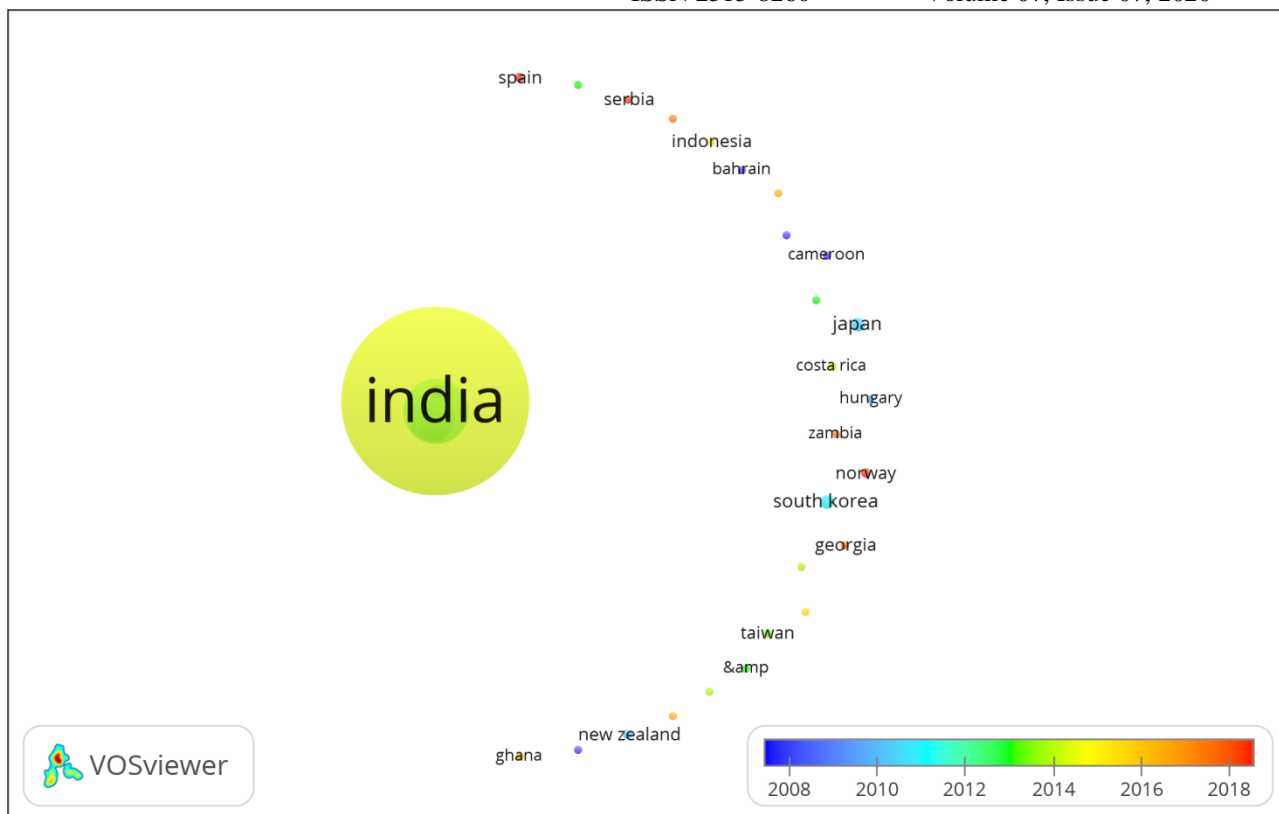


Figure 7: Citation analysis on basis of countries

3.3 Which are the leading journals on “Community medicine in India”?

Link analysis and citation analysis were used to identify the most active journal in this research domain. We have taken the parameters of the minimum number of documents of a journal as three and the minimum number of citations of a journal as one for the citation analysis. The citation analysis of top journals relating to “Community medicine in India” had been shown in Figure 8.

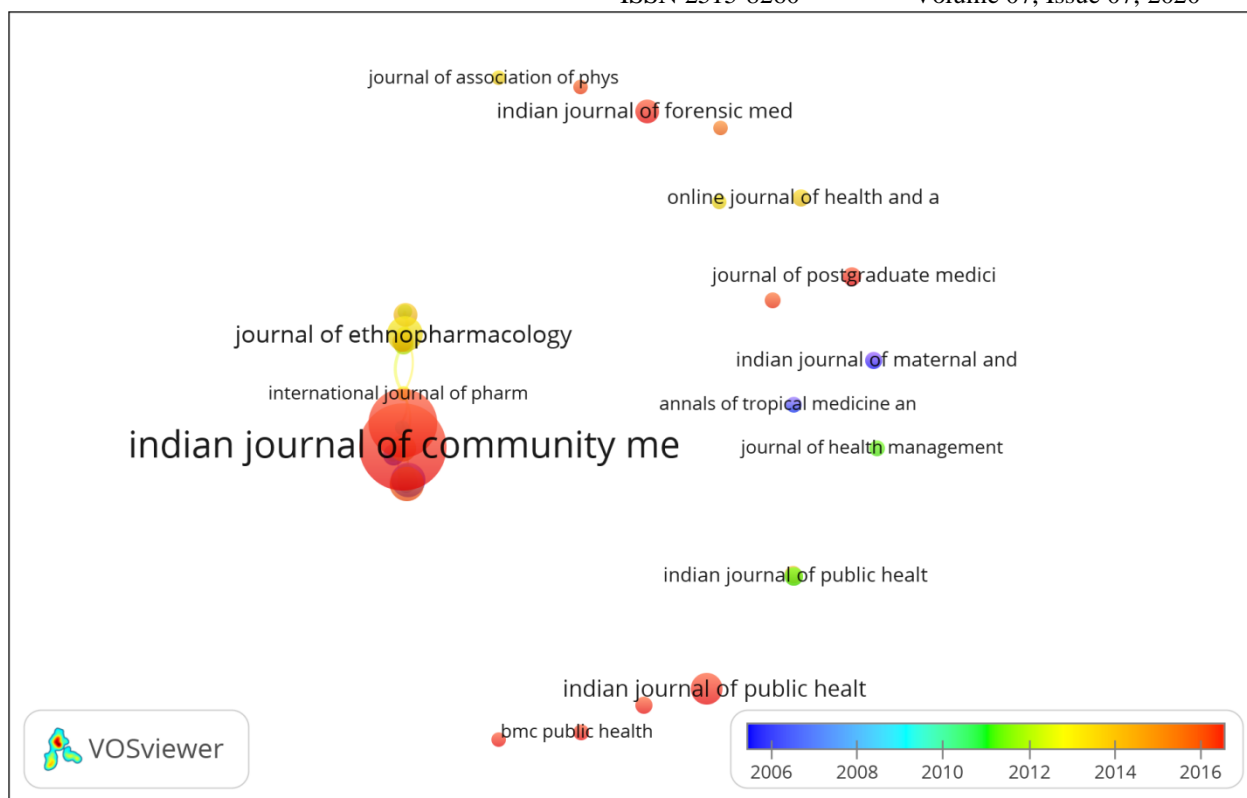


Figure 8: A citation analysis of top Journals

Discussion and Conclusion

Community medicine in India is an interesting research domain and the most active journals are the Indian Journal of Community Medicine and the Journal of Ethnopharmacology. The most active country in this research domain in India. The leading organizations engaged in the research regarding "Community medicine India" were the Indian Council of Medical Research and All India Institute of Medical Sciences of India. The most active authors who had made valuable contributions related to "Community medicine in India" were Kumar A. with the highest number of publications and Gupta A with co-authorship links. 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 medicine in India", this research had observed a gradual increase in research interest regarding the "Community medicine in India" 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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